


AIDS Education and Training Centers
National Resource Center

HIV & Stimulants: Using National Collaboration to Develop Effective Training of Trainer (TOT) Tools

2008 Ryan White HIV/AIDS
Program Grantee Meeting
Washington, DC

Speakers


- Veronica Jones, MPH
 - Program Coordinator, AETC NRC
- Tom Donohoe, MBA
 - Principal Investigator & Director UCLA/Pacific AETC



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Learning Objectives


- Understand the links between methamphetamine, crack-cocaine and HIV
- Discuss current substance abuse issues and resources related to methamphetamine and crack/cocaine
- Describe how education tools were developed and disseminated through a national collaborative workgroup



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Forming a National Collaborative Workgroup

- Background/ history
- Selecting members
- Selecting workgroup goals
 - Adapt existing curriculum, HIV, Stimulants and Mental Health (2006) developed by the Pacific AETC and Pacific Southwest ATTC
 - Host Training Exchanges



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Training of Trainers

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Substance Abuse: Stimulants Workgroup

Methamphetamine and HIV: What Clinicians Need to Know

Training Exchange

August 24, 2007

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Substance Abuse: Stimulants Workgroup

Crack/Cocaine and HIV: What Clinicians Need to Know

Training Exchange

September 14, 2007


- Record number of registered participants: 102 and 72 respectively



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Methamphetamine and HIV: What Clinicians Need to Know

Training Exchange Highlights



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The Methamphetamine Family

- **SPEED**
 - MA powder: white, yellow, orange, pink, or brown
 - Color variations due to different chemicals used and expertise of the cook
- **ICE**
 - High purity MA crystals or coarse powder: translucent to white, sometimes with a green, blue, or pink tinge



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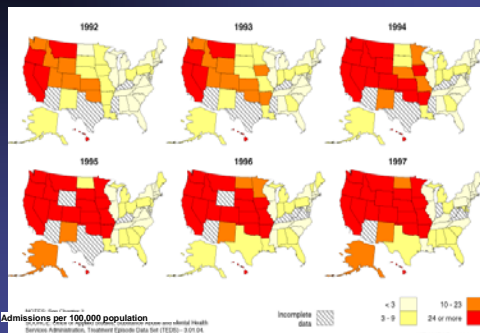


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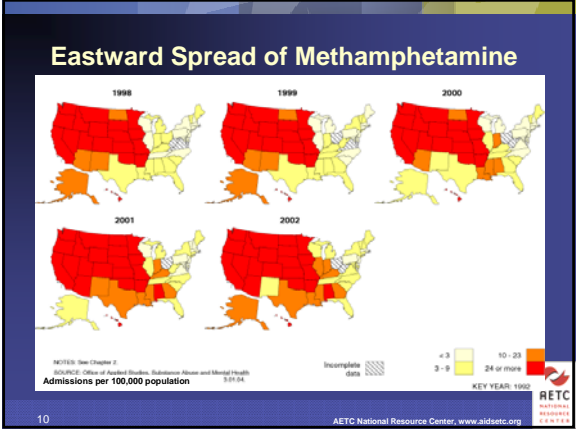
Eastward Spread of Methamphetamine

