FINAL PROGRAM EVALUATION REPORT

FOR

META HOUSE'S
"RECOVERY AND HEALTH" PROGRAM

Grant #TI18891

Prepared for:

The Center for Substance Abuse Treatment

Substance Abuse and Mental Health Services Administration

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Prepared by:

Planning Council for Health and Human Services, Inc.

Lisa Larson, Ph.D.

Erin Malcolm, M.A.P.S.

With Assistance from:

Meta House

Andrea Jehly, M.S., Sidnee Smith, Jessie Kushlan, and Dana Stangle

Planning Council
for Health and Human Services, Inc.

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EXECUTIVE SUMMARY

This report describes the program evaluation results for Meta House's Recovery and Health (R&H) program, a substance abuse day treatment program for women and their families. The R&H program was funded from September 2007 through September 2012 by the Center for Substance Abuse Treatment, a center of the Substance Abuse and Mental Health Services Administration (TI# 18891). The funding was specifically targeted at efforts preventing the transmission of the human immunodeficiency virus (HIV). The R&H program was developed to serve women with substance use disorders, including African American women, recognizing that these populations are at high risk of contracting HIV.

The R&H program had as its main goals: 1) improving women's level of functioning related to substance use and sobriety; 2) improving women's mental health functioning and self-care; 3) reducing the risk of HIV infection; and 4) improving the stability of the family environment. In the context of these goals, the key evaluation questions included:

- What were the characteristics of the women served by the R&H program and what were the strengths and challenges they brought with them as they entered treatment?

- Did women's substance use and mental health status improve after participating in the R&H program?

- Did women reduce their risk of HIV infection after participating in the R&H program?

- Were there indications of increased family stability following women's participation in the R&H program?

To address these questions, structured interviews were conducted with women at entry into the program and again approximately one year later. The interviews included questions required by the Government Performance and Results Act (GPRA); local evaluation questions based on the Addiction Severity Index (ASI; McLellan et al., 1980); and administration of the Trauma Symptom Checklist (TSC-40; Briere, 1996), the Sexual Relationship Power Scale (SRPS; Pulerwitz et al., 2000), and the Adult-Adolescent Parenting Inventory (AAPI-2; Bavolek & Keene, 2001).

The report summarizing this data was prepared by the Planning Council for Health and Human Services, Inc., the external evaluators for the R&H program. The Planning Council is a private, non-profit organization whose mission is to advance community health and human services through objective planning, evaluation, and research. The implementation of the program's evaluation was the joint responsibility of the Planning Council's external evaluation team and Meta House's internal evaluation department.

What were the characteristics of the women served?

A total of 217 women (unduplicated) were served by the R&H program. During the data collection period, 164 of these women became eligible for a follow-up interview, and 99 completed an interview approximately 12 months after their admission to the program (for a follow-up rate of 60%). The women who completed a follow-up interview were reasonably similar to the full population served by the program in terms of their demographics and graduation status. However, the women interviewed at follow-up were somewhat more likely to have remained in treatment longer. As a result, the outcomes included in the report may not fully represent those achieved by program participants who remained in treatment for brief periods of time.

The 99 women who completed a follow-up interview were generally mothers (93%) and were typically either African American (58%) or Caucasian (31%). They varied widely in age (from 19 to 58), but were on average in their mid-30's (mean age = 36). Approximately 60% of the women had graduated from high school or earned their GED certificate. However, very few of the women were employed at the time of their admission to treatment, and approximately 20% were considered to be disabled.

Legal issues did not appear to be a major factor surrounding women's entry into treatment, as only a small number of women were experiencing legal difficulties at the time of their admission (e.g., 11% were on probation or parole). However, given that approximately half of the women (53%) had some involvement with the child welfare system, it is possible that this involvement motivated some women to enter treatment.

Women admitted to the R&H program had a full continuum of care available to them at Meta House, including day treatment and outpatient treatment, as well as residential treatment for those who might require a higher level of care. All of the women who were followed up began their R&H treatment episode in day treatment, but during their episode of care some also participated in outpatient services (21%) or residential treatment (14%). In general, the program anticipated that most women would need a minimum of three months in treatment to make substantial progress in their recovery. Approximately three-quarters of the women who completed a follow-up interview (77%) remained in treatment for at least three months. On average, women had an overall length of stay of approximately five months.

Women were considered to have graduated if their counselors indicated that they had successfully completed the program or that they had completed with substantial improvement. Almost 70% of the women who completed the follow-up interview (68%) graduated from the program, with the non-graduates primarily having completed without substantial improvement.

The report provides information about the strengths, challenges, and outcomes experienced by women in each of the key areas targeted by the program. The findings are based on pre-post changes that occurred between the initial interview and the 12-month follow-up interview, as well as the level of functioning women had attained at follow-up.

Did women's substance use and mental health status improve?

Women who participated in the R&H program typically entered treatment with a lengthy and severe substance use history, with a legacy of significant trauma, and with a variety of mental health symptoms. To address these issues, the program included an evidence-based intervention designed to simultaneously treat substance abuse and symptoms of post-traumatic stress disorder (Seeking Safety; Najavits, 2002). In addition, the program provided individual counseling, recovery-oriented groups, mental health assessment, and psychiatric services, all within a trauma-informed environment. The 12-month follow-up data suggests that the R&H program was successful in meeting its goals of decreasing women's substance use and improving women's mental health functioning.

Substance use

Most (81%) of the women who participated in both the initial and follow-up interviews had substantial histories of alcohol and drug use (e.g., more than five years of regular cocaine use). In the 30 days prior to the initial interview, 71% of the women were actively using alcohol, drugs, and/or potentially addictive prescription medications. However, the number of days that women used in that month was relatively limited (e.g., mean = 3.7 days of illegal drug use). The primary substances used during that month included alcohol, cocaine, and marijuana. In addition, approximately 40% of the women had used potentially addictive medications such as narcotic pain medications (e.g., Vicodin, Percocet) or benzodiazepines (e.g., Valium). While most women used these medications with a prescription, some indicated that they had used similar medications without a prescription in the past.

The evaluation data suggests that the R&H program was successful in meeting its goals of decreasing substance use and improving women's level of functioning with respect to their recovery. Specifically, for the R&H women as a group there was a statistically significant pre-post decrease in the number of days of substance use. However, it appeared that the type of pre-post change made by individual women was related to the length of time spent in treatment. For example, 83% of the women who were abstinent in the month prior to the follow-up interview (but who used in the month prior to the initial interview) had remained in treatment for at least three months. In contrast, only 61% of the women who used during the month prior to the follow-up interview (and who also used in the month prior to the initial interview) had stayed in treatment for three months or longer.

Overall, at the time of the 12-month follow-up 67% of the women had used neither alcohol nor illegal drugs in the 30 days prior to the interview. While some women (16%) were using potentially addictive medications with a prescription (e.g., benzodiazepines, Tylenol with codeine, Percocet), most of them were engaged in substance abuse treatment at the time. As a result, it is likely that these medications were viewed as supporting women's recovery and health and/or that their use was being addressed in treatment. Finally, 33% of the women had used alcohol and/or illegal drugs in the month prior to the follow-up interview. While about half of those who were using demonstrated a continued commitment to

recovery by being engaged in treatment and/or by attending 12 step groups, the other half had not sought out support for their use. Nonetheless, given the relapse rates associated with substance use disorders (ranging from 40% to 60%, National Institute on Drug Abuse, 2009), the level of recovery achieved by the R&H women 12 months after entering the program is notable.

<u>Trauma and mental health</u>

Almost all of the women (90%) reported to their counselors that they had experienced some form of emotional, physical, and/or sexual abuse over their lifetime. Notably, almost half of the women (47%) had experienced multiple forms of abuse, including sexual abuse as a child, some form of sexual assault as an adult, <u>and</u> physical abuse at some point in their lives. As a result, women were experiencing a number of trauma-related symptoms at the time of the initial interview. Their scores on the Trauma Symptom Checklist (TSC-40 mean = 44.4) were substantially higher than scores found in community samples and comparable to scores found among women entering residential substance abuse treatment.

In addition to their trauma symptoms, almost three-quarters of the women (74%) were experiencing significant mental health symptoms in the month prior to the initial interview. These symptoms ranged from serious depression to suicidal ideation and attempts. For the women who were experiencing these symptoms, they were often pervasive. For example, a full 60% of the women experienced symptoms daily in the month prior to the initial interview. In general, women were experiencing symptoms despite already being connected to mental health treatment. Specifically, 61% of the women had received treatment and/or psychiatric medication for mental health problems in the 30 days prior to the initial interview.

The evaluation data suggests that the R&H program was successful in meeting its goals of decreasing mental health and trauma-related symptoms. There were statistically significant pre-post improvements in the Total Score on the TSC-40, as well as on each of the measures six subscales. This suggests that women were experiencing fewer trauma-related symptoms overall, and also that they were experiencing less anxiety, depression, dissociation, sleep disturbance, and problems related to sexuality. Despite these improvements, it must be noted that their overall score at follow-up (TSC-40 mean = 33.9) remained somewhat elevated when compared to community samples, as well as when compared to a previous group of women who participated in Meta House's outpatient program.

There were also statistically significant pre-post improvements in the number of days that women experienced mental health symptoms and in the number of different symptoms they reported. In addition, significantly fewer women were experiencing daily symptoms at follow-up (39%) as compared to intake (60%). Overall, by the time of the 12-month follow-up half of the women (50%) were not experiencing any significant mental health symptoms. However, approximately 20% of the women were still experiencing severe symptoms such as trouble controlling violent behavior. Most of those who were experiencing symptoms were participating in mental health treatment and/or were taking psychiatric medication, suggesting appropriate self-care.

Overall, it is clear that as a whole the R&H women experienced statistically significant and practically meaningful pre-post improvements in trauma-related and mental health symptoms. However, given women's extensive trauma histories and the level of trauma-related symptoms reported at follow-up, it is likely that the legacy of trauma continued to play a role in women's lives at the 12-month follow-up point.

Did women reduce their risk of HIV infection?

Women who participated in the R&H program entered treatment engaging in behaviors that increased their risk of contracting HIV. To address these issues, the program provided an evidence-based intervention aimed at reducing risky sexual behaviors (SISTA; DiClemente & Wingood, 1995), as well as health education, counseling about relationships, and rapid HIV testing. The 12-month follow-up data suggests that the R&H program had mixed success in meeting its goal of helping women reduce their risk of HIV infection.

In the 30 days prior to the initial interview, 73% of the women were sexually active. Most of those women (85%) were not using a condom or other latex barrier to protect themselves against HIV transmission. In addition, a small number of women had engaged in particularly high risk behavior (e.g., unprotected sexual contact with someone who was an intravenous drug user). Overall, the data indicated that there

were a number of opportunities for women who were sexually active to be exposed to HIV and/or other sexually transmitted diseases in the month prior to the initial interview.

The evaluation findings were somewhat mixed with respect to pre-post changes in sexual risk behaviors. There was a positive change in abstinence, with a statistically significant increase in the number of women who reported that they had not been sexually active at follow-up (47%) as compared to intake (28%). However, for women who were sexually active, there was only a small, non-significant pre-post increase in the number who were consistently using protection (15% at intake, as compared to 26% at follow-up).

Overall, at the time of the 12-month follow-up interview, 62% of the women had refrained from engaging in HIV-related risk behaviors in the previous month (i.e., were sexually abstinent or had consistently used protection, and also had not engaged in injection drug use). At least with respect to their recent behavior, these women had either minimal or no risk of contracting HIV or other sexually transmitted diseases. Primarily, this minimal risk status was related to a high level of abstinence. As a result, it is difficult to determine whether these women would continue to be low risk by using protection if and when they became sexually active again.

One factor thought to contribute to risky sexual behavior is a gender-based imbalance of power in relationships (e.g., Pulerwitz et al., 2000). For R&H women who were in a relationship at the time of both interviews, the evaluation data suggests that there were no pre-post changes in their perceptions of their relationship power as measured by the Sexual Relationship Power Scale (mean initial SRPS-M = 2.71; mean follow-up SRPS-M = 2.70). The women's scores at both points in time were comparable to the scores found in a national sample of women enrolled in drug treatment (Campbell et al., 2009). This national study found only limited support for a connection between relationship power and sexual risk behaviors among drug-involved women. As a result, it is possible that the SRPS-M may have limited utility in capturing the nuances of relationship power among women with significant substance use problems, mental health symptoms, and trauma histories.

Were there indications of increased family stability?

Women who participated in the R&H program entered treatment with significant challenges around family stability, including inappropriate parenting attitudes, limited resources for economic self-sufficiency, and a history of unstable housing arrangements. To address these issues, the program included an evidence-based parenting group designed specifically for women in treatment (the Nurturing Program for Families in Substance Abuse Treatment and Recovery (NPFSATR), Camp & Finkelstein, 1997). In addition, the program provided clinical and case management support for women in their roles as mothers, vocational and literacy education, and housing assistance as needed. The 12-month follow-up data suggests that the R&H program had only limited success in meeting its goals of improving the stability of the family environment through improved parenting attitudes, increased economic self-sufficiency, and stable housing.

Parenting attitudes

Most of the women who participated in the 12-month follow-up interview were mothers (93%). At the time of the initial interview, many of the mothers reported parenting attitudes on the Adult-Adolescent Parenting Inventory that indicated inappropriate beliefs about parenting. For example, 94% of the mothers scored poorly on at least one of the AAPI-2's five subscales.

The evaluation data indicated that there was a statistically significant pre-post improvement in mothers' scores on the AAPI-2 Physical Punishment subscale. Further, by the time of the follow-up interview, less than one-quarter of the mothers (23%) scored poorly on this subscale. This suggests a positive change, with mothers relying less on physical punishment as a form of discipline after participating in the R&H program.

However, other aspects of the parenting attitudes measured by the AAPI-2 either showed no significant improvement or a deterioration over time (e.g., there was a statistically significant pre-post deterioration in the AAPI-2 Total Score). Further, it appeared that some areas measured by the AAPI-2 continued to be particularly problematic for the R&H mothers. For example, at the follow-up interview more than 75% of

the women scored poorly on the subscales measuring Lack of Empathy (parents' awareness of their children's needs) and Power and Independence (parents' emphasis on obedience and parental authority).

The inappropriate parenting attitudes mothers reported at follow-up need to be considered in the context of their extensive trauma histories. With 90% of the women having experienced some form of abuse (and half having experienced multiple forms of abuse), it is likely that the R&H mothers have had limited if any experience with positive parenting approaches. Although the R&H program as a whole, and the NPFSATR model specifically, both directly address the connections between trauma history and parenting, it is possible that women may need even more intensive focus on this area.

It is also possible that the parenting attitudes noted at follow-up may be related to the stress and changes in family dynamics that occur when women resume their role as mothers and do so while in recovery. The literature on women's recovery suggests that as women stabilize and the family is "safer", children may begin to behaviorally "act out" their previous distress. The responsibilities of parenting while sober and managing children's behavioral issues can present challenges for women in recovery. Although the program recognizes these dynamics, it is possible that it may need to focus more specifically on assisting mothers as they navigate through these challenging transitions.

The AAPI-2 is only one indicator of parenting attitudes, and may or may not be reflective of a mother's overall attitudes, behavior, or risk for child abuse or neglect. However, the R&H findings on parenting attitudes are consistent with findings from a previous group of women who participated in Meta House's outpatient program (Larson & Malcolm, 2011). As a result, based on the AAPI-2 findings, it appears that the program may need to consider integrating additional and/or targeted parenting interventions. Particular areas of focus could include reframing parental authority, developing appropriate expectations for obedience, facilitating empathy for children's perspectives, and promoting an understanding of children's behavior.

Economic self-sufficiency and housing

Despite their extensive substance use and trauma histories, many of the women entering the R&H program (65%) had accomplishments that might help them on the road to future employment. For example, 58% had earned a high school diploma or GED certificate and 19% had held a full-time job for five years or more. However, very few women (6%) had regular employment at the time of the initial interview. In addition, most of the women (89%) had experienced at least one form of unstable housing at some point in their lives, with 71% having actually been homeless.

The evaluation data indicated that there was an improvement in women's total income over time (e.g., a statistically significant pre-post increase in the total monthly income women received). However, women's income remained very limited at follow-up, translating to an average amount of approximately $11,500 per year. In addition, most of the women (82%) received at least some portion of their income from pubic assistance in the month prior to the follow-up interview.

Despite the pre-post increase in total income, women's self-sufficiency status changed very little over time. For example, there were no significant pre-post differences in the amount of money earned from employment. At follow-up, only 16% of the women had either regular full-time or part-time employment. It is notable that 28% of the women were receiving disability income at the time of the follow-up interview. However, 54% of the women were unemployed (and neither disabled nor a full-time student). Although many of the women who were not employed were engaged in other activities during the month prior to the follow-up interview (e.g., in treatment, parenting minor children, attending literacy classes part-time), their lack of employment meant that they were relying on limited public assistance to support themselves and their families.

The limited income at follow-up may have created challenges for some women in the area of housing. At the time of the 12-month interview, 63% of the women had spent most of the previous month living in their own apartment or in someone else's apartment while contributing to the rent. However, 20% of the women had a relatively unstable living arrangement at follow-up (e.g., were staying in someone else's home without paying rent or were homeless). According to the R&H program's staff, there is a significant shortage of affordable, drug-free housing in the Milwaukee community. Although Meta House has a number of long-term transitional living apartments available for its clients, the supply is limited. Given

women's limited income, they may need even more intensive and targeted assistance in obtaining housing for themselves and their families.

Conclusions and Recommendations

The findings indicate that Meta House's Recovery and Health day treatment program served women who were experiencing profound challenges as they began their recovery journeys. The challenges included lengthy substance abuse histories, histories of multiple and severe traumas, the presence of mental health and trauma-related symptoms, inappropriate parenting attitudes, limited economic self-sufficiency, and histories of housing instability.

The findings from a 12-month follow-up with these women suggest that the program experienced considerable success in several areas, including:

- Assisting women in decreasing their substance use and in developing a commitment to recovery.

- Providing trauma-informed and trauma-specific services that appeared to assist women in decreasing their trauma-related symptoms.

