Boston Consortium Model: Trauma-Informed Substance Abuse Treatment for Women

Date of Review: August 2009

The Boston Consortium Model: Trauma-Informed Substance Abuse Treatment for Women (BCM) program provides a fully integrated set of substance abuse treatment and trauma-informed mental health services to low-income, minority women with co-occurring alcohol/drug addiction, mental disorders, and trauma histories. BCM was developed by a consortium of urban substance abuse and mental health treatment programs as an enhancement to existing substance abuse treatment based on the Trauma Recovery and Empowerment Model (TREM). TREM uses a psychoeducational and skills-building approach to increase a woman's understanding of the associations among addiction, trauma, mental health disorders, and sexual risk behaviors. It teaches positive and protective coping skills to help women heal from past abuse and avoid future abuse, along with behavioral strategies for reducing trauma symptoms, substance use relapse, and sexual risk.

BCM begins with a diagnostic assessment for mental disorders and trauma administered by a trained mental health/trauma service (MHTS) coordinator/case manager. The MHTS coordinator/case manager develops an integrated, trauma-informed treatment plan for the client, links her to the appropriate mental health services, and works collaboratively as the primary point of contact with the client's mental health and substance abuse treatment service teams. Additionally, BCM uses five manual-driven, skills-building group modules. One of these modules is a modified version of the TREM curriculum adapted to include 3 group sessions on HIV/AIDS prevention for a total of 25 sessions. The four other modules are:

- Women's Leadership Training Institute (3 sessions, 15 hours total), delivered by staff with a personal history of alcohol or drug abuse, mental health problems, and/or interpersonal violence, focuses on leadership and communication skills and aims to reverse the silencing effects of trauma and help clients regain their voice.
- Economic Success in Recovery (8 sessions, 16 hours total) assists clients, who often have a history of economic dependence on abusive partners, in gaining the skills to effectively manage money issues and draw associations between their past substance use and current economic situation.
- Pathways to Family Reunification and Recovery (10 sessions, 15 hours total) focuses on building skills, knowledge, and support related to child custody issues.
- Nurturing Program for Families in Substance Abuse Treatment and Recovery (12 sessions, 24 hours total) focuses on enhancing parenting skills and family communication.

BCM can be delivered in English and Spanish by trained bilingual staff.

Descriptive Information

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<td>Substance abuse treatment</td>
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<td>Co-occurring disorders</td>
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<th>1: Substance use and related problem severity</th>
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<td>5: Perceived power in one's relationship</td>
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<table>
<thead>
<tr>
<th>Outcome Categories</th>
<th>Alcohol</th>
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<tr>
<td></td>
<td>Drugs</td>
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<td>Family/relationships</td>
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<td>Mental health</td>
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<thead>
<tr>
<th>Ages</th>
<th>26-55 (Adult)</th>
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<table>
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<th>Genders</th>
<th>Female</th>
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<td>Hispanic or Latino</td>
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### Outcomes

#### Outcome 1: Substance use and related problem severity

**Description of Measures**
Substance use and related problem severity were evaluated using the Addiction Severity Index (ASI), a semistructured interview that assesses seven domains: medical, legal, employment, drug, alcohol, family, and psychological functioning. Items addressing substance use ask the client about use of individual drugs in the past 30 days. Substance use measures from the ASI included illicit drug use, drug abstinence rate, and problem composite scores for the alcohol and drug domains, which range from 0.0 (no symptoms) to 1.0 (highest severity of symptoms). The drug abstinence rate was a measure derived from a self-report of 0 days of use for each of the substances addressed in the ASI.

**Key Findings**
Women receiving substance abuse treatment at one of five sites—three residential, one outpatient, and one methadone outpatient—were assigned to BCM and were compared with women receiving usual substance abuse treatment services at one of four comparable sites. Usual substance abuse treatment services typically consisted of weekly individual and daily group sessions and relapse prevention services for residential clients, a weekly group or individual session for outpatient clients, and daily dosing and a weekly individual or group session for methadone clients. Findings included the following:

- The proportion of women reporting any illicit drug use was lower in the BCM group than the comparison group at both the 6-month (21.3% vs. 48.2%; p < .001) and 12-month (17.3% vs. 40%; p < .001) follow-ups after controlling for baseline values.
- Women in both conditions reported decreased drug use problem severity (ASI drug composite score) from baseline across the 12-month follow-up period (p < .001). However, women receiving BCM had higher rates of reported abstinence than comparison women at the 6-month (67% vs. 38%; p < .0001) and 12-month (75% vs. 40%; p < .0001) follow-ups.
- Women in both conditions reported decreased alcohol use problem severity (ASI alcohol composite score) from baseline across the 12-month follow-up period (p < .0001).

