

Characteristics of lesbian, gay, bisexual, and transgender individuals entering substance abuse treatment

Bryan N. Cochran, (Ph.D.)^{a,*}, Ana Mari Cauce, (Ph.D.)^b

^aDepartment of Psychology, University of Montana, Missoula, MT, USA

^bDepartment of Psychology, University of Washington, Seattle, WA, USA

Received 9 November 2004; received in revised form 18 July 2005; accepted 30 November 2005

Abstract

Previous research has suggested that lesbian, gay, bisexual, and transgender (LGBT) individuals enter treatment for substance abuse with more severe problems than heterosexual individuals. However, methodological difficulties, particularly the difficulty of obtaining a representative sample, have limited the ability to draw conclusions about LGBT individuals who receive services for substance abuse. This study took advantage of a unique opportunity to examine a representative sample of openly LGBT clients receiving publicly funded substance abuse treatment by using data gathered by treatment providers in Washington State. Baseline differences between openly LGBT and heterosexual clients were compared in a variety of domains. Results demonstrated that openly LGBT clients enter treatment with more severe substance abuse problems, greater psychopathology, and greater medical service utilization when compared with heterosexual clients. When the analyses were stratified based on sex, different patterns of substance use and associated psychosocial characteristics emerged for the LGBT clients. Implications for provision of appropriate services and recommendations to treatment agencies are discussed in this article. © 2006 Elsevier Inc. All rights reserved.

Keywords: LGBT; Public treatment; Sexual minority; Substance abuse

1. Introduction

More research is needed to identify factors related to the development and maintenance of SUDs among lesbian, gay, bisexual, and transgender (LGBT) individuals with substance use disorders (SUDs) to address this population's needs. There are several unanswered questions, or controversial issues, about substance abuse and substance abuse treatment among LGBT individuals. These include (1) whether the development of substance abuse problems is different among LGBT individuals from that among heterosexual individuals, (2) whether the prevalence of alcohol and other substance abuse is different among LGBT individuals from that among heterosexual individuals, and

(3) whether standard addiction treatment programs can meet the needs of LGBT consumers. The present study addresses these primary questions and controversies in the field through an investigation of the relationship between sexual orientation and substance abuse among a large sample of clients receiving publicly supported treatment.

1.1. A causal relationship between sexual orientation and substance abuse?

A primary area of controversy is the nature of the relationship between sexual orientation and substance abuse. Social pressures and discrimination at many levels may limit the opportunities that LGBT individuals have to socialize. As a result, socializing can be limited to bars or to other places where substance abuse is the norm (Cabaj, 1996; Colcher, 1982). Others propose that alcohol and other substance use are initiated as coping strategies to deal with the discrimination and sex-role expectations directly

* Corresponding author. Department of Psychology, Skaggs Bldg. No.143, University of Montana, Missoula, MT 59812. Tel.: +1 406 243 2391; fax: +1 406 243 6366.

E-mail address: bryan.cochran@umontana.edu (B.N. Cochran).

(Diamond & Wilsnack, 1978; Meyer, 1995). The most prevalent explanation of the link between substance abuse and LGBT status is internalized homophobia. In this view, LGBT individuals adopt the dominant culture's discriminatory attitudes toward them, directing those attitudes toward the self. Diminished self-esteem, shame about one's own sexual orientation, and psychological disorder may result from internalized homophobia. From this perspective, one would hypothesize that levels of internalized homophobia would correlate positively with substance abuse in LGBT individuals (the studies of Jaffe, 1999, and Jurek, 1999, provide some support for this hypothesis). As a theoretical construct, however, internalized homophobia has received much criticism in recent years. Namely, many researchers believe that by creating a construct that is within the person rather than based in society's discrimination, LGBT individuals are further pathologized (e.g., Williamson, 2000).

In summary, there are two perceived mechanisms by which increased stress caused by stigmatization may result in greater likelihood of psychiatric disorder and substance abuse: (1) stress may directly influence an individual's daily living experiences and (2) stress in the form of discrimination may be internalized, leading to increased shame and substance use.

1.2. Substance abuse epidemiology and sexual orientation

Epidemiological studies on the prevalence of substance abuse in the LGBT community have been fraught with sampling problems. The earliest and most widely cited studies on this nature were conducted by Lohrenz, Connelly, Coyne, and Spare (1978) and Saghir and Robins (1973). Both of these studies published rates of alcoholism at approximately 30%, a figure that appears frequently in the literature. However, like most early studies, their sampling was conducted at places where LGBT individuals congregated socially (namely, gay bars). Obviously, this sampling methodology is likely to overestimate the prevalence of substance abuse problems in the LGBT community.

A more recent study (McKirnan & Peterson, 1989) addressed this methodological problem by recruiting participants through an LGBT-oriented weekly newspaper circulated in Chicago. They found lower rates of abstainers from alcohol among gay men and lesbians than among the general population (14% vs. 29%, respectively), as well as a higher proportion of moderate drinkers (71% vs. 57%, respectively). No difference was found in rates of heavy drinking between gay men and lesbians and the heterosexual population, but higher rates of alcohol-related problems were reported among the gay men and lesbian sample (23% vs. 12% of the heterosexual population). Interestingly, the gay men and lesbians in their sample did not show a decline in rates of alcohol consumption with increasing age, as is typically evidenced in the heterosexual population.

Hughes and Eliason (2002) presented a recent review of the literature relating sexual orientation to misuse of

substances. They highlighted the importance of increased stress in the lives of LGBT individuals that may be a causal mechanism for increased substance use. Specifically, they detailed the increased likelihood that LGBT individuals may have experienced victimization in childhood, may be at increased risk for domestic violence, and may be more likely to have partners who drink or abuse substances. The relationship between stress and increased risk for psychiatric disorders was also presented by Cochran (2001), who reviewed four epidemiological studies that indicated increased risk of disorder among lesbians and gay men and noted that LGBT individuals perceive greater day-to-day discrimination than heterosexual individuals. In this view, some vulnerable LGBT individuals may turn to substance abuse as a dysfunctional means of coping with additional stressors not faced by the heterosexual population.

Only one study examined substance use among LGBT individuals from a longitudinal perspective; data from the Christchurch Health and Development Study, a 21-year study on a birth cohort of 1,265 children from New Zealand, were analyzed with sexual orientation as an independent variable (Fergusson, Horwood, & Beautrais, 1999). Of the 1,007 participants reinterviewed at age 21 years, 28 either endorsed a gay, lesbian, or bisexual orientation or had had sexual relationships with a same-sex partner after the age of 16 years. Participants were assessed with a structured interview that resulted in a *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (American Psychiatric Association, 1994) diagnostic status for major psychiatric conditions, and odds ratios (ORs) were computed to determine elevated risk of disorder as a function of LGBT status. Results indicated an OR of 1.9 (95% confidence interval = 0.9–4.2) for the relationship between LGBT sexual identity and substance abuse or dependence.