- Assisting women in reducing the number and frequency of their mental health symptoms, as well as engaging in self-care to manage any remaining symptoms.

- Supporting women in reducing their risk of HIV infection, primarily through abstaining from sexual contact (and hopefully eventually through engaging in protected sexual activity).

However, the successes experienced by the women who participated in the R&H program are also qualified by the following areas which may benefit from program review or adjustment:

- Few of the women who were sexually active at follow-up were consistently using condoms or other latex barriers. The program may want to consider expanding its offering of the evidence-based intervention aimed at reducing risky sexual behaviors (SISTA). This could be accomplished by adding sessions to the seven week sequence and/or by making the curriculum available to a larger number of women.

- Many women continued to report parenting attitudes that reflected inappropriate beliefs about parenting, particularly in the areas of empathy for their children's needs and the extent to which the women valued obedience and parental authority. The program has recently added an intervention designed to further strengthen families in recovery (i.e., Celebrating Families!), as well as a new staff position to provide additional support to mothers and children. However, the program may also benefit from a close review of the parenting groups and services provided in day treatment.

- The pre-post increase in women's income did not translate into meaningful improvements in self-sufficiency. Although women clearly have a wide range of issues to address during their limited stay in treatment, for some women self-sufficiency and housing challenges can undermine their recovery and/or serve as a barrier to family reunification. The program may want to consider how and when it can best be helpful in assisting women in making progress towards vocational goals.

Overall, the findings suggest that the R&H program served women with a complex set of needs and provided them with meaningful assistance that helped them move forward in their recovery journeys. The day treatment program's continued growth and improvement can be informed by those few areas in which women continued to experience challenges one year after entering treatment.

META HOUSE'S RECOVERY AND HEALTH PROGRAM:

INTRODUCTION

This evaluation report was prepared by the Planning Council for Health and Human Services, Inc., the external evaluators for Meta House's Recovery and Health (R&H) project. The Planning Council is a private, non-profit organization that has provided independent information, research, and planning to the Southeast Wisconsin community since 1965. The Planning Council's mission is to advance community health and human services through objective planning, evaluation, and research. The implementation of the R&H program's evaluation was the joint responsibility of the Planning Council's external evaluation team and Meta House's internal evaluation department. The Planning Council team was responsible for providing training, supervision, and monitoring for the data collection; conducting the data analysis; and authoring the final report. The Meta House internal evaluation team was responsible for conducting interviews with R&H clients; managing and entering the quantitative data; and providing formative feedback to the program.

The report summarizes five years of program evaluation results for the Recovery and Health program (TI# 18891), a day treatment substance abuse program for women and their families. The report describes: 1) the women who participated in the R&H program; 2) the challenges faced by the women as they entered treatment; 3) pre-post changes that occurred in the year following their admission to the program; and 4) women's level of functioning approximately one year after admission. The program and the evaluation focused on the areas of: 1) substance abuse and mental health, 2) behaviors that are related to risk for contracting the human immunodeficiency virus (HIV), and 3) the stability of the family environment.

The Meta House Treatment Model and the R&H Program

Meta House has been treating women with substance use disorders in Milwaukee, WI, since 1963. Its mission is to help women struggling with drug and alcohol addiction to reclaim and transform their lives and to rebuild their families by offering a range of prevention, treatment, and support services for women and their children. Meta House's programs are designed to address the effects of substance abuse in ways that are gender responsive, culturally competent, trauma-informed, and clinically effective. Treatment is designed to meet the unique needs of each woman and her children, with a long-term goal of strengthening family relationships and ending the generational cycle of substance abuse.

Meta House's Recovery and Health (R&H) program was funded from September of 2007 through September of 2012 by the Center for Substance Abuse Treatment (CSAT), a center of the Substance Abuse and Mental Health Services Administration (SAMHSA), through a Targeted Capacity Expansion grant focused specifically on HIV prevention (TCE/HIV). The R&H program was developed to serve women with substance use disorders, including African American women, recognizing that they were at high risk of contracting the HIV virus. Women in the R&H program participated in day treatment services, typically attending treatment programming five days per week.[1] In addition to day treatment, women had a full continuum of care available to them at Meta House (i.e., outpatient treatment, after care, and residential treatment if needed).

The services provided by the R&H treatment program were based in Meta House's gender-responsive, trauma-informed model and included: individual, family, and group therapy; case management; mental health assessment and treatment; programming designed specifically to support women's functioning as mothers; and education and support to women's children, significant others, and other family members. Meta House's overall treatment model included a number of evidence-based practices (e.g., Gender Appropriate AODA Treatment and Education for Women and Children; Comprehensive Case Management for Substance Abuse Treatment; Motivational Interviewing; Stages of Change, etc.). The R&H program also included several additional evidence-based practices implemented to directly address the program's goals and objectives: 1) Seeking Safety (Najavits, 2002), a structured treatment designed to simultaneously address substance use and symptoms of post-traumatic stress disorder; 2) the Nurturing Program for Families in Substance Abuse Treatment and Recovery (NPFSATR; Camp & Finkelstein, 1997), a parenting group that specifically focuses on the needs of parents in substance abuse treatment who have a history of trauma; and

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[1] Day treatment consisted of four full days and one half day of individual and group services per week.

3) Sisters Informing Sisters on Topics about AIDS (SISTA; DiClemente & Wingood, 1995), a culturally-specific social skills training intervention aimed at reducing risky sexual behaviors.[2]

Evaluation Questions

The R&H program focused on assisting women and their families, with the goals of: 1) improving women's level of functioning related to substance use and sobriety; 2) improving women's mental health functioning and self-care; 3) reducing the risk of HIV infection; and 4) improving the stability of the family environment. The evaluation was designed to gather information to assess the extent to which the R&H program accomplished these goals. Specifically, the key evaluation questions included:

- *What were the characteristics of the women served by the R&H program and what were the strengths and challenges they brought with them as they entered treatment?* Descriptive demographic information, as well as data about their substance abuse, mental health, and trauma histories, were gathered to develop this picture of the women the program served.

- *Did women's substance use and mental health status improve after participating in the R&H program?* To support the answer to this question, pre-post data was gathered about the amount of women's substance use, as well as the level of mental health and trauma-specific symptoms they experienced.

- *Did women reduce their risk of HIV infection after participating in the R&H program?* Pre-post data was gathered about the extent to which women engaged in behaviors associated with higher risk for contracting HIV, including unprotected sexual activity and intravenous drug use. In addition, information was gathered about women's perceptions of power in their relationships with their significant others.

- *Were there indications of increased family stability following women's participation in the R&H program?* Indicators of family stability that were explored over time included parenting attitudes, housing stability, and economic self-sufficiency.

Together, these questions addressed the extent to which women who participated in the R&H program had moved forward in their recovery approximately one year after entering the program.

Data Collection

The Government Performance and Results Act (GPRA) requires funded programs to collect and report specific data about program participants. CSAT has developed a set of interview questions that are asked of participants at initial assessment, six months after the initial assessment interview, and at discharge from the program. To this mandated interview schedule, the evaluation design added another interview 12 months after the initial assessment. In addition to the GPRA questions required by CSAT, each of the interview points also included data collection to support the local evaluation. Specifically, the evaluation interviews included: GPRA questions supplemented by additional questions based on the Addiction Severity Index (ASI; McLellan et al., 1980); the Trauma Symptom Checklist-40 (TSC-40; Briere, 1996); the Sexual Relationship Power Scale (SRPS; Pulerwitz et al., 2000); and the Adult-Adolescent Parenting Inventory (AAPI-2; Bavolek & Keene, 2001). [3]

Meta House's internal evaluation research assistants conducted face-to-face interviews with clients at each data collection point. Women enrolled in the R&H program between the time the program began admitting clients until the close of the grant (December 10th, 2007 through September 29th, 2012) completed the GPRA and local evaluation interviews within three days of their formal admission to the program. Data from these initial interviews served as a baseline or pre-participation description of the women. The 12-month interviews were taken as the best available evidence about women's long-term recovery and stability. It was anticipated

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[2] More specific information about the services and evidence-based practices provided in the R&H program is detailed in Meta House's final program report to SAMHSA.

[3] In addition to the quantitative data summarized in the present report, qualitative data collection occurred periodically throughout the project with R&H staff and clients. Summaries of the focus groups and key informant interviews conducted were provided to the program at the time of data collection, including a description of the program's implementation of SISTA. The SISTA implementation report and additional mini-reports are included as appendices in Meta House's final program report to SAMHSA.

that women would remain in day treatment for at least three months, and that they would continue in an outpatient level of care for an additional period of time as needed. As a result, the 12-month interviews were viewed as providing the best description of women's ability to function in the community after participation in the program.

The GPRA guidelines for Targeted Capacity Expansion grantees provide a three month window of time during which follow-up interviews could be conducted (i.e., one month prior to and two months after the actual interview due date). Thus, the 12-month interviews with R&H participants were conducted any time between 11 and 14 months after the initial assessment interviews, with interviews typically conducted towards the beginning of the follow-up window. As expected, the average length of time between the baseline and 12-month follow-up interviews was approximately 12 months (mean = 360.84 days; median = 355.00 days).

Data Analysis and Limitations

The report first describes the full set of women who participated in the R&H program. Data from the initial interview and from the program itself are used to describe all enrolled women with respect to demographics, length of stay in treatment, and discharge status. The report also provides a similar description for those women who completed a 12-month follow-up interview (comparing them to the women who were eligible for a follow-up interview).

The bulk of the report focuses on the women who completed a 12-month follow-up interview. It provides descriptive information about the array of challenges faced by these women as they entered the R&H program. In addition, comparisons are made between baseline and 12-month follow-up data for ASI/GPRA questions that asked about frequency of a behavior in the 30 days prior to the interview and for additional local evaluation measures (i.e., TSC-40, SRPS, and AAPI-2). Paired t-tests and chi square tests are used to describe the statistical significance of any pre-post differences.

Although statistically significant pre-post changes may provide assurance that change occurred beyond that expected by chance fluctuations, these changes may not capture whether or not women have attained a satisfactory level of functioning. As a result, the report also examines levels of functioning at the 12-month follow-up interview.[4] Specifically, the report describes six areas of functioning: developing a commitment to recovery, managing mental health symptoms, developing appropriate parenting attitudes, moving towards economic self-sufficiency, and achieving housing stability.

The analysis of the results has several limitations. Specifically:

- The analysis includes only those women who completed a 12-month follow-up interview. The follow-up rate was relatively high for a one-year follow-up of an outpatient sample (60.4%). In addition, the women interviewed were reasonably representative of the larger set of women eligible for an interview with respect to demographic characteristics, most length of stay indicators, and graduation status. However, those who were interviewed tended to include more women who remained in treatment for one year or longer. As a result, it is possible that the women who did not complete a follow-up interview entered the program with different challenges and/or had different treatment outcomes than those women who did complete a follow-up interview.

- The analysis is based on self-report data. Although the approach to the program evaluation interviews was carefully designed to support the accuracy and integrity of the data, it is possible that some women may not have been fully candid in their responses.

- The analysis is limited to the information gathered in the interviews. Although the questions included in the interviews cover many aspects of women's lives, inevitably they are not fully representative of women's life experiences either prior to entering treatment or at follow-up.

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[4] In each area, there is no assumption that all women are able to attain the highest level of functioning. The levels merely describe the level of functioning at follow-up for women who participated in the program.

META HOUSE'S RECOVERY AND HEALTH PROGRAM:

DESCRIPTION OF PARTICIPANTS

In order to provide an overview of all program participants, the full set of women who were enrolled in the Recovery and Health program are described with respect to their demographics, length of stay, and discharge status. Similar information is provided for the subset of women who completed a 12-month follow-up interview, as these women are the focus of the report's outcomes for the program. Descriptive comparisons are made on key data points for the women who completed a 12-month interview and all women who were eligible for a follow-up interview during the grant period.

Description of the Women Participating in R&H

All of the women who entered the R&H program between the time the program began admitting clients until the close of the grant (December 10th, 2007 through September 29th, 2012) were enrolled in the GPRA tracking and follow-up interviews. During that time, an unduplicated count of 217 women were admitted to the program and enrolled in the interview process. The total number of women admitted over the five year grant period was slightly less than originally anticipated. Specifically, the program served 90.4% of the targeted 240 women, which exceeded the CSAT intake benchmark of 80% but did not fully reach the original estimates of the number to be served.

According to the program, several factors contributed to the slightly lower than anticipated number of clients. The vast majority of referrals to the program and authorizations for treatment came from Milwaukee County. During the five years of R&H program implementation, several changes occurred in Milwaukee County's system for coordinating access and referral to treatment (WIser Choice: Wisconsin Supports Everyone's Recovery Choice). For example, due to funding constraints the WIser Choice system was periodically required to decrease the number of intake appointments, resulting in a decreased number of clients entering treatment. In addition, funding constraints also periodically limited the system's ability to authorize a day treatment level of care, resulting in a limited number of referrals to day treatment. Throughout the five years of R&H implementation, the program employed a number of strategies to support engaging the women who WIser Choice was able to refer to the program. Changes over time in the extent to which the program met its target number suggested that these strategies helped to increase the number of women who completed the full intake process, were enrolled in the program, and became engaged in treatment.

Data from the initial interview and from the program were used to describe the 217 enrolled women with respect to: 1) demographics, 2) length of stay in treatment, and 3) discharge status.

Demographics

Table 1 and Table 2 present demographic information for the 217 women enrolled in the R&H program (including all women who completed an initial GPRA interview).

Table 1: Basic Demographics at Admission for All Enrolled Participants

Demographic Characteristics	R&H Participants (N=217)	
	N	**%**
Race/Ethnicity*		
African American/Black	107	49.5%
Caucasian/White	78	36.1%
Latina/Hispanic	16	7.4%
Native American	5	2.3%
Multiracial or other	10	4.6%
Age at Admission		
19 years and younger	5	2.3%
20 to 24 years	36	16.6%
25 to 29 years	40	18.4%
30 to 34 years	34	15.7%
35 to 39 years	29	13.4%
40 to 45 years	39	18.0%
45 to 49 years	20	9.2%
50 years and over	14	6.5%
Age statistics (in years)	Mean=34.31 Median=33.00	Range=18-58 SD=9.66
Family Status at Admission		
Mothers	194	89.4%
Pregnant**	14	6.6%
Mothers of minor children (for those who were mothers)	168	86.6%
Number of children (for those who were mothers)	Mean=3.24 Median=3.00	Range=1-10 SD=2.04
Child welfare involvement (for those who were mothers)***	97	50.0%

*N=216, with 1 woman missing information on race/ethnicity.

**N=212, with 5 women missing information on pregnancy status. In addition, 1 woman was unsure whether or not she was pregnant at the time of the initial evaluation interview.

***Mothers were considered to have had child welfare involvement if they had experienced a termination of parental rights and/or had one or more children placed in out-of-home care at the time of the initial interview.

The women who participated in the R&H program varied widely in age, with approximately 20% (n=41 or 18.9%) under the age of 25 and approximately 15% (n=34 or 15.7%) age 45 or older. On average, the women who participated in the program were in their mid-30s (mean=34.31; median=33.00). Almost half of the women (n=107 or 49.5%) described their ethnicity as Black or African American and approximately 35% (n=78 or 36.1%) described themselves as White or Caucasian.

Most of the women participating in the R&H program (n=194, 89.4%) were mothers at the time of their admission to day treatment, and a small number (n=14) were pregnant. It is important to note that, in addition, a small number of the women (n=7 or 3.2%) had experienced the death of at least one their children.

The women who were mothers had a mean of 3.24 children (with a range of one to 10 children per mother). Most of those who had children (n=168 or 86.6%) had at least one minor child, but a small number (n=26 or 13.4%) had only adult children at the time of their admission to the program. Half of those who were mothers were involved with the child welfare system (n=97, 50.0%), including having experienced a termination of parental rights (n=17) and/or having a child placed in out-of-home care at the time of the initial interview (n=89).

Table 2: Socioeconomic Demographics at Admission for All Enrolled Participants

Socioeconomic Demographic Characteristics	R&H Participants (N=217)	
	N	**%**
Highest Level of Education Completed at Admission		
8th grade or less	17	7.8%
9th to 11th grade	60	27.6%
High school diploma / GED	73	33.6%
Some college or vocational / technical school	62	28.6%
College degree	5	2.3%
Employment Status at Admission		
Unemployed	173	79.7%
Unemployed disabled	34	15.7%
Employed full-time or part-time	10	4.6%
Income at Admission*		
Any income (past 30 days)	198	93.4%
Income from wages (past 30 days)	16	7.4%
Income statistics (past 30 days) (all sources of income combined)	Mean=$683.86 Median=$654.50	Range=$0-$3,000 SD=$549.07
Legal Status at Admission		
On probation or parole	32	14.7%
In jail or prison in previous 30 days	10	4.6%
Awaiting charges, trial, or sentencing**	20	9.3%

*N=121 for total income, with 5 women missing data. **N=216 for awaiting charges, with 1 woman missing data.

Almost two-thirds of the women (n=140 or 64.5%) had either graduated from high school or earned their GED certificate at the time of their admission to the program, but only five women had completed a college degree. Approximately one-third of the women (n=77 or 35.5%) had not completed high school, including a small number of women (n=17) whose highest level of education was eighth grade or less.

At the time of their admission to the program, almost all of the women were essentially unemployed, with no regular full-time or part-time employment. However, approximately 15% (n=34 or 15.7%) were considered disabled (i.e., receiving Supplemental Security Income or Social Security disability Insurance). Most of the women (n=198 or 93.4%) did have some source of income during the 30 days prior to admission, primarily from public assistance (e.g., TANF, food stamps, disability). For the women who did have some source of income, the average dollar amount received for those 30 days was quite low (mean=$683.86).

Legal issues did not appear to be a major factor surrounding women's entry into treatment as only a small number of women had been in jail in the 30 days prior to admission or were awaiting charges, trial, or sentencing when they began treatment. However, approximately 15% of the women (n=32 or 14.7%) were on probation or parole at the time of their admission.