**Studies Measuring Outcome**

<table>
<thead>
<tr>
<th>Study 1</th>
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</thead>
</table>

**Study Designs**
Quasi-experimental

**Quality of Research Rating**
2.4 (0.0-4.0 scale)

#### Outcome 2: Mental health symptomatology
**Description of Measures**

Mental health symptomatology was evaluated using the Global Severity Index (GSI) from the Brief Symptom Inventory (BSI), a 53-item self-report checklist of symptoms grouped into depression, anxiety, and somatization subscales. Each item is rated for the prior week across a 5-point Likert scale from 0 (not at all) to 4 (extremely bothersome). The GSI score is the sum of the 53 item ratings, with higher scores indicating more severe mental health symptoms.

**Key Findings**

Women receiving substance abuse treatment at one of five sites--three residential, one outpatient, and one methadone outpatient--were assigned to BCM and were compared with women receiving usual substance abuse treatment services at one of four comparable sites. Usual substance abuse treatment services typically consisted of weekly individual and daily group sessions and relapse prevention services for residential clients, a weekly group or individual session for outpatient clients, and daily dosing and a weekly individual or group session for methadone clients. Women receiving BCM reported fewer mental health symptoms than comparison group women at the 12-month follow-up (p = .01), a difference associated with a small effect size (Cohen's d = 0.32).

**Studies Measuring Outcome**

**Study 1**

**Study Designs**

Quasi-experimental

**Quality of Research Rating**

2.8 (0.0-4.0 scale)

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**Outcome 3: Posttraumatic stress symptoms**

**Description of Measures**

Posttraumatic stress symptoms were measured using the Posttraumatic Symptom Scale (PTSS), a semistructured interview of 17 items corresponding to symptoms associated with a DSM-IV clinical diagnosis of posttraumatic stress disorder (PTSD). The PTSS comprises three subscales to evaluate the level of reexperiencing, avoidance, and hyperarousal symptoms. Each item is rated on two 4-point scales, one for frequency and one for severity. Ratings range from 0-3, from "not at all" to "5 or more times per week" for frequency and from "not at all" to "very much" for severity.

**Key Findings**

Women receiving substance abuse treatment at one of five sites--three residential, one outpatient, and one methadone outpatient--were assigned to BCM and were compared with women receiving usual substance abuse treatment services at one of four comparable sites. Usual substance abuse treatment services typically consisted of weekly individual and daily group sessions and relapse prevention services for residential clients, a weekly group or individual session for outpatient clients, and daily dosing and a weekly individual or group session for methadone clients. Although reported PTSD symptoms decreased for both groups from baseline to the 6-month follow-up, these symptoms continued to decrease for BCM women from the 6- to the 12-month follow-up, while they increased during this time for comparison group women (p = .01). This difference was associated with a small effect size (Cohen's d = 0.35).

**Studies Measuring Outcome**

**Study 1**

**Study Designs**

Quasi-experimental

**Quality of Research Rating**

2.8 (0.0-4.0 scale)

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**Outcome 4: HIV sexual risk behaviors**

**Description of Measures**

HIV sexual risk behaviors were measured using one item asking whether the client had engaged in unprotected sex during the 30-day period prior to assessment. "Unprotected sex" was defined as vaginal, oral, or anal sex without the use of a condom or other latex barrier with a main partner, another person or persons other than the main partner but not known to be in a high-risk sex group, or a known "risky" person or persons. A "risky" person was defined as someone who was HIV positive; someone with AIDS; someone who used injection drugs, used other drugs such as cocaine, or was high on any substance; or someone with whom the participant engaged in sex in exchange for money or drugs.

**Key Findings**

Women receiving substance abuse treatment at one of five sites--three residential, one outpatient, and one methadone outpatient--were assigned to BCM and were compared with women receiving usual substance abuse treatment services at one of four comparable sites. Usual substance abuse treatment services typically consisted of weekly individual and daily group sessions and relapse prevention services for residential clients, a weekly group or individual session for outpatient clients, and daily dosing and a weekly individual or group session for methadone clients. Findings included the
From baseline to the 6-month follow-up, the percentage of women who reported engaging in unprotected sex decreased in the BCM group (34% to 29%) and increased in the comparison group (19% to 44%; p = .004).

