

BREAKING THE GRIP

Treating Crystal Methamphetamine
Addiction Among Gay & Bisexual Men

GAY & LESBIAN
MEDICAL ASSOCIATION
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Treating Crystal Methamphetamine Addiction Among Gay and Bisexual Men



GLMA

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Table of Contents

Executive Summary	i
Introduction	1
Methods	3
Review of the Literature	4
Patterns of and Motivations For Use.....	4
Consequences of Use	7
Treatment of Methamphetamine Dependence	10
Limitations of the Literature	14
Focus Group Findings	15
The Context of Methamphetamine Use	17
Best Practices in Treatment.....	18
Opportunities for Intervention.....	21
Barriers to Treatment	23
Prevention Efforts and Public Health Messaging	25
Additional Research Needed.....	25
Media and Societal Response.....	26
References	28
Appendix: Focus Group Protocol.....	36

Executive Summary

Methamphetamine is a powerful central nervous system stimulant that produces prolonged euphoria for users. Also known as “crystal meth,” “meth,” and “tina,” methamphetamine works by entering the brain and causes release of dopamine, norepinephrine, and serotonin. The drug can be smoked, snorted, orally ingested, injected, or used rectally. For some, methamphetamine is a highly addictive drug.

In the summer of 2006, the Gay and Lesbian Medical Association (GLMA) undertook a project to investigate the causes and extent of methamphetamine use among gay men and other men who have sex with men (MSM),* options for treating methamphetamine dependence, and how best to get methamphetamine-dependent gay men into appropriate treatment, as well as to explore other issues and controversies associated with these issues. Project staff analyzed available scientific literature on methamphetamine use by gay men and conducted focus groups in five cities in which methamphetamine use among gay men is thought to be widespread. The focus groups were made up of healthcare providers experienced in treating gay men for methamphetamine dependence, clinical researchers, and health policy experts who have studied methamphetamine use. The purpose of the study was to provide guidance to healthcare providers, medical and public health institutions, and policymakers about how best to respond to the issue, and, more generally, to comment on media and general societal responses. This included clarifying understanding of the problem of methamphetamine – both the magnitude of the problem and how it manifests itself in the gay community – as well as prevention tactics, treatment strategies, and general cultural attitudes about methamphetamine.

Following are the key themes and findings that emerged from the literature review and focus groups:

A *Serious Problem:* Approximately 10 to 20 percent of gay men have used methamphetamine in the past six months, a rate at least ten times higher than the general population. Once thought to be more prevalent on the West Coast, epidemiologic studies indicate that methamphetamine use among gay men is now also prevalent in the East and Midwest.

Among subgroups of gay men, the reported prevalence of methamphetamine use varies widely depending on the specific region and the subpopulations surveyed. Among various subgroups reporting methamphetamine use in the past six months:

- 36 to 43 percent of gay men attending circuit parties (large, multi-day dance events),
- 28 percent of gay men ages 15-22 in major urban areas,
- 11 percent of Hispanic gay men in Miami, and
- 10 percent of Asian and Pacific Islander gay men in San Francisco.

A *Poorly Understood Problem:* Methamphetamine use among gay men is poorly understood, even by healthcare providers who work with gay men. Many people believe that gay men use methamphetamine solely for sex, when in fact individuals vary greatly in the antecedents and frequency of use, the situations surrounding use, and motivations for using.. More research is needed to see how in what ways methamphetamine use may vary by racial and ethnic groups.

* This paper will use the term “gay men” to refer to both gay identified men and men who have sex with men (MSM). We felt that this was appropriate because the vast majority of men for whom focus group participants and the literature refer to identify themselves as gay men.

Potential for Dependence: Participants in the focus groups disagreed about whether people can use methamphetamine without becoming dependent upon it. Among those who believed that non-dependency forming methamphetamine use is possible, participants could not reach a consensus in estimating what percentage of methamphetamine users are not dependent on the drug, except that this number is low. These experts agreed, however, that casual use often becomes a problem for users.

Methamphetamine is Dangerous: Nearly all experts participating in this study agreed that methamphetamine has a high potential to cause serious health, financial, and social consequences. Both heavy use (once a week or more) and light use (less than once a week) have been associated with increased high-risk sexual behaviors that transmit HIV/AIDS, syphilis, and other sexually transmitted infections (STIs), including more sexual partners, more anonymous sex, more frequent occasions of anal sex, less frequent condom use, and more unprotected sex between partners of discordant HIV status. One study found that gay men using methamphetamine were three times as likely as other gay men to have syphilis, and twice as likely to have chlamydia or gonorrhea. Use of methamphetamine has been found to be associated with HIV seroconversion, even after controlling for other behavioral risk factors (such as having a high number of partners or engaging in unprotected receptive anal intercourse). Further research is needed to confirm and further understand the links between methamphetamine use and high-risk sex.

Use of methamphetamine is associated with a variety of serious physical harms, including weight loss, skin lesions, and tooth decay. Other physical harms that have been observed as possibly being associated with methamphetamine use are loss of bone strength, liver damage, seizures and convulsions, pneumonia, heart disease, strokes, aneurisms, Parkinson's disease, and ulceration of the cornea (from smoking methamphetamine). There are some concerns that methamphetamine use may harm HIV-positive users by suppressing immune function. Planned and unplanned non-adherence to HIV medication regimens related to methamphetamine use may lead to the development of medication-resistant viral strains.

Clinicians who are experienced treating methamphetamine-dependent gay men frequently see cases in which men lose their jobs and homes and alienate their friends and family. While not all gay men that use methamphetamine will experience this degree of loss, nearly all experts participating in this study agreed that methamphetamine is an extremely dangerous substance.

Neuropsychiatric problems that can result from long-term use include depression, anxiety, anger, violent behavior, delusions, and hallucinations. Methamphetamine use can impair attention, memory, and cause long-term neuronal damage. Chronic use may result in psychotic symptoms that continue after use is discontinued. Methamphetamine use is associated with current depressive symptoms, suicide attempts, and successful suicide attempts.

Need for Compassion and Understanding: Focus group participants reported that persons in lesbian, gay, bisexual, transgender (LGBT) and other communities often are too quick to condemn or demonize methamphetamine users for what they perceive as irresponsible behavior. Greater compassion and understanding is needed, along with a commitment to promoting effective treatments. Psychosocial pressures – including homophobia, discrimination, fear, loss and stigma resulting from HIV/AIDS, and a public discourse which denigrates the “lifestyle choices” of LGBT persons, same-sex marriage, and equal rights – often result in internalized homophobia, feelings of low self worth, and depression, and these conditions increase susceptibility to drug addiction in some individuals. Gay men frequently use methamphetamine to cope with anxiety, depression, loneliness, and fears about being physically unattractive due to aging. HIV-positive gay men often turn to methamphetamine when they are first diagnosed with

HIV and to take drug “holidays” to escape feelings about having a chronic illness. For some gay men suffering from these conditions, methamphetamine seems like a useful tool to erase these everyday pains and burdens.

Other Drugs Are Also Serious Problems: Focus group participants reported that methamphetamine is only one of many drugs that are being used and abused by gay men. Alcohol, cocaine, ecstasy, GHB, heroin, ketamine, poppers, and sildenafil (Viagra) are also used, and the use of these drugs is strongly associated with methamphetamine use, high-risk sexual behavior, and transmission of HIV/AIDS and other STIs. Gay men using methamphetamine are also more likely to use other drugs. Focus group participants reported that the underlying cause of much of this drug use is social in nature, and includes issues such as homophobia, lack of positive self-esteem, lack of a strong and healthy sense of community, and lack of healthy role models. While there was no consensus as to which drug poses the greatest risk to the community, experts participating in the focus groups agree that substance use in general is high in the gay community and all pose a risk of increasing other health problems among gay men. Therefore, while the current issue of methamphetamine use deserves close attention, the dangers and treatment needs of other substances should not be neglected. Underlying reasons for drug use, regardless of drug of choice, are often similar.

Successful Treatment Options Exist: Treatment for methamphetamine dependence is often a difficult and long-term process. Relapses are common and triggers vary widely with each individual’s motivations and experiences. Examples include events as common as sexual arousal, job stress, and boredom to more extreme states, such as emotional trauma and depression. Despite these challenges, a variety of modalities have been shown to be successful for some methamphetamine users.

No single treatment approach works for everyone. Successful treatment strategies are generally multifaceted and tailored to the individual. Individual psychotherapy with a therapist experienced in addiction and knowledgeable about methamphetamine is extremely helpful, if not crucial, and group therapy and other social supports provide critical benefit.

- Cognitive behavioral therapy (CBT), which provides individuals with techniques and skills to become abstinent, is widely used to treat substance dependence and for some methamphetamine users may lead to reductions in their methamphetamine use.
- Contingency management – providing incentives such as vouchers to purchase goods and services for demonstrated abstinence (e.g., clean urine samples) – is a promising treatment approach, and for some users may lead to reductions in methamphetamine use.
- Programs combining CBT plus contingency management have demonstrated some success and hold promise for successfully treating methamphetamine dependence.
- Focus group participants reported that motivational interviewing, as part of individual therapy, can also be helpful in treating methamphetamine addiction: individuals are motivated to change behaviors by examining their own personal goals and exploring the problems caused by their drug use. By setting small goals that are meaningful and determined by the individual, the achievement demonstrates personal success and builds confidence that further change and improvement are possible.
- The Matrix Model is a structured 16-week program of education about methamphetamine and addiction, methamphetamine-specific relapse prevention workshops, social support groups, individual counseling, and drug testing, combined into a nonconfrontational treatment program focusing on current issues and behavior change. While the Matrix Model showed significantly higher levels of success in methamphetamine abstinence

- during treatment, longer-term follow-up studies showed the Matrix Approach was no more successful than traditional methods of treatment. However, some experts interpret this as underscoring the positive effects of methamphetamine-specific treatment and the need to continue methamphetamine-specific treatment in an ongoing way, rather than a one-time, intensive treatment for an addiction that is chronic and life-long.
- Residential treatment programs can be beneficial for people recovering from severe addictions, but after completing these programs, people need access to intermediate-level “step-down” care, with outpatient groups and individual counseling, in addition to 12-step meetings, such as Crystal Meth Anonymous to assist with the transition.
 - Sober living programs are an affordable adjunct to outpatient treatment and peer support groups.
 - Harm reduction is a nonjudgmental and collaborative approach that encourages individuals to explore personal barriers to change and to choose from a range of options for decreasing harm, including abstinence, moderation, encouraging that safe sex is practiced while using the drug, or other short-term goals. There is limited research regarding the efficacy of harm reduction approaches. There is also considerable controversy, as some experts believe that any treatment approach that permits long-term methamphetamine use is inherently unsafe, while others believe that harm reduction is important for those not willing to abstain completely. Some experts who felt that abstinence was crucial to recovery feel that harm reduction is still an essential treatment service that engages those individuals not ready for abstinence and begins to foster a trusting relationship between them and their health care providers that may help them later transition to an abstinence model.

Healthcare providers are eager for pharmacological treatments for methamphetamine dependence. However, no medications tested to date have yet shown sufficient success in controlled, randomized clinical trials in reducing methamphetamine use to warrant use. Among the pharmacological approaches that have been explored, results have been shown to be inconclusive at best, and in some cases negative.

Focus group participants reported that various medications are currently being used to treat comorbid psychiatric conditions and to ease symptoms associated with methamphetamine withdrawal, including antidepressants to treat underlying depression and anxiety, antipsychotics such as haloperidol (Haldol), risperidone (Risperdal) and olanzapine (Zyprexa) to treat methamphetamine-induced psychosis, sedatives and sleeping aids such as trazodone (Desyrel) to restore normal sleep patterns, and a variety of medications to ease the intense dysphoria that can occur when stopping methamphetamine use, such as diazepam (Valium) and lorazepam (Ativan). Bupropion (Wellbutrin), an antidepressant that mildly elevates dopamine levels, and modafinil (Provigil), a central nervous system stimulant that improves cognition, can be useful in increasing energy and wakefulness among individuals experiencing methamphetamine withdrawal.