Length of Stay in Treatment

The program's expectation was that women enrolled in the R&H program would remain in treatment for as long as needed to address substance use, trauma, and other mental health symptoms; to decrease their risk of HIV infection; and to enhance the stability of the family. In general, the program anticipated that most women would need a minimum length of stay of three months to make substantial progress in these areas. A full continuum of care was available to R&H women, including day treatment and outpatient treatment, as well as residential treatment for those who might require a higher level of care.

Table 3 describes the overall length of participation for all enrolled women during an episode of care, including all consecutive levels of care.[5] All women began their R&H episode of care in day treatment.[6] Approximately 15% of the women who had been discharged as of the end of the data collection period had an episode of care that also included outpatient services (n=27 of 186, or 14.5%).[7] Slightly less than 15% of the discharged women had an episode of care that included residential treatment (n=25 of 186, or 13.4%).[8] Table 3 describes the overall length of stay for an R&H episode, including primarily day treatment, as well as outpatient services and residential treatment for women who accessed additional levels of care.

Table 3: Overall Length of Stay for All Enrolled Participants

Overall Length of Program Participation	R&H Participants (N=186*)	
	N	**%**
Less than 1 month	2	1.1%
1 month to 1.99 months	23	12.4%
2 months to 2.99 months	30	16.1%
3 months to 3.99 months	29	15.6%
4 months to 4.99 months	21	11.3%
5 months to 5.99 months	9	4.8%
6 months to 8.99 months	29	15.6%
9 months to 11.99 months	21	11.3%
12 months or more	22	11.8%
Overall length of stay statistics (in months)	Mean=6.28 Median=4.34	Range=0.85-33.15 SD=5.35

*Of the 217 enrolled women, 31 had not yet been discharged from treatment at the end of the data collection period for length of stay (10/31/2012), and therefore were not included in the length of stay analysis.

The overall length of stay in treatment for women who had been discharged at the end of the data collection period varied widely, from three weeks to almost three years. Approximately 70% of the women (n=131 or 70.4%) remained in treatment for at least three months (the program's minimum expected length of stay). Almost 40% of the women (n=72 or 38.7%) remained in treatment for at least six months, with some (n=22) staying over one year. Although there was appreciable individual variation, on average women remained in treatment for approximately six months.[9]

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[5] An episode of care was defined as all consecutive levels of care provided within approximately one month of one another.

[6] Approximately half of the women admitted to R&H (n=104 of 217, or 47.9%) were documented as having received some form of treatment at Meta House at some point in the past. For some of these women, their previous treatment included a residential stay. Approximately 15% of the women (n=33 of 217, or 15.2%) had participated in residential treatment within one month of their admission to the R&H program. As a result, most of the R&H women (n=184 of 217, or 84.8%) began their R&H episode of care in day treatment.

[7] The data collection period for length of stay ended October 31st, 2012, approximately one month after the close of the grant.

[8] A small number of women (n=4 of 186, or 2.2%) had an episode of care that included all levels of treatment (day treatment, a residential stay, and outpatient services).

[9] Focusing just on length of stay in day treatment (excluding other levels of care received during the episode), the length of stay statistics (i.e., mean=5.39, median=4.11) were reasonably comparable to the overall length of stay during the full episode.

Program Discharge Status

Graduation was the goal for all women enrolled in the R&H program. At discharge from their full episode of care in the program, counselors coded women's treatment progress and the reason for discharge. Women were considered to have graduated if their counselors indicated that they had successfully completed the program or that they had completed with substantial improvement in some areas.

Approximately 60% of the enrolled women (n=114 or 62.0%) were considered to have graduated when they were discharged from their R&H episode of care.[10] Most of those who graduated from the program had remained in treatment for three months or longer (n=100 of 114, or 87.7%). Overall, the average length of stay in treatment for women who graduated was approximately seven months (mean = 7.95 months; median = 6.54 months).

Approximately 40% of the women (n=70 or 38.0%) did not graduate from the program. Common discharge reasons for those who did not graduate included completing services without substantial improvement (n=36 of 70), withdrawing against staff advice (n=13 of 70), and being referred to another program (n=13 of 70). Approximately 60% of the women who did not graduate left treatment prior to three months (n=41 of 70, or 58.6%) and their average length of stay in treatment was shorter than that for graduates (mean = 3.58 months; median = 2.61 months).

Description of the Women Interviewed at 12-month Follow-Up

There were 217 women admitted to the R&H program and enrolled in the interview process. Of the women admitted, 164 became eligible for a 12-month follow-up interview during the data collection period for interviewing (i.e., their 12-month follow-up window opened prior to the close of the grant).[11] A total of 99 women completed a 12-month interview, resulting in a follow-up rate of 60.4% for those who were eligible for a follow-up during the data collection period.

Representativeness

The data were reviewed to determine the extent to which the 99 women who completed a follow-up interview were representative of the full set of 164 women who were eligible for a follow-up interview. Specifically, those eligible for a follow-up interview and those who actually completed the follow-up were compared with respect to: 1) demographics, 2) length of stay in treatment, and 3) discharge status. Detailed information regarding these comparisons can be found in Appendix A.

In general, the women who completed a follow-up interview were reasonably similar demographically to the full set of women who were eligible for a follow-up. The two groups closely resembled one another in terms of their employment status, their legal status, the proportion who were mothers, the number of children they had, and their child welfare involvement. Their was a slight trend for more of the women who completed a follow-up interview to describe themselves as Black/African American, to be slightly older, and to have less education than those who were eligible for a follow-up interview.[12] None of these differences were substantial, however, and the group of women who were interviewed can be seen as demographically representative of those who could have been interviewed.

There were some differences between the groups with respect to length of stay in the R&H program and status at discharge. Specifically, a higher proportion of the women interviewed remained in treatment for 12 months or longer (n=21 or 22.1% of women followed-up remained for 12 months or longer; n=22 or 13.8% of women eligible remained for that period of time). As a result, a somewhat larger proportion of

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[10] N=184, with 31 women not yet discharged from treatment at the end of the data collection period (10/31/12) and therefore not included in the analyses for discharge status. In addition, 1 woman was missing data on discharge status and 1 woman had died prior to being formally discharged from the program.

[11] The 164 women eligible for a follow-up included 9 women who could not be reached for an interview, but whose follow-up window had not yet closed as of the end of the data collection period. It is possible that with the benefit of a full follow-up window, these 9 women also would have been interviewed.

[12] Of the women interviewed at 12 months, 58.2% described themselves as Black/African American, as compared to 49.1% of the women eligible for an interview. The mean and median ages for women interviewed at 12 months were 36.1 and 36.0 respectively; the mean and median ages for women eligible were 34.5 and 33.0. A total of 57.6% of the women interviewed earned a high school diploma or GED, as compared to 62.8% of the women eligible for an interview.

the women interviewed remained in treatment for three months or longer. In addition, women who completed a follow-up interview were somewhat more likely to have graduated from the program than women who were eligible for an interview (n=65 or 68.4% of women followed-up graduated; n=98 or 61.6% of women eligible graduated). The differences between the groups with respect to length of stay and graduation status were not substantial, with the exception of the proportion of women who remained in treatment for one year or more.

Overall, it appears that the women who were interviewed were reasonably representative of the larger group in terms of their demographics and graduation status, but tended to include more women who had an extended stay in treatment.

Description of the Women Interviewed at Follow-Up

The women who completed a follow-up interview varied widely in age, but averaged in their mid-30s at the time of their admission to the program (mean = 36.14, median = 36.00). Approximately 60% of the women (n=57 or 58.2%) described their ethnicity as Black or African American, with most of the remaining women (n=30 or 30.6%) describing themselves as White or Caucasian. Almost all of the women interviewed were mothers (n=92 or 92.9%) and a small number (n=7 or 7.2%) were pregnant at the time of their admission to the program. For those who were mothers, most (n=76 or 82.6%) had minor children and approximately half (n=49 or 53.3%) had some involvement with the child welfare system.

Approximately 60% of the women interviewed (n=57 or 57.6%) had either graduated from high school or earned their GED, but the remaining 40% had not completed high school. Very few of the women (n=5 or 5.1%) were employed at the time of the initial interview, and approximately 20% were considered to be disabled (n=22 or 22.2%). Legal issues were uncommon among the women interviewed, with less than 15% reporting being on probation/parole, awaiting charges, etc.

A full continuum of care was available to the R&H women during their treatment episode, including day treatment, outpatient services, and residential treatment. All of the women who were followed up began their R&H episode of care in day treatment.[13] As part of their episode of care, some women also participated in outpatient services (n=20 of the 95 discharged, or 21.1%) and/or in residential treatment (n=13 of 95 discharged, or 13.7%). On average, women who completed a follow-up interview had an overall length of stay of about five months (median = 5.49 months).[14] Approximately three-quarters of the women remained in treatment for three months or longer (n=73 or 76.8%) and approximately half (n=47 or 49.5%) remained engaged in some form of treatment at Meta House for six months or longer. Overall, almost 70% of the women interviewed at 12 months (n=65 or 68.4%) were considered to have graduated from the program (i.e., successfully completed or completed with substantial improvement in some areas).

Detailed information regarding demographic data, length of stay, and discharge status for the women interviewed at 12 months can be found in Appendix A.

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[13] Approximately half of the women who completed a follow-up interview (n=51 of 99, or 51.5%) were documented as having received some form of treatment at Meta House at some point in the past. For some of these women, their previous treatment included a residential stay. Approximately 17% of the women (n=17 of 99, or 17.2%) had participated in residential treatment within one month of their admission to the R&H program. As a result, most of the R&H women (n=82 of 99, or 82.8%) began their R&H episode of care in day treatment.

[14] Due to a small number of "outliers" (i.e., women who remained in treatment an exceptionally long time), the median is the best representation of the average length of stay for those who were followed up.

META HOUSE'S RECOVERY AND HEALTH PROGRAM:

12-month INTERVIEW FINDINGS

The Meta House Recovery and Heath program was designed to: 1) improve women's level of functioning related to substance use and sobriety; 2) improve women's mental health functioning and self-care; 3) reduce the risk of HIV infection; and 4) improve the stability of the family environment for women and their children.

Evaluation data was gathered to address progress towards each of these goals and the specific objectives associated with them. As a result, the evaluation findings described in this report address:

- Alcohol / drug use and recovery, including reductions in substance use and level of commitment to recovery at follow-up;

- Mental health symptoms and treatment, including reductions in trauma-related symptoms, general mental health symptoms, and level of self-care at follow-up;

- Engagement in HIV-related risk behaviors and women's perceptions of power in their relationships with significant others; and

- Family functioning, including changes in parenting attitudes, self-sufficiency, and housing.

For each of these areas, the summary of findings describes:

- The challenges faced by women and families as they entered treatment;

- The pre-post changes that occurred, comparing the 30 days prior to the initial interview and the 30 days prior to the 12-month follow-up interview; and

- The degree to which women had attained a satisfactory level of functioning at the 12-month follow-up interview.

Alcohol / Drug Use and Recovery

Women admitted to the R&H program had been screened by Milwaukee County's WIser Choice system and met the American Society of Addiction Medicine Patient Placement Criteria (ASAM PPC-2R) for admission to a day treatment level of care. As a result, the R&H program was designed to assist women in establishing their recovery by attending treatment on a daily basis while residing in the community, often with their families. Like other chronic medical conditions, relapse for those who have substance use disorders is an expected part of recovery (Center for Substance Abuse Treatment, 2009; National Institute on Drug Abuse, 2010). The literature suggests that the relapse rates for substance addictions can range from 40% to 60% (e.g., National Institute on Drug Abuse, 2009; Stocker, 1998) and that the factors associated with relapse are different for women than they are for men (e.g., Walitzer & Dearing, 2006). As a result, the program was also designed to assist women in identifying relapse triggers, and especially those specific to women, to support future abstinence. Overall, the R&H program's goal was to improve women's level of functioning related to substance use and sobriety.

In the area of substance use, the analysis examined: 1) the women's history of alcohol and drug use as a challenge to recovery, 2) pre-post changes that occurred in women's alcohol and drug use, and 3) women's level of functioning with respect to maintaining a recovery commitment at follow-up.

History of Alcohol / Drug Use as a Treatment Challenge

Questions from the Addiction Severity Index (ASI) and the GPRA were used to develop a picture of women's history of substance use as well as their use in the 30 days prior to the initial interview. Most of the women who participated in the R&H program and the follow-up interviews had substantial histories of lifetime alcohol and drug use. Specifically, 80.8% of the women (n=80) had one or more of the following substance use characteristics associated with serious addiction:[15, 16]

- More than five years of regular cocaine use (n=43 or 43.4%);

- Regular use of heroin at some point in their lifetime (n=11 or 11.1%);

- More than ten years of regular use of a substance other than cocaine or heroin (n=49 or 50.5%);[17] and/or

- Regular use of more than one substance per day during their lifetime (n=54 or 55.1%).[18]

The women had used a wide variety of substances in their lifetime, the most common of which were alcohol (n=94 or 94.9%), marijuana (n=92 or 92.9%), and cocaine/crack (n=87 or 87.9%). In addition, approximately one-quarter of the women (n=23 or 23.2%) had used heroin at least once in their lifetime. Lifetime use of potentially addictive prescription medications was also relatively common, including use with and without a prescription. The typical medications used included Percocet (n=41 or 41.4%), benzodiazepines such as Valium or Xanax (n=39 or 39.4%), Tylenol with codeine(n=38 or 38.4%), and Oxycontin or Oxycodone (n=29 or 29.3%).

In the 30 days prior to the initial interview, approximately 70% of the women (n=70 or 70.7%) were actively using alcohol, drugs, and/or potentially addictive prescription medications.[19] For those women who did use during that time, the number of days of use ranged from one to 30 days, with a mean of 14.50 days and a median of 7.50 days. Approximately 40% of the women (n=40 or 40.4%) had used illegal drugs, and approximately one-quarter (n=26 or 26.3%) had used more than one substance on the same day during those 30 days.[20] Some of the women who used during the 30 days prior to the initial interview (n=22 of 70) had spent at least some of those days in a controlled environment (e.g., residential treatment), although none had been in a controlled setting for the entire month.

For the women who did use alcohol and/or drugs in the month before the initial interview, the type of substance used varied. Specifically, in the 30 days prior to the initial interview:

- Alcohol was used by approximately 40% of the women (n=37 or 37.4%), most of whom (n=26) drank to intoxication.[21]

- Cocaine was used by approximately 25% of the women (n=25 or 25.3%).[22]

- Marijuana was used by approximately 20% of the women (n=22 or 22.2%).[23]

In addition, approximately 40% of the women (n=37 or 37.4%) used potentially addictive prescription medications in the 30 days prior to the initial interview. While some of this use was medically prescribed, a small number of women were taking these medications without a prescription.

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[15] N=99.

[16] "Regular use" was defined by the ASI as using the substance three or more times per week for at least a month in one's lifetime.

[17] N=97; 2 women were missing data on length of lifetime use of other substances, but had one of the other characteristics associated with serious addiction.

[18] N=98; 1 woman was missing data on length of lifetime use of more than one substance per day, but had one of the other characteristics associated with serious addiction.

[19] N=99 for all 30 day use at the time of the initial interview.

[20] It must be noted, however, that the number of days women used illegal drugs or more than one substance on the same day was generally fairly low (i.e., three days or less).

[21] N=99 for 30 day use of alcohol at the initial interview; n=33 of 37 who drank had data available for alcohol use to intoxication, with 4 women missing data on intoxication.

[22] N=99.

[23] N=99.

Specifically:[24]

- One-third of the women (n=33 or 33.3%) used potentially addictive medications while having a prescription. The prescribed medications used most frequently included Tylenol with codeine, Vicodin, Percocet, methadone, and benzodiazepines such as Valium or Xanax. It must be noted that some of these women indicated that they had used similar medications without a prescription in the past.

- A small number of the women (n=4 or 4.0%) used potentially addictive medications without a prescription. The medications used most frequently without a prescription included Percocet and Oxycontin/Oxycodone.

Finally, approximately 30% of the women (n=29 or 29.3%) did not use any substances in the 30 days prior to the interview.[25] For some of these women (n=11 of the 29 who did not use), their abstinence was supported by having been in a controlled environment during that time (e.g., residential substance abuse treatment). However, for other women (18 of the 29 who did not use), their abstinence could be considered voluntary, as they spent no time in a controlled environment in the month prior to entering the program.

Pre-Post Changes in Alcohol and Drug Use

As part of the GPRA interview, women were asked how many days they had used various substances in the 30 days prior to each interview. The local evaluation added a question from the Addiction Severity Index (ASI) to identify the number of days during that time that women were in a controlled environment (e.g., residential treatment, jail, etc.) and therefore presumably unable to use. The data from these questions was combined to describe the changes in women's substance use when they had the opportunity to use, i.e., when they were not in a controlled environment.

In the 30 days prior to the initial interview, one-third of the R&H women (n=33 or 33.3%) had been in a controlled environment for at least a portion of the month.[26] Most commonly, these women had been in residential substance abuse treatment (n=26 of the 33). For those who had been in a controlled environment prior to the initial interview, the range of stay was between one day and 27 days, with an average of 12 days (mean = 12.64 days; median =12.00 days).

At the time of the follow-up interview, approximately 15% of the women (n=14 or 14.1%) had been in a controlled environment for at least a portion of the prior month. Most commonly, these women were in the hospital for detoxification and/or residential treatment (n=8 of the 14).[27] For those who had been in a controlled environment prior to the follow-up interview, the number of days stayed ranged from 1 to 30, with a mean of 19.00 days and a median of 20.50 days. Some of the women who were in a controlled environment were there for all 30 days prior to the follow-up interview (n=6 of 14).

To account for the fact that some women had spent time in a controlled environment where they were presumably unable to use, the amount of substance use during the months prior to each interview was "adjusted" to reflect women's usage when they were free to either use or abstain (i.e., not in a controlled environment).[28] See Appendix B for a more detailed description of how days of use were adjusted to reflect those days when women had an opportunity to use.

Paired t-tests were run to compare women's adjusted days of substance use in the 30 days prior to the initial interview and in the 30 days prior to the 12-month follow-up interview. The t-tests were conducted for days of use of alcohol, alcohol to intoxication, marijuana, cocaine, illegal drug use overall, more than one substance per day, and days of complete abstinence from any substance use. Drugs other than these were either used too infrequently in the 30 days prior to treatment to permit a valid pre-post comparison or were confounded by both prescription and nonprescription use. Table 4 lists the results of these tests.