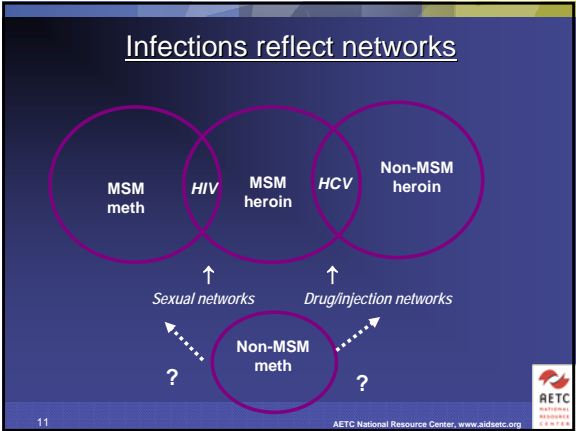


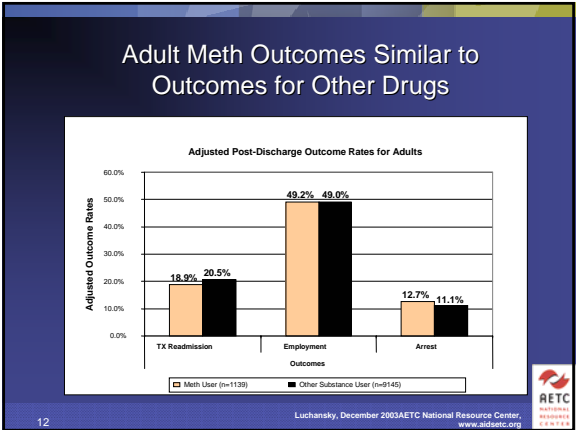
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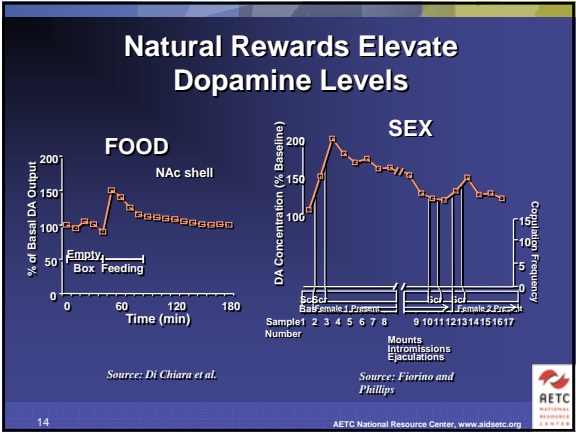


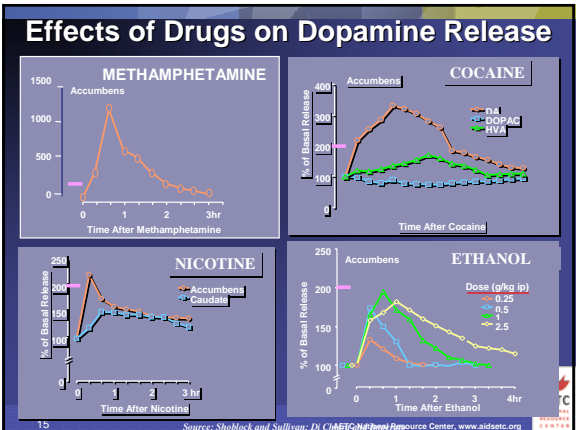




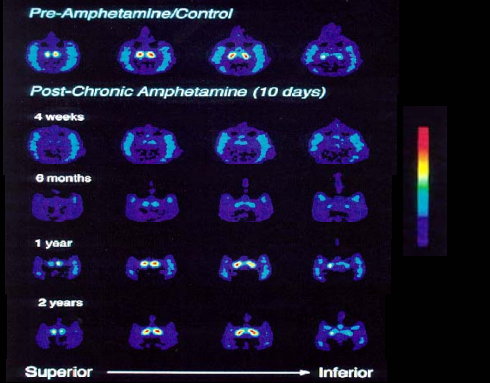
Methamphetamine Addiction

The brains of people addicted to Methamphetamine are different than those of non-addicts

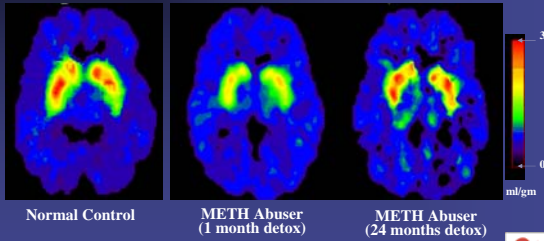




PET Scan of Long-Term MA Brain Damage



Partial Recovery of Brain Dopamine Transporters in Methamphetamine (METH) Abuser After Prolonged Abstinence



Source: Volkow, ND et al., *Journal of Neuroscience* 21, 9414-9418, 2001.

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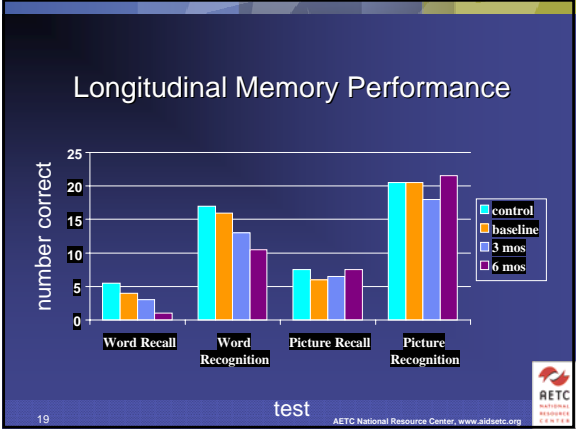
Cognitive Impairment in Individuals Currently Using Methamphetamine

- Sara Simon, Ph.D.
 - VA MDRU
- Matrix Institute on Addictions
 - LAARC

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- ### Methamphetamine: *Acute Physical Effects*
- **Increases**
 - Heart rate
 - Blood pressure
 - Pupil size
 - Respiration
 - Sensory acuity
 - Energy
 - **Decreases**
 - Appetite
 - Sleep
 - Reaction time
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- ### Methamphetamine *Acute Psychological Effects*
- **Increases**
 - Confidence
 - Alertness
 - Mood
 - Sex drive
 - Energy
 - Talkativeness
 - **Decreases**
 - Boredom
 - Loneliness
 - Timidity
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Methamphetamine