Because few epidemiological studies have assessed participant sexual orientation, it is difficult to draw conclusions about the prevalence of substance abuse or dependence among LGBT individuals in the general population. A notable exception is the recent study of Cochran, Ackerman, Mays, & Ross (2004), which used data from the 1996 National Household Survey on Drug Abuse. In this study, although participants were not asked about their sexual orientation, they were asked about the gender of their sexual partners during the previous 12 months. The 194 individuals who reported same-sex or both-sex sexual partners were more likely to endorse symptoms of substance dependence. Lifetime use of any illicit substance was significantly greater for men with male partners (72.8%) than for men without same-sex sexual behaviors in the previous year (54.6%). For women, the corresponding rates for lifetime use of an illicit substance were 77.9% for women with female partners and 42.3% for women with male partners only. For illicit drug use in the previous month, men with same-sex sexual behaviors were more likely to endorse use of cocaine (3.9%) in comparison with men with female partners only (1.2%); however, no other

drug category was significantly different for previous month use based on sexual behavior histories for men. The authors noted that symptoms related to problem methamphetamine use were not assessed in the study, which may have resulted in an underestimation of problems among men who have sex with men.

For women, past month substance use was significantly greater among those with same-sex sexual behavior for marijuana (14.0% vs. 3.4%), analgesics (3.3% vs. 0.5%), and any illicit drug (15.1% vs. 4.5%). In terms of problems associated with drug use, men with same-sex sexual histories were more likely to report symptoms of problematic drug use (OR = 2.4) than men with female partners only; this effect was most associated with marijuana use. For women, the risk of substance use problems was greater for those with same-sex sexual behavior for marijuana use (OR = 4.9), cocaine use (OR = 3.7), and hallucinogen use (OR = 4.4). This pattern of results is the first to indicate, in a national sample, that there is a risk of greater substance abuse problems among individuals with same-sex sexual partners.

Responding to community health needs, most of the recent studies involving LGBT individuals and substance abuse have focused on two populations of gay men: (1) those who are HIV positive and (2) those who are methamphetamine dependent. Chesney, Barrett, and Stall (1998) conducted, as part of the San Francisco Men's Health Study, an analysis of men who seroconverted to an HIV-positive status during the first 7 years of the study. They examined a number of possible factors that may have resulted in increased risk for the participants who became HIV positive in each assessment wave; after controlling for sexual risk, participants' history of amphetamine, cocaine, or inhalant use was the only significant predictor of seroconversion. The authors suggested three possible mechanisms for this relationship: the physiological effects of stimulants and inhalants during sexual activity, a disposition toward risk taking in multiple areas, and social networks in which both substance use and sexual behavior co-occur.

Several recent studies have honed in on the increasing rates of methamphetamine use among gay men (e.g., Halkitis, Parsons, & Stirratt, 2001). A recent retrospective chart review of outpatients in a stimulant treatment program found that methamphetamine users, as compared with cocaine users, were more likely to identify as gay or bisexual, in addition to being at increased risk for HIV and having more psychiatric comorbidity (Copeland & Sorensen, 2001). Guss (2000, p. 108) theorized about the reasons that gay men often pair the use of stimulants with sexual activity: "if a sexual experience is combined with intranasal or smoked cocaine or crystal methamphetamine, powerful and reciprocally enhancing experiences occur. Fears of rejection or overwhelming reactions to rejection are diminished." In this view, the fears of rejection that are likely heightened by shame and internalized homophobia may lead gay men to seek drug experiences that temporarily paralyze these negative messages. Other findings about the use of meth-

amphetamine among gay men point to either a general risk-seeking temperament or lowered inhibitions through stimulant use. A study on 162 gay and bisexual men in treatment for methamphetamine dependence indicated that prevalence of sexually transmitted diseases in the sample correlated significantly with psychiatric diagnoses (Shoptaw, Peck, Reback, & Rotheram-Fuller, 2003). Men with specific phobias and major depression were more likely to contract oral gonorrhea, men with generalized anxiety disorder were more likely to contract genital gonorrhea, men with social phobia were more likely to contract syphilis, and men with bipolar disorder were more likely to be HIV positive. It is possible that anxiety-disordered gay men, in particular, who may ordinarily avoid social situations owing to their anxiety, would be prone to use stimulants that lower their inhibitions for both meeting other men and for engaging in risky sexual activities. Supporting this theory is a qualitative analysis of reasons that gay men who are HIV positive use methamphetamine (Semple, Patterson, & Grant, 2002). In this study, motivations for methamphetamine use clustered around sexual enhancement and self-medication of negative affect associated with being HIV positive. At this point, the research quite clearly suggests that gay and bisexual men are at increased risk of using substances, particularly stimulants, to ameliorate negative views of themselves and as a form of sexual disinhibition.

There are some speculations that alcohol abuse may be declining in the LGBT community, particularly among gay men, with increased recognition that alcohol impairment is related to unsafe sexual decisions (see Paul, Stall, & Bloomfield, 1991, for a review). Empirical evidence for this proposition was found when comparing data from the San Francisco Men's Health Study in 1984 with those from the San Francisco Young Men's Health Survey in 1992 (Crosby, Stall, Paul, & Barrett, 1998). The latter survey indicated declines in heavy alcohol use and larger declines in overall drug use. Specifically, use of drugs in the past 12 months was significantly lower in 1992 for marijuana (64.2% vs. 85.3%), poppers (62.2% vs. 23.9%), cocaine (71.1% vs. 24.3%), downers (35.0% vs. 11.2%), heroin (7.7% vs. 1.1%), amphetamines (44.1% vs. 25.4%), and ethyl chloride (7.0% vs. 2.6%). The exception to this trend was an increase in the use of ecstasy (MDA) from 14.7% to 31.3%. It is significant to note, however, that dramatic changes in the gay community have occurred since these data were collected, specifically the discovery of antiretroviral "cocktails" that prolong life for patients with HIV. Consequently, the meaning of *HIV infection* has changed in the LGBT community in the past decade, and it is unclear whether the reported decrease in alcohol and substance use has continued.

Regardless of the actual prevalence rate of alcohol and other drug problems in the LGBT community and of the causal factors involved, it does appear that a greater proportion of LGBT individuals experience problems related to substance use and that these problems continue

into later ages as compared with their heterosexual counterparts. Further research may both clarify the extent of the problem and include populations that are less frequently the targets of study—specifically, bisexual individuals and lesbians.

1.3. Substance abuse treatment for LGBT individuals

Despite the high rates of alcohol and other substance abuse in the LGBT community, treatment providers are not responding to these needs. Chemical dependence treatment providers receive limited or no training in working with LGBT individuals and rarely discuss sexual orientation with their clients, although they believe that these issues are important (Hellman, Stanton, Lee, Tytun, & Vachon, 1989). Traditional treatment may also not be as effective for LGBT individuals with SUDs. In one study, gay men and lesbians showed less affiliation toward Alcoholics Anonymous (AA) after undergoing residential alcohol treatment than heterosexual individuals. For those LGBT individuals who were affiliated with AA, abstinence rates were lower than expected (Holleran & Novak, 1989). The authors theorized that LGBT individuals may view AA as a hostile or nonsupportive environment, particularly given its religious origins. As such, LGBT individuals may be currently underserved by substance abuse treatment programs. The impact of biases against LGBT individuals that may exist in their substance abuse treatment providers has not been studied. A survey found that 59% of LGBT respondents expressed a preference for LGBT counselors (McDermott, Tyndall, & Lichtenberg, 1989). This may indicate that LGBT individuals fear that heterosexual counselors would misunderstand or, worse, actively discriminate against them based on their sexual identities.