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[24] N=99 for 30 day prescription medication use at the initial interview.

[25] N=99.

[26] N=99 for all information on controlled environment at the initial interview.

[27] N=99 for all information on controlled environment at the follow-up interview.

[28] Women who were in a controlled environment for the full 30 days prior to either interview were excluded from the analyses for unadjusted use, adjusted use, and pre-post changes because there was no means of estimating their ability to be abstinent outside of a controlled environment.

Table 4: Pre-Post Adjusted Means and Paired T-Tests for Alcohol and Drug Use

Substance Used	In the 30 Days Prior to Initial Interview	In the 30 Days Prior to 12-month Interview	t Value	p Value
Days of no use	16.99	20.70	2.81	.006*
Alcohol	2.53	2.53	0.00	.999
Alcohol to intoxication	1.77	1.64	0.22	.828
Marijuana	2.27	1.36	1.28	.204
Cocaine	1.49	1.02	0.80	.426
Days of illegal drug use	3.73	2.38	1.49	.139
More than 1 substance per day	1.60	1.20	0.65	.521

N=88 to 93. Six women were in a controlled environment all 30 days prior to the follow-up interview and were excluded from the analysis because there was no opportunity to estimate their ability to be abstinent outside of a controlled environment. In addition, 1 woman was missing data on number of days of use for alcohol, more than one substance, and days of no use and 5 women were missing data on number of days of use for alcohol to intoxication.

The *p* value refers to the level of statistical significance of the *t* value from the paired samples *t*-test. *P*-values of less than 0.05 are considered statistically significant and are marked with an asterisk (*).

The results suggested an overall improvement in women's substance use in the month prior to the follow-up interview as compared to the month prior to the initial interview. Specifically, there was a highly statistically significant pre-post increase in the number of days women were completely alcohol and drug free (including free of potentially addictive prescription medications). However, no significant pre-post differences were found in the use of individual substances (e.g., cocaine, marijuana, or alcohol), the use of illegal drugs, or the use of more than one substance on the same day. In part, this may have been related to the limited number of women who used these substances in the 30 days prior to the initial interview and/or the limited number of days of use. For example, only one-quarter of the women (n=25 or 25.3%) used cocaine in the 30 days prior to the initial interview and most of those who did (n=17 of 25) used for three days or less. As a result, a "ceiling effect" may have made it difficult to achieve statistically significant decreases over time in the use of specific substances.[29]

<u>Case-Specific Pre-Post Patterns</u>

The statistically significant decrease in overall days of use reflected changes for the whole group of women. At the individual level, however, women experienced different pre-post patterns for use of any substances in the month prior to the initial and the follow up interviews. These patterns included:[30]

- *Maintenance of abstinence*. Approximately 70% of the women who were abstinent in the 30 days prior to the initial interview were also abstinent in the 30 days prior to the follow-up interview (n=19 or 67.9% of the 28 abstinent at baseline).

- *Improvement in abstinence.* Approximately 40% of the women who had used substances in the 30 days prior to the initial interview were no longer using in the 30 days prior to the follow-up interview (n=26 or 40.0% of the 65 who used at baseline).

- *Continued use.* Approximately 60% of the women who had used substances in the 30 days prior to the initial interview had also used substances in the 30 days prior to the follow-up interview (n=39 or 60.0% of the 65 who used at baseline). While some of these women's continued use was confined to prescription medications (n=13 of 39) at follow-up, others were using illegal substances (n=15 of 39) and/or alcohol (n=20 of 39).

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[29] A statistical ceiling effect occurs when a large concentration of participants score at or near the "best" score for potential responses. This restricted variance makes it difficult to detect improvement.

[30] Total N=93, with 6 women in a controlled environment all 30 days prior to the follow-up interview excluded from the analysis.

- *Relapse.* A small number of the women who were abstinent in the 30 days prior to the initial interview were using substances in the 30 days prior to the follow-up interview (n=9 or 32.1% of the 28 abstinent at baseline). While a small number had a relapse that was confined to prescription medications (n=2 of 9), most had returned to some use of illegal drugs (n=5 of 9) and/or alcohol (n=5 of 9) in the month prior to follow-up.

It appeared that pre-post changes at the individual level were related to the length of time spent in treatment and to graduation status, as shown in Table 5.

Table 5: Length of Stay and Graduation Status for each Pre-Post Pattern of Use

	Maintenance of Abstinence (N=19)	Improvement in Abstinence (N=24)*	Continued Use (N=38)*	Relapse (N=8)*
Graduated	78.9% (n=15)	87.5% (n=21)	60.5% (n=23)	50.0% (n=4)
Length of stay for at least 3 months	94.7% (n=18)	83.3% (n=20)	60.5% (n=23)	100.0% (n=8)
Length of stay statistics (in months)	Mean=6.20 Median=4.80	Mean=11.14 Median=10.09	Mean=6.90 Median=4.24	Mean=8.09 Median=8.92

*Several women in each category had not yet been discharged from their R&H episode by the end of the data collection period for length of stay (10/31/2012). Specifically, 2 women in the improvement category, 1 woman in the continued use category, and 1 woman in the relapse category were still engaged in treatment at the close of data collection.

As shown in Table 5, most women who maintained or improved their abstinence at both points in time remained in treatment for at least three months and were considered to have graduated from the program. Further, the women who showed a pattern of pre-post improvement had the longest average length of stay.

By contrast, only about 60% of the women who had used in the month prior to both the initial and the follow-up interviews remained in treatment for at least three months and were considered program graduates. A small number of women (n=8) had used in the month prior to the follow-up interview but not in the month prior to the initial interview; with this small sample, the length of stay patterns for those who relapsed must be interpreted with caution. Given that caveat, all of the women who reported having relapsed in the month prior to the follow-up interview had remained in treatment for at least three months and most were considered to have graduated from the program at the time of their discharge.

Maintaining Recovery Commitment at Follow-Up

In addition to the pre-post changes in substance use, the analysis examined the extent to which women maintained a recovery commitment at the 12-month follow-up. Women with substantial histories of substance use have a chronic relapsing condition and a variety of physical, social, and personal stressors can trigger a relapse. Treatment includes preparing women to deal with any relapse by re-engaging with treatment. When a woman experiences a relapse and re-engages in treatment, she is demonstrating commitment to her recovery. Similarly, when a woman is not using and engages in treatment to further support her recovery, she is demonstrating her continued commitment to recovery. On the other hand, when a woman uses illegal drugs or alcohol and does not re-engage in treatment, she is either in denial about the fact that she has relapsed or she has given up on her recovery, at least for the present. Women's commitment to their recovery at the 12-month follow-up can be described using the following levels of functioning:

Level 1 is defined as being completely alcohol and drug free for the 30 days prior to the interview, without participating in substance abuse treatment. Women who have remained alcohol and drug free for the 30 days prior to the interview are demonstrating success in maintaining their recovery.

Level 2 is defined as being completely alcohol and drug free for the 30 days prior to the interview, while continuing or re-engaging in substance abuse treatment. Women who have remained alcohol and drug

free for the 30 days prior to the interview and have been engaged in a treatment program are demonstrating a commitment to their recovery, both by their abstinence and their engagement with treatment.

Level 3 is defined as being abstinent from alcohol and illegal drugs, but using potentially addicting medications with a prescription (e.g., narcotics or prescription pain killers such as Vicodin or Oxycontin).[31] While these women are no longer using alcohol or illegal drugs and may be using medications to support their recovery or to manage health issues, it is also possible that their use of potentially addictive medications may put them at some risk for relapse in the future. Women at this level have engaged in substance abuse treatment while using prescription medications, which may lessen their risk of relapse.

Level 4 includes women who are abstinent from alcohol and illegal drugs, but using potentially addicting medications with a prescription but without treatment support. These women have neither continued nor re-engaged in substance abuse treatment. While their use of these potentially addictive medications may be for legitimate reasons, it is also possible that their use may put them at some risk for relapse in the future, particularly without the added support of a treatment environment.

Level 5 is defined as having some alcohol and/or illegal drug use in the 30 days prior to the interview, and continuing or re-engaging in some form of substance abuse treatment. Women engaged in a treatment program are demonstrating a commitment to their recovery, although they are not completely successful with respect to their actual use.

Level 6 is defined as having some alcohol and/or illegal drug use in the 30 days prior to the interview, and not re-engaging in substance abuse treatment. Given the substantial history of addiction in this group of women, the resumption of alcohol and/or drug use without treatment suggests that the woman is in denial about the fact that she has relapsed or that she has given up on her recovery for the time being.

Table 6 describes the level of functioning at follow-up with respect to commitment to recovery.

Table 6: Levels of Recovery Commitment at Follow-Up

Levels	N	%	Cumulative %
Level 1: No alcohol, prescription drug, or illegal drug use . without treatment support.	30	30.3%	30.3%
Level 2: No alcohol, prescription drug, or illegal drug use . while engaged in treatment.	20	20.2%	50.5%
Level 3: Prescribed drug use only (with prescription) . while engaged in treatment.	10	10.1%	60.6%
Level 4: Prescribed drug use only (with prescription) . without treatment support.	6	6.1%	66.7%
Level 5: Some alcohol or illegal drug use . while engaged in treatment.	12	12.1%	78.8%
Level 6: Some alcohol or illegal drug use . without treatment support.	21	21.2%	100.0%

N=99.

As Table 6 shows, approximately half of the women who participated in the R&H program (n=50 or 50.5%) used no alcohol, prescription drugs, or illegal drugs in the 30 days prior to the 12-month follow-up interview. Approximately 30% of the women (n=30 or 30.3%) were alcohol and drug free without participating in substance abuse treatment during that time. Some of these women (n=13 of 30) did report, however, that they were engaged in a self-help 12 step group. Table 6 also indicates that some of the women who were abstinent (n=20 of 50) were doing so with the support of primarily outpatient substance abuse treatment. These women's engagement in treatment represented a continued commitment to recovery and may have been an important component supporting their continued abstinence.

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[31] Women who used these medications <u>without</u> a prescription were categorized as engaged in illegal drug use.

Table 6 also shows that approximately 15% of the women (n=16 or 16.2%) were abstinent from both alcohol and illegal drugs but were using one or more potentially addictive medications with a prescription. The prescribed medications used most frequently included benzodiazepines such as Valium or Xanax (n=7), Tylenol with codeine (n=4), Percocet (n=3), and morphine (n=3). Most of the women who were using prescribed medications were engaged in substance abuse treatment at follow-up. Given this engagement, it is likely that the use of these medications was viewed as supporting women's recovery or health and/or was being addressed in treatment. However, over time some women may need to attend to the possible risks that long-term use of these medications may pose.

Finally, one-third of the women (n=33 or 33.3%) had some days of alcohol or illegal drug use in the 30 days prior to the 12-month follow-up interview. Many of these women (n=20 of 33) were using illegal drugs (most commonly cocaine or marijuana), as opposed to just alcohol. Some of those who were using (n=12 of 33) were either continuing in treatment or had re-engaged in treatment (primarily outpatient treatment), suggesting a continued commitment to their own recovery. However, others (n=21 of 33) had not sought out treatment support during the month of their use and also had not engaged in a self-help 12 step group (n=18 of the 21 who were not in treatment). This suggests that there were a subset of women who either did not view their use as problematic or had given up on their recovery, at least for the present.

Trauma History and Symptoms

A substantial body of literature suggests that women who enter substance abuse treatment have often experienced significant trauma in their lives (e.g., Farley, et. al., 2004; Najavits, Weiss, & Shaw, 1997; Rohsenow, Corbett, & Devine, 1988; Savage et al., 2007). Specifically, high proportions of women with substance use disorders have experienced sexual or physical abuse, domestic violence, and/or witnessed violence as a child (Center for Substance Abuse Treatment, 2009). As a result, post-traumatic stress disorder (PTSD) and other trauma-related symptoms are common among women in treatment (e.g., Chilcoat & Menard, 2003) and may present a unique treatment challenge (e.g., Eggleston et al., 2009; Hien et al., 2010). As women work towards recovery, therefore, they are often faced with the complexity of processing prior traumatic experiences and managing significant mental health symptoms. To address this challenge, the R&H program provided a trauma-informed treatment environment including Seeking Safety, an evidence-based practice designed to simultaneously address substance abuse and symptoms of PTSD (Najavits, 2002).

In the area of trauma, the analysis of the R&H data examined: 1) the treatment challenge of women's trauma histories, 2) the status of trauma symptoms prior to admission, and 3) pre-post changes that occurred in women's trauma-related symptoms. The level of functioning with respect to general mental health and self-care at follow-up are addressed in the section on Mental Health and Treatment.

Trauma History as a Treatment Challenge

Meta House has embraced a trauma-informed approach, and therefore routinely assesses each woman for a history of trauma throughout the course of her treatment. Counselors from the R&H program regularly reported information about women's trauma histories at discharge.[32] According to the counselors' reports, 90% of the women (n=85 or 90.4%) had experienced some form of emotional, physical, and/or sexual abuse in their lifetime.[33] Focusing just on the experiences of physical abuse, childhood sexual abuse, and/or adult sexual assault, most of the women (n=81 or 86.2%) were reported to have experienced one or more of these types of abuse. Notably, almost half of the women (n=44 or 46.8%) had experienced all of these forms of abuse (physical abuse and sexual abuse as both a child and an adult). Specifically, the counselor report indicated that:

- Approximately 85% of the women (n=80 or 85.1%) had experienced emotional abuse.

- Approximately 80% of the women (n=77 or 81.9%) had experienced physical abuse.

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[32] These figures represent the proportion of women for whom counselors were able to make a determination of abuse history. It is possible that some of the women who were not reported as having abuse histories may simply not have disclosed their histories to their counselors.

[33] N=94, with 5 women missing data on all types of abuse history.

- Approximately 60% of the women (n=56 or 59.6%) had experienced some form of sexual assault as an adult.

- Approximately 60% of the women (n=56 or 59.6%) had experienced sexual abuse as a child.

Overall, it is clear that most of the women entering the R&H program had experienced significant trauma in their lives and were likely faced with the challenge of addressing these experiences as they worked towards recovery.

Status of Trauma-Related Symptoms at Admission

Given the prevalence of trauma histories in the lives of the women in the program, it was anticipated that some women may have been experiencing trauma-related symptoms at treatment entry and/or have been using substances to cope with these past traumas. The Trauma Symptom Checklist-40 (TSC-40; Briere, 1996) was administered at the initial interview (and at the 12-month interview) to assess the extent to which women were experiencing trauma-related symptoms. The TSC-40 asks women to rate 40 symptoms according to frequency of occurrence over the past two months, using a four point scale ranging from 0 ("never") to 3 ("often"). The TSC-40 is comprised of a Total Score and six subscale scores related to different trauma symptom clusters. Total scores on the TSC-40 can range from 0 to 120, with higher scores indicative of a higher number and frequency of symptoms.

A total of 84 women completed the TSC-40 at both the initial interview and the 12-month follow-up interview.[34] Designed solely as a research measure, a clinical cut-off score is not available for the TSC-40. However, information is available in the literature that provides some context for the level of trauma symptoms endorsed by the women at the time they entered the R&H program. For example:

- The R&H women's mean Total Score of 44.4 (SD=21.1) was substantially higher than Elliott and Briere's (1992) original samples of professional women who had not been abused (mean=20.9, SD=11.1) and of women who did have sexual abuse histories (mean=26.0, SD=12.1).

- The R&H women's mean Total Score was higher than the mean score at intake among a similar sample of women who participated in a previous Meta House outpatient program (mean=30.3, SD=17.7; Larson & Malcolm, 2011).

- The R&H women's mean Total Score of 44.4 (SD=21.1) was similar to Ghee et al.'s (2010) sample of socioeconomically disadvantaged African American and Caucasian women enrolled in residential substance abuse treatment (mean=48.1, SD=23.0).

The comparisons with the data found in the literature suggest that the overall mean TSC-40 score for R&H women at program entry was substantially higher than the scores documented in the literature for a community sample of women and higher than the average score found among a group of women who participated in a previous Meta House outpatient program. However, the R&H women's scores were similar to scores from a sample of women enrolled in residential substance abuse treatment. Overall, this suggests that the R&H women were experiencing a high degree of trauma-related symptoms in the two months prior to the initial interview.

Pre-Post Change in Trauma-Related Symptoms

Paired t-tests were conducted to compare women's trauma-related symptoms prior to the initial interview and prior to the 12-month interview. The t-tests were conducted for: 1) the TSC-40 Total Score and 2) for each of the six TSC-40 subscale scores (Anxiety, Depression, Dissociation, Sexual Abuse Trauma, Sexual Problems, and Sleep Disturbance). Table 7 lists the results of these statistical tests.

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[34] N=84 for all TSC-40 analyses, with 15 women missing data on the TSC-40 at either the initial or follow-up interviews.

Table 7: Pre-Post Means and Paired T-Tests for TSC-40 Total Scores and Subscale Scores

TSC-40 Scores	In the Two Months Prior to Initial Interview	In the Two Months Prior to 12-month Interview	t Value	p Value
TSC-40 Total Score	44.38	33.87	5.23	<.001*
Anxiety	8.50	6.19	4.50	<.001*
Depression	11.60	8.81	4.69	<.001*
Dissociation	6.71	5.33	2.85	.006*
Sexual Abuse Trauma Index	7.12	5.78	3.09	.003*
Sexual Problems	6.80	4.96	3.86	<.001*
Sleep Disturbance	9.75	8.14	3.27	.002*

N=84, with 15 women missing data at either the initial or the follow-up interview.

High scores on the TSC-40 are indicative of higher number and frequency of symptoms; low scores are indicative of lower number and frequency of symptoms.

The p value refers to the level of statistical significance of the t value from the paired samples t-test. P-values of less than 0.05 are considered statistically significant and are marked with an asterisk (*).