Treatments Tailored to Gay Men Work Best: Because treatment of gay men for methamphetamine dependence involves psychosocial factors unique to gay men, effective treatment requires healthcare providers and clients to speak frankly about the situations surrounding and motivations for use. It is critical that healthcare providers cultivate a nonjudgmental and compassionate environment which encourages open dialogue. Focus group participants reported that many treatment programs do not allow gay methamphetamine addicts explore specific issues and triggers, such as sex, and leave addicts unprepared to deal with these commonly occurring challenges when they leave treatment. Gay men, for whom sex is a trigger, often relapse soon after discharge from most rehabilitation programs.

Healthcare Providers Can Employ Specific Strategies to Get People Into Treatment: Focus group participants felt that not enough is being done to screen gay men for methamphetamine use and to offer treatment. Healthcare providers need more education on this topic and about substance abuse in general. Physicians have great power to motivate patients to seek treatment, so primary care providers and HIV specialists should routinely screen for substance abuse (experts agree that a methamphetamine-specific screening would be impractical), though finding the truth can be difficult: methamphetamine users often deny use. Knowledge of the symptoms, signs, and behaviors that suggest methamphetamine use may help clinicians identify methamphetamine use in patients who are not forthcoming.

Many other valuable intervention opportunities are possible, including contacts with dentists (who may see “meth mouth,” severe decay characterized by enamel erosion, reduced saliva production, and teeth grinding), hospitals and emergency rooms, mental health providers, STD and other community health clinics, and HIV/AIDS resource centers. Simple screening questions can suffice, such as: “Are you using drugs,” and if so, “is this affecting your job or relationships?” Drug screening questions should also be included in intake forms. And simple interventions can be helpful, such as providing a card listing resources such as available treatment programs.

Healthcare providers may also promote discussions about methamphetamine use with their patients by placing non-judgmental posters and pamphlets in their office spaces that inform patients that healthcare providers are knowledgeable about methamphetamine, and are able to help the patient if the need or desire ever arises. This visibility plants a seed in patients’ minds that healthcare providers are safe to approach to get help for methamphetamine use. This long-term tactic rarely results in immediate dialogue, but can be seen as part of a gradual process of trust and relationship building with between patients and clinicians.

Focus group providers felt that outreach efforts must be tailored: no one intervention will be effective for all users. For example, a two-stage strategy, in which drug-using gay men are recruited into discussion groups before they are offered a behavioral intervention, can be an effective way to induce acceptance of behavioral risk reduction approaches. Experts also identified the Internet as a possible arena for outreach efforts. A significant number of gay men who combine methamphetamine with sex use the Internet to obtain both, but there is notable lack of outreach in that area.

Substantial Barriers to Treatment Exist: Only a small percentage of methamphetamine users who want to stop using obtain treatment: in one study, 62 percent of users reported a desire to reduce or stop use and 70 percent had attempted to stop using, but only 12 percent had ever been in drug treatment. For those in treatment, ongoing methamphetamine use makes treatment difficult: significantly impaired attention span, difficulty with cognitive tasks and decision making, anxiety, depression, and methamphetamine-induced psychosis create problems for methamphetamine users and clinicians that must be dealt with before the core of relapse prevention work can begin.

People with private health insurance often face insurance companies that are reluctant to cover the various levels of care, including intensive outpatient treatment, residential programs, or inpatient treatment that are specifically needed to treat the methamphetamine user’s specific addiction at an effective level of intensity. Uninsured methamphetamine users must compete for the limited treatment services available through nonprofit and public agencies.

Relatively few healthcare providers are culturally competent to treat gay men, except in certain urban areas with large gay populations. There are anecdotal reports of staff in some substance abuse treatment facilities refusing to permit clients to discuss their sexual practices. Not only is this culturally incompetent care to gay men, but it also prevents sex, one of the most common and powerful triggers for relapse, from ever being addressed and dealt with therapeutically. The mistaken belief that methamphetamine dependence is untreatable and the fear that methamphetamine users are dishonest cause some healthcare providers to refuse to treat methamphetamine users or even to follow up observed signs of addiction.

Need for Better Prevention Programs: Focus group participants emphasized that it is much less expensive to prevent methamphetamine dependence than to treat it. The lack of prevention efforts is a critical gap in the response to methamphetamine use among gay men. New and more effective programs are needed, and these must be tailored to specific populations, such as youth, HIV-positive men, and gay men and other men who have sex with men of diverse racial and ethnic backgrounds.

Mixed Feelings About Scare Tactics in Public Education Campaigns: Focus group participants disagreed about the value and effect of scare tactics in public education campaigns (e.g., “Meth = Death” and the use of skulls and other graphic images). Many participants pointed to studies finding that so-called “reefer madness” tactics do not work. Other participants – particularly those from New York – believed that these tactics were sometimes appropriate, such as in prevention efforts focused on youth, and some felt that these tactics were valuable in provoking debate and in establishing a norm within the gay community disapproving of methamphetamine use. Further research on scare tactics needs to identify what aspects may be ineffective. Some focus group participants felt that the term “scare tactics” was too broad a definition to describe different educational campaigns and that educational messages, whether positive or negative, need to be carefully conceived.

More Research is Needed: Resources to address methamphetamine use among gay men have for the most part been divided between treatment and prevention. The experts consulted for this study agreed that research deserves more funding. Specifically, research is needed to:

- evaluate behavioral treatment options using larger sample sizes and following up with patients for longer periods of time (current studies follow patients for 6 to 12 months);
- develop pharmacological approaches to reduce methamphetamine use;
- systematically study “detox” approaches that can ease the intense dysphoria of withdrawal and reduce the fear of the pain of stopping methamphetamine use, and hopefully increasing the number of people willing to try treatment for methamphetamine addiction;
- better understand the social and sexual context of methamphetamine use, including how use varies by race and ethnicity;
- develop more effective prevention programs;
- develop and test prevention and intervention messages;
- understand causal relationships between methamphetamine use and impulsivity, negative self perceptions, and sexual risk behaviors;
- evaluate harm reduction strategies in outreach and educational campaigns;
- determine whether treatment can modify negative self perceptions and impulsivity; and
- consider programs that address social problems that increase the risk of methamphetamine and other drug use, such as “healthy family” educational and counseling programs, improving role models for young gay men to improve self-esteem

and long-term goal setting, combating internalized homophobia by developing positive gay community activities, and developing a healthier and more positive attitude toward sexuality and sexual practices of all sexual orientations and gender identities.

An Inappropriate Media Response: Participants in the *Breaking the Grip* focus groups felt that methamphetamine use among gay men is underreported given the scale of the crisis, perhaps due to a reluctance to discuss an issue that involves same-sex behavior, drugs, and HIV/AIDS, and this may be in part a response to the current political and social climate. Stories that do appear are often sensationalistic and poorly informed. Specifically, the media is apt to associate methamphetamine with “reckless” sexual behavior, while excluding the role of low self-esteem, depression, and internalized homophobia, as well as external social pressures, such as discrimination and rejection by families of origin. The media’s approach to this issue reinforces negative societal views of gay and bisexual men, which promotes negative self-perceptions by gay men and creates the conditions for substance abuse.

Introduction

Methamphetamine is a powerful central nervous system stimulant that produces prolonged euphoria and has a high addiction potential. Also known as “crystal meth,” “meth,” and “tina,” methamphetamine works by entering the brain and causes a release of dopamine, norepinephrine, and serotonin. The drug can be smoked, snorted, orally ingested, or injected. Some users administer crystal mixed with a small amount of liquid into the rectum, a practice called “booty bumping.” Each method of use affects the body and is experienced by the user in a different way, and some methods such as smoking and injecting are associated with a much more rapid progression to addiction.

A number of recent studies indicate that methamphetamine use has become common among gay men and other men who have sex with men (MSM),* with a usage prevalence estimated to be five- to ten-times greater than that of the general population. In addition to a number of serious health consequences associated with methamphetamine use in all populations, methamphetamine use among gay men has been consistently associated with high risk sexual activity, which is leading to increased rates of HIV and other sexually transmitted infections (STIs). Across the country, there have been a number of responses to increased methamphetamine use among gay men. Community groups have launched a number of social marketing campaigns to raise awareness about the dangers of methamphetamine use. In some locations, the media has been reporting on the methamphetamine issue as it relates specifically to gay men. In a few locations, law enforcement has increased efforts to address methamphetamine use by gay men. Many of these activities have been fueled by what has been described by the media as a “methamphetamine epidemic.”

The Gay and Lesbian Medical Association (GLMA), the world’s largest and oldest association of lesbian, gay, bisexual and transgender (LGBT) healthcare providers, sought to examine methamphetamine use among gay men. A central part of GLMA’s mission is to ensure that all providers have the skills they need to provide culturally competent care to LGBT patients, as well as to provide LGBT patients with information about how they can best promote their own health. In this project, *Breaking the Grip: Treating Crystal Meth Addiction Among Gay and Bisexual Men*, GLMA sought to collect and disseminate balanced information about the consequences of methamphetamine use, as well as how to best treat methamphetamine dependence among gay men.

As part of the project, GLMA staff engaged in two strategies: (1) a comprehensive review of the available scholarly literature about methamphetamine use among gay men and (2) in June 2006, GLMA convened focus groups composed of clinicians who have experience in treating gay men for methamphetamine dependence, researchers, and policy experts familiar with public policy regarding methamphetamine use, production, and trafficking. The focus groups were designed to collect information on the full array of opinions regarding methamphetamine use among gay men from those individuals that are intimately involved in treating methamphetamine-dependent gay men. The project sought to get their views on the prevalence, context, and consequences of methamphetamine use among gay men, as well as information about what they believe to be best treatment options, how the medical establishment should respond to the issue, and, more generally, how the media and our society should respond. It is hoped that these findings will promote understanding of the issue and how providers and others should respond to the issue.

* This paper will use the term “gay men” to refer to both gay identified men and other men who have sex with men (MSM). We felt that this was appropriate because the vast majority of men for whom focus group participants and the literature refer to identify themselves as gay men.

Breaking the Grip sought to answer and to provide a broader context for better understanding the following questions:

1. ***How serious a problem is methamphetamine use among gay men?*** *Breaking the Grip* sought to offer a balanced assessment based on scientific data put into a practical context by experts from different disciplines who deal with methamphetamine in the field. The project endeavored to avoid fueling hysteria, at the same time ensuring that the issue of methamphetamine use among gay men is not made to seem less important than it is.
2. ***What are the most promising options for treating methamphetamine addiction among gay men?*** *Breaking the Grip* aimed to provide reliable information that providers could use to steer their patients toward effective treatment. The project sought to compile information about behavioral and pharmacological treatment modalities that are either being used by focus group participants or have been shown to have proven effectiveness in clinical settings.
3. ***What should healthcare providers do to engage gay and bisexual men who are addicted to methamphetamine into treatment?*** *Breaking the Grip* aimed to provide information that can be used to increase the skills of all healthcare providers – not only LGBT providers – in diagnosing methamphetamine addiction among their gay male patients and making appropriate treatment referrals.
4. ***What are the key controversies regarding how methamphetamine use among gay men is being addressed, and what are the right responses to those controversies?*** In light of limited resources available to address the issue of methamphetamine use among gay men, *Breaking the Grip* sought to examine the various responses to the issue and consider which have been the most appropriate, and which responses may actually be counter-productive.

We hope that *Breaking the Grip* promotes a better understanding of methamphetamine use among gay men, and contribute to the development of more effective policy and programs on this issue.

Joel Ginsberg, JD, MBA
Executive Director

James Beaudreau
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Methods

Data collection and analysis for the *Breaking the Grip* project had four major components: key informants, an advisory group, a literature review, and focus groups.

In preparing for the project, GLMA staff conducted interviews with six experts on methamphetamine use among gay men. These experts helped GLMA staff refine project parameters, test focus group questions, and obtain suggestions for focus group participants. GLMA staff then convened an advisory group for the project. Composed of 13 experts on methamphetamine use among gay men (listed in “Acknowledgements”), the advisory group reviewed the project design, suggested focus group participants, and reviewed and commented on this document.

