



August 18, 2006

Dear Colleague:

The Centers for Disease Control and Prevention (CDC) is very concerned about the harm associated with methamphetamine use, including sexual risk behavior and sexually transmitted infections (STIs), viral hepatitis, and tuberculosis (TB) in communities. A number of studies conducted since 1998 have found a two-fold or greater increase in sexual risk behavior or STIs among methamphetamine users compared to peers who do not use methamphetamine. Multiple outbreaks of hepatitis A and hepatitis B among methamphetamine users have been identified in the United States over the past decade, involving many hundreds of cases and several deaths. Furthermore, two tuberculosis outbreaks among methamphetamine users have occurred in the United States since late 2005.

In 2005, CDC hosted a national consultation of scientists, public health officials, and community providers to review a representation of the current state of the science and practice regarding methamphetamine use and sexual risk. Enclosed is a summary of the CDC consultation, recently published in *Public Health Reports* (Appendix A), including research and program suggestions that resulted from the consultation. We encourage you to review the summary, and to consider incorporating or continuing to pursue the suggestions in your future prevention and intervention planning to reduce STIs (including HIV infection) in your communities.


At CDC, primarily in the National Center for HIV, STD and TB Prevention, we continue to work to address the intersection of methamphetamine use and sexual risk behavior. CDC also recommends hepatitis A and hepatitis B vaccination of methamphetamine users. Through an internal workgroup, CDC has ongoing activities in the following broad categories:

- Leadership and Coordination – both within CDC and with other federal agencies
- Surveillance and Epidemiology
- Intervention Development Research
- Program
- Capacity-Building, Training and Technical Assistance

In addition, a number of organizations have developed resources that may also be helpful to you as you address methamphetamine use and sexual risk behavior (see Appendix B).

For additional or more detailed information on CDC's activities, please contact Gordon Mansergh, Ph.D. (gmansergh@cdc.gov) in the Divisions of HIV/AIDS Prevention; Mary McFarlane, Ph.D. (mmcfarlane@cdc.gov) in the Division of STD Prevention; John Oeltmann, Ph.D. (JOeltmann@cdc.gov) in the Division of Tuberculosis Elimination; or Kevin O'Connor (KOConnor@cdc.gov) in the Division of Viral Hepatitis.

Sincerely,

A handwritten signature in black ink that reads "Kevin A. Fenton". The signature is written in a cursive style with a large, prominent "K" and "F".

Kevin Fenton, M.D., Ph.D.  
Director  
National Center for HIV, STD, and TB Prevention

(2) Enclosures

# CDC Consultation on Methamphetamine Use and Sexual Risk Behavior for HIV/STD Infection: Summary and Suggestions

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## SYNOPSIS

In January 2005, the U.S. Centers for Disease Control and Prevention hosted a national consultation of scientists, public health officials, and community service providers to address growing concerns about the association of methamphetamine use and sexual risk behavior for HIV/STD infection, which is well documented among men who have sex with men. The purpose of the consultation was to review a representation of the current state of the science and practice on the topic in order to reduce the situational link of methamphetamine use and sexual risk. A set of suggestions for future research and programs were developed by the participants. This article provides a summary of content and recommendations from the consultation, and not an exhaustive review of the literature.

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On January 13 and 14, 2005, the U.S. Centers for Disease Control and Prevention (CDC) hosted a national consultation of scientists, public health officials, and community service providers to address growing public health concerns regarding the association of methamphetamine use and sexual risk behavior for HIV/STD infection. The consult was intended to provide a representative, albeit not exhaustive, review of current science and practice up to that time, and focused largely on men who have sex with men (MSM) because of the well-documented association between methamphetamine use and sexual risk behavior in those populations. What follows is a summary of the consult, including a list of research and program suggestions (Figure) developed by the participants.