As Table 7 shows, there were statistically significant improvements in the mean Total Score and all six TSC-40 subscale scores from the time of the initial interview to the time of the follow-up interview. Specifically, significant improvements were noted in the subscales related to: 1) Anxiety (which includes items relating to a fear of others and somatic symptoms of anxiety); 2) Depression (which includes items relating to persistent sadness and other depression symptoms); 3) Dissociation (which includes items relating to flashbacks, "spacing out", and a feeling of not always being in one's body); 4) Sexual Abuse Trauma (which includes items relating to experiencing sexual problems, fear of men, and "bad" thoughts or feelings while sexually active); 5) Sexual Problems (which includes items relating to low sex drive, sexual overactivity, and not being satisfied with one's sex life); and 6) Sleep Disturbance (which includes items relating to problems falling or staying asleep or feeling unrested in the morning).

While the pre-post improvements in the TSC-40 Total Scores and all six subscale scores reached the level of statistical significance, it must be noted that the overall score remained somewhat elevated at the time of the 12-month interview. Specifically, the R&H women's mean TSC-40 Total Score (mean = 33.9) was substantially lower than the score from a comparable population of women enrolled in residential substance abuse treatment (mean = 48.1; Ghee et al., 2010). However, the Total Score was somewhat higher than Elliott and Briere's original (1992) sample of professional women who had sexual abuse histories (mean = 26.0). More relevantly, the R&H women's average TSC-40 Total Score at follow-up (mean = 33.9) was somewhat higher than the mean score at follow-up for women who participated in a previous Meta House outpatient program (mean = 27.3; Larson & Malcolm, 2011).[35]

Overall, it is clear that as a whole the R&H women experienced statistically significant and practically relevant pre-post improvements in their trauma-related symptoms. However, given women's extensive trauma histories and the level of trauma-related symptoms reported at follow-up, it is likely that the legacy of trauma continued to play a role in women's lives at the 12-month follow-up point.

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[35] Although the R&H women's mean TSC-40 Total Score was higher than that of the women in Meta House's previous outpatient program (33.9 vs. 27.3), the R&H women's mean score at the time of the initial interview was higher than that of the previous sample (44.4 vs. 30.3). As a result, the R&H women demonstrated a pre-post improvement, while the previous group of women served in Meta House's outpatient program did not.

Mental Health and Treatment

In addition to their trauma histories and trauma-related symptoms, women with substance use disorders have a relatively high incidence of other co-occurring mental health disorders such as major depression, anxiety disorders, and eating disorders (e.g., Center for Substance Abuse Treatment, 2009; Newman & Sallmann, 2004). One of the challenges that women face in their recovery is the persistence of mental health symptoms and the distress that may be associated with prior traumatic experiences, prior substance use, and situational distress (e.g., homelessness). Meta House's R&H program was designed to assist women in addressing these challenges, with a goal of improving the mental health of program participants. As a result, the program provided mental health assessment, psychiatric services, and counseling in a trauma-informed environment.

In the area of mental health, the analysis of the R&H data examined: 1) the treatment challenge of women's mental health symptoms, 2) pre-post changes that occurred in women's mental health symptoms, and 3) women's level of functioning with respect to mental health and self-care at follow-up.

Mental Health Symptoms as a Treatment Challenge

Questions from the Addiction Severity Index (ASI) were used to determine the frequency and severity of eight specific mental health symptoms in the 30 days prior to each interview. These questions included: 1) four relatively mild symptoms that were considered significant if experienced for five consecutive days or more (serious depression, serious anxiety, cognitive confusion, or serious problems with eating or sleeping) and 2) four relatively severe symptoms that were considered significant if experienced at any time (hallucinations, trouble controlling violent behavior, suicidal ideation, or attempted suicide).

In the 30 days prior to the initial interview, approximately three-quarters of the women (n=72 or 74.2%) experienced either five or more consecutive days of the mild symptoms or at least one incident of the relatively severe symptoms.[36] Specifically:

- Approximately 70% of the women (n=70 or 72.2%) experienced at least five consecutive days of one or more of the relatively mild mental health symptoms. [37] The types of symptoms women reported included serious depression, serious anxiety, cognitive confusion, and/or serious problems with eating or sleeping. No one symptom was any more or less common than another.

- Almost 30% of the women (n=27 or 27.6%) experienced at least one incidence of one or more of the severe mental health symptoms during the 30 days prior to the initial interview.[38] Two women attempted suicide during that time period, and a larger number experienced trouble controlling their violent behavior, hallucinations, and/or thoughts of suicide (between 10% and 15% for each symptom).

During the month prior to the initial interview, the number of days that women experienced any mental health symptoms was substantial (mean days of symptoms = 21.09 days; median days = 30.00 days).[39] Specifically:

- Only 15% of the women (n=14 or 14.6%) reported experiencing no symptoms in the month prior to the interview.

- More than three-quarters (n=74 or 77.1%) experienced at least seven total days (one week) of symptoms.

- A full 60% of the women (n=58 or 60.4%) experienced one or more mental health symptoms every day in the month prior to admission. For those who experienced symptoms daily, the most common symptoms reported were serious problems with sleeping or eating, serious anxiety, and cognitive confusion.

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[36] N=97, with 1 woman missing initial data on experiencing five days or more of the mild mental health symptoms and 1 woman missing data on these symptoms as well as on days experiencing the more severe mental health symptoms.

[37] N=97, with 2 women missing initial data on experiencing five days or more of the mild mental health symptoms.

[38] N=98, with 1 woman missing initial data on experiencing severe symptoms.

[39] N=96, with 3 women missing initial data on the number of days of mental health symptoms

Approximately 60% of the women (n=60 or 61.2%) had received treatment and/or medication for mental health problems in the 30 days prior to their initial interview.[40] Specifically:

- In the month prior to the initial interview, 56.1% of the women (n=55) took psychiatric medication.

- In the month prior to the initial interview, 35.4% (n=35) received inpatient or outpatient treatment for mental or emotional difficulties.

Overall, it appears that many of the women were connected to mental health treatment in the month prior to their admission to the program. However, despite receiving treatment and/or taking medication, approximately three-quarters of the women continued to experience significant and frequent mental health symptoms in the month prior to admission.

Pre-Post Change in Mental Health Symptoms

Paired t-tests were run to compare women's mental health symptoms prior to the initial interview and prior to the 12-month interview. The t-tests were conducted for: 1) the number of days in the prior 30 days that women experienced any of the mental health symptoms identified by the ASI questions and 2) the total number of different mental health symptoms experienced (including five days or more of the mild symptoms and any of the relatively severe symptoms). Table 8 lists the results of these statistical tests.

Table 8: Pre-Post Means and Paired T-Tests for Mental Health Symptoms

Mental Health Symptoms	In the 30 Days Prior to Initial Interview	In the 30 Days Prior to 12-month Interview	t Value	p Value
Days of Mental Health Symptoms*	20.53	13.78	4.23	<.001*
Number of Different Mental Health Symptoms**	2.10	1.20	4.46	<.001*

* N=90 for days of symptoms, with 9 women missing data at either the initial or the follow-up interview.

** N=88 for number of different symptoms, with 11 women missing data at either the initial or the follow-up interview.

The *p* value refers to the level of statistical significance of the t value from the paired samples *t*-test. *P*-values of less than 0.05 are considered statistically significant, while *P*-values greater than 0.05 are considered non-significant.

As Table 8 shows, there was a statistically significant pre-post decrease in the number of days that women experienced mental health symptoms. In addition, there was a statistically significant pre-post decrease in the number of different significant mental health symptoms experienced.

The decrease in mental health symptoms was also apparent in the proportion of women who experienced symptoms in the month prior to the initial and follow-up interviews (confirmed by Pearson chi-squared analyses). For example:

- At follow-up, significantly fewer women experienced daily symptoms (X^2 (1, N=90) = 4.87, *p*=.027). Specifically, while 60% of the women (n=54 or 60.0%) reported experiencing mental health symptoms every day during the month prior to the initial interview, less than 40% (n=35 or 38.9%) reported daily symptoms in the month prior to the follow-up interview.

- At follow-up, significantly fewer women experienced five or more consecutive days of the mild symptoms (X^2 (1, N=94) = 8.45, *p*=.004). While approximately 70% of the women (n=67 or 71.3%) reported experiencing significant mild symptoms such as depression and anxiety during the month prior to the initial interview, less than half (n=43 or 45.7%) reported these symptoms in the month prior to the follow-up interview.

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[40] N=98 for any initial mental health treatment data, with 1 woman missing data on whether or not she took psychiatric medication.

The improvement in mental health symptoms over time did not appear to be related to an increase in the number of women who were connected with mental health treatment. For example, in the 30 days prior to the initial and the follow-up interviews, similar proportions of women were receiving inpatient or outpatient treatment. Similarly, the proportion of women taking psychiatric medication remained relatively consistent over time.

Level of Mental Health Functioning at Follow-Up

In addition to the pre-post changes in mental health symptoms, the analysis examined women's level of mental health functioning and self-care at follow-up. Women in recovery may still experience mental health symptoms related to their life situation, prior traumatic experiences, prior drug use, and/or underlying mental health problems. For women who continue to use drugs, some mental health symptoms may be associated with this continued use. Women's ability to become or remain alcohol and drug free, to participate in treatment, and to function in the community may be greatly enhanced by participation in mental health treatment that addresses any symptoms they may be experiencing. Women's experiences of mental health symptoms and engagement in mental health treatment at follow-up can be described using the following levels of functioning:

Level 1 functioning is defined as having no significant mental health symptoms in the 30 days prior to the interview, with or without treatment. There is no suggestion that all women could function at this level. For example, some women with severe and persistent mental health problems may achieve only limited symptom management through treatment.

Level 2 functioning is defined as having a significant period of relatively mild symptoms in the 30 days prior to the interview, and having recent treatment for these symptoms. Included in this level of functioning are women who experienced at least five consecutive days of depression, anxiety, disturbances in sleeping and eating, and/or trouble understanding or concentrating. These symptoms could be the result of previous mental health problems, the stress of functioning without substance use, the stress of resuming parenting responsibilities, and/or other past and present life events. Participating in mental health treatment (outpatient therapy and/or psychiatric medication in the last 30 days) is an appropriate way to manage the problems and is an indicator of good self-care.

Level 3 functioning is defined as having a significant period of the relatively mild symptoms described in Level 2, without receiving recent treatment for these symptoms. The woman may have other self-care strategies, but none are documented by the ASI.

Level 4 functioning is defined as having any of the relatively severe mental health symptoms in the 30 days prior to the interview, and having received treatment for these symptoms. Level 4 functioning also may include women who experienced a period of relatively mild symptoms severe enough that inpatient psychiatric hospitalization was required. Included in this level of functioning are women who reported any incidents of hallucinations, trouble controlling violent behavior, suicidal ideation, or suicide attempts. These symptoms are much more serious than the more mild symptoms in Levels 2 and 3. Participating in mental health treatment (outpatient therapy and/or psychiatric medication) is an appropriate step towards managing these symptoms and indicates appropriate self-care.

Level 5 functioning is defined as having the relatively severe mental health symptoms described in Level 4, without having recent treatment for these symptoms. Given the severity of these symptoms, failure to engage in treatment is likely to contribute to poor symptom management and indicates a lack of appropriate self-care.

Table 9 describes women's level of functioning at follow-up with respect to mental health and self-care.

Table 9: Levels of Mental Health Functioning at Follow-Up

Levels	N	%	Cumulative %
Level 1: No significant mental health symptoms.	48	50.0%	50.0%
Level 2: Significant, but not severe mental health symptoms with recent treatment.	21	21.9%	71.9%
Level 3: Significant, but not severe mental health symptoms with no recent treatment.	8	8.3%	80.2%
Level 4: Significant and severe mental health symptoms with recent treatment.	15	15.6%	95.8%
Level 5: Significant and severe mental health symptoms with no recent treatment.	4	4.2%	100.0%

N=96, with 3 women missing data on mental health symptoms at the time of the follow-up interviews.

As Table 9 shows, half of the women (n=48 or 50.0%) experienced no significant or severe mental health symptoms in the 30 days prior to the follow-up interview. (It should be noted that 23 of these 48 women were successfully managing their mental health with the assistance of psychiatric medication and/or outpatient mental health treatment.)

The other half of the women (n=48 or 50.0%) did experience significant mild symptoms or at least one day of severe symptoms during the 30 days prior to the follow-up interview. These symptoms generally included (in order of frequency) serious anxiety, significant sleep disturbance or problems with eating, serious depression, and trouble understanding, concentrating, or remembering. However, some women (n=19) were experiencing more severe symptoms such as trouble controlling their violent behavior. Many of the women who were experiencing symptoms at follow-up (n=36 of 48) were receiving outpatient mental health treatment and/or psychiatric medication in the 30 days prior to the interview, indicating that they were making efforts to manage their symptoms and engaging in appropriate self-care.

HIV Risk: Risky Behaviors and Relationship Power

The literature on HIV risk suggests that substance abuse, mental health disorders, and a history of trauma all increase the likelihood of engaging in risky sexual behaviors (Amaro et al., 2007). For women, these risky behaviors may include unprotected sexual activity, multiple partners, and/or exchanging sex for money or drugs. As a result, women with substance use disorders are at particularly high risk for HIV transmission (Amaro et al., 2007; Campbell et al., 2009). One factor thought to contribute to this increased risk is a gender-based imbalance of power in relationships and the influence this imbalance has on women's ability to negotiate safer sexual practices (Campbell et al., 2009; Pulerwitz et al., 2000). To address the factors that play a role in HIV risk, Meta House's R&H program provided health education, counseling about relationships, and rapid HIV testing. In addition, the program included SISTA, an evidence-based, culturally-specific social skills training intervention aimed at reducing risky sexual behaviors (Sisters Informing Sisters on Topics about AIDS; DiClemente & Wingood, 1995).[41]

In the area of HIV risk, the analysis examined: 1) women's risky sexual behaviors as a treatment challenge, 2) pre-post changes that occurred in women's sexual behaviors, and 3) pre-post changes in women's perceptions of power in relationships with their significant others.

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[41] An evaluation report describing the R&H program's implementation of SISTA based on qualitative interviews with key program staff is included as an appendix to Meta House's final program report to SAMHSA.

Risky Behaviors as a Treatment Challenge

In the 30 days prior to the initial interview, approximately three-quarters of the women (n=69 or 72.6%) had engaged in some form of sexual activity.[42] For those who were sexually active, the number of sexual contacts varied widely, with a mean of 8 contacts (mean = 8.10, median = 3.00).[43] Most of the women who were sexually active (and for whom information was available) had engaged in unprotected sex during the month prior to the initial interview (n=51 of 60).[44, 45] The number of unprotected sexual contacts women reported ranged from 1 to 60, with a mean of 7 unprotected sexual contacts (mean = 7.02, median = 2.00).[46] As a result, there were a number of opportunities for women who were sexually active to be exposed to HIV or other sexually transmitted diseases in the month prior to the initial interview.

A small number of women (n=9) either had engaged in unprotected sexual activity with an individual who would be considered particularly high risk (i.e., was HIV positive, was a past or present intravenous drug user, and/or was high on some substance) or did not know if their partner fell into one of these risk categories. Although not a large number, these women would be considered at very high risk for infection of HIV or other sexually transmitted diseases. It is important to note that the high risk behavior of intravenous drug use was not an issue in the 30 days prior to the initial interview as none of the women reported injecting drugs during that time.

Pre-Post Changes in Risky Behaviors

The findings were mixed with respect to pre-post changes in the frequency of sexual risk behaviors during the 30 days prior to the initial and follow-up interviews. A positive change was seen in abstinence, with significantly more women reporting that they had not been sexually active during the month prior to the follow-up interview (X^2 (1, N=89) = 6.04, p=.014). Specifically, at intake approximately 30% of the women (n=25 or 28.1%) reported having been abstinent in the previous month, while at follow-up approximately 50% of the women (n=42 or 47.2%) indicated that they had been abstinent.[47]

However, for the women who were sexually active there was only a small decrease in the number who were engaging in unprotected sex. Specifically, at the time of the initial interview approximately 85% of the women who were sexually active (85.0%, or 51 of 60) had engaged in unprotected sex.[48] At the time of the follow-up interview, approximately 75% of the sexually active women (73.9%, or 34 of 46) had at least one unprotected sexual contact in the previous month. [49] It must be noted that at both points in time there were a small number of women who were inconsistent in their use of protection (i.e., 5 women at the initial interview and 2 women at the follow-up interview indicated that they had both protected and unprotected sex in the previous month).[50]

While the number of women who engaged in highly risky sexual behavior was small at both points in time, this level of risk was slightly less common at follow-up than it was at intake. For example, at intake 9 women either had engaged in unprotected sexual activity with an individual who would be considered particularly high risk or did not know if they had. In contrast, at follow-up 6 women reported this level of risk. [51] The use of injection drugs, however, did not improve over time. Specifically, none of the women reported using drugs intravenously in the month prior to the initial interview, while 1 woman indicated that

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[42] N=95, with 4 women missing initial data on whether or not they were sexually active.

[43] N=60, with 9 sexually active women missing data on their number of sexual contacts.

[44] N=60, with 9 sexually active women missing data on their number of unprotected sexual contacts.

[45] "Unprotected sex" was defined as sexual contact without a condom or other latex barrier.

[46] N=51 women who engaged in unprotected sex, with 9 sexually active women missing data on their number of unprotected sexual contacts.

[47] N=89, with 10 women missing data on being sexually active at either the initial or the follow-up interview.

[48] N=60, with 9 sexually active women missing data at initial on number of unprotected sexual contacts.

[49] N=46, with 2 sexually active women missing data at follow-up on number of unprotected sexual contacts.

[50] N=86 at initial, with 13 women missing data either on being sexually active or on number of protected sexual contacts. N=89 at follow-up with 10 women missing data either on being sexually active or on number of protected sexual contacts.

[51] N=86 at initial, with 13 women missing data either on being sexually active or on number of risky unprotected sexual contacts. N=89 at follow-up with 10 women missing data either on being sexually active or on number of risky unprotected sexual contacts.

she had injected heroin in the month prior to the follow-up interview. Although this type of risky behavior was confined to one person, her injection drug use clearly put her at high risk for HIV infection.