The data on treatment programs that specifically target LGBT individuals are limited. At present, only two peer-reviewed published studies investigated changes in substance abuse among LGBT individuals in treatment programs that target LGBT individuals (Driscoll, 1982; Paul, Barrett, Crosby, & Stall, 1996). Driscoll (1982) investigated alcohol use among gay male individuals seeking treatment at a gay-identified agency in Boston. She found an abstinence rate over a 3-month period of 71% for individuals who had ended treatment at least 4 months previously. She concluded that the treatment agency was achieving high levels of success with its target population; however, there was no comparison group in the study.

Paul et al. (1996) conducted a longitudinal study on 321 male alcohol and other substance users at a gay treatment agency in San Francisco. Baseline use of alcohol was 95% in the 90 days before treatment, with subjects reporting use, on average, for more than half of the 90 days. Polydrug use was also common. Sixty-seven percent of subjects self-identified as being drug-abusing or drug-addicted individuals (most commonly marijuana, amphetamines, and inhalants). At a 3-month follow-up assessment,

alcohol and other drug use declined by approximately half. Only 59% of the sample reported use of any substance at this point. The remaining assessment points did not indicate much further change beyond that which occurred in the first 3 months of treatment. As with the Driscoll (1982) study, the researchers were unable to compare these effects with individuals in programs that were not gay identified, although they emphasized substantial change in their high-risk sample.

Significant client improvement in the Driscoll (1982) and Paul et al. (1996) studies may indicate that programs specifically designed to provide a treatment environment that is free of homophobic bias are of most benefit to LGBT clients. If this is correct, for the general treatment clinics that exist, then research on the baseline levels of homophobia and heterosexist bias among providers will guide the development of more effective interventions in the future.

The present study examines several aspects of the experience of LGBT individuals in substance abuse treatment. It extends previous research in several ways: women are included in this project, whereas most previous studies have been with men only, and a group of heterosexual individuals receiving services through other publicly funded programs is provided for comparison. It also identifies, in a treatment-seeking sample, specific characteristics of LGBT individuals that may be addressed in treatment for SUDs. Finally, analyses are conducted separately by sex to determine if LGBT individuals differ on key variables from their heterosexual peers.

Based on the prevailing data that indicate greater comorbidity and psychosocial problems among LGBT substance users, it was hypothesized that LGBT clients will present to chemical dependence treatment with greater severity of substance use and psychiatric problems than heterosexual clients. Specifically, the hypotheses of this study were that (1) LGBT clients will report more frequent abuse of substances at baseline than heterosexual clients and earlier age of onset of abuse and (2) LGBT clients will receive more psychiatric treatments than heterosexual clients. It was also hypothesized that increased difficulties among LGBT individuals will be evident in psychosocial characteristics, such as homelessness, experiences of domestic violence, and medical service utilization.

2. Materials and methods

2.1. Participants

To determine baseline differences between LGBT and heterosexual clients in treatment, we used a large database containing characteristics of state-funded clients. Individuals receiving publicly funded chemical dependence treatment were the targets of analysis. Inclusion criteria for clients in the study were that they must participate in an outpatient substance abuse treatment program, be at least

18 years old, and be recipients of either state-funded or federally funded substance abuse treatment (data are collected by the state only for publicly funded chemically dependent clients). Beginning July 1, 2001, the data collected by Washington State included information about the sexual orientation of clients in treatment owing to a change in policy that requested inclusion of these data. Notably, Washington is the first state to request information about the sexual orientation of its clients seeking chemical dependence treatment services. Sexual orientation data were required for all clients beginning October 1, 2001, although clients retained the option of indicating that they preferred not to answer this question.

Based on the timeline for inclusion of the sexual orientation question in the state-maintained database, data were collected for participants who began treatment on or after July 1, 2001. The data were collected for 18 months (through December 31, 2002). Participants who had enrolled in treatment during the study timeline but had not yet completed treatment were included in the analyses of baseline data.

A total of 24,792 clients comprised the sample for the study. The mean age of the participants at admission was 35.09 years ($SD = 10.40$ years). Most of the participants were male ($n = 15,571$, 62.81%); 9,221 clients (37.19%) were female. [Despite being asked if they identified as transgender in the section on sexual orientation, the options for client gender were dichotomous.] Most of the clients in the study lived in their own residences (80.56%), followed by drug-free shared housing or transitional housing (4.21%), homeless shelters or missions (3.66%), and jail or prison (3.15%). For the purposes of analysis, clients living in homeless shelters, those who did on the streets, and those who indicated that they had no stable housing arrangement ($n = 1,607$, 6.48%) were combined to comprise the homeless subsample.

In terms of ethnicity, 70.94% of the sample identified as Caucasian, 10.50% as Latin American, 7.95% as American Indian or Alaskan Native, 7.51% as African American, and 1.83% as Asian American. The remaining participants either selected being of “other” ethnicity or refused to answer or data were not collected.

Sexual orientation data were complete for 17,592 participants (70.96% of total sample); a complete breakdown of the data is shown in Table 1. As noted, data regarding sexual orientation were not required during the first 3 months of the enrollment period; thus, not all clients’ sexual orientations were available for analysis. For the purposes of this study, all clients identifying as gay, lesbian, bisexual, transgender, or questioning ($n = 610$, 2.46%) were classified as LGBT individuals. The remaining 15,705 individuals who identified as heterosexual (63.35%) served as a comparison group, excluding participants who chose not to disclose their sexual orientation ($n = 1,071$, 4.32%) or for whom the data were not collected ($n = 206$, 0.83%). Because the variable of sexual orientation was obtained by self-report and because of the stigma surrounding LGBT

Table 1

Participants’ self-reported sexual orientation and gender identity (subsample $n = 17,386$)

Heterosexual	15,705 (90.33)
Female	5,634 (32.41)
Male	10,071 (57.93)
Gay or lesbian	302 (1.74)
Female	130 (0.75)
Male	172 (0.99)
Bisexual	269 (1.55)
Female	192 (1.10)
Male	77 (0.44)
Questioning	32 (0.18)
Female	16 (0.09)
Male	16 (0.09)
Transgender	7 (0.04)
Female	3 (0.02)
Male	4 (0.02)
Choosing not to disclose	1,071 (6.16)
Female	459 (2.64)
Male	612 (3.52)

Values are expressed as n (%).

identity, the validity of the sexual orientation variable (particularly for those identifying as heterosexual) may be questionable. Resultant implications for the present study are discussed further in the Discussion section.