## BACKGROUND

Waves of increased methamphetamine use have been observed in the United States after World War II, during the 1960s and 1970s, and, currently, since the 1980s.<sup>1</sup> By the early 1990s, methamphetamine use was increasingly prevalent in the western United States, and it has gradually moved to the Midwest and East.<sup>2</sup> Small lab manufacturing of methamphetamine has also increased, particularly in rural and suburban regions.<sup>3</sup> In many areas of the country, methamphetamine is notably or increasingly associated with arrests and treatment admissions.<sup>4</sup>

Methamphetamine is a Schedule II drug and a central nervous system stimulant with a high potential for addiction. Chemically-similar, amphetamines are legally available for treatment of narcolepsy, obesity, and attention deficit disorder.<sup>5</sup> Cognitive changes in the orbitofrontal cortex of methamphetamine abusers are similar to those of cocaine and other substance abusers, and possibly underlie loss of control and compulsive behavior.<sup>6</sup> However, methamphetamine use also has distinct, long-lasting cognitive effects such as sensitization.<sup>7</sup> Physical effects of methamphetamine use include increased heart rate and blood pressure, decreased appetite, increased alertness and restlessness, inability to sleep, talkativeness, teeth grinding, hyperthermia, convulsion, and death.<sup>5</sup> Usage over time can cause effects such as irritability, aggressiveness, paranoia, and hallucinations.<sup>5,8</sup> Enhanced sensitization in studies of rats suggest that methamphetamine use can increase sexual behavior.<sup>9,10</sup> Methamphetamine use may cause impotence at the same time it increases libido and decreases inhibitions, which could lead to use of medication for erectile dysfunction by men (e.g., sildenafil) or increased receptive anal sex among MSM. Some of the effects of methamphetamine may be partly func-

tional, including increased energy, mood enhancement, weight loss, and heightened sexual sensitivity and pleasure.<sup>3</sup> These factors should be considered when developing interventions.

## PREVALENCE OF METHAMPHETAMINE USE

Prevalence of methamphetamine use by MSM varies according to sampling method and behavioral assessment window. A 2001 study<sup>11</sup> found that 15% of MSM in San Francisco used methamphetamine during their most recent anal sex episode in the prior three months, which was third only to the prevalence of alcohol and marijuana use. Suggesting a geographical difference at the time, a 2000–01 baseline study of HIV-positive MSM found a higher prevalence of three-month methamphetamine use for participants in San Francisco (18%) compared to New York (7%;  $p < 0.001$ ). (Personal communication, David Purcell, CDC, October 24, 2005). Preliminary data from the 2004 CDC National HIV Behavioral Surveillance of MSM suggest that overall a higher percentage of methamphetamine users (50.4%) were white compared to non-users (43.5%;  $p < 0.05$ ). (Personal communication, Amy Drake, CDC, October 24, 2004). Further analyses of methamphetamine use data are needed to examine potential race/ethnicity and other demographic differences nationally and by region.

Methamphetamine use in the general population is relatively low compared to use in some populations of MSM. Data from the Monitoring the Future study indicate that there are no increasing trends in methamphetamine use in a general population of 12th graders, with an annual prevalence of 4.7% in 1999 to 3.6% in 2002.<sup>12</sup> However, other data show recent increases in methamphetamine-related arrests and in treatment and emergency room admissions overall.<sup>13,14</sup> Any of these methamphetamine use findings could change in the future if use continues to expand; additional data are needed to more thoroughly assess and monitor national and regional trends in methamphetamine use.

## ASSOCIATION BETWEEN METHAMPHETAMINE USE AND SEXUAL RISK BEHAVIOR

Methamphetamine use is associated with sexual risk behavior; this is well documented among MSM in studies with various windows of behavioral assessment (e.g., three and 12 months, and most recent sexual encounter).<sup>11,15,16</sup> Methamphetamine use is consistently associated with unprotected anal sex among MSM, particularly unprotected receptive anal sex (URA). For

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**Figure. Research and program suggestions from the CDC consultation on methamphetamine use and sexual risk behavior for HIV/STD infection**