Chronic Physical Effects

- Tremor
- Weakness
- Dry mouth
- Weight loss
- Cough
- Sinus infection
- Sweating
- Burned lips; sore nose
- Oily skin/complexion
- Headaches
- Diarrhea
- Anorexia

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“Meth Mouth”

- Rotting of teeth around the gums
- Process may involve lack of saliva production or qualities of MA or its constituents
- Smoking/snorting problems
- Bruxism; rampant caries



<http://www.msnbc.msn.com/id/8770112/site/newsweek/>


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Methamphetamine *Chronic Psychological Effects*

- Confusion
- Concentration
- Hallucinations
- Fatigue
- Memory loss
- Insomnia
- Irritability
- Paranoia
- Panic reactions
- Depression
- Anger
- Psychosis

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Methamphetamine vs. Cocaine

- Cocaine half-life: 2 hours
- Methamphetamine half-life: 10 hours
- Cocaine paranoia: 4-8 hours following drug cessation
- Methamphetamine paranoia: 7-14 days
- Methamphetamine psychosis - may require medication/hospitalization and may not be reversible

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Los Angeles Experience

- 15.8% had substance metabolites in urine
 - 10.5% methamphetamine
 - 5.3% cocaine
 - 2.1% opiates
- 49.0% receptive anal intercourse
- 36.5% insertive anal intercourse
- 4.2% receptive vaginal intercourse
- 16.7% insertive vaginal intercourse
- 84.4% oral sex
- 3.1% other

(Activities are not mutually exclusive)




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Treatment as Prevention

- Substantial HIV risk decreases with Rx
- Reductions begin soon after Rx starts
- Lapses to unsafe sex are common
- Individual factors can affect outcomes
- AIDS prevention programs cannot reach all at risk

Stall et al., 1999




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Methamphetamine and HIV in MSM: A Time-to-Response Association?

Group	Percent HIV+
Probability Sample*	8%
Recreational User**	26%
Chronic Non Treatment***	41%
Outpatient Psychosoc****	62%
Residential*****	90%

* Deren et al., 1998; Mollitor et al., 1998; ** Reback et al., in prep.
 *** Reback, 1997; **** Shoptaw et al., 2002; *****VNRH, unpublished data



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Meth and HIV spread

Meth Use

⇒

Increases production of docking protein


⇒

Promotes spread of HIV 1 virus in infected users

Meth is “doubly dangerous”

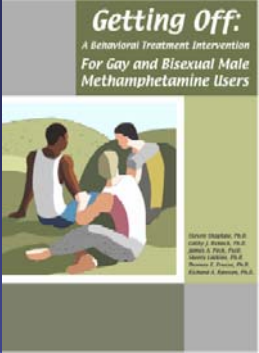
- Meth reduces inhibitions, thus increasing the likelihood of risky sexual behavior and the potential to introduce the virus into the body
- Meth also allows more virus to get into the cell

Medical Research News, Aug 4, 2006
 Research from the University of Buffalo
 School of Medicine and Biomedical Sciences




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Substance Abuse Treatment



Getting Off:
A Behavioral Treatment Intervention
For Gay and Bisexual Male
Methamphetamine Users


Robert D. Stewart, Ph.D.
 Jeffrey J. Sommadossi, Ph.D.
 James A. Pava, Ph.D.
 Richard J. Sommadossi, Ph.D.
 Richard A. Korman, Ph.D.



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Behavioral/Cognitive Behavioral Treatments

- Cognitive/Behavioral Therapy-CBT
- Motivational Interviewing-MI
- Contingency Management-CM
- Community Reinforcement Approach-CRA
- Matrix Model of Outpatient Treatment



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Findings: Contingency Management



- ✓ Significantly longer retention
- ✓ Significantly more "clean urine"
- ✓ Significantly longer stretches of consecutive clean urine samples

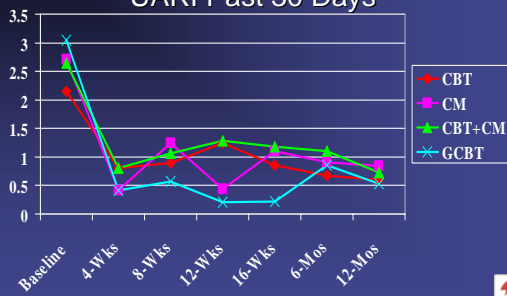
Shoptaw et al., 2005



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Sex Risks Reduced with Treatment: UARI Past 30 Days



$\chi^2_{(3)}=6.75, p<.01$



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Take Home Points



PREVENT
←→

0 to 1
1 to several
several to many



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Take Home Points: Clinicians (MDs, Nurses, PAs)

- Review/Post --“Tips for HIV Clinicians working with Meth Users”
- Know – your local resources
- Remember— meth use and meth users are treatable
- Prevention, Prevention, PREVENTION



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Crack Cocaine and HIV: What Clinicians Need to Know

Training Exchange Highlights



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What is Crack?