The study data represented 212 treatment agencies in Washington State; the mean number of clients per agency was 116.94 (range = 1–816 clients per agency). In the state of Washington at the time of this study, only one chemical dependence treatment agency specifically identified its main mission as serving the LGBT community; this agency had 177 clients (0.71% of the total sample or 29.02% of the LGBT subsample) to enter treatment during the study enrollment period.

2.2. Measures

In Washington State, clients receiving publicly funded treatment for chemical dependence are tracked through the Treatment and Assessment Report Generation Tool (TARGET) database. This database, which is managed by the Division of Alcohol and Substance Abuse (DASA) of the Department of Social and Health Services, provides the most comprehensive data collected for individuals completing substance abuse treatment in the state.

The data collected for the TARGET database are obtained via therapist (or intake assessor) interviews with their clients. As all of the same data are collected for each client, the forms for data collection have the format of a semistructured interview. Assessments are administered at three intervals: initial assessment, admission to treatment, and discharge (for clients who drop out, some discharge data are provided by the therapists if they have information about the clients’ current status after discharge). Clients are asked about their living arrangements, educational background, employment, physical health, mental status, and legal involvement. All areas are assessed in terms of current

functioning. In addition, clients are asked about their substance use for their top three substances of choice. They are asked to give their age of first use, frequency of use in the past 30 days, and the date of last use (along with the amount taken on that date) for each substance.

For the purposes of this study, the following data were obtained from the TARGET database: (1) client-reported sexual orientation, (2) demographic data, (3) frequency of use for the three drugs of choice, (4) psychiatric services received, and (5) medical service utilization. Client participants and treatment counselors were not directly interviewed. Disclosure of treatment records through the DASA was permitted for the purposes of this study. The data were obtained for the period beginning with the addition of the client sexual orientation question to the assessment (July 1, 2001) until December 31, 2002.

2.3. Data collection

All relevant data files were released to study personnel after the enrollment period of the study. As the TARGET database is updated daily, it is expected that the study sample represents all individuals receiving treatment for whom data were collected. Data were checked for logistic errors (e.g., implausible admission dates that had not yet occurred); in the few cases in which errors were found, the errors were discussed with TARGET database management personnel and adjustments were made to the data set.

2.4. Analytic strategy

To investigate the key hypotheses of this study, we ran multiple analyses on the same sample of participants. Because these analyses were across different domains of functioning (e.g., substance use, psychological functioning, treatment completion), adjustments to the α level were not made to correct for multiple tests. However, results for these analyses are presented with the full range of observed p values so that the degree to which each test is significant is apparent to the reader.

All analyses were conducted using two-tailed tests of significance. Despite having some directional hypotheses, the use of two-tailed tests allowed for the possibility that differences occurring in the unexpected direction would still be detected by the analyses. Missing data were handled by excluding cases if the missing variables were part of the specific analysis being conducted.

3. Results

3.1. Baseline differences between LGBT and heterosexual clients

One of the key hypotheses of this study was that participants who identified as LGBT individuals would

have greater rates of substance use and more psychopathology at baseline as compared with those who identified as heterosexuals. This hypothesis was partially supported in multiple domains.

3.2. Substance use

Table 2 shows the primary substance of abuse for heterosexual and openly LGBT clients. For both groups, the primary drug of abuse for which participants sought treatment was alcohol. Numerous drug categories were infrequently endorsed as the primary drug of abuse and were classified into an “other” category. These include amphetamines, hallucinogens, inhalants, over-the-counter drugs, major tranquilizers, PCP, benzodiazepines, prescribed opiate substitutes, other opiates or synthetics, and other sedatives or hypnotics. χ^2 Tests of differences in proportions were conducted to determine the significance of differences between openly LGBT and heterosexual clients. Group differences appear in several drug categories: heterosexual individuals are more likely to endorse alcohol as a primary drug of abuse than LGBT individuals. In contrast, LGBT individuals are more likely to abuse methamphetamine or cocaine or crack than heterosexual individuals.

The proportions of individuals in each group who smoke cigarettes were also compared; openly LGBT individuals were proportionately more likely than heterosexual individuals to be smokers (78.64% vs. 72.95%, respectively, $\chi^2 = 9.29, p < .01$).

Frequency of substance use was also a focus of analyses. Because inconsistent periods had been used during different stages of data collection (e.g., the frequency of use variable was coded as “1 to 3 times in the past 30 days” in some instances and “1 to 2 times per week” in others), the frequency data options were averaged so that the midpoint represented the number of days a substance was used in the past 30 days (e.g., “3 to 6 times per week” was recorded as 4.5 times per week, which is approximately 19.3 of the past 30 days). Analyses were performed on the transformed variable to determine if group differences existed in the number of days clients had used their primary substance out of the previous 30 days. Results indicated that openly LGBT clients used their primary substance of abuse more frequently

Table 2
Primary substance of abuse by sexual orientation and gender

Primary substance of abuse	Heterosexual clients [n (%)]	LGBT clients [n (%)]	$\chi^2(1)$ difference between groups
Alcohol	7,915 (50.40)	223 (36.56)	44.44 ($p < .001$)
Marijuana	2,114 (13.46)	81 (13.28)	0.005
Methamphetamine	2,137 (13.61)	131 (21.48)	29.72 ($p < .001$)
Heroin	1,775 (11.30)	83 (13.61)	2.87
Cocaine or crack	1,153 (7.34)	60 (9.84)	4.95 ($p < .05$)
Other	611 (3.89)	32 (5.25)	2.50

at baseline than heterosexual clients, $M = 9.64$ and 7.58 days, respectively, $t(16, 151) = 4.29$, $p < .0001$. The groups did not differ, however, on age at which the primary substance was first used, LGBT $M = 17.56$, heterosexual $M = 17.45$, $t(10, 812) = .34$, $p = ns$.

3.3. Psychopathology

As the data in TARGET do not contain specific diagnostic information, variables used as a proxy for psychological well-being were whether clients had previous treatment for mental health problems, current treatment for these problems, a history of mental health hospitalizations, and a current prescription for psychotropic medications.

Results indicated significant differences in all of these domains, with openly LGBT clients using more mental health services than heterosexual clients. *Previous mental health treatment* was defined as having had either inpatient or outpatient treatment for mental health issues (other than substance abuse) in the past year; participants were coded as having treatment if they had at least four sessions with a mental health professional or had been administered psychiatric medications for a minimum of 30 consecutive days or if they had been hospitalized for psychiatric reasons. This treatment had been obtained by 39.20% of openly LGBT clients and by 20.06% of heterosexual clients ($n = 234$ and $3,083$, respectively, $\chi^2 = 126.63$, $p < .0001$). Current mental health treatment or perceived need for such treatment also differed across groups. Because participants were receiving publicly funded treatment for SUDs and were likely to have limited financial resources, we considered participants' self-report that they were "in need of treatment" for mental health problems as valid as if they were actually receiving such treatment. On average, 48.12% of openly LGBT clients were currently receiving mental health treatment or stated that they were "in need of treatment," compared with 21.75% of heterosexual clients ($n = 281$ and $3,191$, respectively, $\chi^2 = 220.49$, $p < .0001$). When clients were selected on the basis of whether they had been hospitalized for mental health reasons in the past year, differences between groups were also statistically significant. There were 56 openly LGBT clients (9.38%) who had been hospitalized, compared with 809 heterosexual clients (5.26%, $\chi^2 = 18.20$, $p < .0001$). With regard to psychotropic medications, 235 (40.66%) openly LGBT clients were currently taking medications, more than twice the proportion of heterosexual clients ($n = 2,936$, 20.29%). Although all of these analyses were conducted in similar areas of functioning and some of the data may be redundant (i.e., clients receiving current mental health treatment were also more likely to have had a treatment episode in the past year), the observed p values would remain significant at the .001 level after adjusting for possible α inflation.