Overall, a full 62% (n=50) of the women at follow-up either were abstinent or had consistently engaged in protected sex in the month prior to the interview. This represents a non-significant trend towards improvement over time (X^2 (1, N=81) = 3.45, p=.063), with only about 40% of the women at intake (n=34 or 42.0%) reporting that they either were abstinent or had consistently used protection in the month prior to the initial interview. [52] However, as noted above, much of this improvement was due to an increase in abstinence rather than an increase in using protection when sexually active.

Level of Risky Behavior at Follow-up

Given the mixed pre-post findings with respect to sexual risk behaviors, the analysis examined the level of women's engagement in HIV-related risk behaviors at follow-up. The extent to which women's behavior suggests possible risk for HIV infection can be described using the following levels:[53]

Level 1 represents the safest behavior with respect to HIV-related risk. Women at this level had been sexually abstinent in the past month and also did not engage in IV drug use during that time. At least with respect to their recent behavior, they had little if any risk of contracting HIV or other sexually transmitted diseases.

Level 2 is defined as engaging only in protected sexual activity and refraining from any IV drug use. Women at this level had consistently used a condom or other latex barrier while sexually active, thereby minimizing their risk of contracting HIV or other sexually transmitted diseases.

Level 3 represents risky behavior with respect to HIV and other sexually transmitted diseases. Women at this level had at least one unprotected sexual contact during the month prior to the interview. While they had not knowingly engaged in sexual activity with someone in a high risk category and had not used drugs intravenously, their unprotected sexual contacts put them at risk.

Level 4 represents a high level of risk with respect to HIV and other sexually transmitted diseases. Women at this level engaged in unprotected sexual activity with someone who would be considered high risk or did not know if their partner fell into this risk category (i.e., someone who was HIV positive, was a past or present IV drug user, and/or was high on some substance). Women who used IV drugs themselves were also included in this level.

Table 10 describes the level of functioning at follow-up with respect to behaviors related to HIV risk.

Table 10: Levels of Risky Behavior at Follow-Up

Levels	N	%	Cumulative %
Level 1: Sexually abstinent, with no injection drug use.	43	48.3%	48.3%
Level 2: Protected sexual activity only, with no injection drug use.	12	13.5%	61.8%
Level 3: Unprotected but not highly risky sexual activity, with no injection drug use.	27	30.3%	92.1%
Level 4: Unprotected, highly risky sexual activity and/or injection drug use.	7	7.9%	100.0%

N=89, with 10 women missing data on risky behavior at follow-up.

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[52] N=81, with 18 women missing data on being sexually active and/or the number of unprotected sexual contacts at the initial and/or the follow-up interview.

[53] The risk behavior levels were based on categories developed by Amaro et al. (2007) in their study of sexual risk behaviors among women with co-occurring disorders in substance abuse treatment.

As Table 10 shows, approximately 60% of the women (n=55 or 61.8%) had refrained from engaging in HIV-related risk behaviors in the month prior to the follow-up interview. At least with respect to their recent behavior, these women had either minimal or no risk of contracting HIV or other sexually transmitted diseases. Most of these women (43 of 55) had been sexually abstinent and also had not engaged in injection drug use.

Approximately 40% of the women (n=34 or 38.2%), however, had at least one unprotected sexual contact during the month prior to the interview. Most of these women (27 of 34) had not knowingly engaged in sexual activity with someone in a high risk category and anecdotally some reported that they were in long-term, monogamous relationships with a single partner. Nonetheless, their unprotected sexual contacts put them at risk of contracting HIV or other sexually transmitted diseases.

A small number of women (n=7 or 7.9%) had engaged in highly risky behavior in the month prior to the follow-up interview. Specifically, 3 women had unprotected sex with someone who was high on drugs and/or was a past or present IV drug user, 2 women didn't know their partner's risk status, 1 woman had unprotected sexual contact with someone who was HIV positive, and 1 woman had used IV drugs herself in the past month (although she reported that she avoided sharing syringes or other drug paraphernalia). These women were at high risk with respect to HIV and other sexually transmitted diseases.

Overall, the level of R&H women's risky behavior was similar to 12-month follow-up data from a comparable sample of dually diagnosed women engaged in substance abuse treatment (Amaro et al., 2007). Specifically:

- The proportion of R&H women who refrained from engaging in HIV-related risk behaviors at follow-up (61.8%) was somewhat lower than the proportion of women in Amaro et al.'s study who refrained from these behaviors after participating in trauma-informed substance abuse treatment that included HIV prevention sessions (69.2%).

- The proportion of R&H women who refrained from engaging in HIV-related risk behaviors at follow-up (61.8%) was slightly higher than the proportion of women in Amaro et al.'s study who refrained from these behaviors after participating in substance abuse treatment services as usual (59.1%).

Pre-Post Changes in Relationship Power

Women's perceptions of the power they had in their relationships with significant others were measured with the modified Sexual Relationship Power Scale (SRPS-M; Pulerwitz et al., 2000).[54] The 19-item SRPS-M consists of two subscales: relationship control (e.g., "My partner won't let me wear certain things") and decision-making dominance (e.g., "Who usually has more say about whether you have sex?"). The subscales are combined into a total score ranging from 1 to 4, with higher scores indicating more perceived relationship power. The R&H evaluation interviews included the SRPS-M for all women, but the analysis of the data only included scores for women who reported being in a relationship at both the initial interview and the 12-month follow-up interview.

Approximately 75% of the women (n=71 or 76.3%) reported that they were in a relationship at the time of the initial interview, while 60% (n=51 or 60.0%) reported that they were in a relationship at follow-up.[55] Focusing just on those women who were in a relationship at both points in time, paired t-tests were conducted to compare women's perceived relationship power prior to the initial interview and prior to the follow-up interview. The t-tests were conducted for: 1) the SRPS-M total score, 2) the SRPS-M relationship control subscale score, and 3) the SRPS-M decision-making dominance subscale score. Table 11 lists the results of these statistical tests.

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[54] Pulerwitz et al. (2000) provide a modified version of the SRPS that omits four items related to condom use. As the ASI interviews already included several questions regarding condom-protected sexual behavior, the decision was made to use the modified SRPS. The SRPS-M has similar psychometric properties to the full SRPS and has also been shown to be a good predictor of consistent condom use (Pulerwitz et al., 2000).

[55] N=93 at the initial interview, with 6 missing data on relationship status. N=85 at follow-up, with 14 missing data on relationship status.

Table 11: Pre-Post Means and Paired T-Tests for SRPS-M Total and Subscale Scores

SRPS-M Scores	In the 30 Days Prior to Initial Interview	In the 30 Days Prior to 12-month Interview	t Value	p Value
Total Score	2.71	2.70	0.06	.954
Relationship Control	2.86	2.75	1.49	.145
Decision-Making Dominance	2.56	2.65	1.26	.217

* N=40, including women in a relationship at the time of both the initial and the follow-up interviews and who completed an SRPS-M at both points in time.

Overall and subscale scores on the SRPS-M range from 0 to 4. Higher scores are indicative of greater perceived relationship power; lower scores are indicative of lower perceived power.

The p value refers to the level of statistical significance of the t value from the paired samples t-test. P-values of less than 0.05 are considered statistically significant, while P-values greater than 0.05 are considered non-significant.

As Table 11 shows, there were no statistically significant pre-post changes in any of the SRPS-M scores for women who were in a relationship at both the initial and the follow-up interviews. Specifically, women's perceptions of their overall relationship power, their relationship control, and the decision-making dominance in their relationship remained relatively unchanged from the time of the initial interview to the time of the 12-month follow-up interview.

The R&H women's SRPS-M scores at both points in time were comparable to the scores found in a national sample of women enrolled in several community-based drug treatment programs (Campbell et al., 2009).[56] This national study found only limited support for a connection between relationship power as measured by the SRPS-M and sexual risk behaviors among a population of drug-involved women. As a result, it is possible that the decrease in risky sexual behaviors seen among the R&H women happened independently of women's perceived relationship power. Alternatively, it is possible that the SRPS-M may have limited utility in capturing the nuances of relationship power among women with significant substance use problems, mental health symptoms, and trauma histories.

Family Stability: Parenting Attitudes

Women in substance abuse treatment are often motivated towards recovery by their relationship with their children and their role as a mother (Center for Substance Abuse Treatment, 2009). However, women with substantial histories of drug or alcohol use often experience difficulties in parenting, at times including child abuse or neglect (Camp & Finkelstein, 1997). In addition, children whose mothers have substance use disorders are at increased risk for social-emotional, physical, and academic problems (Center for Substance Abuse Treatment, 2009; Rinehart et al., 2005). To address these challenges, the R&H program provided clinical and case management support for women in their roles as mothers. In addition, the program offered the Nurturing Program for Families in Substance Abuse Treatment and Recovery (NPFSATR), an evidence-based parenting group designed specifically for women in treatment (Camp & Finkelstein, 1997).

To explore parenting attitudes among women participating in the R&H program, the initial and follow-up interviews included the Adult-Adolescent Parenting Inventory (AAPI-2; Bavolek & Keene, 2001).[57] The AAPI-2 is a 40-item measure designed to assess parenting attitudes and to provide an index of possible risk for child abuse and neglect. It is the standard pre-post measure for the Nurturing Program and for its adaptation for families in substance abuse treatment (i.e., NPFSATR).

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[56] Specifically, the 396 drug-involved women in Campbell et al.'s (2009) study had an SRPS-M total score of 2.7, a relationship control score of 2.9, and a decision-making dominance score of 2.5.

[57] All of the evaluation questions, including the AAPI-2, were administered as oral interviews to avoid any concerns about women's literacy levels. Following conventional practice, Form A of the AAPI-2 was used during the initial interview as a pre-test and Form B was used during the 12-month follow-up interview as a post-test.

The AAPI-2 provides a Total Score and five subscale scores: 1) inappropriate parental expectations of children, 2) parental lack of empathy of children's needs, 3) strong belief in the use of corporal punishment, 4) reversing parent-child family roles, and 5) oppressing children's power and independence. High scores are indicative of appropriate, nurturing parenting attitudes, while low scores are indicative of inappropriate attitudes that may contribute to the potential for child abuse or neglect.

In the area of parenting attitudes, the analysis for the present report examined: 1) the women's parenting attitudes as a treatment challenge (using AAPI-2 standard scores at the initial interview), 2) pre-post changes that occurred in women's Total Scores and in their mean scores on each AAPI-2 subscale (using AAPI-2 raw scores), and 3) women's level of functioning at follow-up with respect to risk for child abuse or neglect (using AAPI-2 standard scores).[58]

A total of 70 women completed an AAPI-2 at both the initial interview and the 12-month follow-up interview.[59] There were some slight indications that women who had a GED or high school diploma had somewhat, but not necessarily significantly, more positive scores on the AAPI-2.[60] As a result, it is possible that the findings may be influenced by women's educational level.

Parenting Attitudes as a Treatment Challenge

At the time of the initial interview, many of the women reported parenting attitudes on the AAPI-2 that indicated inappropriate parenting and suggested a possible risk for child abuse or neglect. Approximately 95% of the women (n=66 or 94.3%) had a low score on at least one of the five subscales (i.e., a standard score of 3 or below on one or more subscales, consistent with a possible risk for abuse or neglect). Approximately two-thirds of the women (n=48 or 68.6%) scored low on more than one of the five subscales. Specifically:

- 35.7% (n=25) of the women scored low on Inappropriate Expectations, indicating a general lack of understanding of children's developmental capabilities.

- 48.6% (n=34) of the women scored low on Lack of Empathy, indicating a limited awareness of children's needs.

- 37.1% (n=26) of the women scored low on Physical Punishment, indicating a reliance on physical punishment as a form of discipline.

- 35.7% (n=25) of the women scored low on Role Reversal, indicating a tendency to look to children for emotional and physical comfort.

- 80.0% (n=56) of the women scored low on Power and Independence, indicating a strong emphasis on obedience and parental authority.

The results suggest that at the time of the initial interview, inappropriate parenting attitudes were a treatment challenge for women, particularly in the areas of Lack of Empathy and Power and Independence.

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[58] For research purposes, the authors of the AAPI-2 recommend using raw scores, i.e. summing the item scores for each subscale (Bavolek & Keene, 2001). For clinical and interpretation purposes, the authors recommend using standard or sten scores, i.e. converting the scores for each subscale into normalized scores. The standard scores are calculated in relation to one of the AAPI-2's norm groups (i.e., for the purposes of the present report, female adult parents without parent training). Standard scores range from 1 (highly inappropriate parenting attitudes) to 10 (exceptionally appropriate parenting attitudes). Standard scores of 3 or below are considered "low", are obtained by only about 16% of the general population, and suggest a potential risk for abuse or neglect (Bavolek & Keene, 2001).

[59] N=70 for all AAPI-2 analyses. There were 29 women who were missing AAPI-2 data at either the initial or the follow-up interview and were excluded from the analyses. These 29 women primarily included women who had no children, but also included several women who had substantial problems with comprehension during the interview.

[60] At the initial interview, women who had a GED/high school diploma scored significantly higher (i.e., better) than women who had less education on the AAPI-2 Total Score. However, there were no significant education-related differences at initial on any of the subscales. At follow-up there were no significant differences related to education on the Total Score or any of the subscale scores.

Pre-Post Change in Parenting Attitudes

Paired t-tests were run to compare parenting attitudes at the time of the initial interview and at the time of the 12-month follow-up interview. The t-tests were conducted for raw score means on the AAPI-2 Total Score and on each subscale, including: 1) Inappropriate Expectations, 2) Lack of Empathy, 3) Physical Punishment, 4) Role Reversal, and 5) Power and Independence. Table 12 lists the results of these tests.

Table 12: Pre-Post Means and Paired T-Tests for AAPI-2 Total Scores and Subscale Scores

AAPI-2 Score	At Initial Interview	At 12-month Interview	*t* Value	*p* Value
AAPI-2 Total Score	131.48	127.79	2.29	.025* (deterioration)
Inappropriate Expectations	18.98	19.44	0.90	.373 (no sig. change)
Lack of Empathy	36.72	35.96	1.41	.164 (no sig. change)
Physical Punishment	35.27	37.24	2.82	.006* (improvement)
Role Reversal	24.72	23.00	3.45	.001* (deterioration)
Power and Independence	15.79	12.14	4.65	<.001* (deterioration)

N=70. At either the initial or the follow-up interview, 29 women were missing data on the AAPI-2 and were therefore excluded from the analyses.

High scores on the AAPI-2 are indicative of appropriate parenting attitudes; low scores are indicative of inappropriate attitudes.

The p value refers to the level of statistical significance of the t value from the paired samples t-test. P-values of less than 0.05 are considered statistically significant and are marked with an asterisk (*).

Overall, the findings were mixed with respect to pre-post changes in parenting attitudes. There was a statistically significant pre-post increase in the scores for the Physical Punishment subscale, indicating a significant improvement in this area over time. However, there were statistically significant pre-post decreases in the overall AAPI-2 Total Score (indicating a deterioration in parenting attitudes over time) as well as a statistically significant pre-post decreases in the subscale scores for Role Reversal and Power and Independence (indicating a deterioration in these areas as well). There were no significant pre-post differences in the scores for the subscales related to Inappropriate Expectations and Lack of Empathy.

Parenting Attitudes at Follow-Up

At the time of the 12-month follow-up, 80.0% of the women who completed an AAPI (n=56) had minor children and the remainder (n=14 or 20.0%) had only adult children. Of the women who had minor children, approximately 55% (n=38 or 54.3%) had their minor children living with them at follow-up. This represented an increase from the time of the initial interview, when approximately 40% of the women (n=27 or 38.6%) resided with their minor children.[61]

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[61] Approximately 30% of the women who did not have any of their minor children residing with them at the time of the initial interview were residing with at least one of those children at the follow-up interview (n=12 or 27.9% of the 43 women who did not have their children with them at baseline). Only one of the women who was residing with at least one minor child at the time of the initial interview was no longer residing with children at the follow-up interview.

The analysis combined information on whether the mother was living with her children with the AAPI-2 data to develop levels of possible parenting risk at follow-up. Using AAPI-2 standard scores to benchmark the R&H women's scores in relation to the AAPI-2 norm groups, the number of subscales with low scores was identified. [62] The extent to which women's parenting attitudes indicate possible risk for child abuse or neglect can be described using the following levels of functioning:

Level 1 is the targeted level of functioning, i.e., women whose parenting attitudes do not appear to place their children at risk for child abuse or neglect and who have one or more of their children living with them. Women at this level of functioning have no low scores on any of the five AAPI-2 subscales, i.e. no indications that their parenting attitudes place their children at possible risk for child abuse or neglect. In addition, they are living with one or more of their children. Women functioning at Level 1 hold parenting attitudes that are reflective of the attitudes of the general population, while caring for their children.

Level 2 is defined as women having parenting attitudes that do not appear to place children at risk for child abuse or neglect, while not having their children living with them. Women at this level of functioning have no low scores on any of the five AAPI-2 subscales, i.e. no indications that their parenting attitudes place their children at possible risk for child abuse or neglect. However, they do not have any of their children living with them. Their parenting attitudes may be important for children who do not live with them, including visiting children, adult children, and visiting grandchildren. In addition, for some women, demonstrating appropriate parenting attitudes may be helpful in furthering the process of their children being returned to their care.

Level 3 is defined as women having one area of parenting that indicates a possible risk for child abuse or neglect, while not having their children living with them. Women at this level of functioning have a low score on one of the five AAPI-2 subscales, i.e. an indication that, in one area, their attitudes may represent a risk for child abuse or neglect. Women who are functioning at Level 3 might be expected to benefit from continued parenting classes or interventions that target the specific area in which they appear to have more inappropriate attitudes.[63]

Level 4 is defined as women having one area of parenting that indicates a possible risk for child abuse or neglect (i.e. a low score on one of the five AAPI-2 subscales), with one or more of their children living with them. Women who are functioning at this level, and their children, may benefit from additional intervention and support.

Level 5 is defined as women having more than one area of parenting that indicates a possible risk for child abuse or neglect, while not having their children living with them. Women at this level of functioning have a low score on more than one of the five AAPI-2 subscales, i.e. indications that, in more than one area, their attitudes may represent a risk for child abuse or neglect. Women who are functioning at Level 4 may be in continued need of substantial parenting interventions that address a number of parenting areas.