- **Freebase form** of cocaine that has been processed from the powdered cocaine hydrochloride form to a **smokable** substance.
- Processed with **ammonia** or **sodium bicarbonate** (baking soda) and **water**, and **heated** to remove the hydrochloride.
- user **experiences a high** in less than 10 seconds.
- **Inexpensive** both to produce and to buy.



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Forms of Crack/Cocaine

Wafer or Pasta form

Rock form (Crack)

Powder form

Common street names: **Coke, snow, flake, blow**

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Routes of Cocaine Administration and Rates of Absorption

Routes of Administration	Rate of Absorption
<ul style="list-style-type: none"> Sniffing or snorting (except free-based form) Smoking Injecting (except free-based form) 	<ul style="list-style-type: none"> High lasts 15-30 minutes High last 5-10 minutes

National Institute on Drug Abuse

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Short-Term Effects of Crack/Cocaine


- Increased energy
- Increased temperature
- Increased heart rate and blood pressure
- Constricted blood vessels
- Decreased appetite
- Mental alertness
- Dilated pupils
- Hyperstimulation

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Long-Term Effects of Crack/Cocaine

- Addiction
- Irritability and mood disturbances
- Restlessness
- Paranoia
- Auditory hallucinations

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Medical Consequences of Cocaine Abuse

- Cardiovascular effects
 - Disturbances in heart rhythm; heart attacks
- Respiratory effects
 - Chest pain; respiratory failure
- Neurological effects
 - Strokes; seizures; headaches
- Paranoia
- Gastrointestinal complications
 - Abdominal pain; nausea

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Cocaine Use: 2002-2003

- In 2002 and 2003, more than 5.9 million (2.5 percent) persons aged 12 years or older used cocaine in the past year.
- Cocaine use rates ranged from 1.6 percent in Idaho to 3.9 percent in Colorado.
- Males were more than twice as likely as females to have used cocaine in the past year and to have met the criteria for abuse of or dependence on cocaine in the past year.

SOURCE: SAMHSA, NSDUH Report, August 12, 2005.

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Crack Cocaine and HIV Infection

- HIVNET: 4,892 persons at high-risk for HIV infection enrolled in cohort between 1995-1997
- Cohort incidence: 1.3 infections per 100 persons per year (ppy)
 - MSM incidence: 2.0 per 100 ppy
 - Definitely interested in vaccine: 2.0 per 100 ppy
 - Female crack cocaine users: 1.6 per 100 ppy



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What Treatments are Effective for Crack/Cocaine Abusers?

- Cocaine abuse and addiction is a complex problem involving **biological** changes in the brain as well as a myriad of **social**, **familial**, and **environmental** factors.
- Cocaine treatment strategies need to assess the **psychobiological**, **social**, and **pharmacological** aspects of the patient's drug abuse.



SOURCE: NIDA Research Report Series – Cocaine Abuse and Addiction, 2004.

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Take Home Points: Clinicians

- **Review** - Patient Information flyers developed by the Midwest AETC, available at:
 - Crack/Cocaine use: <http://aidsetc.org/pdf/p02-et-et-05-00/stimulant.pdf>
 - Injection: <http://aidsetc.org/pdf/p02-et-et-05-00/injection.pdf>
 - Safe Injection: http://aidsetc.org/pdf/p02-et-et-05-00/safer_inject.pdf
 - Overdosing: <http://aidsetc.org/pdf/p02-et-et-05-00/overdose.pdf>
- **Know** - your local resources (substance abuse treatment facilities, 12-step programs, mental health resources)
- **Remember** - Crack/ Cocaine use and Crack users are treatable and every clinic visit is an opportunity for intervention and prevention messages
- **Encourage** - Patients and staff regarding challenges of Crack use and remind them of the importance of continued HIV care
- Additional substance abuse resource available at:
 - <http://aidsetc.org/aidsetc?page=et-30-28&catid=substance&pid=1>



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Lessons Learned

- Substance Abuse trends vary by region and collaborative work is effective in identifying national occurrences
- Ongoing need for discussion and training about substance abuse and HIV
- Development of trainer resources through a coordinated national workgroup brought regional experts together, reduced duplication of effort and increased partnerships



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Resources available at www.aidsetc.org

- TOT slide sets
- Patient info flyers from MATEC
- Recreational Drug Use and HIV ARVs/Psychiatric Medication & HIV ARVs, clinician pocket cards from NY/NJ AETC
- Tips for Clinicians Working with Methamphetamine Users, provider fact sheet from Pacific ATEC and PS ATTC
- Getting the Discussion Started with Methamphetamine Users: Essential Health Messages for Providers, workgroup product



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Thank You!

Q & A



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