GLMA staff analyzed peer-reviewed, scholarly literature that dealt with methamphetamine use among gay men, the consequences of methamphetamine use, and treatment of methamphetamine dependence among gay men. To identify relevant articles, GLMA staff searched the PubMed database, reviewed bibliographies of selected articles, and obtained input from experts in the field. We acknowledge that by limiting the literature review to peer-reviewed, scholarly journals, we excluded a discussion of various treatment approaches that are now under investigation and which may have promise. We hope to update our findings as the efficacy of any such approaches are established and validated through publication of the results of controlled studies in peer-reviewed journals.

In June 2006, we convened eight focus groups in five cities in which methamphetamine use among gay and bisexual men is thought to be widespread: San Francisco (2 groups), New York (2 groups), Los Angeles (2 groups), Chicago (1 group), and Miami (1 group). These cities were selected to ensure an understanding of some of the regional differences in responses to and perceptions of the problem. Focus groups were held from 6:00 p.m. to 9:00 p.m. During a break that occurred between 7:00 p.m. and 8:00 p.m., focus group participants were offered a presentation by Hythiam, Inc., a healthcare services management company. Each focus group contained between 6 and 10 participants representing a broad range of backgrounds and professional disciplines, including physicians, psychiatrists, psychologists, and therapists working in the field of addiction; researchers in the fields of epidemiology, pharmacology, and clinical psychology; and health policy experts.

Focus groups were moderated by Joel Ginsberg, GLMA’s Executive Director, and James Beaudreau, GLMA’s Education and Policy Associate. Audio recordings were made. The protocol for the focus group, including the focus group questions, is included in the Appendix. James Beaudreau and Joel Ginsberg drafted this document, which was reviewed by the project advisory group.

Review of the Literature

Methamphetamine is a powerful central nervous system stimulant that produces prolonged euphoria for users (Wermuth, 2000). Over the past several years, it has become easier and cheaper to manufacture methamphetamine. The appearance of mass quantities of the drug has corresponded with increased availability and a significant increase in use (Cretzmeyer et al., 2003). One group in which methamphetamine use is especially high are gay men and other men who have sex with men (MSM), whose prevalence of use is estimated to be five to ten times that of the general population (Stall et al., 2001).

Methamphetamine use is associated with a number of serious psychological and medical complications. Psychological complications of methamphetamine use can include depression, anxiety, impulsivity, compulsive repetition, hallucinations, and paranoia (Sommers, Baskin, and Baskin-Sommers, 2006). Medical complications that have been observed include hypertension, hyperthermia, cardiac arrhythmias, myocardial infarction, seizure, rhabdomyolysis, renal failure, anorexia, malnutrition and stroke (Urbina and Jones, 2004). Evidence also suggests that prolonged methamphetamine use may cause long-term neuronal damage, with long-lasting and possibly permanent effects on memory and attention (Nordahl, Salo, and Leamon, 2003). Methamphetamine use is also associated with equally serious, non-health related complications. Long-term use of methamphetamine has often been described by gay men as the cause of lost friendships, family ties, employment, and long-term relationships (Kurtz, 2005). Engaging in sex behaviors while under the influence of methamphetamine puts gay men at high risk for contracting HIV and other sexually transmitted infections (Colfax and Shoptaw, 2005).

Patterns of and Motivations For Use

While economic and social pressures, such as depressed economic conditions in rural and semi-rural areas, have been cited as a partial explanation of expanded methamphetamine use among a broad array of Americans (Wermuth, 2000), studies have shown that methamphetamine using gay men attribute their methamphetamine use to unique factors related to physical and emotional needs and social-cultural issues (Halkitis, Fischgrund, and Parsons 2005). This section provides information available in the literature about prevalence and patterns of use, risk factors and motivations, and the relationship between methamphetamine use, sex, and HIV/AIDS.

Prevalence and Patterns of Use: Prevalence of methamphetamine use by urban gay men is high. Data from a probability telephone sample of gay men conducted in San Francisco and Los Angeles in 2001 indicated that methamphetamine use in the prior six months in those cities was at 13 percent and 11 percent, respectively (Stall et al., 2001). However, other studies have found higher levels of use, such as one study of single, sexually active gay men conducted between 1999 and 2001 that found methamphetamine use among this study population in the West Coast region to be as high as 20 percent (Koblin et al., 2003). Where once methamphetamine use was thought to be more prevalent on the West Coast, it has recently become as common on the East Coast and Midwest (Koblin et al., 2003). The same study estimated methamphetamine use among single, sexually active gay men on the East Coast, Midwest, and West to be at about nine percent (Koblin et al., 2003).

Prevalence of methamphetamine use among gay male youth is also high. A study of methamphetamine use by young gay men between 1994 and 1997 found that use by gay male youth had grown significantly (McNall and Remafedi, 1999). In a survey by Thiede et al. (2003) of gay men ages 15-22 in seven major US urban areas, 28 percent reported having ever used

methamphetamine, and 20 percent reported use in the previous six months. Nearly six percent of respondents in the survey reported using methamphetamine at least once a week. The survey showed that in Los Angeles, the San Francisco Bay Area, and Seattle, methamphetamine was the second most commonly used drug in the past six months, with 32 percent, 29 percent, and 28 percent of gay male youth reporting use in those cities, respectively.

Research indicates that non-Hispanic white and Hispanic gay men may be more likely to use methamphetamine than other racial or ethnic groups (Irwin and Morgenstern, 2005). Men who were openly identified as gay were also found to be more likely to use methamphetamine than men who have sex with men that were not openly identified as gay (Irwin and Morgenstern, 2005). However, there are indications that methamphetamine may be a drug widely used by gay men across all age groups, educational levels, racial and ethnic groups, and HIV status (Halkitis, Green, and Mourgues, 2005). In a study of Hispanic gay men in Miami, 11 percent reported the use of methamphetamine in the past six months (Fernandez et al., 2005). A study in San Francisco of Asian and Pacific Islander gay men found that 10 percent had used methamphetamine (Choi et al., 2005).

Studies suggest that methamphetamine use may be higher among some particular groups of gay men. One such group are gay men that frequently attend “circuit” parties (Colfax et al., 2001; Lee et al., 2003; Mansergh et al., 2001). Circuit parties are large dance parties that take place over the course of two or more days, extending through the night and into the following day(s). Drug use is common at such events. In one survey of gay men from the San Francisco Bay Area who had attended a circuit party in the previous year, 36 percent of the respondents reported use of methamphetamine (Mansergh et al., 2001).

Gay men often use methamphetamine in combination with other drugs, potentially increasing risks and adverse health consequences. In a study of HIV-positive methamphetamine-using gay men, Patterson et al. (2005) found that only five percent of participants reported using only methamphetamine in the past two months. The study found that 31 percent of participants were “light” users, combining their methamphetamine use with drugs such as marijuana and poppers, and that 64 percent of participants were “heavy” users, combining their methamphetamine use with drugs such as cocaine, heroin, hallucinogens, and ketamine. Another study of drug use patterns at circuit parties found that two to three drugs were often used simultaneously, and survey respondents reported using up to seven different drugs on the same occasion (Lee et al., 2003). In addition to illicit drugs, methamphetamine users also commonly report combining numerous prescription drugs with methamphetamine (Halkitis, Green, and Mourgues, 2005). Research also indicates that the use of multiple drugs was fairly consistent across all racial and ethnic gay male populations (Irwin and Morgenstern, 2005).

Risk Factors and Motivations: A number of studies have looked at motivating factors among gay men for methamphetamine use, and many have observed that factors contributing to methamphetamine use among gay men are complex and involve a number of social and emotional pressures (Diaz, Heckert, and Sanchez, 2005; Halkitis, Fischgrund, and Parsons, 2005; Halkitis, Green, and Mourgues, 2005; Kurtz, 2005; Semple, Patterson, and Grant, 2002; Stall et al., 2001). Factors associated with methamphetamine use can include adverse early life circumstances, current mental health status, social and sexual practices, and a need to feel connected to other gay men and gay male culture (Stall et al., 2001). One such study of methamphetamine-using gay men in Miami found that loneliness, fears about physical attractiveness due to aging and illness, and desires to lose sexual inhibitions were common motivations for using the drug (Kurtz, 2005). Among HIV-positive men, methamphetamine is often used as a means of dealing with fears and stigma surrounding the disease (Halkitis, Green,

and Mourgues, 2005; Kurtz, 2005). There is also an association between methamphetamine use, prior suicide attempts, and high rates of current depressive symptoms (Clatts, Goldsamt, and Yi, 2005).

Research has indicated that motivations for use of methamphetamine often differ by age and HIV status. Based upon interviews with active methamphetamine-using gay men, Halkitis, Fischgrund, and Parsons (2005) found that HIV-positive and older participants indicated significantly greater use of methamphetamine for sexual reasons, while HIV-negative and younger participants reported significantly greater use of the drug for social reasons. Another study found that HIV-positive gay men more often indicate methamphetamine use as a means to avoid conflict, unpleasant emotions, and social pressures (Halkitis, Green, and Mourgues, 2005).

Some differences have been found in motivations for methamphetamine use by racial and ethnic groups (Halkitis, Fischgrund, and Parsons, 2005). In one study, non-Hispanic white men were more likely to use methamphetamine for physical reasons compared to other men (Halkitis, Fischgrund, and Parsons, 2005). However, another study found that motivations for methamphetamine use among Hispanic gay men were similar to non-Hispanic white men, and included motivations related to sexual enhancement and to meeting cultural expectations in the gay community (Diaz, Heckert, and Sanchez, 2005). More research is needed to see how methamphetamine use varies by racial and ethnic groups (Irwin and Morgenstern, 2005).

Methamphetamine and Sex: Gay men often indicate that they use methamphetamine as a means of enhancing sexual experiences, using the drug to have better sex, more sex, and more anal sex (Diaz, Heckert, and Sanchez, 2005; Halkitis, Green, and Mourgues, 2005; Halkitis, Fischgrund, and Parsons, 2005; Halkitis, Parsons, and Stirratt, 2001; Halkitis, Shrem, and Martin, 2005; Larkins et al., 2005; Semple et al., 2006; Semple, Patterson, and Grant, 2002). One study which compared motivations for use of methamphetamine versus cocaine found that while gay men were more likely to report use of cocaine related to maintaining or improving social connections, such as to “fit in” with other gay men, methamphetamine-using gay men more often reported using methamphetamine to enhance their sexual experiences (Diaz, Heckert, and Sanchez, 2005). Use of methamphetamine in this context is often associated with specific public environments where sexual contact among gay men is common, including sex clubs and circuit parties (Halkitis, Parsons, and Stirratt, 2001). In these contexts, sexual contact often occurs with non-primary partners, and involves the use of other illicit substances (Larkins et al., 2005). The Internet is also increasingly being used by gay men as a method of meeting sexual partners via chat rooms, message boards, and other forums. Research suggests that gay men meeting sex partners online may have higher rates of methamphetamine use (Benotsch, Kalichman, and Cage, 2002). A recent study found that methamphetamine use combined with sildenafil (Viagra) has been associated with high-risk sexual behavior among gay men (Mansergh et al., 2006).

Because of the association between methamphetamine use and sexual behavior, a number of studies have explored the relationship between methamphetamine use and increased sexual risk taking, such as unprotected receptive and insertive anal sex and sex with partners of discordant HIV status (Colfax et al., 2001; Colfax et al., 2004; Colfax et al., 2005; Halkitis, Parsons, and Stirratt, 2001; Koblin et al., 2003; Larkins et al., 2005; McNall and Remafedi, 1999; Peck et al., 2005; Semple et al., 2006; Semple, Patterson, and Grant, 2002; Shoptaw, Reback, and Freese, 2002). A study of HIV-positive gay men reporting heavy methamphetamine use found that they were significantly more likely to have more sex partners of HIV-negative and unknown HIV-status and to have more unprotected sex with these partners (Patterson et al., 2005). In one study of 4,295 HIV-negative gay men, Colfax et al. (2004) found that use of drugs, including methamphetamine, before or during sex was independently associated with unprotected anal sex

with individuals of discordant HIV status. Methamphetamine has also been found to be associated with high rates of anal sex, low rates of condom use, multiple sex partners, sexual marathons, and anonymous sex (Semple, Patterson, and Grant, 2002). In a study of circuit party-attending gay men, methamphetamine users were found to be 2.3 times more likely to report unprotected anal intercourse with a partner whose HIV status was unknown or different from the respondents' (Mansergh et al., 2001). Among gay male youth, significant associations have also been found between methamphetamine use before or during sex and unprotected anal intercourse (McNall and Remafedi, 1999). It should be noted, however, that use of other substances—alcohol, for instance—among gay men, also serve as predictors of high-risk sexual behavior, such as unprotected receptive anal intercourse (Koblin et al., 2003; Purcell et al., 2001).