At the 6- and 12-month follow-up, comparison group women were, respectively, 2.8 and 4.5 times as likely as women receiving BCM to report engaging in unprotected sex (p values < .01), after adjusting for baseline demographics, participation in alcohol or drug treatment, illicit drug use, and residential/correctional living environment. This group difference was associated with medium effect sizes (odds ratio = 2.8 at 6 months and 4.5 at 12 months).

African American and Hispanic women were nearly 3 times as likely to report engaging in unprotected sex as White women at the 6-month follow-up (p < .01), regardless of group assignment. This difference was associated with a medium effect size (odds ratio = 2.97). No differences by ethnicity were found at 12 months.

### Outcomes

#### Outcome 5: Perceived power in one's relationship

**Description of Measures**

Perceived power in one's relationship was measured using the Sexual Relationship Power Scale (SRPS). This 23-item questionnaire comprises two subscales, Relationship Control and Decision-Making Dominance, and asks about relationships in the past 6 months. The Relationship Control subscale includes items such as "If I asked my partner to use a condom, he would get angry" and "I feel trapped or stuck in our relationship" and uses a 4-point Likert scale that ranges from 1 (strongly agree) to 4 (strongly disagree). The Decision-Making Dominance subscale includes items such as "Who usually has more to say about what you do together?" and "Who usually has more to say about how often you see one another?" and uses a 3-point categorical scale with ratings of 1 (your partner), 2 (both of you equally), and 3 (you). Scores on the two subscales are added to generate a total score, with higher total scores indicating more perceived power in the relationship.

**Key Findings**

Women receiving substance abuse treatment at one of five sites--three residential, one outpatient, and one methadone outpatient--were assigned to BCM and were compared with women receiving usual substance abuse treatment services at one of four comparable sites. Usual substance abuse treatment services typically consisted of weekly individual and daily group sessions and relapse prevention services for residential clients, a weekly group or individual session for outpatient clients, and daily dosing and a weekly individual or group session for methadone clients. Among women who reported being in at least one sexual relationship in the 6 months prior to follow-up:

- Women receiving BCM reported having greater power in their relationships than comparison group women at the 6-month (p < .01) and 12-month (p < .001) follow-ups.
- Women who said they had engaged in unprotected sex in the 6 months prior to follow-up reported lower perceived relationship power compared with women who said they had not engaged in unprotected sex at both the 6-month (p < .001) and the 12-month (p = .002) follow-ups, regardless of condition assignment.
Quality of Research

The documents below were reviewed for Quality of Research. Other materials may be available. For more information, contact the developer(s).

Study 1


Supplementary Materials


Quality of Research Ratings by Criteria (0.0-4.0 scale)

External reviewers independently evaluate the Quality of Research for an intervention's reported results using six criteria:

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Reliability of Measures</th>
<th>Validity of Measures</th>
<th>Fidelity</th>
<th>Missing Data/Attrition</th>
<th>Confounding Variables</th>
<th>Data Analysis</th>
<th>Overall Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Substance use and related problem severity</td>
<td>2.5</td>
<td>2.5</td>
<td>2.7</td>
<td>2.5</td>
<td>2.2</td>
<td>2.0</td>
<td><strong>2.4</strong></td>
</tr>
<tr>
<td>2: Mental health symptomatology</td>
<td>3.7</td>
<td>3.7</td>
<td>2.7</td>
<td>2.5</td>
<td>2.0</td>
<td>2.0</td>
<td><strong>2.8</strong></td>
</tr>
<tr>
<td>3: Posttraumatic stress symptoms</td>
<td>3.7</td>
<td>3.7</td>
<td>2.7</td>
<td>2.5</td>
<td>2.0</td>
<td>2.0</td>
<td><strong>2.8</strong></td>
</tr>
<tr>
<td>4: HIV sexual risk behaviors</td>
<td>1.7</td>
<td>1.7</td>
<td>2.8</td>
<td>2.5</td>
<td>2.0</td>
<td>2.0</td>
<td><strong>2.1</strong></td>
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<tr>
<td>5: Perceived power in one's relationship</td>
<td>2.9</td>
<td>2.9</td>
<td>2.8</td>
<td>2.5</td>
<td>2.0</td>
<td>2.0</td>
<td><strong>2.5</strong></td>
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</table>

For more information about these criteria and the meaning of the ratings, see Quality of Research.