3.4. Psychosocial characteristics

It was hypothesized that in addition to differences in substance abuse and mental health problems, other psychosocial difficulties would indicate greater distress among openly LGBT clients. Specifically, the areas of functioning assessed were homelessness, current legal issues, domestic violence history, and physical health problems.

In the study sample, 11.31% of openly LGBT clients were currently homeless, compared with 7.01% of heterosexual clients ($n = 69$ and $1,101$, respectively, $\chi^2 = 15.68$, $p < .0001$).

Current legal issues were defined as the presence or absence of involvement with the criminal justice system; 68.73% of the entire sample had some current legal involvement. The most frequently cited legal issues were being on probation or parole (36.01%), awaiting trial (8.86%), being in a supervised program (4.17%), being in drug court (3.32%), awaiting charges (2.68%), and being incarcerated postconviction (2.41%). In terms of group differences, 53.49% of LGBT clients had some legal involvement, as compared with 69.32% of heterosexual clients. This difference was statistically significant in the opposite direction hypothesized: openly LGBT clients were less likely to interface with the criminal justice system ($\chi^2 = 66.90$, $p < .0001$).

Domestic violence was defined as having been the victim of physical harm, bodily injury, assault, or the infliction of fear regarding these behaviors between family or household members or as being sexually assaulted by a family or household member. *Current domestic violence* was defined as having been victimized within the past 30 days; *past domestic violence* included all lifetime experiences. Participants had the option of indicating that they were "unsure" if they had been victimized. Relatively few clients in the study indicated that they were uncertain about current (0.76% of 14,181 participants answering this question) or past (1.21% of 15,076 participants answering) domestic violence, and these participants were excluded from analysis. Of the openly LGBT subsample, 4.41% ($n = 25$) were current victims of domestic violence, compared with 2.86% ($n = 390$) of the heterosexual population; this difference was statistically significant ($\chi^2 = 4.03$, $p = .04$). Past domestic violence was more common in both groups; 54.71% of openly LGBT participants ($n = 325$) had experienced domestic violence at some point in the past, compared with 36.19% of the heterosexual population ($n = 5,241$, difference $\chi^2 = 83.02$, $p < .0001$).

Data were collected regarding current utilization of services for physical health reasons. Specifically, participants were asked about their total number of medical outpatient or clinical visits, medical inpatient admissions, total number of medical inpatient days, and emergency department visits in the past year. Table 3 shows the group differences on these variables as a function of sexual orientation.

Table 3
Utilization of medical services by heterosexual and LGBT clients

TARGET variable	Heterosexual clients [M (SD)]	LGBT clients [M (SD)]	t (df, equal variances not assumed)	p	Effect size (Cohen's d)
Outpatient visits	3.31 (9.50)	5.71 (15.91)	3.53 (570.08)	<.0001	.765
Inpatient admissions	0.36 (1.44)	0.49 (1.60)	1.89 (575.00)	.059	.224
Inpatient days	1.76 (9.47)	2.41 (9.53)	1.54 (579.47)	.125	.330
Emergency department visits	1.25 (3.95)	2.07 (4.59)	4.17 (594.24)	<.0001	.882

As indicated in Table 3, significant group differences emerged for outpatient visits, inpatient admissions, and emergency department visits in the past year; in all of these variables, LGBT individuals more frequently sought services than heterosexual individuals.

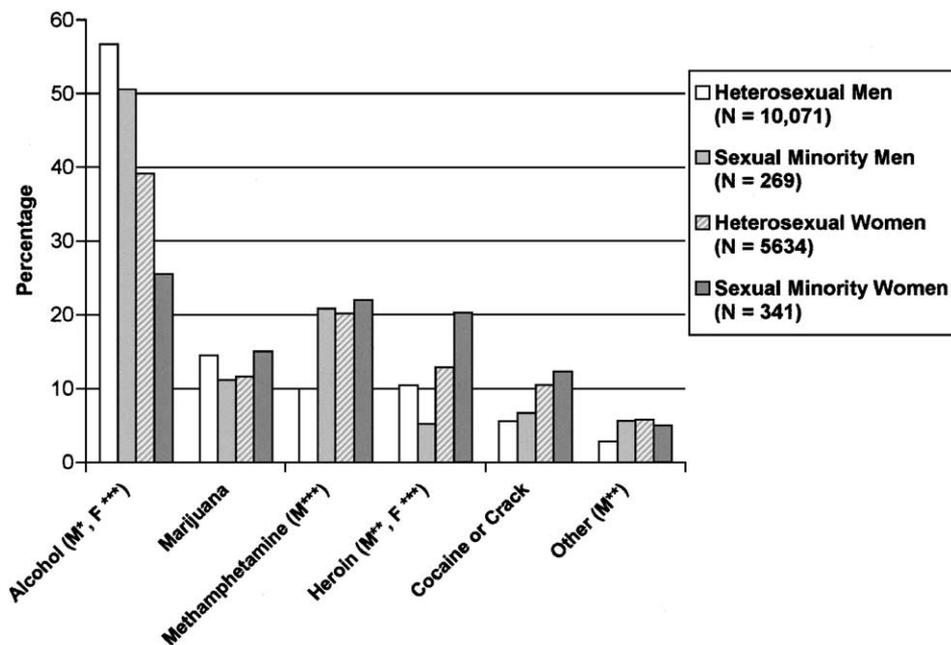
3.5. Sex differences in key dependent variables

It is possible that combining all 610 LGBT participants in the same group may have obscured meaningful differences that exist within the LGBT subsample. Accordingly, we split the entire sample based on sex and subsequently conducted analyses of LGBT versus heterosexual individuals on the key variables of interest in this study. Because the literature in this area has not typically reported separate results for gay, bisexual, and transgender men and lesbian, bisexual, and transgender women, we considered these analyses to be exploratory and therefore did not have specific a priori hypotheses regarding the pattern of results.

In terms of the primary problem substance, comparisons between heterosexual men and gay, bisexual, and transgender men were conducted using χ^2 tests for each category

of substance (see Fig. 1 for results by gender). Significant differences between heterosexual men and gay, bisexual, and transgender men emerged for several substance categories: (1) heterosexual men were more likely to endorse problems with alcohol or heroin than gay, bisexual, and transgender men and (2) gay, bisexual, and transgender men were more likely to endorse methamphetamine or “other” drug use. (Because of the small sample size in this category, it was not possible to separate out specific drugs in this category for analysis.) Comparisons of heterosexual women and lesbian, bisexual, and transgender women yielded a different pattern of results: whereas heterosexual women were more likely to endorse alcohol as a primary substance, lesbian, bisexual, and transgender women were more likely to endorse use of heroin.