Some researchers have explored whether hypersexual risk taking gay men who are more likely to engage in unprotected sexual behaviors are more likely to be drawn to methamphetamine (Halkitis, Shrem, and Martin, 2005; Semple et al., 2005). Little research has been done on the relationship between sexual compulsivity and the sexual risk behaviors of methamphetamine users, however, one study of 217 HIV-positive methamphetamine-using gay men found that higher scores of sexual compulsivity were associated with the following behaviors: methamphetamine use before or during sex; visits to sex clubs and cruising areas to find anonymous sex partners; lower self-efficacy for condom use; and a greater number of HIV-negative or unknown HIV-status partners (Semple et al., 2006). Also, heavy methamphetamine users have been found to have higher scores on impulsivity tests as compared with light methamphetamine users (Patterson et al., 2005).

Methamphetamine, Sex, and HIV/AIDS: Research indicates that even intermittent, recreational use of these drugs may lead to high-risk sexual behavior (Colfax et al., 2005). A study by Colfax et al. (2005) which compared periods of no drug use to light (use of less than once a week) and heavy (use at least once a week) methamphetamine use found that both light and heavy drug use were significantly associated with increased risk of engaging in unprotected anal sex with an HIV-positive or unknown-status partner.

There is a strong association between methamphetamine dependence and HIV infection (Peck et al., 2005). One study in Los Angeles by Peck et al. (2005), a clinical trial of a behavioral therapy for drug abuse among gay men, found that 61 percent of the sample reported HIV-positive status, which represented three to four times the prevalence rate for all gay men in the city. In the same study, HIV-positive status was strongly associated with prior treatment for methamphetamine dependence, unprotected receptive anal intercourse, and a history of sexually transmitted infections (Peck et al., 2005). Another study of gay men seeking treatment for methamphetamine dependence found that HIV-positive participants were more likely than HIV-negative men to report both histories of gonorrhea and having had more unprotected receptive anal intercourse with more sexual partners in the 30 days prior to intake (Shoptaw, Reback, and Freese, 2002). The same study also found that HIV-positive gay men may be more likely to use injection methods when taking methamphetamine. There are also strong connections between methamphetamine use and other serious sexually transmitted infections, such as syphilis (Wong et al., 2005).

Consequences of Use

Methamphetamine use is associated with a number of severe negative health effects ranging from direct causes of medical, dental, and psychiatric problems to increased risk of exposure to infectious diseases. Methamphetamine use is also associated with problems specific to HIV-

positive individuals. There are also a number of serious social consequences associated with methamphetamine use.

Medical Consequences: One common effect of methamphetamine use is weight loss (Sommers, Baskin, and Baskin-Sommers, 2006). Methamphetamine use has also been associated with severe skin lesions and infections (Binswanger et al, 2000; Deloach-Banta, 1994). Other health effects of long-term methamphetamine use that have been observed include kidney damage (Tokunaga et al., 2006), seizures and convulsions (Sommers, Baskin, and Baskin-Sommers, 2006), and pulmonary complications, such as pneumonia (Gotway et al., 2002). There have been a few isolated reports that methamphetamine can contribute to potentially lethal cardiovascular effects (Hong, Matsuyama, and Nur, 1991; Turnipseed et al., 2003), strokes and aneurisms (McGee, McGee, and McGee, 2004), and may increase the likelihood of Parkinsons disease with old age (Guilarte, 2001). Use of smokeable methamphetamine may also contribute to ulceration of the cornea (Chuck et al., 1996).

Dental Consequences: Long-term use of methamphetamine has been associated with problematic oral effects, most notably severe tooth decay (Klasser and Epstein, 2005). A potential reason for this association is that methamphetamine exposure contributes to enamel erosion, reduced saliva production, and grinding of the teeth, which leads to oral effects that are so severe that the term “meth mouth” has been adopted by dental professionals (Rhodus and Little, 2005). Dental care providers are increasingly being asked to recognize the signs of “meth mouth,” and to refer patients to appropriate treatment to prevent additional oral problems, as well as negative psychological and other effects of methamphetamine abuse (Smart and Rosenberg, 2005).

Neuropsychiatric Effects: Methamphetamine exposure can induce a number of psychiatric symptoms, such as depression, anxiety, anger, violent behavior, and psychotic symptoms (Zweben et al., 2004). Delusions and hallucinations brought about by methamphetamine use can mimic a broad range of symptoms of schizophrenia (Harris and Batki, 2000). While methamphetamine-induced psychoses are often temporary, several reports describe persistence of psychotic symptoms months after cessation of the drug. These clinical descriptions have been supported by studies showing chronic changes in brain structure and function seen years after exposure to methamphetamine, which are consistent with neurological states that would cause psychosis (Nordahl, Salo, and Leamon, 2003; Sato, Numachi, and Hamamura, 1992).

Use of methamphetamine has been shown to alter electrical activity in the brain (Newton et al., 2004). Methamphetamine also produces abnormal and persistent biochemical processes in the brain, such as decreased glutamate activity in the prefrontal cortex (Kim et al., 2005). This cortical activity is particularly important in impulse control and decision making. Such a deficit would impair the ability to benefit from relapse prevention-oriented cognitive-behavioral therapy (CBT), therefore requiring more intensive work on the part of the patient/client and the clinician (Kim et al., 2005). These changes impair brain functioning, and result in slower reaction times, as well as more significant impairments in cognitive functioning that can produce deficiencies in attention and memory (Chang et al., 2002; McKetin and Mattick, 1998; Meredith et al., 2005).

Increased Risk of Exposure to Infectious Diseases: One consequence of methamphetamine use that is oft cited in the literature is exposure to HIV/AIDS and other sexually transmitted infections (STIs) while using the drug. In one study of gay men reporting recent methamphetamine use, use of the drug before or during sex resulted in incidents of unprotected anal intercourse that were 4 times higher than incidents in which methamphetamine was not being used (Hirshfield et al., 2004). High risk sexual activity associated with methamphetamine use puts users at significant risk for transmission of STI's (Peck et al., 2005). In one study of gay men

seen in an STD clinic, methamphetamine using gay men were 3 times more likely to have syphilis, and almost twice as likely to have chlamydia or gonorrhea (Wong et al., 2005). In another longitudinal study of HIV-negative gay men conducted over six years, consistent use of methamphetamine was found to be linked to later seroconversion (Chesney, Barrett, and Stall, 1998).

Effects on HIV/AIDS Treatment: HIV-positive methamphetamine users are susceptible to significant health risks is their impaired ability to adhere to HIV medication regimens. Adherence to medication regimens is of vital importance to HIV-positive individuals because non-adherence can result in the development of medication-resistant viral strains. Research suggests that methamphetamine use contributes to both planned and unplanned medication non-adherence among HIV-positive individuals (Reback, Larkins, and Shoptaw, 2003). In one small study by Reback, Larkins, and Shoptaw (2003) that looked at medication adherence for HIV-positive methamphetamine users, planned non-adherence was often used as a coping strategy for dealing with demanding HIV medication schedules. The researchers found that other reasons for planned non-adherence were linked to engagement in sexual activity while using methamphetamine, as well as to fears of potential interactions between methamphetamine and HIV medications. The researchers found that unplanned non-adherence was often linked to methamphetamine-related disruptions in food and sleep schedules.

Non-adherence to HIV medication regimes related to methamphetamine may result in increased HIV replication in HIV-positive individuals, resulting in higher HIV viral loads (Ellis et al., 2003). In one study that looked at viral loads among HIV-positive methamphetamine users who were receiving aggressive antiretroviral therapies, viral loads were higher and viral replication suppression efforts were less effective among current methamphetamine users than among nonusers and former users (Ellis et al., 2003). Non-adherence to HIV medication regimes related to methamphetamine use in HIV-positive individuals can thus hasten the progression of the disease, such as enhancing immunosuppression associated with HIV (Yu, Larson, Watson, 2003).

HIV-positive individuals using methamphetamine are also at risk for the same detrimental cognitive effects as HIV-negative individuals, such as limited sustained attention (Levine et al., 2006). However, HIV-positive individuals may face much more dangerous effects on the brain and cognitive functioning. HIV infection on its own often leads to significant brain structure alterations, and there are indications that methamphetamine use can hasten these alterations (Jernigan et al., 2005). Possibly based on methamphetamine's toxic effects in the brain, methamphetamine users that are HIV-positive may be at increased risk for brain dysfunction (Carey et al., 2006; Cass et al., 2003; Chang et al., 2005). Despite the use of highly potent antiretroviral therapy, there have been reports that HIV-positive methamphetamine users may be at risk for rapid onset of HIV dementia (Nath et al., 2001). HIV-positive individuals using methamphetamine may also develop more severe encephalitis and neuronal damage, compared to HIV-positive patients who do not use methamphetamine (Theodore, Cass, and Maragos, 2006).

There are some indications that interactions can occur between methamphetamine and HIV medications, and these interactions can result in serious clinical consequences (Antoniou and Tseng, 2002). There have been reports that methamphetamine can interact with protease inhibitors (Hales, Roth, and Smith, 2000). Additionally, interactions between methamphetamine and HIV medications may result in cardiovascular diseases (Yu, Larson, Watson, 2003).

Social Consequences: In addition to the direct health effects of methamphetamine use, there are a number of serious social costs that can be attributed to increased methamphetamine use. Long-

term use of methamphetamine among gay men is often the cause of lost friendships, employment, and long-term relationships (Kurtz, 2005). Studies have looked at the relationship between methamphetamine use and increased incidents of violence (Sommers, Baskin, and Baskin-Sommers, 2006; Zweben et al., 2004). Methamphetamine users often report problems controlling anger and violent behavior, and violence committed while under the influence of methamphetamine often occurs within private domestic contexts (Sommers, Baskin, and Baskin-Sommers, 2006; Zweben et al., 2004).

Another social cost associated with methamphetamine use is increased utilization of already-strained healthcare resources. Studies have shown that methamphetamine use often results in unnecessary or avoidable admissions to trauma centers (Tominaga et al., 2004) and psychiatric emergency services (Szuster, 1990). Methamphetamine-using patients are more likely to use emergency departments as their primary source of medical care, and are also more likely to use ambulances in transit to hospitals, more likely to be admitted to hospitals, and more likely to lack insurance (Richards et al., 1999).

Treatment of Methamphetamine Dependence

A number of strategies have been developed to treat methamphetamine dependence specifically for gay men, and early data suggest that these strategies can be successful. Although it has been suggested that methamphetamine dependence may be more difficult to treat than dependencies for other drugs, success rates for methamphetamine treatment have not been shown to be lower than rates for other stimulants, such as cocaine (Irwin, 2006). At this point, behavioral counseling remains the standard of treatment for methamphetamine dependence (Colfax and Shoptaw, 2005). Cognitive behavioral therapy, contingency management, and motivational interviewing are commonly used treatment methods (Shoptaw et al., 2005). Such treatments have produced reductions in methamphetamine use, as well as reductions in high-risk sexual behaviors (Shoptaw et al., 2005). While there are a number of investigations underway looking at pharmacological approaches to the treatment of methamphetamine, there are currently no pharmacological treatments that have been approved by the FDA for the treatment of methamphetamine dependence (Vocci and Ling, 2005).

There are indications that a significant number of methamphetamine-using gay men have a great deal of interest in treatment programs to help them stop or decrease their use of methamphetamine, but there is a severe lack of appropriate treatment programs to serve this need. In a survey of 174 methamphetamine-using gay men visiting STD clinics in Seattle and San Francisco, 62 percent reported a considerable or extreme desire to reduce or stop their use of methamphetamine and 70 percent had attempted to stop using methamphetamine (Menza et al., 2006). However, in the same survey only 12 percent had ever engaged in drug treatment (Menza et al., 2006).