Level 6 represents a potentially challenging situation. Children are residing with a mother who has more than one area of parenting that indicates a possible risk for child abuse or neglect (i.e., a low score on more than one of the five AAPI-2 subscales). While the parenting attitudes measured by the AAPI-2 are only one indirect indicator of risk, it is possible that families at this level may be in need of intervention, monitoring, and/or support.

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[62] For clinical and interpretation purposes, the AAPI-2 authors recommend using standard or sten scores. Standard scores of 3 or below are considered "low", are obtained by only about 16% of the general population, and suggest a potential risk for abuse or neglect (Bavolek & Keene, 2001).

[63] For this population, it is quite possible that one low score on the AAPI-2 represents a measurement error. A subsequent administration of the measure (or another parenting measure) may not yield the same results. The present findings held some suggestion that AAPI-2 scores may be influenced by educational level. As a result, given that approximately 40% of the women did not have a GED or high school diploma, there may be more measurement error in this population.

Table 13 describes the level of functioning at follow-up with respect to parenting attitudes that indicate a possible risk for child abuse or neglect.

Table 13: Levels of Parenting Risk

Levels	N	%	Cumulative %
Level 1: No areas of high-risk parenting attitudes and children living in the home.	0	0.0%	0.0%
Level 2: No areas of high-risk parenting attitudes, without children living in the home.	6	8.6%	8.6%
Level 3: One area of high-risk parenting attitudes, without children living in the home.	3	4.3%	12.9%
Level 4: One area of high-risk parenting attitudes and children living in the home.	5	7.1%	20.0%
Level 5: More than one area of high-risk parenting attitudes, without children living in the home.	23	32.9%	52.9%
Level 6: More than one area of high-risk parenting attitudes and children living in the home.	33	47.1%	100.0%

N=70. At either the initial or the follow-up interview, 29 women were missing data on the AAPI-2 and were therefore excluded from the analyses.

As Table 13 shows, while approximately 10% of the women (n=6 or 8.6%) had no low scores on any of the AAPI-2 subscales, none of these women were caring for their children at the time of the follow-up interview. Nevertheless, these women's scores on the AAPI suggest that they held parenting attitudes reflective of those held by the general population, benefiting any children, adult children, and/or grandchildren who may be visiting the home.

Most of the women (n=56 or 80.0%), however, had low scores on two or more of the AAPI-2 subscales, potentially suggesting a risk for child abuse or neglect. Some of these women (n=23 of the 56) were not caring for their children at the time of the follow-up interview, including some who had only adult children (n=10 of the 23).

However, approximately half of the women who completed an AAPI-2 at follow-up (n=38 or 54.3%) reported parenting attitudes that suggested a possible risk for child abuse or neglect and also had one or more of their minor children residing with them (Level 4 and Level 6). While the parenting attitudes measured by the AAPI-2 are only one indirect indicator of risk, it is possible that these families were at risk in a number of areas. Particular areas of concern were apparent in two subscale scores. Specifically, most of the women functioning at Level 4 and Level 6 scored low on the Power and Independence subscale (36 of 38) and on the Lack of Empathy subscale (34 of 38). Based on this data, it is likely that these mothers may have strong expectations for children's obedience and a limited awareness of their children's needs.

High-Risk Parenting Attitudes at Follow-Up

Based on their AAPI-2 scores at follow-up, the parenting attitudes reported by many of the women continued to fall into a category that can be associated with a possible risk for child abuse or neglect. Table 14 provides information about the number of women who scored low on each AAPI-2 subscale at the time of the follow-up interview.

Table 14: Women with Low AAPI-2 Subscale Scores at Follow-Up

AAPI-2 Subscale Score	Low Scores at Follow-Up (N=70)	
	N	**%**
Inappropriate Expectations	20	28.6%
Lack of Empathy	55	78.6%
Physical Punishment	16	22.9%
Role Reversal	27	38.6%
Power and Independence	62	88.6%

%Low+score = standard score of 3 or below in relation to AAPI-2 norm group.

As Table 14 shows, at follow-up approximately 90% of the women (n=62 or 88.6%) scored low on the Power and Independence subscale, indicating that they may place a strong emphasis on obedience and parental authority. In addition, approximately 80% of the women (n=55 or 78.6%) scored low on the Lack of Empathy subscale, suggesting that they may have a limited ability to take their children's perspectives and/or a limited awareness of their children's needs. Approximately 40% of the women scored low on Role Reversal Subscale and approximately 30% scored low on the Inappropriate Expectations subscale. The subscale on which most women did not have a low score was the Physical Punishment subscale, with only about 25% of the women (n=16 or 22.9%) scoring low on this subscale.

The AAPI-2 is only one indicator of parenting attitudes, and may or may not be reflective of women's overall attitudes, behavior, or risk for child abuse or neglect. However, based on this measure alone, it appears that a fair number of women may need additional and/or more targeted parenting interventions even after participation in parenting services provided through the R&H program.

Family Stability: Economic Self-Sufficiency

Women in substance abuse treatment often have substantial barriers to obtaining employment, including limited education, minimal work experience, and employment disruptions due to their use histories (Center for Substance Abuse Treatment, 2009). Lack of employment limits the extent to which women can achieve economic self-sufficiency for themselves and their families. Recognizing the self-sufficiency challenges women were likely to be experiencing, the R&H program offered case management, vocational education, and/or employment-oriented services.

In the area of economic self-sufficiency, the analysis of the R&H data examined: 1) the women's income and employability as a treatment challenge, 2) pre-post changes that occurred in women's overall income and income from employment, and 3) women's level of functioning with respect to economic self-sufficiency at follow-up.

Income and Employability as Treatment Challenges

Women's educational status and previous work history may influence their ability to attain economic self-sufficiency. Despite their extensive substance use histories, approximately two-thirds of the women entering the R&H program (n=64 or 65.3%) had one or more of the following accomplishments that might help them on the road to future employment: [64]

- A GED or high school diploma (n=57 or 57.6%);[65]

- A full-time job at some time in their lives for five years or more (n=19 or 19.4%);[66]

- A usual occupation that was a skilled manual job or better (n=13 or 13.1%);[67] and/or

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[64] N=98, with 1 woman missing data on indicators of employability.

[65] N=99.

[66] N=98, with 1 woman missing data on length of full-time employment.

- A completed training or technical education course of at least one year duration (n=5 or 5.2%).[68]

Although the data suggested that many of the women had at least one accomplishment that might support employability, few women had a positive employment status at the time of their admission to the program. Specifically, virtually all of the women (n=94 or 94.9%) had no regular employment at the time of the initial interview. The few women who did have a job (n=5) were generally employed only part-time (n=4 of 5).

Despite their lack of employment income, almost all of the women (n=91 or 93.8%) did have some source of income in the month prior to admission (including money from public assistance, friends and family, employment, etc.).[69] However, their total monthly income was limited. Specifically:

- In the 30 days prior to the initial interview, women's mean total monthly income from all sources was $652.93, which could provide an annual income of only about $7,800.[70]

- Approximately half of the women (n=46 or 47.4%) received less than $500 during the month prior to the initial interview, while approximately three-quarters of the women (n=72 or 74.2%) received less than $1,000 during that month.[71]

In the month prior to their admission, some type of public assistance was the most common source of program participants' income. Specifically:

- Approximately 80% of the women (n=78 or 80.4%) received at least part of their income from TANF and/or food stamps.[72]

- Approximately one-quarter of the women (n=23 or 23.2%) received some money from Social Security Disability (SSDI) or Supplemental Security Income (SSI).[73]

Another source of income for some women was assistance from natural supports, with almost 30% of the women (n=28 or 28.3%) receiving money from family or friends.[74] However, few women (n=12 or 12.1%) received money from child support in the month prior to admission, including only a small portion of the women who were caring for minor children at the time of admission (11 of 34).[75]

Pre-Post Change in Economic Self-Sufficiency

Paired t-tests were run to compare indicators of economic self-sufficiency during the 30 days prior to the initial interview and prior to the 12-month interview. The t-tests were conducted for: 1) women's total income and 2) earnings received from employment. Table 15 lists the results of these statistical tests.

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[67] N=99.

[68] N=96, with 3 women missing data on length of training/technical education; 2 of these women were included in the employability analysis as they had data available for the other employability indicators.

[69] N=97, with 2 women missing data on total income at the initial interview.

[70] N=97, with 2 women missing data on total income at the initial interview.

[71] N=97, with 2 women missing data on total income at the initial interview.

[72] N=97, with 2 women missing data on money from public assistance at the initial interview.

[73] N=99.

[74] N=99.

[75] N=99.

Table 15: Pre-Post Means and Paired T-Tests for Income and Employment Earnings

Self Sufficiency Indicators	In the 30 Days Prior to Treatment	In the 30 Days Prior to 12-month Interview	t Value	p Value
Monthly income	$653.44	$957.26	3.43	.001*
Dollars earned from employment	$72.45	$137.39	1.38	.170

N=95 for average income, with 4 women missing data at either the initial or the follow-up interview.

N=98 for average wages, with 1 woman missing data at either the initial or the follow-up interview.

The p value refers to the level of statistical significance of the t value from the paired samples t-test. P-values of less than 0.05 are considered statistically significant and are marked with an asterisk (*).

As Table 15 indicates, there was a statistically significant increase in the total income women received during the month prior to the follow-up interview as compared to the month prior to the initial interview. The pre-post increase in mean income per month was fairly substantial in terms of its dollar value (i.e., an increase of approximately $300). However, the total monthly income women received from all sources remained very limited at follow-up and remained largely dependent on public support. Specifically:

- In the 30 days prior to the follow-up interview, women's mean total monthly income was $957.26 which could provide an annual income of only about $11,500.[76]

- Approximately half of the women (n=48 or 50.5%) received less than $900 during the month prior to the follow-up interview, while approximately three-quarters of the women (n=73 or 76.8%) received less than $1,300 during that month.[77]

- The most common source of income for women at follow-up was some type of public support. For example, approximately 80% of the women (n=81 or 81.8%) received at least part of their income from TANF and/or food stamps in the month prior to the follow-up interview.[78]

Table 15 also indicates that there was no significant difference between the amount of money earned from employment during the month prior to the follow-up interview as compared to the month prior to the initial interview. At follow-up, only 13.3% of the women (n=13) had earned income from employment in the 30 days prior to the interview.[79] For those who did have employment income, the amount earned was generally low, with more than half of the women (n=8 of 13) earning less than $1,000 in the month prior to the follow-up interview. It must be noted that approximately 20% of the women were considered disabled (n=28 or 28.3%) and received SSDI or SSI at follow-up.[80]

Overall, despite the modest pre-post increase in total income, women's self-sufficiency status changed very little in the year from the initial interview to the follow-up interview. The most common pre-post pattern was a consistent lack of employment. Specifically, approximately three-quarters of the women who were unemployed (and not disabled) at the time of the initial interview were also unemployed at the time of the follow-up interview (n=53 or 73.6% of the 72 unemployed at baseline).[81] However, there were a small number of women whose employment status improved between the time of the initial and the follow-up interviews. Specifically, 17% of the women who were unemployed (and not disabled) at the time of the initial interview had obtained regular full-time or part-time employment by the time of the follow-up interview (n=12 or 16.7% of the 72 unemployed at baseline).[82]

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[76] N=95, with 4 women missing data on total income.

[77] N=95, with 4 women missing data on total income.

[78] N=99.

[79] N=98, with 1 woman missing data on wages from employment.

[80] N=99.

[81] N=99.

[82] N=99.

Level of Economic Self-Sufficiency at Follow-Up

The analysis also examined the current and potential level of economic self-sufficiency at follow-up. Women's future earnings and self-sufficiency are related both to their current employment status and to other activities that may contribute to improved employment. For example, working part-time or being a student may lay the foundation for later advancements with respect to employment or wages. In contrast, women who are receiving Supplemental Security Income (SSI) or Social Security Disability Insurance (SSDI) have disabilities that may impact their potential for economic self-sufficiency. The following levels of self-sufficiency describe where women were at follow-up with respect to their potential for economic self-sufficiency.

Level 1 is defined as regular full-time employment. The assumption is that women will be best able to support themselves and their families through full-time employment.

Level 2 is defined as being employed part-time with regular hours. Women who are functioning at this level have the opportunity to develop job skills and a resume that may lead to a full-time position. In addition, they are presently providing some regular income for their families.

Level 3 is defined as being a full-time student (without also being employed). Education leads to skills and credentials that may translate into a full-time job in the future. However, women who are solely full-time students may be providing little if any income for their families.

Level 4 is defined as receiving SSI/SSDI with no employment or enrollment as a student. While the SSI/SSDI benefit is generally a reliable source of income, the amount is usually not sufficient to provide economic self-sufficiency for a woman and her family.

Level 5 is defined as having no regular employment and no SSI/SSDI. The woman's only source of income may be public support or assistance from natural supports and there is no current activity that is likely to lead to economic self-sufficiency.

Table 16 describes the level of functioning at follow-up with respect to women's current and potential economic self-sufficiency.

Table 16: Levels of Economic Self-Sufficiency at Follow-Up

Levels	N	%	Cumulative %
Level 1: Full-time employed.	9	9.1%	9.1%
Level 2: Part-time employed (regular hours).	7	7.1%	16.2%
Level 3: Full-time student.	2	2.0%	18.2%
Level 4: SSI/SSDI and no employment.	28	28.3%	46.5%
Level 5: No regular employment and no SSI/SSDI.	53	53.5%	100.0%

N= 99.

As Table 16 shows, more than half of the women (n=53 or 53.5%) described their employment status at follow-up as being unemployed, with no full-time enrollment in education and no disability income. When asked, the women in this category reported that they were prioritizing one or more other areas of their life at the time of the follow-up interview. For example, some of these women (n=12 of 53) were in a controlled environment such as residential treatment and therefore were essentially unavailable to work. Some had responsibilities or activities that may have served as a primary focus, such as parenting minor children (n=24 of 53) or attending school or literacy classes part-time (n=12 of 53). Overall, most (n=45) of the 53 women who had no regular employment at follow-up were receiving public assistance in the form of food stamps and/or TANF in the month prior to the interview.

Approximately 30% of the women (n=28 or 28.3%) were receiving either SSI or SSDI disability at the time of the follow-up interview. As a result, it would not be expected that they would be employed at follow-up, but it is likely that their income was limited.

Approximately 15% of the women (n=16 or 16.2%) were either employed full-time or part-time with regular hours at follow-up. As noted above, however, the women who were regularly employed received limited wages from their employment (e.g., their mean total monthly income could provide an annual income of only about $11,500). However, 12 of the 16 who were employed also received public assistance during that month (i.e., food stamps and/or TANF).

Family Stability: Housing Stability

Women in substance abuse treatment may have experienced homelessness or housing insecurity, and often need assistance finding drug-free housing (Center for Substance Abuse Treatment, 2009). In addition, as in many communities, safe and affordable housing is limited in Milwaukee. Recognizing these challenges, the R&H program offered housing case management assistance as needed and, if possible, facilitated women's admission to Meta House's transitional living apartments or other local low-income housing arrangements.

In the area of housing, the analysis of the R&H data examined: 1) the women's history of housing instability as a treatment challenge and 2) women's level of functioning with respect to maintaining stable housing at follow-up.[83]

Housing Instability as a Treatment Challenge

The analysis examined women's experience of housing instability over the course of their lifetime, using a "homelessness index" developed by the project. The index recognizes that there are different degrees of unstable housing. For example, women who are homeless or at risk of homelessness may be able to stay rent-free with friends or family, or be able to temporarily rent a motel room. These represent resources that women use to remain housed, even if on a temporary basis. On the other hand, some women may not have the social or financial resources to provide even temporary housing, forcing them to turn to a homeless shelter or resort to sleeping in a public place or a drug house.

Most of the women (n=88 or 88.9%) had experienced at least one form of unstable housing at some point in their lives.[84] Specifically, over the course of their lifetime:

- Approximately 85% of the women (n=84 or 84.8%) had stayed rent-free with family or friends or had lived in a rented hotel or motel room.

- Approximately 70% (n=68 or 68.7%) had stayed in residential treatment, transitional living, or an institution (e.g., jail) with no other place to live.

- Approximately 70% of the women (n=70 or 70.7%) had been literally homeless.[85] For example, approximately 40% of the women had stayed overnight in a shelter (n=42 or 42.4%) and/or had spent the night in a drug house (n=39 or 39.4%). In addition, almost 20% (n=17 or 17.3%) had spent the night on the streets or in a park.

In the month prior to entering treatment, approximately 40% of the women (n=39 or 39.8%) were living in their own apartment or home.[86] However, approximately 60% of the women were experiencing some form of housing instability in that month. Specifically, for most of the month prior to the initial interview:

- 39.8% of the women (n=39) were living in someone else's apartment or home (with or without contributing to the rent).

- 15.3% of the women (n=15) were living in residential treatment.

- 5.1% of the women (n=5) were living in a shelter or a transitional living arrangement.

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[83] The interview did not include housing-related questions that would support a formal pre-post analysis of housing stability.

[84] N=99 for all data on lifetime indicators of housing instability.

[85] For the purposes of this data, "literal" homelessness included women who had slept at a shelter for the homeless, in a car, in an empty building, in the streets or a park, in a public place, and/or in a drug house.

[86] N=98 for all data on housing situation prior to the initial interview, with 1 woman missing data on housing situation.

Securing Stable Housing at Follow-Up

Recognizing the women's history of housing instability, the analysis examined the extent to which women secured stable housing at follow-up. Women's progress towards independent, stable housing can be described in terms of their living situation during most of the month prior to follow-up, as well as whether or not they had to resort to any of the types of sleeping arrangements that indicate homelessness or risk of homelessness during that time. Women's housing stability can be described using the following levels of functioning:

Level 1 is defined as having lived most of the last 30 days in one's own apartment, room, or house, without having to resort to any of the types of sleeping arrangements that are indicative of an unstable living arrangement. Women at this level may be living alone or with children, significant others, and/or family members.