Frequency of use of the primary substance of abuse was used in these analyses as a measure of the severity of substance use problems. Gay, bisexual, and transgender men were more likely to endorse higher frequency of use when they entered treatment than heterosexual men, gay, bisexual, and transgender $M = 3.19$, heterosexual $M = 2.76$, $t(10, 239) = 3.03$, $p < .01$. Lesbian, bisexual, and transgender



For differences within gender based on sexual orientation, * $P < .05$, ** $P < .01$, *** $P < .001$

Fig. 1. Primary substance of abuse by gender and self-reported sexual orientation.

women also endorsed a higher frequency of use of the primary problem substance, lesbian, bisexual, and transgender $M = 3.27$, heterosexual $M = 2.86$, $t(5910) = 3.01$, $p < .01$. Analyses of the mean frequency of use of secondary and tertiary problem substances indicated no significant difference for either men or women when comparing LGBT with heterosexual participants.

We also reanalyzed the data regarding psychopathology (previous and current mental health treatment, previous mental health hospitalization, and current prescription for psychotropic medications) separately for each sex, again comparing heterosexual and LGBT participants. All of these variables were significantly different before stratifying analyses by sex, and all of them remained significant when analyzed separately by sex with one exception: the finding of elevated rates of psychiatric hospitalization remained significant only for men (10.23% gay, bisexual, and transgender men were hospitalized as compared with 4.40% of heterosexual men, $\chi^2 = 20.10$, $p < .001$). For women, rates did not differ based on sexual orientation status (8.71% of lesbian, bisexual, and transgender women and 6.82% of heterosexual women were hospitalized, $\chi^2 = 1.74$, $p = ns$).

For the next set of analyses stratified by sex, we analyzed whether group differences existed between heterosexual and LGBT individuals in homelessness, legal issues, and domestic violence experiences. Because all of these variables had significant between-group differences for the entire sample, only significant differences that remained after conducting analyses separately by sex are reported. Gay, bisexual, and transgender men were almost twice as likely as heterosexual men to be homeless (14.49% vs. 7.34%, respectively, $\chi^2 = 19.31$, $p < .001$). When we reanalyzed the data regarding legal issues, significant differences remained for men (46.21% of gay, bisexual, and transgender men vs. 73.49% of heterosexual men reported current legal problems, $\chi^2 = 96.57$, $p < .001$) but not for women based on LGBT status. Analyses regarding domestic violence yielded no significant difference between groups for current domestic violence but did yield significant differences between gay, bisexual, and transgender men and heterosexual men only for past domestic violence (38.31% of gay, bisexual, and transgender men endorsed previous domestic violence as compared with 18.76% of heterosexual men, $\chi^2 = 62.07$, $p < .001$).

Finally, analyses of medical service utilization were stratified by sex, and heterosexual and LGBT participants were compared using a series of t tests. As Table 3 indicates, significant differences existed for outpatient medical visits and emergency department visits before stratifying the analyses. For women, there was no significant difference on these four variables between heterosexual and LGBT individuals. However, for men, all four of these variables were significantly different, with gay, bisexual, and transgender men endorsing greater utilization than heterosexual men of outpatient visits,

inpatient admissions, inpatient medical days, and emergency department visits (all $p < .01$).

4. Discussion

The hypotheses of baseline group differences between heterosexual and LGBT clients were partially supported: openly LGBT clients entered treatment with greater frequency of substance use, a history of more mental health treatments, higher rates of homelessness, a greater likelihood of being victims of domestic violence, and more treatments for physical problems than heterosexual clients. However, openly LGBT clients were less likely to have current involvement with the criminal justice system. Generally, these results point to a specific subset of the population who may be targeted for intensive substance abuse services. Indeed, the Substance Abuse and Mental Health Services Administration [SAMHSA] (2001) published a guide to the treatment of LGBT substance users based on the belief that intensified services are needed for this population. The current study validates this need.

When analyses were conducted separately by sex, an interesting pattern emerged: the primary problem substances differed from men to women as a function of sexual orientation status. Although alcohol was still the primary problem endorsed by most participants, LGBT individuals (overall) were less likely to endorse alcohol as a primary substance than were heterosexual individuals. Correspondingly, other substances of abuse were more frequently endorsed among gay, bisexual, and transgender men (methamphetamine and “other” substances) and among lesbian, bisexual, and transgender women (heroin). Notably, use of these highly addictive drugs may place LGBT individuals at greater risk for severe substance use problems; one indicator of this, greater frequency of use at baseline, was found in the present study.

Sex-stratified analyses also further elucidated the nature of differences between LGBT and heterosexual individuals for measures of psychopathology, psychosocial characteristics, and medical service utilization. Although differences remained significant when comparing lesbian, bisexual, and transgender women and heterosexual women on many of these variables, in several cases (previous mental health hospitalization, current homelessness, current legal issues, past domestic violence, medical service utilization), significant differences as a function of LGBT status were found for men only. With the exception of legal issues (gay, bisexual, and transgender men were less likely than heterosexual men to endorse legal problems), these differences all indicated greater severity of problems for gay, bisexual, and transgender men. It is possible that these problems are related to more frequent endorsement of methamphetamine use for this group; however, because these findings are correlational, the reasons for elevated problems among gay, bisexual, and transgender men are unclear.

Although these findings cannot resolve the question of why LGBT individuals might abuse substances, the results point to a pattern of more severe problems among openly LGBT clients than among heterosexual clients. Coping with a stigmatized sexual identity, dealing with the stressors of being in a minority group, and internalizing negative feelings toward the self are possible explanations that exist in the literature. Future studies examining the specific factors involved in LGBT substance use are needed. For example, detailed interviews with this population could provide more information about pathways of initiation into substance use, triggers for episodes of use, and difficulties associated with decreasing or stopping use. Clearly, openly LGBT clients represent a distinct subset of the treatment-seeking population whose difficulties transcend those of most heterosexual clients; however, at this point, the exact reasons underlying this increased risk are unclear.

There are several implications of this study's findings for providers working with clients who have SUDs. Many of these suggestions are drawn from the provider's guide published by the SAMHSA (2001) and are extended in light of this study's results. First, it is important to ask about clients' sexual identities, attractions, and behaviors. The prevailing assumption of heterosexuality in society may lead providers to overlook aspects of sexuality that may be related to a client's substance use. Second, providers must work to be aware of their own heterosexist assumptions and homophobia to avoid perpetuating an atmosphere of discrimination that may have contributed to a client's alcohol or drug use. Continuing education programs that focus on treating LGBT clients and consultation with providers who are experienced in working with LGBT clients are ways that counselors may further their knowledge in this area. Third, providers must respect their clients' sexual identities and behaviors, even if they are in conflict with their own values. This nonjudgmental stance is consistent with the current emphasis on acceptance in psychotherapy for SUDs (Hayes et al., 2004; Linehan et al., 1999). Finally, when openly LGBT individuals enter treatment at an agency, counselors should inquire about the relationship between the clients' sexual or gender identity and substance use problems. Questions that may tap into this relationship include "how did your drinking or drug use change during the process of coming out to friends and family?"; "how often do your sexual encounters involve alcohol or drug use?"; and "do you ever drink or use drugs to cope with the discrimination that you experience as a sexual minority?"

