



Methamphetamine in Wyoming: Implications for Nurses

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Teleconference: 1.888.242.1836

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Natrona County Public Health Department



Today's Topics:

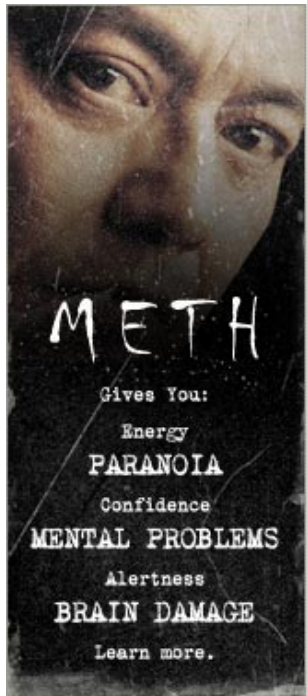
- Meth 101
- What are we seeing in Wyoming?
- Meth and Public Health
- Medical Implications
- Client Assistance
- Referrals

Why is it a concern for Public Health and APS?

Meth is still top drug problem in US, abuse of this highly addictive brain-altering drug continues to destroy lives & strain essential county services across America.

" We cannot arrest our way out of the problem."

Chief Tom Pagel Casper Police Dept.



Meth 101



- **CNS Stimulant:**
Increases heart rate and blood pressure
- **Street names:**
Speed, Crystal, Crank, Ice, Crypto, Tina
- **Methods of Use:**
Ingest, Snort, Inject, Smoke, Suppository
- **Highly Addictive:**
Cheap, easy to make, long lasting high
- **Ingredients**
- **Closely related to amphetamine** although "cooked" in clandestine labs

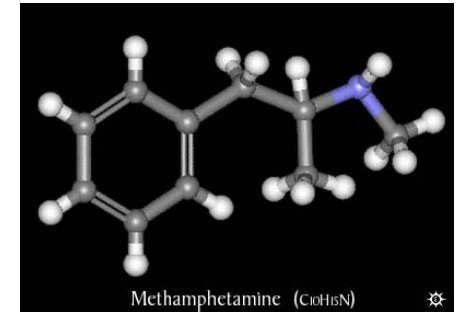
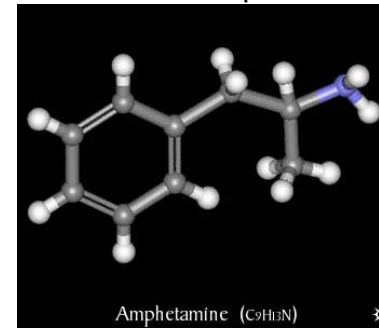


Scheduling and Legislation

- Schedule II stimulant in the U.S. High potential for abuse and addiction
- Illegal to sell w/o DEA license and illegal to buy or possess w/o a license or RX
- Has medical uses (narcolepsy, ADHD, s.t. TX of obesity) **so is available by RX and has been used legally for many years**
- Possession of limited quantities of the precursor chemical pseudoephedrine in WY.



Amphetamine v. Methamphetamine

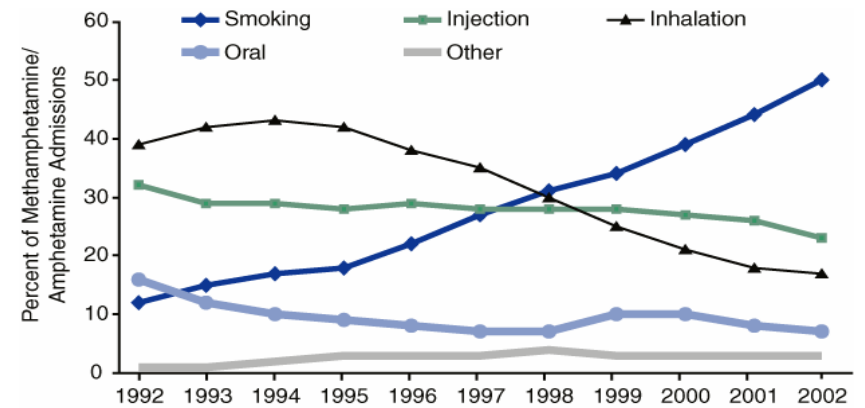


How is it Used? (Administration)

- Inject
- Smoke
- Snort
- Suppository
- Oral



Methamphetamine/Amphetamine Treatment Admissions by Route of Administration: 1992-2002



Users usually start with smoking and move to other methods



Cycle of Use

- Rush - injected or smoked - immediate ingested - 40 minutes
- High - 8 to 10 hrs \$100/gm 1/06 T. Pagel
- Binge
- Tweaking: violence – paranoia
- Crash deep sleep for days

