



# Patient and program costs, and outcomes, of including gender-sensitive services in intensive inpatient programs for substance use



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## ARTICLE INFO

### Keywords:

Intensive inpatient substance use treatment  
Gender-sensitive services  
Cost  
Effectiveness  
Cost-outcome

## ABSTRACT

Gender-sensitive services (GSS) attempt to make substance use treatment better for women, but at what cost and with what results? We sought answers to these questions in a federally-funded study by measuring separately the patient and provider costs of adding GSS, outcomes, and cost-outcome relationships for 12 mixed-gender intensive inpatient programs (IIP) that varied in amounts and types of GSS. GSS costs to female inpatients included time devoted to GSS and expenses for care of dependents while in the IIP. GSS costs to providers included time spent with patients, indirect services, treatment facilities, equipment, and materials. Offering more GSS was expected to consume more patient and provider resources. Offering more GSS also was expected to enhance outcomes and cost-outcome relationships. We found that average GSS costs to patients at the IIPs were \$585 (\$515–\$656) per patient. Average GSS costs to providers at the IIPs were \$344 (\$42–\$544) per patient. GSS costs to patients significantly exceeded GSS costs to providers. Contrary to previous research, offering more GSS services to patients did not result in significantly higher costs to patients or providers. IIPs offering more GSS may have delivered fewer traditional services, but this did not significantly affect outcomes, i.e., days until returning to another substance use treatment. In fact, median cost-outcome for these IIPs was a promising 35 treatment-free days, i.e., over a month, per \$100 of GSS resources used by patients and providers.

## 1. Introduction

Substance use disorders (SUD) can be especially detrimental to women because, relative to men, women with SUD develop more health problems, more psychiatric disorders, and exhibit a faster course of addiction and higher risk of death (Hersen, Turner, & Beidel, 2007; Najavits, Rosier, Nolan, & Freeman, 2007; Westermeyer & Boedicker, 2000; Wetherington, 2007). Women with SUD are less likely than men with SUD to enter treatment (Greenfield, Brooks et al., 2007). Women also may delay entry longer after initial drug use, possibly reducing treatment effectiveness (Copeland & Hall, 1992; Hersen et al., 2007). Contributing to this delay may be a greater sense of responsibility for child-rearing (Brady & Ashley, 2005) and greater concern about losing custody of children (Grella, Ponlinsky, Hser, & Perry, 1999). Women with SUD also can be more challenging to treat than men with SUD and may not show as much improvement (French, McCollister, Cacciola, Durell, & Stephens, 2002). These and other factors can reduce the effectiveness of women's SUD treatments, which typically were developed for men (White, 1998).

For women, substance use not only may receive later treatment but also may be initiated and maintained by different psychological

processes. Ashley, Marsden, and Brady (2003), Bepko (1991), and Brady and Ashley (2005) hypothesized that the greater powerlessness of women in male-dominated societies could motivate women to use drugs to gain illusionary control over people and experiences that were denied them in reality, offering temporary escape from memories of emotional, physical, and sexual abuse. These memories may be extremely common for women entering SUD treatment: 96% have experienced emotional abuse, 79% have been abused physically, and 51% have been abused sexually (Grupp, 2006).

### 1.1. Gender-sensitive services

Recognizing the potentially unique needs of female substance users, in 1984 the U.S. government required that at least 5% of funding for new alcohol and drug use services be devoted to treatment of women. Agencies such as the National Institute of Drug Abuse (NIDA) have supported model programs to provide gender-sensitive services (GSS) (cf. Grella et al., 1999). Researchers and clinicians have collaborated to design GSS-focused treatments for SUD (e.g., Ettore, 2004; French et al., 2002; Greenfield, Brooks et al., 2007; Sun, 2006), often building on gender-sensitive services developed for depression, post-traumatic

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stress disorder, attention deficit hyperactivity disorder, general medical care, and rehabilitation within the criminal justice system (Bloom, Owen, & Covington, 2004; Cochran & Rabinowitz, 2003; Covington, 2007; Quinn, 2005; Salgado, Vogt, King, & King, 2002; Vlassoff & Moreno, 2002). These GSS for SUD have included:

- coping skills training,
- support of women's self-care and self-esteem (including separate, private, safe bathrooms),
- addressing reoccurring psychiatric problems in treatment,
- self-efficacy education,
- gynecological and other health services,
- on-site childcare,
- supportive and other empowerment methods,
- women-only groups,
- family planning,
- parent training,
- vocational training, and
- trauma-focused services.

### 1.2. Outcome of GSS for substance abusing women

As with most human services, research on GSS has focused more on outcomes than costs (cf. Yates, 1994). For example, Copeland, Hall, Didcott, and Biggs (1993) compared the outcomes of a “specialist women's service” and “traditional mixed-sex service” for substance use. The “specialist women's service” added childcare and a female-only staff to traditional treatment. These additions did not significantly affect drug use, social support, severity of depression, or self-esteem six months following treatment. Copeland and colleagues did, however, find that women with dependent children, with same-sex partners, or with a history of childhood sexual assault were significantly more likely to stay in programs offering GSS (Copeland & Hall, 1992; see also Claus et al., 2007).