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**Research suggestions**

- R1. Increase surveillance and monitoring to follow the moving target of methamphetamine use and sexual risk behavior, particularly in subpopulations of MSM (e.g., racial/ethnic minorities) and among heterosexual men and women.
- R2. Explore natural history of methamphetamine use and its association with sexual risk behavior for HIV/STD infection to identify points of intervention.
- R3. Explore the association of methamphetamine use with sexual risk behavior and incident HIV/STD infections in subpopulations of MSM and among heterosexual men and women.
- R4. Explore the social and sexual context of methamphetamine use in populations for whom methamphetamine use is associated with sexual risk behavior.
- R5. Develop and test prevention and risk reduction interventions to decrease sexual risk behavior of nonaddicted methamphetamine users in populations for whom methamphetamine use is associated with sexual risk behavior.
- R6. Explore the effectiveness of treatment components to reduce sexual risk behavior of methamphetamine abusers.
- R7. Develop and test structural and policy-related interventions to reduce the association between methamphetamine use and sexual risk behavior.

**Program suggestions**

- P1. Train health care providers with regard to methamphetamine prevalence, symptoms of use and abuse, and referrals to community services; monitor prevalence of methamphetamine use and referrals.
  - P2. Systematically evaluate the effectiveness of community awareness building, risk reduction, and treatment programs to decrease sexual risk behavior of methamphetamine users; create new programs based on proven effectiveness.
  - P3. Increase treatment expertise and capacity to address methamphetamine use and sexual risk behavior, and increase treatment access.
  - P4. Increase collaboration among various public health agencies, coordinate efforts to reduce the association of methamphetamine use and sexual risk behavior.
  - P5. Develop and evaluate comprehensive efforts to reduce methamphetamine use and sexual risk behavior, including awareness, prevention, risk reduction, treatment, post-treatment, structural, drug supply and other policy-related interventions.
  - P6. Address use of other substances use as well as methamphetamine in efforts to reduce sexual risk behavior for HIV/STD infections.
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example, among HIV-positive MSM, methamphetamine users were more than twice as likely than non-users to report URA with a partner whose HIV serostatus was negative or unknown, and more than four times as likely to report the behavior with HIV-positive partners in the past three months.<sup>11</sup> More specifically, HIV-positive or HIV-negative MSM who used methamphetamine immediately before or during anal sex were twice as likely as MSM who did not use methamphetamine to report URA during that encounter;<sup>12</sup> alternatively, Viagra use was associated with unprotected insertive anal sex.

Some evidence suggests that methamphetamine use may also be associated with unprotected vaginal sex and with a higher number of sex partners in the past 12 months among heterosexual men and women who are not injection drug users (IDUs) attending HIV testing centers in California in 1994–95 (males: 4.5 partners for meth users versus 2.9 partners for non-users [ $p < 0.0001$ ]; females: 4.5 versus 2.4 partners, respectively [ $p < 0.0001$ ]).<sup>17</sup> However, there was an even larger difference in number of sex partners for gay meth users (13.6) compared to non-users (6.9;

$p < 0.0001$ ).<sup>17</sup> Other studies have found relatively high rates of sexual risk behavior among heterosexual IDUs who use methamphetamine.<sup>18</sup>

HIV-positive MSM may be more likely than HIV-negative MSM to use methamphetamine,<sup>12</sup> and some MSM methamphetamine users may be more likely than other methamphetamine users to use it during sex.<sup>17</sup> A study of HIV-positive MSM who use methamphetamine<sup>19</sup> found that the most frequently self-reported motivation for using methamphetamine was to enhance sexual pleasure (reported by nearly 90%). Yet, a study of HIV-negative heterosexual (male and female) methamphetamine users<sup>20</sup> did not find sexual pleasure to be a self-reported motivator. An assessment of Latino gay men also showed that sexual enhancement was a primary reason for methamphetamine use.<sup>21</sup> Thus, existing data indicate a solid link between methamphetamine use and sexual risk among MSM and perhaps among heterosexual men and women. More research is needed on differences between heterosexuals and MSM and on differences among heterosexuals by gender.