Psychosocial Treatment Approaches: Cognitive behavioral therapy is considered the mainstay of methamphetamine addiction treatment (Shoptaw et al., 2005). The approach combines a broad set of psychological and educational techniques that provide individuals with knowledge about their drug of choice and the science behind addiction. In addition, it teaches them to identify their personal triggers and teaches them techniques and skills to cope with those triggers and to remain abstinent from drug abuse (Shoptaw et al., 2005). Cognitive behavioral therapy is a fundamental part of the treatment of all substance dependencies, as well as in the treatment of other addictions, such as gambling and compulsive sex (McKay et al., 1997).

Contingency management has also been used for treating methamphetamine dependence (Shoptaw et al., 2005). Contingency management is a behavioral treatment approach that reinforces abstinence by providing incentives to individuals in treatment programs when they achieve abstinence from drugs, usually demonstrated through clean urine samples (Higgins et al., 1993). Incentives are often in the form of vouchers that can be exchanged for goods and services of increasing value for each consecutive documentation of abstinence from drug use (Higgins et al., 2002). Data support the use of contingency management in crystal-specific addiction treatment in gay men both in reducing methamphetamine use and decreasing high-risk sexual activity (Shoptaw et al., 2006).

One study by Shoptaw et al. (2005) sought to compare the efficacy of cognitive behavioral therapy and contingency management. This randomized controlled trial involving 162 methamphetamine-dependent gay men consisted of four treatment approaches: subjects treated with (1) cognitive behavioral therapy alone; (2) contingency management alone; (3) a combination of cognitive behavioral therapy and contingency management; and (4) a cognitive behavioral approach that combined culturally tailored messages for gay men with an emphasis on reducing high-risk sexual behavior. The study found that participants receiving contingency management and participants receiving both cognitive behavioral therapy and contingency management performed better than standard cognitive behavioral therapy alone in reducing methamphetamine use.

One treatment approach that is of interest for treating methamphetamine use among gay men is the multiple session Matrix Model intervention (Freese et al., 2000). Originally developed as an intervention for cocaine dependence, The Matrix Model is a structured 16-week program of education about methamphetamine and addiction, methamphetamine-specific relapse prevention workshops, social support groups, individual counseling, and drug testing, combined into a nonconfrontational treatment program focusing on current issues and behavior change.

In a randomized clinical trial of the Matrix Model involving 978 treatment-seeking, methamphetamine-dependent individuals, those who were assigned to Matrix Model of treatment attended more clinical sessions, stayed in treatment longer, provided more methamphetamine-free urine samples during the treatment period, and had longer periods of methamphetamine abstinence as compared to those who received traditional methods of treatment, which were described in the study as “treatment-as-usual” (Rawson et al., 2004). However, a follow up study showed that one year after ending treatment with the Matrix Model, all benefit over standard addiction treatment models was lost (Rawson et al., 2004). One explanation for the similarities in post-treatment outcomes could be attributed to the fact that all participants in the study (both patients who had received the Matrix Model treatment as well as those who received treatment-as-usual) were discharged to further outpatient treatments which used treatment-as-usual approaches.

Harm reduction approaches have also been utilized in an attempt to reduce the frequency of methamphetamine use and reduce the potential harm associated with use of methamphetamine, such as high-risk sexual behavior (Tatarsky, 2003). The approach helps individuals to understand the complexities of drug use, abuse, and addiction, and to create individual strategies to decrease harmful drug use (Denning, 2002). The approach is nonjudgmental and collaborative, and designed to encourage individuals to explore their own barriers to change and to choose among a range of options, such as abstinence, moderation, or other short-term goals (Denning, 2002). There are suggestions that harm reduction could be a useful approach for decreasing methamphetamine use and high risk sexual behavior among gay men (Shernoff, 2006).

Motivational interviewing has also been used as a strategy for decreasing methamphetamine use among gay men, and particularly for attracting methamphetamine-dependent gay men into more rigorous treatment programs. In one study, gay men were recruited through advertising and community outreach into groups in which motivational interviewing techniques were used to discuss party drugs, party burnout, and sexual behavior (Kanouse et al., 2005). After participating in a discussion group, methamphetamine dependence treatment programs were described and enrollment offered in the group setting. When gay men were initially exposed to advertisements for discussion groups and advertisements for treatment programs, substantially more gay men responded to advertisements for the discussion groups than for the treatment programs. However, after attending the discussion group, 58 percent of those men, who did not originally respond to the advertisement for treatment programs volunteered for drug addiction counseling. The study found that this two-stage strategy in which drug-using gay men are first recruited into discussion groups before they are offered a behavioral intervention can be an effective way to induce voluntary acceptance of drug treatment (Kanouse et al., 2005).

One of the key challenges to treating methamphetamine dependence among gay men has been developing interventions that are culturally appropriate for this population. Surveys have shown that healthcare providers and substance abuse counselors lack the knowledge to appropriately treat gay men (Eliason, 2000). There is now growing recognition of the need to better understand the influences of cultural variables in the design and delivery of culturally-responsive and effective substance abuse treatments, and there is now an increased emphasis on developing culturally-responsive treatments that are sensitive to the specific treatment needs of members of special populations (Gonzalez, Castro, and Garfinkle, 2003). Due to the complex interrelationships between drug use, sexual risk taking, mental health, and HIV, it is important that factors unique to this population be taken into account in treatment of methamphetamine addiction among this population (Halkitis, Green, and Mourgues, 2005). Treatment programs must address common motivational factors and patterns, but at the same time must be tailored with respect to individual differences and motivations for drug use (Halkitis, Fischgrund, Parsons, 2005).

Another key challenge in treating methamphetamine-dependent gay men is the need to treat comorbid psychiatric conditions (Shoptaw et al., 2003). Drug abuse counselors are increasingly being trained to handle psychotic symptoms among methamphetamine-dependent individuals seeking treatment (Zweben et al., 2004). Additionally, there is a need to provide other forms of mental health support for depression and other emotional problems (Shoptaw et al., 2003).

Pharmacological Treatment Approaches: Methamphetamine withdrawal is associated with symptoms that include increased sleeping and eating, depression, and anxiety (McGregor et al., 2005). For this reason, efforts have also been directed towards finding medications that can treat these symptoms of methamphetamine withdrawal and interrupt the vicious cycle of abuse, dependence, and relapse (Colfax and Shoptaw, 2005). Efforts are being directed at finding medications that. There is also evidence that methamphetamine changes biochemical processes in the brain that contribute to drug craving and decrease the ability to resist those cravings (Cho and Melega, 2002). Craving has been shown to be a significant predictive factor for relapse for patients in treatment for methamphetamine dependence (Hartz, Frederick-Osborne, and Galloway, 2001).

No medications tested have yet shown sufficient success in reducing methamphetamine use to warrant widespread use (Vocci and Ling, 2005). The National Institute on Drug Abuse medications program is currently evaluating medications for their ability to reduce methamphetamine use, but there continues to be a paucity of controlled clinical trials for

methamphetamine pharmacology (Vocci and Ling, 2005). A medication that has shown some benefit in early Phase I trials in treating methamphetamine dependence is the anti-depressant bupropion (Wellbutrin), which was associated with decreased cravings for methamphetamine and a decrease in the subjective high of people who used methamphetamine while taking bupropion (Newton et al, 2006). Bupropion is now being evaluated in a Phase II, multi-site, randomized, placebo-controlled study (Vocci and Ling, 2005).

A variety of other pharmacological approaches to treating methamphetamine have been explored. The antidepressants imipramine (Tofranil) and fluoxetine (Prozac) have each been independently evaluated as potential therapies (Galloway et al., 1996; Vocci and Ling, 2005). The anti-nausea drug ondansetron (Zofran), which has been shown to work against relapse in alcoholics, was also investigated (Vocci and Ling, 2005). The calcium-channel blocker amlodipine (Norvasc), which treats high blood pressure and was thought to also have the capacity to inhibit the excessive release of neurotransmitters and reduce the “reward” of using methamphetamine, has also been investigated (Vocci and Ling, 2005). Among all of these trials, results were shown to be inconclusive at best, and in some cases found some negative effects (Galloway et al., 1996; Vocci and Ling, 2005).

A placebo-controlled study by Shoptaw et al. (2006) assessing the efficacy of sertraline (Zoloft) and the use of contingency management for treating methamphetamine dependence found that participants who received only sertraline actually had worse outcomes than those subjects randomized to placebo. The same study found, however, that contingency management showed promise in the treatment of methamphetamine dependence (Shoptaw et al., 2006).

There are a number of other studies that are currently underway on various pharmacological therapies. Studies are also investigating the efficacy of aripiprazole (Abilify), an antipsychotic drug that is used to treat schizophrenia, which has relatively few side effects (Lile et al., 2005). Another medication which is being investigated for treatment of methamphetamine dependence is modafinil (Provigil), which is used to treat narcolepsy (Vocci and Ling, 2005). Early results show improvement in cognitive and motor skills in methamphetamine users taking modafinil (Turner et al, 2003). However, none of these therapies have yet been proved as effective in controlled, randomized clinical trials.

Another area of study for treating methamphetamine dependence is replacement pharmacotherapy (also called substitution therapy), which borrows from strategies to treat heroin addiction with methadone or tobacco addiction with nicotine replacement (Vocci and Ling, 2005). One small (N=41), open-label, 12-week, randomized, controlled study looking at substitution therapy by Shearer et al. (2001) found that users appeared to be attracted to and retained in substitution treatment, and that the intervention also appeared to be acceptable to clinicians. The proportion of methamphetamine positive urine samples in the dextroamphetamine group declined from 95 percent prior to starting treatment to 62 percent at the end of treatment compared to a decline from 85 percent to 75 percent in the control group, however this difference did not reach statistical significance (Shearer et al., 2001).

Medications have also been used for treating acute methamphetamine intoxication, such as methamphetamine-induced psychosis, as distinct from treating the underlying methamphetamine dependence and abuse. Methamphetamine agitation and psychosis have been treated with benzodiazepines and antipsychotics, such as haloperidol (Haldol), risperidone (Risperdal), and olanzapine (Zyprexa) (Vocci and Ling, 2005). Use of these medications have promise in treating acute symptoms of methamphetamine use, and could improve the ability of methamphetamine abusers to engage in, and benefit from, psychosocially based chemical-dependency treatment

(Meredith et al., 2005). However, there have not been any controlled clinical trials to assess the efficacy of these medications (Vocci and Ling, 2005).

Limitations of the Literature

The review of the literature provides indications that methamphetamine use among gay men is widespread. The literature serves as a valuable source of information about motivations for use and patterns of use among gay men, and indicates that successful treatment options exist for methamphetamine dependence, particularly psychosocial approaches. Some pharmacological therapies may be useful in addressing some symptoms of acute methamphetamine withdrawal, but have shown limited efficacy in randomized, controlled clinical trials. Though this information is useful, there still remain questions surrounding methamphetamine use among gay men that the literature does not answer.

More research is needed to evaluate behavioral methamphetamine treatment interventions among gay men. In particular, more studies need to be conducted with larger sample sizes. Treatment programs for methamphetamine-dependent gay men should also be evaluated to assess not only their success in reducing methamphetamine use and high-risk sexual behavior, but also whether programs can modify negative self-perceptions and impulsivity (Marinelli-Casey, Domier, and Rawson, 2002). An additional limitation in the literature is the insufficient number of studies that have evaluated harm reduction strategies in outreach and educational campaigns (Wermuth, 2000). Also, more studies are needed to examine the experiences of gay men that are intermittent methamphetamine users, rather than methamphetamine-dependent gay men.

By far, the most significant limitation of the literature is the lack of longitudinal data on the outcome of individuals who have received treatment for methamphetamine dependence, or for any substance dependence, for that matter. Little is known about these individuals beyond initial studies, the longest of which lasted one year. This limits understanding about the true efficacy of methamphetamine treatment strategies (Rawson et al., 2002). Longitudinal research is also needed to better understand causal relationships among methamphetamine use, impulsivity, negative self-perceptions, and sexual risk behavior among gay male methamphetamine users (Patterson et al., 2005).