Study Strengths

The reliability and validity of the ASI have been established with different substance abuse treatment populations, and study sample reliabilities were provided for both the drug and alcohol composite score measures. The Brief Symptom Inventory and the Posttraumatic

26% Black or African American
5% Race/ethnicity unspecified
Symptom Scale have excellent psychometric properties, and 1-week test-retest sample reliabilities were high for both instruments. Interventionists received extensive standardized training with weekly reviews and ongoing supervision from senior clinicians throughout the study period to support intervention fidelity. All assessment interviews were administered by trained research assistants, not the interventionists. The number of clients enrolled in the study was sufficient to provide adequate statistical power to detect main group differences.

**Study Weaknesses**

No study sample psychometrics were presented for self-reported abstinence, a measure derived from the ASI that may have been influenced by the higher proportion of court-ordered participants in the intervention than comparison group. The absence of sample psychometrics for the unprotected sex measure is an issue, since internal reliability and validity vary widely with different study populations. No data on sample reliability were presented for the Sexual Relationship Power Scale, a scale for which the underlying psychometrics are not well developed in the field. The study lacked a measurement instrument to quantify fidelity, which was weakened by the multidimensional nature of the intervention and multiple treatment and comparison sites. Lack of randomization, variability of available treatment services across the comparison sites, and length of the follow-up window (a 12-week period) created the possibility of confounding variables and challenged the underlying assumptions necessary to support the data analysis models employed.

**Readiness for Dissemination**

The documents below were reviewed for Readiness for Dissemination. Other materials may be available. For more information, contact the developer(s).

**Dissemination Materials**


Educational materials and other products:

- Client resource card
- Fact sheet for consumers on co-occurring disorders
- Fact sheet for providers on co-occurring disorders
- PowerPoint training slides
- Women's Integrated Trauma and Substance Abuse Treatment Model Annual Families in Recovery Event booklet
- Women's Integrated Trauma and Substance Abuse Treatment Model newsletter

**Readiness for Dissemination Ratings by Criteria (0.0-4.0 scale)**

External reviewers independently evaluate the intervention’s Readiness for Dissemination using three criteria:
1. Availability of implementation materials
2. Availability of training and support resources
3. Availability of quality assurance procedures

For more information about these criteria and the meaning of the ratings, see Readiness for Dissemination.

<table>
<thead>
<tr>
<th>Implementation Materials</th>
<th>Training and Support Resources</th>
<th>Quality Assurance Procedures</th>
<th>Overall Rating</th>
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</thead>
<tbody>
<tr>
<td>2.5</td>
<td>3.5</td>
<td>1.8</td>
<td>2.6</td>
</tr>
</tbody>
</table>

**Dissemination Strengths**
Manuals for individual program components are well organized and include practical and detailed guidance for implementers. Customizable and flexible training options, as well as ongoing implementation support, are available. Training materials are comprehensive, informative, and well written, providing clear objectives and goals for each session. Program materials and training curricula establish clear standards for implementation. Suggestions for ensuring fidelity are provided to support quality assurance.

**Dissemination Weaknesses**
While manuals for the individual program components are provided, there is little information articulating a clear plan for overall implementation. The developer does not provide continuing education to support ongoing proficiency in using the intervention. No comprehensive quality assurance protocol is available to assist new sites in monitoring target outcomes or implementation fidelity.

**Costs**
The information below was provided by the developer and may have changed since the time of review. For detailed information on implementation costs (e.g., staffing, space, equipment, materials shipping and handling), contact the developer.

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Cost</th>
<th>Required by Program Developer</th>
</tr>
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<tbody>
<tr>
<td>Curriculum manual and case study workbook</td>
<td>Included in training cost, or $140 per set if purchased separately</td>
<td>Yes</td>
</tr>
<tr>
<td>On-site, 8-day training</td>
<td>$20,000 plus travel expenses</td>
<td>No</td>
</tr>
<tr>
<td>Technical assistance</td>
<td>Included in training cost</td>
<td>No</td>
</tr>
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</table>

**Additional Information**
The estimated cost of implementing BCM is $3,500 per client, assuming a system of care providing outpatient, residential, or methadone maintenance substance abuse treatment is already in place.

**Replications**
No replications were identified by the applicant.

**Contacts**
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The NREPP review of this intervention was funded by the Center for Substance Abuse Treatment (CSAT).