In a recent study by Olmstead and Sindelar (2004), substance use treatment programs that reported having specialized programs for gay men and lesbians were examined to see if they provided HIV testing and counseling as a "key service" for this population. Such services are certainly important components of a program, but there are many other ways that an agency can assist LGBT individuals with substance use problems. Agencies can

communicate that they provide a supportive atmosphere for LGBT clients through including "serving LGBT clients" in their mission statement, by establishing contacts within the LGBT community, by providing specialized groups or programs for LGBT substance users, and by using inclusive language in all forms and clinical materials. Lesbian, gay, bisexual, and transgender clients may benefit by participating in programs that acknowledge the likelihood that societal stigma contributes to their substance use. For example, groups in which LGBT clients could discuss their unique experiences in combating societal homophobia with one another may be an important additional component to addictions treatment. Programs tailored to treating LGBT clients should be prepared to address comorbid psychological problems and psychosocial stressors that may surpass those of heterosexual clients. In summary, providing effective treatment for LGBT substance users may require agency changes at both the administrative and the individual staff level.

Because a different pattern of results was found for men and for women in this study, treatment providers may use these findings to target specific groups of LGBT individuals for treatment. For lesbian, bisexual, and transgender women, elevated rates of heroin use may indicate a need to tailor treatment to the specific needs of heroin-using LGBT individuals. For example, outreach programs for lesbian, bisexual, and transgender women who use heroin or treatment programs that address heroin use in an LGBT-sensitive context may improve services for this population.

In terms of the results regarding gay, bisexual, and transgender men in this study, the need for methamphetamine treatment programs targeting gay, bisexual, and transgender men was validated by our findings. The analyses indicated significant differences between gay, bisexual, and transgender men and heterosexual men in terms of psychopathology, problems in living (homelessness and domestic violence history), and medical service needs. Correspondingly, because fewer gay, bisexual, and transgender men had legal issues at the time of treatment entry, they may represent those who have come to treatment of their own accord as a result of experiencing numerous psychosocial problems. Targeting these individuals may require dual-diagnosis programs to address issues specific to gay, bisexual, and transgender men; for example, assessing for trauma subsequent to domestic violence experiences may be an important component of treating this population. Further research may continue to identify subgroups within the overarching "LGBT" category with specific needs. Although at this point the data indicate that LGBT individuals face a greater risk for substance abuse problems, heterogeneity among those with a sexual orientation or gender identity that differs from the majority culture may indicate unique needs that can only be discovered by studying subgroups that exist in LGBT communities.

The generalizability of these findings is an improvement over previous studies, as participants were not selected for

sexual orientation but instead were part of a general treatment-seeking population. However, the identification of LGBT individuals remains a difficult sampling issue. There are several characteristics of this study sample that exemplify this issue: first, only a small proportion of the sample (2.46%) self-identified as LGBT individuals. Because this sample was drawn from a large database, we were able to conduct inferential statistics. However, the proportion of the client population identifying as LGBT is smaller than would be expected if the speculations about increased risk among LGBT individuals are accurate. Second, 29.87% of the participants did not have data regarding their sexual orientation and 6.16% of those who were asked chose not to disclose this information. Because these data rely on both counselors' comfort with asking this question and participants' willingness to be open about their sexual orientation, a large number of LGBT clients may have been unidentified in this study. Indeed, disclosure of LGBT status in a new situation, to a counselor who is reporting these data to the state, may minimize the likelihood of accurate reporting. Third, clients who do disclose their LGBT identity to a counselor may differ from other LGBT clients in their vulnerability to shame or other factors theorized to underlie the addiction process. Differences may occur in either direction, although intuitively, it seems more likely that clients who are reluctant to disclose their LGBT identities may also have high levels of shame that could trigger affect-induced substance use.

Because data on LGBT identity for this study relied on self-report, findings should be interpreted with caution. The exact proportion of LGBT individuals in the population is unknown; however, Michaels (1996) provided the most comprehensive review of the literature to date. According to this review, 9.8% of males and 5% of females report same-sex sexual behavior since puberty, 7.7% of males and 7.5% of females report same-sex sexual desire, and 2.8% of males and 1.8% of females report a gay, lesbian, or bisexual identity. As noted earlier, the proportion of LGBT individuals in treatment for SUDs could be expected to be higher than these estimates as SUDs are estimated to be higher among LGBT individuals than among heterosexual ones. The openly LGBT subsample in this study, 2.46% of the entire sample, is probably lower than the actual proportion of individuals who have experienced same-sex sexual behavior or desire. Correspondingly, some of the participants who identified as heterosexuals may have had histories of same-sex sexual activity or attractions. This potential discrepancy points to an important consideration for future research; in addition to asking about LGBT identity, questions about same-sex attraction and experiences might better identify individuals at elevated risk for SUDs. Still, cultural prohibitions and sex-role expectations may perpetuate the gulf between sexual identity and behavior. For example, Mays, Cochran, and Zamudio (2004) described how social inequalities and stigma have contributed to the epidemic of HIV infection among African

American men. Some of these men who engage in high-risk sexual behavior with other men on the "down low" are less likely to disclose their sexual orientations and therefore may be missed by prevention or intervention efforts that inquire about self-reported sexual identity but not behavior. Therefore, it is necessary to look beyond self-report of sexual identity and to inquire about specific behaviors that may place individuals at elevated risk for negative health outcomes to further identify the specific needs of LGBT individuals.

There are several limitations of this study that should be noted: the lack of random assignment to treatment agencies may have influenced differences in outcome, the population investigated was only of publicly funded clients, and data relied on participants' self-report and recall abilities. These potential factors complicate the aforementioned problems with the reporting of sexual orientation in a TARGET interview. However, these limitations are tempered by the fact that this is the first study to provide comparisons of treatment-seeking LGBT and heterosexual clients using a standardized measure.

Despite a relatively small percentage of LGBT clients being represented in the TARGET database, this study provides one of the most comprehensive views of LGBT individuals in substance abuse treatment that is available in the literature. From the data obtained, it is apparent that openly LGBT clients enter treatment with greater severity of substance abuse and other psychological problems and face greater psychosocial challenges than heterosexual clients. This study also identified specific sex differences in the pattern of results, with resulting implications for tailoring treatment to the needs of a heterogeneous LGBT population.

Chemically dependent clients are, arguably, among the most difficult group of clients to treat. Advances in the field have largely relied on designing and testing new interventions; however, it is unclear whether these treatments work equally well across all types of clients. Lesbian, gay, bisexual, and transgender individuals who enter treatment with more severe substance abuse problems than heterosexual ones may benefit from intensified groups or programs that are designed to incorporate their LGBT identity into the treatment process. Concurrently, more research are needed to identify ways that the needs of LGBT substance users may be addressed. An improved understanding of the factors related to providing high-quality substance abuse treatment to all individuals will help us address the major public health problem of chemical dependence.