Level 2 is defined as having lived most of the last 30 days in someone else's apartment, room, or house. This means that the woman was contributing some portion of the rent and was not just taken in for temporary overnight shelter. Also during this time, the woman did not have to resort to any of the types of sleeping arrangements that are indicative of an unstable living arrangement. At this level of functioning, the woman has a stable living arrangement for most of the last 30 days.

Level 3 is defined as having lived most of the last 30 days in a transitional living setting without having to resort to any of the types of sleeping arrangements that are indicative of an even more unstable living arrangement. Typically, transitional housing in Milwaukee is not short-term, so there is some expectation of continued housing stability.

Level 4 is defined as having lived most of the last 30 days in residential treatment or in an institution (e.g., jail), without having to resort to any of the other types of sleeping arrangements that are indicative of further instability in living arrangements. Residential treatment in Milwaukee typically involves stays of several months at most, so there is no expectation of continued stability in the same setting.

Level 5 is defined as having lived most of the last 30 days in a shelter, on the street, or in an unstable living arrangement (e.g., in someone else's house without paying rent).

Table 17 describes the level of functioning at follow-up with respect to the stability of women's housing situation.

Table 17: Levels of Housing Stability at Follow-Up

Levels	N	%	Cumulative %
Level 1: Own apartment, room, or house.	54	55.1%	55.1%
Level 2: Someone else's apartment, room, or house while contributing to rent.	8	8.2%	63.3%
Level 3: Transitional living.	8	8.2%	71.4%
Level 4: Residential treatment facility or institution.	8	8.2%	79.6%
Level 5: Shelter, street, or indication of unstable living arrangement.	20	20.4%	100.0%

N=98, with 1 woman missing data on housing stability at follow-up.

As Table 17 shows, approximately 60% of the women (n=62 or 63.3%) had spent most of the 30 days prior to the follow-up interview living in either their own or someone else's residence while contributing to some portion of the rent. During this time, these women had not needed to resort to any of the types of sleeping arrangements that are indicative of unstable housing.

However, approximately 20% of the women (n=20 or 20.4%) had an unstable living arrangement most of the month prior to the follow-up interview. Most of these women (n=17 of 20) were staying in someone else's home (or several people's homes) without paying rent and with no place else to stay. Although this situation has an element of instability, it is not as precarious a situation as the few women (n=3 of 20) who were living in a shelter or spending the night in a drug house.

A small number of women (n=8 or 8.2%) spent most of the month prior to the follow-up interview in either residential substance abuse treatment or in an institution (e.g., jail). In addition, a small number of women (n=8 or 8.2%) were living in a transitional living setting, primarily residing in one of Meta House's transitional living apartments. Although these apartments are designed to serve as long-term housing arrangements for women and their families, all of these women will eventually have to secure more permanent housing.

Although the interview did not include items that would permit a formal pre-post analysis of housing stability, the data did suggest some improvement in housing status over time. For example, at the time of the initial interview approximately 40% of the women (n=39 or 39.8%) spent most of the previous month living in their own apartment or home, while at the time of follow-up interview 55% of the women (n=54 or 55.1%) had lived most of the previous month in their own home without any indications of unstable housing.

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Appendix A:

Representativeness of Women Followed Up at
12 Months

Appendix A: Representativeness of Women Followed Up at 12 Months

The 164 women who were eligible for a follow-up interview and the 99 women who completed the follow-up were compared with respect to: 1) demographics, 2) length of stay in treatment, and 3) discharge status.

Demographics

Table A1 compares the demographic information and Table A2 compares the socioeconomic information for all 164 women who were eligible for a follow-up interview during the data collection period to the respective information for the 99 women who did complete a 12-month interview.

Table A1: Demographic Comparisons between Women Eligible for and Women who Completed a 12-month Follow-up Interview

Demographic Characteristics	Women Eligible for a 12-month Interview (N=164)		Women who Completed a 12-month Interview (N=99)	
	N	**%**	**N**	**%**
Race/Ethnicity*				
African American/Black	80	49.1%	57	58.2%
Caucasian/White	61	37.4%	30	30.6%
Latina/Hispanic	11	6.7%	8	8.2%
Native American	5	3.1%	3	3.1%
Multiracial or other	6	3.7%	0	0.0%
Age at Admission				
19 years and younger	3	1.8%	1	1.0%
20 to 24 years	25	15.2%	9	9.1%
25 to 29 years	34	20.7%	19	19.2%
30 to 34 years	24	14.6%	18	18.2%
35 to 39 years	21	12.8%	11	11.1%
40 to 44 years	30	18.3%	22	22.2%
45 to 49 years	17	10.4%	12	12.1%
50 years and over	10	6.1%	7	7.1%
Age statistics (in years)	Mean=34.46 Median=33.00	Range=18-58 SD=9.65	Mean=36.14 Median=36.00	Range=19-58 SD=9.28
Family Status at Admission				
Mothers	149	90.9%	92	92.9%
Pregnant**	10	6.3%	7	7.2%
For those who were mothers:				
Mothers of minor children	126	84.6%	76	82.6%
Number of children	Mean=3.36 Median=3.00	Range=1-10 SD=2.12	Mean=3.43 Median=3.00	Range=1-9 SD=2.10
Child welfare involvement***	79	53.0%	49	53.3%

*One woman was missing information on race/ethnicity; therefore N=163 for the group of women eligible for follow-up and N=98 for women who completed a 12-month interview.

**N=159 for the group of women eligible for follow-up, with 5 women missing information on pregnancy status at the time of the initial evaluation interview. N=97 for women who completed a 12-month interview, with 2 women missing information on pregnancy status.

***Mothers were considered to have had child welfare involvement if they had experienced a termination of parental rights and/or had one or more children placed in out-of-home care at the time of the initial interview.

Table A2: Socioeconomic Comparisons between Women Eligible for and Women who Completed a 12-month Follow-up Interview

Demographic Characteristics	Women Eligible for a 12-month Interview (N=164)		Women who Completed a 12-month Interview (N=99)	
	N	%	N	%
Education at Admission				
8th grade or less	13	7.9%	10	10.1%
9th to 11th grade	48	29.3%	32	32.3%
High school diploma /GED	50	30.5%	31	31.3%
Some college or voc/tech	51	31.1%	26	26.3%
College degree	2	1.2%	0	0.0%
Employment at Admission				
Unemployed	123	75.0%	72	72.7%
Unemployed disabled	32	19.5%	22	22.2%
Employed full-time or part-time	9	5.5%	5	5.1%
Legal Status at Admission				
On probation or parole	23	14.0%	11	11.1%
In jail/prison in previous 30 days	10	6.1%	5	5.1%
Awaiting charges, trial, or sentencing*	17	10.4%	11	11.2%

*One woman was missing data on awaiting charges; therefore N=163 for the group of women eligible for follow-up and N=98 for women who completed a 12-month interview.

Representativeness

As Tables A1 and A2 show, with respect to demographic and socioeconomic characteristics, the women who completed a 12-month interview were reasonably similar to the women whose follow-up window opened during the data collection period. However, there were minor trends towards differences between the two groups with respect to race/ethnicity, age, and education. Specifically, slightly more women who completed a 12-month interview described themselves as Black/African American as compared to women who were eligible for a follow-up interview. In addition, the average age of those who completed a 12-month interview was slightly older than the average age of those who were eligible for follow-up. Finally, slightly fewer women who were interviewed had completed high school or earned a GED as compared to those who were eligible for follow-up. None of these differences were substantial, however, and the group of women who were interviewed can be seen as demographically representative of those who could have been interviewed.

Description of Women Who Were Followed Up

The women who completed a 12-month interview varied widely in age (from 19 to 58), but were on average in their mid-30s at the time of their admission to the program (mean age = 36.14, median = 36.00). Approximately 60% of the women (n=57 or 58.2%) described their ethnicity as Black or African American, with most of the remaining women (n=30 or 30.6%) describing themselves as White or Caucasian. Almost all of the women interviewed were mothers (n=92 or 92.9%) and a small number (n=7 or 7.2%) were pregnant at the time of their admission to the program. For those who were mothers, most (n=76 or 82.6%) had minor children and the mean number of children they had given birth to was 3.43. Approximately half of the mothers (n=49 or 53.3%) had some involvement with the child welfare system.

Approximately 60% of the women interviewed (n=57 or 57.6%) had either graduated from high school or earned their GED, but the remaining 40% had not completed high school (including some who had an eighth grade education or less). Very few of the women were employed at the time of the initial interview, and approximately 20% were considered to be disabled (n=22 or 22.2%). Only a small number were experiencing legal difficulties at the time of their admission to the program (e.g., n=11 or 11.1% were on probation or parole).

Length of Stay in Treatment

Women who were eligible for a follow-up interview were compared to women who actually completed a follow-up interview with respect to their overall length of stay during their R&H episode of care. A full continuum of care was available to R&H women, including day treatment and outpatient treatment, as well as residential treatment for those who might require a higher level of care. An episode of care encompassed all consecutive levels of care provided within approximately one month of one another. Table A3 compares the overall length of participation in Meta House services for the women who were eligible for a follow-up interview to the overall length of stay for the women who actually completed a 12-month interview.

Table A3: Overall Length of Stay for Women Eligible for and Women who Completed a 12-month Follow-up Interview

Overall Length of Program Participation	Women Eligible for a 12-month Interview (N=160)*		Women who Completed a 12-month Interview (N=95)*	
	N	%	N	%
Less than 1 month	2	1.3%	0	0.0%
1 month to 1.99 months	20	12.5%	12	12.6%
2 months to 2.99 months	24	15.0%	10	10.5%
3 months to 3.99 months	21	13.1%	12	12.6%
4 months to 4.99 months	19	11.9%	12	12.6%
5 months to 5.99 months	8	5.0%	2	2.1%
6 months to 8.99 months	25	15.6%	15	15.8%
9 months to 11.99 months	19	11.9%	11	11.6%
12 months or more	22	13.8%	21	22.1%
Length of stay statistics (in months)	Mean=6.60 Median=4.55	Range=0.85-33.15 SD=5.61	Mean=7.86 Median=5.49	Range=1.08-33.15 SD=6.55

*Four of the women who completed a 12-month interview and 4 of the women eligible for an interview had not yet been discharged by the end of the data collection period for length of stay (10/31/2012). These women were not included in the overall length of stay analysis.

Representativeness

As Table A3 shows, there were some differences between the groups with respect to length of stay in the program. Specifically, the mean and median length of stay for women who completed a follow-up interview were longer than those for the women eligible for a follow-up. Much of this difference may be attributable to the higher proportion of women who remained in treatment for 12 months or longer among those who completed a follow-up interview (n=21 or 22.1% of women who completed a follow-up remained for 12 months or longer; n=22 or 13.8% of women eligible remained for that period of time). As a result, a somewhat larger proportion of the women interviewed remained in treatment for three months or longer and for six months or longer (for those interviewed, n=73 or 76.8% remained 3 months or longer and n=47 or 49.5% remained 6 months or longer; for those eligible, n=114 or 71.3% remained 3 months or longer and n=66 or 41.3% remained 6 months or longer). However, most of the differences between the groups with respect to length of stay were not substantial.

Description of Women Who Were Followed Up

A full continuum of care was available to the R&H women during their treatment episode, including day treatment, outpatient services, and residential treatment. All of the women who were followed up began their R&H episode of care in day treatment. Approximately 20% of the women who had been discharged as of the end of the data collection period had an episode of care that also included outpatient services (n=20 of

95, or 21.1%).[87] Slightly less than 15% had an episode of care that also included residential treatment (n=13 of 95, or 13.7%).[88]

Due to a small number of "outliers" (i.e., women who remained in treatment an exceptionally long time), the median is the best representation of the average length of stay for those who were followed up. On average, women who completed a follow-up interview had an overall length of stay of approximately five months (median = 5.49 months). Approximately three-quarters of the women who completed a follow-up interview had an overall length of stay of three months or longer (n=73 or 76.8%), which was the anticipated minimum length of stay. Further, approximately half (n=57 or 49.5%) remained engaged in some form of treatment at Meta House for six months or longer.

Program Discharge Status

At discharge from their full episode of care in the program, counselors coded women's treatment progress and the reason for discharge. Women were considered to have graduated from the program if their counselors indicated that they had successfully completed the program or that they had completed with substantial improvement in some areas. Table A4 compares the graduation status for the women who were eligible for a follow-up interview during the data collection period to the graduation status for the women who actually completed a follow-up interview.

Table A4: Graduation Status for Women Eligible for and Women who Completed a 12-month Follow-up Interview

Graduation Status	Women Eligible for a 12-month Interview (N=159)		Women who Completed a 12-month Interview (N=95)*	
	N	**%**	**N**	**%**
Graduated	98	61.6%	65	68.4%
Did not graduate	61	38.4%	30	31.6%

*Four of the women who completed a 12-month interview and 4 of the women eligible for an interview had not yet been discharged by the end of the data collection period for length of stay (10/31/2012). These women were not included in the graduation analysis. In addition, 1 of the women eligible for an interview was missing data on graduation status.

Representativeness and Description of Women Followed Up

As Table A4 shows, women who completed a 12-month follow-up interview were somewhat more likely to have graduated from the program than women whose follow-up window opened during the data collection period. However, the differences between the groups with respect to graduation status were not substantial. Overall, almost 70% of the women who completed the follow-up interview (n=65 or 68.4%) were considered to have graduated from the program (i.e., successfully completed or completed with substantial improvement in some areas).

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[87] The data collection period for length of stay ended October 31st, 2012, approximately one month after the close of the grant.

[88] A small number of women (n=4 of 95, or 4.2%) had an episode of care that included all levels of treatment (day treatment, a residential stay, and outpatient services).

Appendix B
Adjusted Days of Alcohol and Drug Use

Appendix B: Adjusted Days of Alcohol and Drug Use

A controlled environment is defined by the Addiction Severity Index as being in jail, living in an alcohol or drug treatment facility, living in a mental health treatment facility, or staying in a hospital overnight. In the 30 days prior to the initial interview, one-third of the women (n=33 or 33.3%) had been in a controlled environment for at least a portion of the month. Most commonly, women had been in residential substance abuse treatment (n=26 of the 33), but a small number of women had been in jail (n=5), a psychiatric hospital (n=4), and/or the hospital for medical reasons (n=2). [89] For those who had been in a controlled environment, the time spent in a controlled environment ranged from one day to 27 days, with a mean stay of 12.64 days and a median stay of 12.00 days. None of the women had been in a controlled environment for all 30 days prior to their initial interview.

At the time of the 12-month interview, approximately 15% of the women (n=14 or 14.1%) had been in a controlled environment for at least a portion of the month prior to the interview. Most commonly, these women were in the hospital for detoxification and/or residential treatment (n=8 of the 14), although a small number had been in jail (n=5) and/or the hospital (n=2).[90] For those who were in a controlled environment during the 30 days prior to the follow-up interview, the number of days stayed ranged from 1 to 30, with a mean of 19.00 days and a median of 20.50 days. Some of the women who were in a controlled environment were there for all 30 days prior to the follow-up interview (n=6 of 14). Because there was no means of estimating their ability to be abstinent outside of a controlled environment, these women were excluded from the analyses for unadjusted use, adjusted use, and pre-post changes.

Since women residing in a controlled environment presumably did not have the opportunity to use alcohol or drugs, the time they spent in the controlled environment was not representative of their typical pattern of use. As a result, the amount of alcohol and drugs women used during the time they were not in a controlled environment was taken as an indicator of their frequency of use. For women who were in a controlled environment for some portion of the 30 days prior to their initial or follow-up interviews, an estimate of their use was made based on the amount used while in the community. Specifically, the proportional amount used while not in a controlled environment was applied to a standard 30 day period to estimate the overall 30 day use. This estimated use was termed "adjusted" use.

Table B1 presents the mean days of use for alcohol and for the most commonly used drugs prior to the initial interview, both adjusted and unadjusted, for the women included in the analysis.

Table B1: A Comparison of Adjusted and Unadjusted Mean Days of Drug Use Prior to the Initial Interview

Drug Used	Unadjusted Mean Days of Use	Adjusted Mean Days of Use
Days of no use*	19.98	16.99
Alcohol*	2.40	2.53
Alcohol to intoxication**	1.74	1.77
Marijuana	2.04	2.27
Cocaine	1.45	1.49
Days of illegal drug use	3.40	3.73
More than one substance per day*	1.32	1.60

N=93. Six women at the follow-up interview were in a controlled environment all 30 days prior to the interview and were excluded from the analysis of both the pre and post data.

*N=92, with 1 woman missing data on number of days of use for alcohol, more than one substance, and days of no use.

*N=88, with 5 women missing data on number of days of use for alcohol to intoxication.

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[89] N=99 for all information on controlled environment at the initial interview.

[90] N=99 for all information on controlled environment at the follow-up interview.

As anticipated, the adjusted days of use for each substance were slightly higher than the unadjusted days of use (and the total days completely alcohol and drug free was lower), reflecting women's level of use when they were not being closely monitored in a controlled environment.

Table B2 presents the mean days of use for alcohol and for the most commonly used drugs prior to the 12-month interview, both adjusted and unadjusted, for the women included in the analysis.

Table B2: A Comparison of Adjusted and Unadjusted Mean Days of Drug Use Prior to the 12-month Interview

Drug Used	Unadjusted Mean Days of Use	Adjusted Mean Days of Use
Days of no use*	21.23	20.70
Alcohol*	2.40	2.53
Alcohol to intoxication**	1.50	1.64
Marijuana	1.35	1.36
Cocaine	0.96	1.02
Days of illegal drug use	2.19	2.38
More than one substance per day*	1.12	1.20

N=93. Six women at the follow-up interview were in a controlled environment all 30 days prior to the interview and were excluded from the analysis of both the pre and post data.

*N=92, with 1 woman missing data on number of days of use for alcohol, more than one substance, and days of no use.

*N=88, with 5 women missing data on number of days of use for alcohol to intoxication.

At follow-up, the adjusted days of use for most substances were slightly higher than the unadjusted days of use (and the total days completely alcohol and drug free was somewhat lower). However, at both the initial and the follow-up interview points, the differences between adjusted and unadjusted use were relatively minimal (due to a limited number of women in a controlled environment, a limited number of days in that environment, and/or a limited number of days of use).

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