Focus Group Findings

Focus group participants responded to a number of questions designed to acquire information about methamphetamine use among gay men and best practices for treatment. (The list of focus group questions is included in Appendix A.) Participants were asked about their perceptions of the extent to which methamphetamine is being used among gay men, the contexts in which it is being used, and the risks and dangers of methamphetamine use. They were then asked to describe what in their experiences they considered to be effective approaches for treating methamphetamine addiction among gay men, as well as key barriers to accessing appropriate care. Additionally, they were asked their opinions on how effective recent education and prevention efforts have been, what they see as key challenges and opportunities, and what they see as controversies in addressing the issue of methamphetamine use among gay men.

Participants reported that the use of methamphetamine among gay men is a significant problem. Methamphetamine use among gay men is high and has undoubtedly increased in recent years. Though there were some differences based on geography, most believed the prevalence rate for methamphetamine use among gay men to be about 10 percent. A number of participants, especially on the West Coast, estimated that the prevalence rate among gay men was closer to 20 percent. A number of participants from the West Coast indicated that methamphetamine use among gay men seems to be stabilizing in their region. In New York, Chicago, and Miami, participants generally believed that methamphetamine use among gay men is continuing to increase. There were also reports that methamphetamine use is higher among some gay male subpopulations, such as HIV-positive individuals and circuit-party attendees. There was also alarm over high levels of methamphetamine use among gay male youth.

Participants felt that methamphetamine use among gay men is contributing to serious health problems. Participants believed that there is a strong correlation between methamphetamine use and increased HIV/AIDS infections, as well as with other STI increases. Some participants who had direct experience treating methamphetamine-dependent gay men reported that often individuals would learn that they are HIV-positive only after entering substance abuse programs. Participants with experience directly treating methamphetamine-dependent gay men also spoke of frustrations treating people with neuropsychiatric symptoms that were difficult to manage, including impaired concentration, severe anxiety, and depression. Other participants reported working with methamphetamine users who had become psychotic, with paranoid delusions and hallucinations.

Nearly all participants agreed that methamphetamine is an extremely dangerous substance, and that there is a very strong tendency for users to develop dependence. Participants disagreed on whether people can use methamphetamine without forming a dependency. Among those who believed that non-dependent methamphetamine use was possible, consensus could not be reached on establishing a hypothetical percentage of methamphetamine users who are not dependent on the drug, aside from the fact that the number would be extremely low. Those participants that felt that non-dependent, casual use of methamphetamine was possible also felt, however, that casual use could easily turn into dependence, and in some cases turn into severe addiction. Participants also agreed that casual users could face other serious health consequences based on their methamphetamine use, especially those related to engaging in high-risk sexual activity while using methamphetamine. All participants agreed that casual use of methamphetamine should not be condoned by health professionals.

Participants discussed the associated social and emotional costs of methamphetamine addiction. Several participants reported frequently witnessing a pattern of methamphetamine use that led to a steady, unrelenting loss of the major supports in the methamphetamine users' lives: loss of careers and homes, destruction of primary relationships, and alienation of friends and families. Whereas participants acknowledged that not all gay men that use methamphetamine will hit the same "rock bottom," most participants agreed that, based upon their experience, methamphetamine is an extremely dangerous drug that can ruin lives.

After compiling data collected from the focus groups, a number of distinct themes emerged:

- ***The Context of Methamphetamine Use:*** Methamphetamine use among gay men is a complicated and misunderstood problem. Few people understand the actual circumstances surrounding its use. Effective evaluation and treatment require that methamphetamine use be understood in its proper context.
- ***Best Practices in Treatment:*** Contrary to the common belief that methamphetamine addiction is incurable, participants feel that treatment programs *are* available that are successful for many gay men. As addiction professionals gain more experience treating methamphetamine users, programs are becoming tailored to addiction issues specific to methamphetamine, as well as issues unique to gay male methamphetamine users.
- ***Opportunities for Intervention:*** There are a number of opportunities for reaching out to gay male methamphetamine users, and many of these opportunities are being missed. Any interaction that a gay male methamphetamine user has within the healthcare system should be seen as a potential intervention opportunity.
- ***Barriers to Treatment:*** Substantial barriers to accessing appropriate treatment exist for methamphetamine-using gay men. One barrier is the lack of insurance among many methamphetamine users, and even those with insurance are denied coverage for the most appropriate types and levels of care. Another key barrier is the limited number of substance abuse programs whose staff are trained to address the unique needs of gay male methamphetamine users.
- ***Prevention Efforts:*** There is a need for more effective prevention programs aimed at gay men from different backgrounds. Prevention programs are much less expensive than treatment programs, in addition to saving the personal and social costs of methamphetamine abuse, and as such prevention programs should be seen as a critical investment in the face of increasing methamphetamine use among gay men.
- ***Use of Fear Tactics:*** There is a fair amount of disagreement over the use of fear tactics. While many participants stated that such tactics are inappropriate, and tend to compromise the effective delivery of important messages about risky behaviors, other participants noted that fear tactics may have some efficacy in specific circumstances.
- ***Additional Research Needed:*** There is a need for additional research in a variety of different areas related to methamphetamine use among gay men. For example, research is needed to better understand patterns of methamphetamine use, so that programs can more effectively intervene. Research is also needed to further evaluate and establish efficacy and effectiveness of for treatment programs.
- ***Media and Societal Response:*** The media and societal response to methamphetamine use among gay men has been problematic. The media has often ignored the issue. When the media chooses to report on the issue, stories often provide simplistic accounts of the issues and sensationalize the relationship between methamphetamine and sex. Societal responses have frequently been alarmist, and at times have condemned and alienated users rather than providing effective support for treatment. This marginalization of

methamphetamine users facilitates the process of social isolation inherent in addiction, and it hinders rather than helps addicts reach recovery.

This section provides further elaboration on the above themes along with descriptions of additional key points raised by participants.

The Context of Methamphetamine Use

Focus group participants were nearly unanimous in their opinion that methamphetamine dependence among gay men is a significant problem. However, participants felt that methamphetamine use among gay men is poorly understood, and that subtle but important nuances about the issue were being omitted from discussions in the media and community. Interestingly, many participants reported that healthcare providers, even those that work with gay men, were often just as ignorant about these nuances as the general public. In light of the fact that methamphetamine use among gay men has increasingly become a significant public health problem, participants believed that it is important that people gain a better understanding of the methamphetamine issue.

Participants emphasized that not all gay men use methamphetamine in the same way. While some use methamphetamine daily, others use it once or twice a year. Most participants reported that the number of gay men who use methamphetamine intermittently is fairly significant. Participants believed that there is a perception among many groups that gay men use methamphetamine solely for sex, when in fact methamphetamine is being used in a wide variety of settings. While some use methamphetamine explicitly for the purpose of having sex, others use the drug for different purposes, such as to enhance dancing or to cope with loneliness and depression.

Participants felt that people have been too quick to condemn and demonize methamphetamine users for “reckless and irresponsible” behavior. Participants strongly advocated understanding and compassion around this issue. One factor that needs to be better understood is how psychosocial pressures can lead some individuals to be more susceptible to drug addiction than others. When looking at methamphetamine use among gay men, it is important to recognize how social pressures, including homophobia, discrimination, and the experience of dealing with the HIV/AIDS epidemic contribute to certain psychological and emotional issues, such as internalized homophobia, low self worth, and depression. For gay men suffering from one or more of these conditions, the use of methamphetamine can be perceived as extremely useful in easing the everyday pain and burdens in their lives.

Some participants provided examples of the extent to which these social and emotional pressures have taken a toll on gay men. They pointed out that many methamphetamine-dependent gay men belong to a generation of men who lived through the AIDS epidemic, and were witness to the premature deaths of many partners, friends, and associates. This same generation of men lived through periods of high levels of discriminatory rhetoric and public discourse questioning their “choice” of lifestyle and their civil rights. Even today, the public debate surrounding same-sex marriage continues to impact self-perceptions and feelings of self-worth of gay men. Participants felt that it is impossible to separate these larger issues from the problem of growing methamphetamine use among gay men.

Nearly all participants perceived a relationship between methamphetamine use among gay men and high-risk sexual activity, as well as with spread of HIV/AIDS and other sexually transmitted infections (STIs). Nearly all participants agreed that using methamphetamine during sex is associated with high-risk activities that include unprotected receptive and insertive anal sex.

However, participants indicated that the relationship between methamphetamine use and sex is a complicated issue, and that clear causal relationships have yet to be established. A few participants cautioned specifically against concluding that the use of methamphetamine is the cause of increased high-risk sexual activity among gay men. A few participants posited that what instead might be the case is that a group of gay men that engage in sexual compulsive behavior may be disproportionately drawn to methamphetamine, and that this subset of gay men is increasingly using the drug while engaging in sexual activity.

Some participants also reported that public perceptions of compulsive sexual activity in the gay community are sometimes incorrect, and more education is needed to promote better understanding of this issue. A few participants believed that sexual compulsivity was often pathological in nature, and related to internalized homophobia and negative self-worth, as well as past experiences of sexual abuse. Through exploring the issue of sexual compulsivity among gay men, some participants felt that the complicated issues surrounding methamphetamine use and sexual activity could be disentangled.

Other participants felt it was important to emphasize the hypersexual effects of methamphetamine. One participant cited cases of men masturbating for hours until their penises were bleeding. Participants also noted that extreme sexual activity appeared in some men who had no history of compulsive sexual behavior before using methamphetamine.

Participants pointed out that other drugs are being used and abused by the gay community, such as alcohol, cocaine, and heroin, and that these other drugs also have a role in increasing high-risk sexual behavior, and as a result, have a role in promoting HIV/AIDS and other STIs. Though methamphetamine is among the more dangerous of drugs that are abused by gay men, participants reported that other less dangerous drugs are being abused by far more people. Thus, by virtue of scale, these other drugs were believed by participants to be responsible for far more health related problems among gay men. For instance, far more gay men will die of tobacco and alcohol-related problems than problems related to methamphetamine use. This issue was considered too complex to draw any immediate conclusions because of the difficulty of quantifying the “harm” created by each drug and how they compare with each other. For example, one participant posed the question, “Is one million people newly developing mild liver toxicity considered more concerning than 100,000 newly diagnosed people with HIV?” Without separating and prioritizing each drug, some participants felt that it was more appropriate to address substance abuse in general among gay men, and that it was not appropriate to concentrate attention and resources solely on methamphetamine.

Best Practices in Treatment

Focus group participants reported that many people, even many healthcare providers, believe that methamphetamine dependence is an untreatable condition. However, participants reported that successful treatments are available. Participants stated that while treatment for methamphetamine dependence is often a difficult and long-term process, effective treatment options are available to a limited extent. Gay men who are addicted to methamphetamine can successfully recover, and new treatment approaches are continuing to be developed that show greater levels of efficacy.

Participants diverged to some extent in terms of their individual preferences for using specific treatment approaches and strategies, but there was a consensus among participants that successful treatment regimens must be multifaceted. Participants identified psychotherapy as being extremely helpful, if not crucial, in addressing methamphetamine addiction among gay men. Nearly all participants also reported that group therapy and other forms of social support

structures are a fundamental part of treating methamphetamine dependence, both during the initial treatment period and on a long-term basis to reduce the risk of future relapse.

Participants nearly all agreed that no one treatment approach is appropriate for everyone, and that there is no standard protocol that should be applied to all individuals seeking treatment for methamphetamine dependence. Instead, there is a need to develop a tailored treatment approach that is appropriate for the individual, which often will combine a variety of different treatment approaches. The decision about the type of treatment approach should be based upon an individual's history and pattern of use and an individual's goals for treatment. Methamphetamine users should work closely with their healthcare providers to determine what course of treatment is best for them.

Participants stated that what is most important in methamphetamine treatment is for healthcare providers to be culturally competent, and have knowledge of gay culture, common patterns of methamphetamine use within the gay community, and common health issues for gay men. Most importantly, providers must create and cultivate environments for open dialogues and non-judgmental, compassionate care. Though effective treatment is available, the treatment process is not necessarily easy, and is often lengthy.