Acknowledgments

This work was supported by a grant from the National Institute on Drug Abuse (1F31DA014158-01A1).

We thank the Washington State DASA for assisting with this project.

References

- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Cabaj, R. P. (1996). Substance abuse in gay men, lesbians, and bisexuals. In R. P. Cabaj, & T. S. Stein (Eds.), *Textbook of homosexuality and mental health* (pp. 783–799). Washington, DC: American Psychiatric Association.
- Chesney, M. A., Barrett, D. C., & Stall, R. (1998). Histories of substance use and risk behavior: Precursors to HIV seroconversion in homosexual men. *American Journal of Public Health*, 88, 113–116.
- Cochran, S. D. (2001). Emerging issues in research on lesbians' and gay men's mental health: Does sexual orientation really matter? *American Psychologist*, 56, 931–947.
- Cochran, S. D., Ackerman, D., Mays, V. M., & Ross, M. W. (2004). Prevalence of non-medical drug use and dependence among homosexually active men and women in the U.S. population. *Addiction*, 99, 989–998.
- Colcher, R. W. (1982). Counseling the homosexual alcoholic. *Journal of Homosexuality*, 7, 43–52.
- Copeland, A. L., & Sorensen, J. L. (2001). Differences between methamphetamine users and cocaine users in treatment. *Drug and Alcohol Dependence*, 62, 91–95.
- Crosby, G. M., Stall, R. D., Paul, J. P., & Barrett, D. C. (1998). Alcohol and drug use patterns have declined between generations of younger gay-bisexual men in San Francisco. *Drug and Alcohol Dependence*, 52, 177–182.
- Diamond, D. L., & Wilsnack, S. C. (1978). Alcohol abuse among lesbians: A descriptive study. *Journal of Homosexuality*, 4, 123–142.
- Driscoll, R. (1982). A gay-identified alcohol treatment program: A follow-up study. *Journal of Homosexuality*, 7, 71–80.
- Fergusson, D. M., Horwood, L. J., & Beautrais, A. L. (1999). Is sexual orientation related to mental health problems and suicidality in young people? *Archives of General Psychiatry*, 56, 876–880.
- Guss, J. R. (2000). Sex like you can't even imagine: "Crystal," crack and gay men. *Journal of Gay and Lesbian Psychotherapy*, 3, 105–122.
- Halkitis, P. N., Parsons, J. T., & Stirratt, M. J. (2001). A double epidemic: Crystal methamphetamine drug use in relation to HIV transmission among gay men. *Journal of Homosexuality*, 41, 17–35.
- Hayes, S. C., Bissett, R., Roget, N., Padilla, M., Kohlenberg, B. S., Fisher, G., et al. (2004). The impact of acceptance and commitment training and multicultural training on the stigmatizing attitudes and professional burnout of substance abuse counselors. *Behavior Therapy*, 35, 821–835.
- Hellman, R. E., Stanton, M., Lee, J., Tytun, A., & Vachon, R. (1989). Treatment of homosexual alcoholics in government-funded agencies: Provider training and attitudes. *Hospital and Community Psychiatry*, 40, 1163–1168.
- Holleran, P. R., & Novak, A. H. (1989). Support choices and abstinence in gay/lesbian and heterosexual alcoholics. *Alcoholism Treatment Quarterly*, 6, 71–83.
- Hughes, T. L., & Eliason, M. (2002). Substance use and abuse in lesbian, gay, bisexual and transgender populations. *Journal of Primary Prevention*, 22, 263–298.
- Jaffe, C. (1999). Alcoholism and internalized homophobia in lesbians. Unpublished doctoral dissertation.
- Jurek, M.R. (1999). Psychological factors predicting high risk sexual behavior in HIV-negative gay men. Unpublished doctoral dissertation.
- Linehan, M. M., Schmidt, H., Dimeff, L. A., Craft, J. C., Kanter, J., & Comtois, K. A. (1999). Dialectical behavior therapy for patients with borderline personality disorder and drug-dependence. *American Journal on Addictions*, 8, 279–292.
- Lohrenz, L. J., Connelly, J. C., Coyne, L., & Spare, K. E. (1978). Alcohol problems in several midwestern homosexual communities. *Journal of Studies on Alcohol*, 39, 1959–1963.
- Mays, V. M., Cochran, S. D., & Zamudio, A. (2004). HIV prevention research: Are we meeting the needs of African American men who have sex with men? *Journal of Black Psychology*, 30, 78–105.
- McDermott, D., Tyndall, L., & Lichtenberg, J. W. (1989). Factors related to counselor preference among gays and lesbians. *Journal of Counseling and Development*, 68, 31–35.
- McKirnan, D. J., & Peterson, P. L. (1989). Alcohol and drug use among homosexual men and women: Epidemiology and population characteristics. *Addictive Behaviors*, 14, 545–553.
- Meyer, I. H. (1995). Minority stress and mental health in gay men. *Journal of Health and Social Behavior*, 36, 38–56.
- Michaels, S. (1996). The prevalence of homosexuality in the United States. In R. P. Cabaj, & T. S. Stein (Eds.), *Textbook of homosexuality and mental health* (pp. 43–63). Washington, DC: American Psychiatric Association.
- Olmstead, T., & Sindelar, J. L. (2004). To what extent are key services offered in treatment programs for special populations? *Journal of Substance Abuse Treatment*, 27, 9–15.
- Paul, J. P., Barrett, D. C., Crosby, G. M., & Stall, R. D. (1996). Longitudinal changes in alcohol and drug use among men seen at a gay-specific substance abuse treatment agency. *Journal of Studies on Alcohol*, 57, 475–485.
- Paul, J. P., Stall, R., & Bloomfield, K. A. (1991). Gay and alcoholic: Epidemiologic and clinical issues. *Alcohol Health and Research World Alcohol and sexuality*, 15, 151–160.
- Saghir, M. T., & Robins, E. (1973). *Male and female homosexuality: A comprehensive investigation*. Baltimore, MD: Williams and Wilkins.
- Semple, S. J., Patterson, T. L., & Grant, I. (2002). Motivations associated with methamphetamine use among HIV+ men who have sex with men. *Journal of Substance Abuse Treatment*, 22, 149–156.
- Shoptaw, S., Peck, I., Reback, C. J., & Rotheram-Fuller, E. (2003). Psychiatric and substance dependence comorbidities, sexually transmitted diseases, and risk behaviors among methamphetamine-dependent gay and bisexual men seeking outpatient drug abuse treatment. *Journal of Psychoactive Drugs*, 161–167.
- Substance Abuse and Mental Health Services Administration. (2001). *A provider's introduction to substance abuse treatment for lesbian, gay, bisexual, and transgender individuals*. Rockville, MD: U.S. Department of Health and Human Services.
- Williamson, I. R. (2000). Internalized homophobia and health issues affecting lesbians and gay men. *Health Education Research*, 15, 97–107.