Gender balance of patients in a treatment program also can affect outcomes of substance use treatment. For example, Niv and Hser (2006) compared outcomes for females in women-only versus mixed-gender programs, both of which included GSS such as child and family services. Women receiving GSS in the women-only program used more services while in treatment but, for the 9 months following treatment, reported significantly less drug use and were less likely to be arrested. Also, Greenfield, Trucco, McHugh, Lincoln, and Gallop (2007) found that women receiving GSS in women-only groups reported significantly (a) higher satisfaction with treatment, (b) greater decreases in psychiatric symptoms during and after treatment, and (c) less drug use 6 months after treatment, relative to women receiving GSS in mixed-gender groups.

### 1.3. Costs of gender-sensitive services

Extending previous research on GSS, the current study reports costs, outcomes, and cost-outcome relationships of adding GSS to mixed-gender treatment in intensive inpatient (IIP) settings. In one of the few prior studies of GSS costs, French et al. (2002) found that residential gender-sensitive treatment for pregnant and parenting women was substantially more costly than standard residential treatment, with an average total treatment cost of \$8035 versus \$1467 per patient. More recently, Yeom and Shepard (2007) found higher costs for outpatient services provided to women relative to men in an outpatient program, due in part to greater severity of substance use before treatment. We expected similar findings for GSS offered at the IIPs we studied.

Treating women should cost more for several reasons. For example, inpatient programs may find it difficult to admit and retain a sufficient number of women to offer women-only groups of sizes similar to those offered to men or to both genders. Smaller women-only groups would, then, be expected to result in each female patient consuming a higher

proportion of the group leader's time and of the group meeting space. This would raise the cost per member relative to male-only or mixed-gender groups. Costs of GSS also should be higher in inpatient settings if costs of separate women-only bath- and bedrooms could not be distributed over enough women to keep facilities costs per woman similar to facilities costs per man. We expected that these and other factors would result in relatively more provider and facilities resources being devoted to treatment of women than to treatment of men in mixed-gender inpatient programs.

We also measured the types, amounts, and monetary values of resources devoted to adding GSS to treatment by patients as well as providers in our cost study, in recognition of contributions of patients to treatment and as recommended by the NIDA manual on evaluating and improving cost, cost-effectiveness, and cost-benefit of SUD treatments (Yates, 1999). This is not intended to provide a comprehensive societal perspective on total costs of treatments that include GSS. Instead we thought it potentially useful to capture patient resources required by GSS separately from provider resources required by GSS. Patient resources can include time spent receiving services, time spent traveling to and from treatment sites, transportation to and from those sites, and dependent care required while patient caregivers participate in treatment (cf. Yates, 1980a, 1996). The amount of these patient resources may be higher when GSS is enhanced in treatment and may represent increased barriers to GSS for patients: we sought to measure them to find out. Assigning monetary value to these patient resources allows the value of those resources to be compared to already-monetized provider resources consumed by GSS. This comparison could reveal whether patients or providers devote more resources when GSS are increased, or whether there is possibly an inverse relationship between patient and provider resources consumed when GSS is increased.

### 1.4. Cost-outcome relationship after adding GSS to SUD treatment

Inclusion of costs and outcomes in the same investigation of SUD treatment has been especially rare, with the notable exceptions of Barnett and Swindle (1997), French and colleagues (e.g., French, Dunlap, Zarkin, McGeary, & McLellan, 1997), and Mannix (2010). French et al. (2002) found a benefit/cost ratio of 3:1 for gender-sensitive treatment for pregnant and parenting women by comparing self-reported use of health and other services after versus before treatment. In addition to examining costs, Yeom and Shepard (2007) found that an outpatient substance use treatment expended more resources for its female patients while achieving no greater effectiveness, defined as no self-reported drug use during the 6 months following treatment. Of course, that was only one program and it was outpatient: GSS offered in other programs could lead to better outcomes for female patients—but, it can be asked, at what additional cost, especially if the treatment program has to accommodate residential needs of women as well as men?

### 1.5. Hypotheses

The present study examined GSS in IIPs because of the individually-focused, labor-intensive nature of GSS in residential settings. Attempting to augment findings of Tang, Claus, Orwin, Kissin, and Ariera (2012), we examined GSS costs, outcomes, and outcome/cost ratios in 12 mixed-gender IIPs that differed in GSS offered. We expected that offering more GSS in mixed-gender IIPs would:

1. increase costs for female patients
2. increase costs for providers,
3. improve outcomes for female patients, and
4. improve cost-outcome relationships for female patients,

in that more gender-sensitive treatment should result in lower costs of GSS added per day before returning to an SUD treatment.

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