Meth Is Highly Addictive



Binge and Crash



Short-Term Effects


Bursts of Dopamine to the Brain

- | | |
|---------------------|------------------|
| • Pleasure | • Irritability |
| • Euphoria | • Aggression |
| • Confidence | • Itching |
| • Hypersexuality | • Trismus/bruxia |
| • Sweating | • Fatigue |
| • ↓ Need for sleep | • Overdose |
| • ↓ Appetite | |
| • Alertness | |
| • Physical Activity | |



Long-Term Effects

- | | |
|------------------------|--------------------------------|
| • Overdose | • Irritability |
| • Tolerance | • Explosive Anger- Rage |
| • Addiction | • Psychotic Behavior |
| • Awake days at a time | • Hallucinations |
| • Death | • Paranoia |
| | • Convulsions – High Temps |
| | • Parkinson like brain changes |

Meth Abuse =  Reasoning
Memory



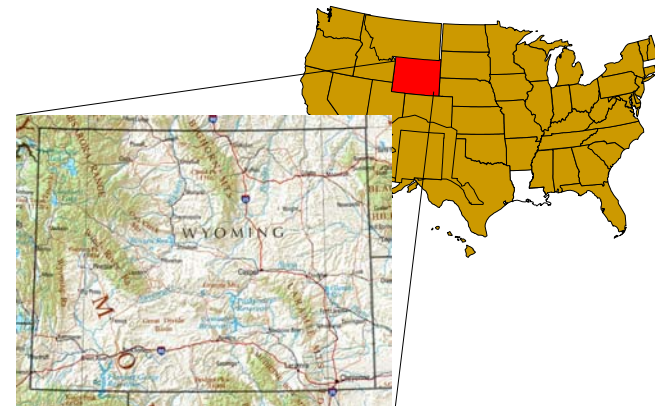
Subtle Signs of Meth Use

- Grades that change for no apparent reason. Many times, grades have gone up!
- Endless energy and ability to exist on minimal sleep for a number of days followed by “crashing” that requires long periods of sleep
- Self applied pressure for absolute perfection.
- Erratic mood swings and overreaction to normal stimulus
- Loss of weight and appetite
- Restlessness and irritability
- Panic attacks
- Excessive perspiration
- Blood shot eyes, flushed face and dilated pupils
- Secretive behavior and activities and telephone calls
- Lying

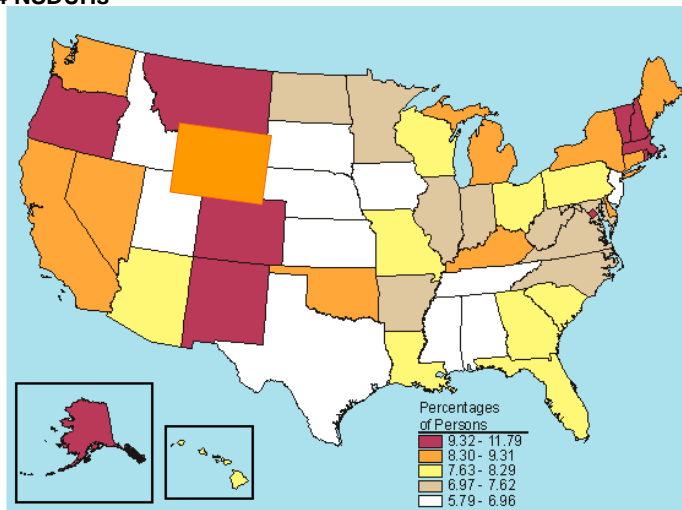
www.methsummitt.com 8/07



• WYOMING DATA



• **Figure 2.1 Any Illicit Drug Use in Past Month among Persons Aged 12 or Older, by State: Percentages, Annual Averages Based on 2003 and 2004 NSDUHs**



Methamphetamine Use

National Statistics

Methamphetamine Use Among the U.S. Population, 2004			
Category	Lifetime	Past Year	Past Month
Total Number (thousands)	11,726	1,440	583
Percentages			
Age Group			
12-17	1.2%	0.6%	0.2%
18-25	5.2%	1.6%	0.6%
26 and older	5.3%	0.4%	0.2%
All Ages	4.9%	0.6%	0.2%

Source: SAMHSA, NSDUH 2004



“Have you used methamphetamine in your lifetime?”