## ASSOCIATION BETWEEN METHAMPHETAMINE USE AND STD INFECTION AMONG MSM

Not surprisingly, the link between methamphetamine use and sexual risk is also related to STD infection. STD clinic data for MSM in San Francisco showed that increased risk for early syphilis infection was associated with methamphetamine use (especially when combined with Viagra) in the past four weeks.<sup>22</sup> Increased risk for early syphilis was also seen for MSM who were not white in race/ethnicity, were HIV infected, had met sex partners on the Internet, and reported stronger identification and behavioral affiliation with gay communities. Another analysis of the same data showed that methamphetamine use was associated with HIV infection, syphilis infection, coinfection with two or more STDs, age under 35 years, depression, and use of more than one substance.<sup>22</sup> A nested case-control study of MSM recruited on the Internet found men who had used methamphetamine in the prior six months were twice as likely as those who had not to report an STD infection during the same six-month period.<sup>23</sup>

## CONTEXTS OF METHAMPHETAMINE USE AND SEXUAL RISK BEHAVIOR AMONG MSM

A study of methamphetamine users in Seattle during the 1990s revealed five primary subgroups or contexts of MSM methamphetamine use: party circuits, bathhouses or sex clubs, transgender circles, youth circles (club or street scene), and self-medicating HIV-positive men (often depressed, homeless, and IDU).<sup>24</sup> In another study, a greater proportion of MSM who attended circuit parties (weekend-long series of dance parties) in the prior year reported methamphetamine use than did MSM who had not attended a circuit party.<sup>25</sup> Further, among MSM who had attended circuit parties, more of them reported use of methamphetamine and other substances during circuit party weekends than during weekends they attended dance clubs or other weekends, particularly when the parties were away from their town of residence (San Francisco).<sup>16</sup> Men who used methamphetamine during circuit party weekends were more than twice as likely (versus men who did not) to have unprotected anal sex during that weekend with a partner whose HIV status was unknown or different from theirs.

Regarding partner interactions, methamphetamine-addicted, HIV-positive MSM tended to report a sense of obligation to disclose their HIV status if they engaged in a sexual behavior perceived to carry greater risk for HIV transmission.<sup>26</sup> However, many of these

HIV-positive participants did not disclose their serostatus but believed that they protected the health of their sex partners by avoiding high-risk sexual behaviors; of note, perceptions of high-risk sex varied dramatically for both HIV-positive and HIV-negative participants.

## METHAMPHETAMINE AWARENESS AND PREVENTION

Several examples of community awareness campaigns or prevention efforts were presented at the consultation; however, little or no evidence was reported on the effectiveness of these programs. Evaluation of existing programs is essential to determine whether or not prevention activities are effective. Community representatives stated, anecdotally, that task forces have been useful in systematically addressing methamphetamine use. These coalitions often include drug treatment and HIV/STD prevention service providers; policy makers; public health and law enforcement officials; representatives of business, civic, and faith-serving agencies; other non-government organizations; and community members. Consult participants recommended (1) assessing the unique situation in a given community before acting; (2) evaluating realistic and worthwhile "success" outcomes; (3) using methods (whenever possible) that have been assessed and found to be effective; (4) working to change behavioral norms that accept or encourage methamphetamine use and sexual risk behavior; (5) training health providers, policy makers, law enforcement, and other community leaders; (6) being sensitive to racial/ethnic and sexual orientation diversity; (7) collaborating with representatives of target populations; and (8) using programs that are flexible and can be customized to the needs of a particular population or setting.

## METHAMPHETAMINE TREATMENT

Drug treatment for MSM who use methamphetamine can dramatically reduce sexual risk behavior as well as methamphetamine use,<sup>27,28</sup> although no particular treatment approach has been found to be more effective than another. Drug treatment should be a part of a comprehensive community effort to reduce sexual risk behavior. Because the majority of drug users are not enrolled in an inpatient setting at any one time, communities should explore the use of less intensive resources, such as outpatient treatment, 12-step groups, community forums, and general support groups.

The following suggestions were offered based on



experiences of existing community-based drug treatment programs: (1) meet the users “where they are” (i.e., some will be seeking abstinence while others will not); (2) assess the degree of methamphetamine use, abuse, dependence, or addiction; (3) provide a comprehensive set of options varying from outreach-based harm reduction to residential treatment; (4) focus on both sex- and drug-related risk behaviors; (5) address use of other substances in addition to methamphetamine; and (6) develop collaborative relationships between community providers and research institutions.