Many participants noted that relapses are common for persons who have undergone treatment for methamphetamine dependence, and to a certain degree should be expected. Participants added that relapses should not deter people from seeking additional treatment, and should not be interpreted as a failure either of the individual who has relapsed or of the method or clinicians providing treatment. Participants felt that methamphetamine dependence treatment might be best seen as treatment for a long-term, chronic condition, much like treatments for diabetes and hypertension. Similar to these illnesses, methamphetamine dependence should be expected to have periods of exacerbation. Rather than having a cure, these are conditions that require ongoing treatment, lifestyle change, and ongoing monitoring.

Behavioral Treatment Options: Most participants noted that cognitive behavioral therapy, both in individual treatment and in group settings, can be a particularly useful form of behavioral therapy for addressing methamphetamine dependence among gay men. A number of participants noted that the Matrix Model, in particular, was a useful approach. This form of therapy, which teaches skills to those seeking treatment to better recognize, avoid, and cope with relapse triggers, is useful because relapse triggers can be so powerful and pervasive. A number of participants noted that the need to address relapse triggers among former users is crucial, especially for those gay men that formerly used methamphetamine during sexual activities, for whom any instance of sexual arousal can potentially lead to a relapse. Depending on how individuals have used methamphetamine in the past, however, anything has the potential to serve as a relapse trigger, such as emotional trauma, depression, and stress.

A number of participants also noted that they have used motivational interviewing while providing individual therapy, and felt that this approach can be particularly useful for motivating methamphetamine-using gay men to accept that their drug use may be problematic. The approach motivates individuals to change their behaviors by helping them explore their behaviors and resolve ambivalence about potential problems caused by their drug use. Methamphetamine users are urged to set small goals around their drug use, perhaps to reduce their drug use or use methamphetamine only under certain circumstances, and to reward the achievement of goals. Over time, such an approach can be used to motivate methamphetamine users to accept that change is possible, and that they can further curtail their methamphetamine use.

Several participants also reported that contingency management deserves more attention based on recent clinical trials. Participants felt that the approach, which rewards individuals for having “clean” urine with vouchers that can be redeemed for goods and services, has great potential and should be considered as an additional component of treatment programs. A few participants felt that it is important to further evaluate this approach to assess its long term efficacy.

Harm reduction approaches were also described by a number of participants as useful in treating methamphetamine dependence. Harm reduction approaches help methamphetamine users reduce risks to their health caused by their methamphetamine use, and may involve reducing drug use, abstaining from drug use in certain situations, or ensuring that safe-sex practices are used when engaging in sexual activity. There was some disagreement among participants over whether harm reduction, in itself, was a useful approach to be used on a long-term basis. A number of participants believed that harm reduction methods are a useful way of motivating people to stay engaged in treatment in the hope that they will eventually become abstinent from methamphetamine use altogether. Some participants, most pronounced in New York, Chicago, and Miami, stated that any treatment approach that allows for the long-term use of methamphetamine, even if health risks are being reduced, is inherently unethical and unsafe with methamphetamine, and that abstinence needs to be the ultimate goal of any treatment program. A smaller number of participants, almost exclusively in California, stated that harm reduction is an important approach for those that are not willing to be completely abstinent from methamphetamine use.

Participants noted that a multidisciplinary, team approach is often needed, especially when addressing more severe instances of methamphetamine dependence. In severe cases, a psychiatrist might be needed when a patient is admitted to treatment to assess possible psychiatric conditions and prescribe medication to alleviate conditions caused by acute methamphetamine intoxication, whereas a psychologist or other therapist might be needed to treat corresponding conditions, such as depression, anxiety, and stress. Individuals with severe methamphetamine dependence require a great deal more attention from treatment programs, and often their very basic functioning and social skills need to be addressed. Residential programs can be beneficial for individuals recovering from severe methamphetamine dependence. Following treatment, it is important that methamphetamine users have access to intermediate-level “step-down” care, with outpatient groups and individual counseling, in addition to 12-step meetings, such as Crystal Meth Anonymous (CMA) to assist with the transition. Many participants stated that, in an ideal world, case managers would be available to ensure an orderly progression through each of these stages.

Pharmacological Treatment Options: Several participants reported that there were a number of medications that can be useful when methamphetamine users present for treatment, especially for treating symptoms related to “crashing” effects when coming off the drug. Participants noted that non-addictive sleeping aids, such as trazodone (Desyrel), can help methamphetamine users restore normal sleep patterns. While a methamphetamine user is detoxifying from acute methamphetamine intoxication, physicians might use other medications to decrease the acute distress when stopping methamphetamine use, such as lorazepam (Ativan) and diazepam (Valium). In addition, participants felt that other medications such as bupropion (Wellbutrin) and modafinil (Provigil) may help with other brain functions such as mood, cognition, and energy, which will help speed recovery from the acute period after stopping methamphetamine use.

Participants noted that there is not currently a pharmacological approach that is strongly supported by data in randomized clinical trials for methamphetamine detoxification or for decreasing relapses. Physicians within the focus group noted that there were not even widely

accepted protocols for providing medications on an off-label basis, and that physicians are left to themselves when considering medications for methamphetamine addiction. Some participants expressed eagerness to see results of new pharmacological treatment approaches that are now undergoing trials, such as the multi-site clinical trial of bupropion (Wellbutrin) on reducing methamphetamine relapse, and some participants described their own anecdotal experiences in which they reported that certain antidepressants were useful in helping former users. A number of participants expressed the need for caution, however, in using medications to treat methamphetamine addiction before these approaches are adequately validated in randomized, clinical trials. Some participants pointed to the experience of the study that sought to validate sertraline (Zoloft) as a treatment for methamphetamine dependence, which was actually found to increase the rate of relapse onto methamphetamine.

Opportunities for Intervention

Although participants did not reach a consensus about what types of interventions and clinical settings were most appropriate, participants agreed that health care providers had an important role of suggesting some kind of intervention when a patient was having a problem with methamphetamine. Participants also agreed that healthcare providers, across all disciplines, should be more educated about substance abuse issues in general. Specific types of interventions were based on the setting or type of health care provider and are discussed below.

Physicians and Primary Care Settings: Focus group participants reported that our healthcare system clearly lacks a screening system to detect methamphetamine use and the knowledge or ability to offer appropriate treatment for gay men addicted to methamphetamine. Many participants felt general substance abuse screening should become a routine of all primary care visits and that perhaps screening for methamphetamines should be routine for gay male patients, though some felt that this was impractical or could be interpreted as homophobic, especially in areas where clinicians are not experienced working with gay male patients. Participants noted that primary care physicians are in a strategic position to ask questions about methamphetamine use and provide patients with information about the true health risks associated with its use. One participant noted that physicians' words carry a great deal of weight, and that physicians can be very influential in motivating patients to seek treatment.

When asked to assess the current state of screening for methamphetamine use by primary care providers, participants were nearly unanimous in their opinion that primary care physicians were not adequately screening for methamphetamine use among gay men. While some felt that primary care physicians should specifically ask known gay male patients about potential methamphetamine use, other participants felt that executing this screen so often was impractical and may be ineffective. Some participants questioned the need to ask all gay men about methamphetamine use, and other participants believed that time constraints on primary care physicians during the clinical encounter prohibited them from applying methamphetamine-specific interventions to all gay men.

Nearly all participants reported that general screening for substance abuse problems was inadequate in most primary care visits. Many of those who felt that screening all known gay men specifically for methamphetamine was an impractical or ineffectual response suggested that primary care physicians might instead improve their verbal screening and interventions on all types of substance abuse, including tobacco, cocaine, and alcohol abuse.

Some participants felt that although administering screening questionnaires to all patients did not seem feasible, knowledge of the symptoms of methamphetamine use or associated behaviors,

such as new or frequent requests for erectile dysfunction medication, sleeping aids, and anti-anxiety medications could prompt a clinician to ask questions to screen for methamphetamine use.

Many participants volunteered their own screening protocols as examples of what healthcare providers might use, and often their screens consisted of simple questions that a primary care physician could quickly ask a patient. These questions included: “Are you using drugs?” “Does your drug use affect your job? Your relationship? Your sex life?” Participants also recommended that drug-screening questions be included in intake forms, ensuring that they are always asked and minimizing the perception by each patient of personally being singled out for using drugs.

While nearly all participants agreed that such a screening tool would be beneficial, some participants again questioned its real efficacy, especially in the case of methamphetamine, noting the tendency of methamphetamine users to be secretive and to lie about their methamphetamine use. This would be consistent with the pattern of methamphetamine users who hide their drug use from close friends and family members. Other participants mentioned that while the screen would not identify all methamphetamine users, it might identify some that would otherwise go unnoticed, and they felt that even identifying a small number would make an important clinical impact.

Participants pointed out that not all gay male patients are out to their physicians, and not all physicians ask their patients about their sexual histories. Therefore, employing a screen only on patients previously known to be gay men would miss many potentially affected patients. In the case of methamphetamine, where it is of utmost importance that providers be sensitive and non-judgmental about methamphetamine use, as well as about related sexual activity, many participants believed that it would be extremely difficult for many physicians to feel comfortable enough to ask their patients questions about sex and drugs in an upfront and effective manner.

One participant discussed his clinic’s practice of providing self-screens and information pamphlets in waiting areas and examination rooms for patients who are self-motivated or who would feel more comfortable discretely looking at educational material anonymously before engaging in a discussion with a health care provider.

Mental Healthcare Providers: Mental healthcare providers, including therapists, psychologists, and psychiatrists were discussed as another strategic contact point to identify and provide interventions regarding methamphetamine use. Mental health care providers generally spend more time with their patients or clients and are able to obtain more in-depth substance abuse histories than physicians during a brief primary care encounter. Participants reported that there may be a need to better educate mental health providers, especially those seeing large numbers of gay men, about how methamphetamine users may be extremely secretive and evasive about methamphetamine use.

HIV/AIDS Treatment Settings: Physicians who treat large numbers of HIV/AIDS patients were identified as another strategic group with opportunities to reach methamphetamine-using gay men. In light of the disproportionate number of HIV-positive individuals using methamphetamine, a number of participants felt that such interventions would be very effective. Similarly, participants mentioned STI clinics as a setting where large numbers of methamphetamine-dependent gay men could be found. Screenings performed at these sites would have a higher yield than if performed in general primary care settings.

Other Health Care Providers: Hospital and clinic/office staff were considered as a valuable resource because of their strategic position to provide interventions to motivate methamphetamine-using gay men to seek treatment. A number of participants felt that it was important that a multidisciplinary approach be used, and that all hospital staff should be trained to recognize signs of methamphetamine use. One participant noted that in many situations nurses are the first to identify signs of methamphetamine dependence. Participants reported that emergency room staff could also be valuable in identifying signs of methamphetamine dependence, and could conduct a brief intervention that could be as simple as distributing a card listing resources such as available treatment programs.

A number of participants stated that healthcare providers need to be provided with tools and resources to make better referrals to appropriate treatment programs for methamphetamine dependent gay men. Participants reported that the average healthcare provider was uninformed about appropriate types of treatments or specific programs that are locally available, in particular programs that serve gay men. Participants suggested that simple tools, such as referral lists of healthcare providers with expertise in treating methamphetamine dependence among gay men that could be updated on a regular basis could be a valuable tool. If this were done at a city or state level, where the information could be shared by clinicians and facilities, the referral database could be even more complete and easier to maintain. Referral databases of such a scale could also be made available to patients via the Internet.

Prevention/Outreach Efforts: Participants were asked to share their thoughts on opportunities for reaching out to methamphetamine-using gay men, educating them on the risks of methamphetamine use, and informing them about the availability of effective treatment options. Participants had different opinions about what types of interventions were most needed and what types would have the most impact. However, there was a general consensus that newer, more effective interventions needed to be developed and that several intervention models were necessary because of the great variety of gay men who use of methamphetamine. Noting that individuals use methamphetamine in different ways and have different levels of dependency, participants agreed that no single intervention would be appropriate or effective for all gay male methamphetamine users.

Focus group discussions also identified a need for more effective public education campaigns, and in particular development of Internet resources, for consumers to find information about appropriate and effective resources on their own. Some participants pointed to Tweaker.org as an example of such a tool, which could provide consumers with information about the health risks of methamphetamine use, as well as resources on treatment programs. Other participants suggested that enlisting the cooperation of Websites frequently used by methamphetamine users searching for sex while using methamphetamine would be an ideal setting for outreach, though this might be a challenge, as campaigns to reduce methamphetamine use would present a financial conflict of interest to many of these sites who depend on methamphetamine-fueled sex for much of their business.