### POLICY APPROACHES

National, state, and local agencies have pursued policy-related actions in response to the burgeoning methamphetamine problem. Policies to control methamphetamine production have had important, if temporary, effects in reducing methamphetamine-related abuse, hospitalizations, and arrests.<sup>13,14</sup> Some communities have considered policies for sex venues where methamphetamine users with high levels of sexual risk behavior may be more likely to come into contact with non-users or people at lower risk. These venues include bathhouses, sex clubs, circuit parties, and Internet sites. Such policies include reducing hours of operation, and development and enforcement of drug-free venues.

On November 19, 2004, the National Coalition of STD Directors presented testimony to the CDC/HRSA federal Advisory Committee on HIV and STD Prevention and Treatment advocating four action steps: (1) increase availability of drug treatment slots; (2) evaluate and adapt current prevention efforts; (3) adopt and scale up contingency management (e.g., vouchers that can be exchanged for goods and services following drug-free urine samples); and (4) convene a national task force to address networks of methamphetamine manufacturing and distribution to MSM.

### FINAL COMMENT

Methamphetamine use and sexual risk behavior are public health issues in the United States. Methamphetamine use and risk for HIV/STD infection can occur together and are a concern for communities of MSM and potentially other populations, although more surveillance and research are needed. This may also be the case in other industrialized countries that have seen recent increases in STDs among MSM. National, state, and local organizations should continue to work together to develop comprehensive and balanced approaches that effectively prevent or reduce metham-

phetamine and other drug use and sexual risk behavior in our communities.

The research and program suggestions generated from the CDC consultation provide only a general framework. Scientists and evaluators need to address the large gaps in knowledge that currently exist, and funding agencies should come together to accomplish this goal. Health officials and program specialists, with the help of scientists, should take what is known from research and evaluation and use it to implement effective community programs. The challenge for communities is to determine how best to allocate limited resources among prevention, treatment, and policy activities to achieve maximum epidemiological benefit.

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## Appendix B

- a) National Institute on Drug Abuse (NIDA) information:  
[www.drugabuse.gov/drugpages/methamphetamine.html](http://www.drugabuse.gov/drugpages/methamphetamine.html)
- b) National Alliance of State and Territorial AIDS Directors (NASTAD) and National Coalition of STD Directors (NCSD) 8-step recommendations:  
[http://www.nastad.org/Docs/Public/Publication/2006217\\_Crystal%20Meth%20Press%20Release.pdf](http://www.nastad.org/Docs/Public/Publication/2006217_Crystal%20Meth%20Press%20Release.pdf).
- c) Addiction Technology Transfer Center information: [www.nattc.org](http://www.nattc.org).
- d) New York State Department of Health online literature review:  
[http://www.health.state.ny.us/diseases/aids/harm\\_reduction/crystalmeth/index.htm](http://www.health.state.ny.us/diseases/aids/harm_reduction/crystalmeth/index.htm)
- e) Summary and suggestions from the January 2005 CDC methamphetamine consultation published in Public Health Reports (March/April 2006 issue):  
[www.publichealthreports.org](http://www.publichealthreports.org)
- f) Fact sheet on methamphetamine use and sexual risk behavior:  
[http://www.effectiveinterventions.org/References/Meth & HIV.pdf](http://www.effectiveinterventions.org/References/Meth_%20&%20HIV.pdf)
- g) Examples of community efforts:  
Chicago: [www.crystalbreaks.org](http://www.crystalbreaks.org)  
New York City: [www.gmhc.org/policy/nyc/ConfrontCMUse.pdf](http://www.gmhc.org/policy/nyc/ConfrontCMUse.pdf)  
San Francisco: [www.crystalmess.net](http://www.crystalmess.net)  
Washington, DC: [www.letstalkaboutmeth.org](http://www.letstalkaboutmeth.org)
- h) 2004 Dear Colleague letter on the need for comprehensive STD prevention for services for MSM:  
[www.CDC.gov/ncidod/diseases/hepatitis/MSM/dear\\_colleague.htm](http://www.CDC.gov/ncidod/diseases/hepatitis/MSM/dear_colleague.htm)