Barriers to Treatment

A substantial barrier reported by focus group participants is the high cost of treatment. Uninsured methamphetamine users must rely on not-for-profit organizations and public healthcare services that are overtaxed and often do not have space available. Even for methamphetamine users who are insured, navigating complex and bureaucratic procedures can be burdensome for both patients and providers, and in many cases insurers that follow a predetermined schedule of approved services will not cover particular treatments or levels of care, such as inpatient or residential

treatment, which the clinician feels are necessary to effectively treat the methamphetamine dependence.

Multiple participants reported experiences with insurance companies reluctant or refusing to cover treatment programs that are necessary to effectively treat their beneficiaries. Treatment programs most commonly covered by insurance are brief, outpatient, general substance abuse treatment programs or brief, inpatient programs in a hospital setting, where little direct methamphetamine-specific therapeutic activity occurs. There were several anecdotal reports of patients relapsing immediately upon discharge, as soon as they had their first sexual encounter. Participants noted that although the American Society of Addiction Medicine and the American Academy of Addiction Psychiatry consider methamphetamine addiction to be a chronic, relapsing illness, insurance companies seldom cover the long-term outpatient care that is usually needed to effectively treat methamphetamine and other substance dependence. One participant compared the situation to that of an insurance company only approving diabetes medication for 8 months out of the year. Participants felt that this analogy highlighted how irrational insurance company policies are and underscored the need for insurers to update their coverage schedules. Although many people with methamphetamine dependence require intensive treatment in residential or inpatient facilities, few insurers are willing to cover such services for more than a brief period, which is not long enough to achieve significant gains in addiction recovery.

An equally problematic issue is the dearth of healthcare providers that are competent to treat gay men. Even in major urban areas with large gay populations and established general healthcare programs serving them, there is still a significant lack of culturally appropriate substance abuse programs for gay men. Substance abuse treatment professionals in other cities and rural areas, have little understanding of the clinical needs of gay men or knowledge of resources to provide treatment. When dealing with methamphetamine dependence among gay men, it is important that healthcare providers are able to discuss frankly with their patients and clients the situations and motivations surrounding their methamphetamine use. In many, if not most instances, these situations and motivations will include past and/or present sexual activity. Focus group members provided numerous anecdotes about patients who reported previous experiences in addiction treatment programs where staff were unwilling to discuss such issues, and core triggers in their addictions were never addressed during the treatment. This suboptimal treatment results in poor clinical outcomes, alienates patients who feel that their needs are not being met, and wastes financial resources of government and private insurance funds that pay for treatment that demonstrates poor efficacy. The poor outcomes are a disincentive for government and insurance companies to cover addiction treatment in general, and the barriers to care for patients/clients with methamphetamine dependence continue to grow. Rather, this should be a warning that the structure and the method of addiction treatment, in particular with methamphetamine and gay men, need to be re-examined.

An additional barrier to care that participants reported was that many healthcare providers who believe that methamphetamine dependence is an incurable condition, avoid addressing the addiction issues of gay male patients. Participants identified numerous negative thoughts that clinicians experience when thinking about methamphetamine users: they are a “lost cause” with no hope for recovery; they are dishonest and are never forthcoming about their substance abuse problems; and they are sociopathic and might even steal from their offices. Some participants described healthcare providers intentionally ignoring signs that their patients or clients may be using methamphetamine, because of reluctance to open up an issue that would be difficult to address or that seems impossible to help.

Although participants were pessimistic about the possibility of bringing about the major structural changes in the healthcare system that are necessary to make available effective addiction treatment for methamphetamine-dependent gay men, they did feel that much work must be done to improve the cultural competence of substance abuse clinicians working with gay men. Participants questioned the state of cultural competency around this issue in other parts of the country.

Prevention Efforts and Public Health Messaging

Focus group participants stated that there is a critical need to develop new and more effective prevention programs. A number of participants believed that the lack of effective prevention efforts represents a critical gap in the response to methamphetamine use among gay men. Participants described prevention efforts as an important and comparatively inexpensive investment that would reduce the number of individuals developing an addiction. Avoiding both the direct costs of the intensive treatment required for methamphetamine dependence, as well as the indirect social and economic costs (decreased work productivity, job loss, increase in violent and petty crimes, disruption of communities and families) highlights the importance of investing in effective prevention programs.

Participants suggested that there is also a need to develop prevention programs tailored to specific demographics, such as LGBT youth, HIV-positive men, gay men from diverse racial and ethnic backgrounds, and other men who have sex with men. Too often, campaigns have attempted to reach too broad an audience; however, participants noted that messages that speak directly to the specific needs of a population are most effective. Therefore, educational strategies that work for one group would not be appropriate for others. In light of the fact that methamphetamine dependence is expensive to treat and resources for treatment are scarce, more attention should be placed on creating effective, targeted prevention programs, which would drastically reduce private and public costs in the long term.

Participants expressed mixed feelings about the use of fear tactics that have been featured prominently in many prevention and public education campaigns. Examples of such campaigns often equate methamphetamine with death, and feature artwork that includes skulls and other dramatic images. Many participants felt that the use of fear tactics was completely inappropriate from a public health standpoint, and pointed out public health studies that have proved that so-called “reefer madness” tactics do not work. However, other participants reported that these tactics were appropriate in some cases. One participant noted that “scare tactics” is too general a term because different elements of a message provoke specific responses in different individuals; therefore, the potential impact of each educational message on its intended audience, whether positive or negative, needs to be considered individually. One participant working with youth felt that these tactics were effective in youth-focused prevention efforts. Other participants – particularly those in New York – commented on the significant value that some initial scare-tactic campaigns had as a “wake up call” to the public that generated conversations, provoked debate, raised awareness about what are the established norms around methamphetamine use within the gay community, and forced the community to consider whether these assumed normative behaviors were acceptable.

Additional Research Needed

Overall, focus group participants felt that there were not enough resources available for dealing with methamphetamine use among gay men. The few available resources have been divided between treatment and prevention, and even fewer resources have been available for research.

However, research is desperately needed to better understand the social and sexual context of methamphetamine use, to develop and evaluate more effective prevention and treatment programs, and to develop and test prevention and intervention messages.

Participants noted there is a need for new and more effective treatments for methamphetamine dependence. However, caution needs to be used in implementing new treatment approaches that are not evidence based or supported by the experience of substantial clinical practice. Although the behavioral approaches that are currently being used are effective, they are far from perfect. Many participants felt that future pharmacological approaches could be particularly helpful for those seeking treatment to get beyond the initial cravings, depression, and anxiety that are commonly observed in those withdrawing from methamphetamine.

Media and Societal Response

Focus group participants overwhelmingly reported that methamphetamine use among gay men was often mischaracterized by the public media. Participants felt that the media, like the general public, poorly understood the issue of methamphetamine use among gay men, and that news stories tended to sensationalize the issues and failed to recognize the subtle yet important nuances of the experiences of gay men dependent on methamphetamine.

Participants all agreed that there is a tendency in the popular imagination to simplify the issue of methamphetamine use among gay men to be about sex.. While there is some reality to the image of gay men using methamphetamine to enhance sexual activity, and disregard precautions to prevent the transmission of HIV and other STIs, the media portrayal often ignores many other important dimensions of the issue. Gay men are often depicted as people with inherently out-of-control sexual tendencies. Another dimension that is often excluded is the role of negative social pressures with public homophobia and the resulting internalized homophobia that contributes to emotional and psychological problems which may increase the risk of substance abuse or dependence among gay men.

Many participants stated that the issue of methamphetamine was not receiving the appropriate air-time that a serious public health crisis deserved. Other participants felt that the coverage of methamphetamine that did receive airtime was inappropriately sensationalized, likely in an effort to drive up ratings. Participants believed that the media has often misstated the relationship between methamphetamine and “reckless,” high-risk sexual behavior, ignoring the subtler yet powerful issues of low self-esteem, depression, internalized homophobia, and other psychological factors that have a role in promoting methamphetamine use and the associated sexual activity.

Among participants who believed that media coverage was inadequate, many believed that the media was reluctant to discuss a topic involving gay men, drugs, sex, and HIV/AIDS. Some participants felt that the reluctance to publish or air stories on this subject has been increasing in recent years, and in some cases may be a reaction to perceived political forces. Some participants pointed out that the same trend is observed in the media portrayal of HIV/AIDS, with the focus shifting to HIV in developing nations, ignoring the continued spread of HIV in the United States. Some participants postulated that one reason for the shift is because of HIV’s relationship to gay male sex in the US.

A few participants felt that part of the lack of media attention might be attributed to the gay community’s resistance to having unfavorable coverage in the mainstream press and reluctance to attract negative attention to the gay community, fearful of the portrayals of gay men that have come from the mainstream media. Some participants felt that the LGBT media had provided a

more balanced portrayal of the issue of methamphetamine than the mainstream press. Many participants stated that when the media did report on methamphetamine use among gay men, rather than focus on the dangerous effects of the drug itself, some stories demonized gay men for recklessly choosing to use drugs and willfully having unsafe sex. Participants felt that this two-dimensional image that is often projected by the media was strongly biased, ignoring the social and emotional context associated with substance abuse and vilifying gay men. Some participants noted that these stories served to reinforce negative views of gay men within society. As part of our general public culture, these negative depictions portrayed by the media, in turn, may further promote negative self-views among gay men. Paradoxically, the biased media exposure of methamphetamine addiction exacerbates the root of the problem for many gay men. As a result, substance abuse among gay men may actually worsen, rather than improve.

Unfortunately, what participants viewed as inappropriate and sensationalized media portrayal of methamphetamine use among gay men contributes greatly to a negative and alarmist societal response. Therefore, it is vital to educate health care providers and the public with a more balanced and well-informed understanding of methamphetamine addiction among gay men.

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Appendix: Focus Group Protocol

The following questions were used to guide focus group discussions:

1. Do we as a society and as healthcare providers, researchers and leaders in the LGBT community, have the issue of crystal meth use or abuse by gay men in the proper perspective?
 - The research about prevalence is not entirely clear. What do you think is the prevalence among the populations you work with?
 - What percentage of people can use meth and not become addicted?
 - Does your answer change for specific demographics, e.g., people of color, trans, young, old?
 - What additional data are needed to answer this question?

2. In your experience, what are the most promising approaches to treating crystal meth addiction among gay men?
 - Does your answer change for specific demographics, e.g., people of color, trans, young, old?
 - Effect of treating co-occurring disorders?
 - What's the role of unapproved and unproven treatments?
 - Clinical concerns about pharmacological approaches (e.g., Zoloft)?
 - How well do treatments work over the long-term?
 - What additional data are needed to answer this question?

3. We'd like now to talk to you about what you recommend as good clinical practice in relation to gay men and crystal meth. (1) What screening for meth use or abuse should take place and how? Are there circumstances that would cause you to change your answer, such as the prevalence of crystal use locally? (2) What can be done to maximize the likelihood that gay male patients and clients will disclose their meth use to their healthcare providers? (3) What can be done to maximize the likelihood that gay male patients and clients who have a problem with meth will engage in treatment?
 - Does your answer change for specific demographics, e.g., people of color, trans, young, old?
 - What should healthcare providers tell their patients who have used meth? Who haven't used meth? What should healthcare providers tell their patients or clients about the health impacts of meth?
 - Under what circumstances should healthcare providers ask gay men about meth or other drugs?

4. What are the key barriers that stand in the way of getting more meth-addicted gay and bisexual men into effective treatment?
 - What are the best settings for delivering prevention and treatment services? What are pros and cons of different settings? (traditional healthcare settings vs. community-based)

5. What are the key controversies regarding how the LGBT community addresses crystal use and abuse among gay men, and what are our right responses, as healthcare professionals, to those controversies?
 - How should we allocate limited resources to address the problem? Treatment or prevention? Any particular treatment modalities? Focus in specific populations?
 - What is the role of healthcare providers – as opposed to other segments of society – in addressing meth use or abuse? In what ways can healthcare providers be most helpful or influential?