Drug	Estimated Population Affected	Wyoming Mean
Any Illicit Drug	207,000	49.6%
Marijuana	186,000	44.7%
Nonmedical use of psychotherapeutic drugs	92,000	21.9%
Stimulants	55,000	13.3%
Hallucinogens	78,000	18.7%
Tranquilizers	32,000	7.8%
Methamphetamine	43,000	10.2%
Cocaine	81,000	19.3%
Inhalants	48,000	11.4%
Sedative	18,000	4.3%
Crack	20,000	4.7%
Heroin	8,000	1.9%



ESTIMATION: 43,000 Wyomingites have used meth in their lifetime.



WAR MEMORIAL STADIUM

CAPACITY = 33,500



“Have you used meth in the past 30 days?”

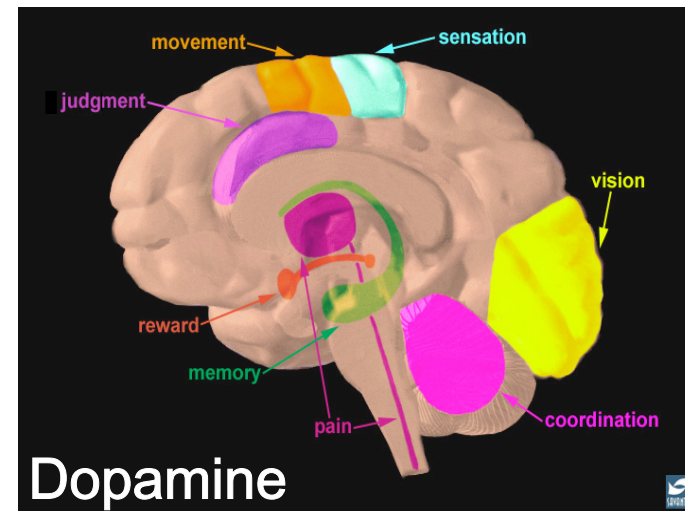
Drug	Estimated Population Affected	Wyoming Mean	National Rank
Any Illicit Drug	30,000	7.1%	35
Marijuana	21,000	5.0%	35
Non-medical use of psychotherapeutic drugs	12,000	2.8%	21
Stimulants	3,000	0.8%	9
Hallucinogens	3,000	0.7%	7
Tranquilizers	2,000	0.6%	29
Methamphetamine	2,000	0.5%	9
Cocaine	2,000	0.5%	44
Inhalants	1,000	0.2%	25

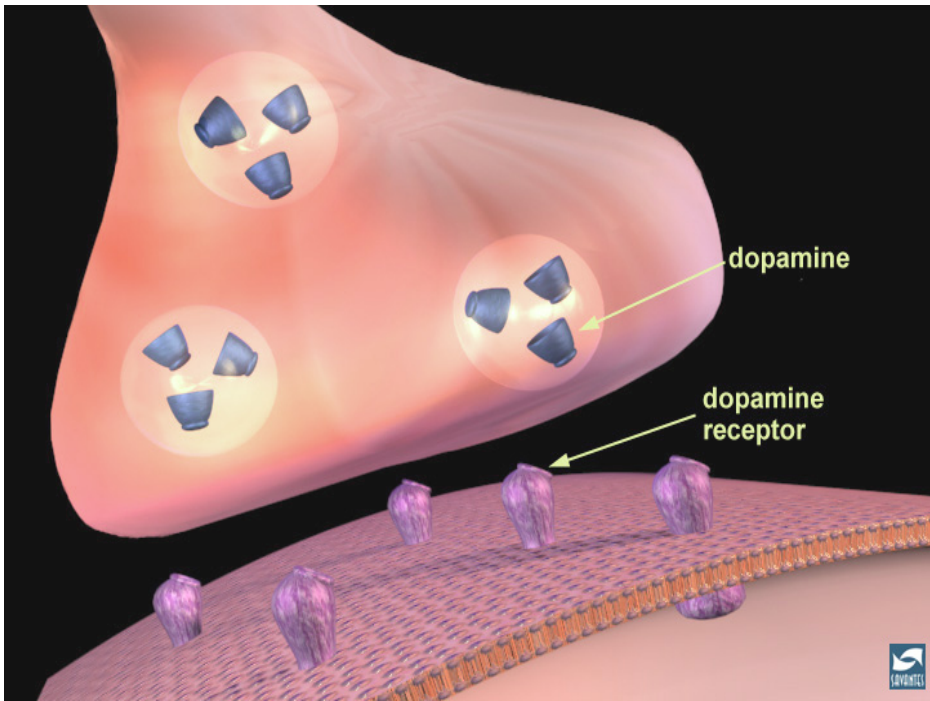


Estimate: 2,000 Wyomingites used meth in the past month.



Meth Affects the Brain





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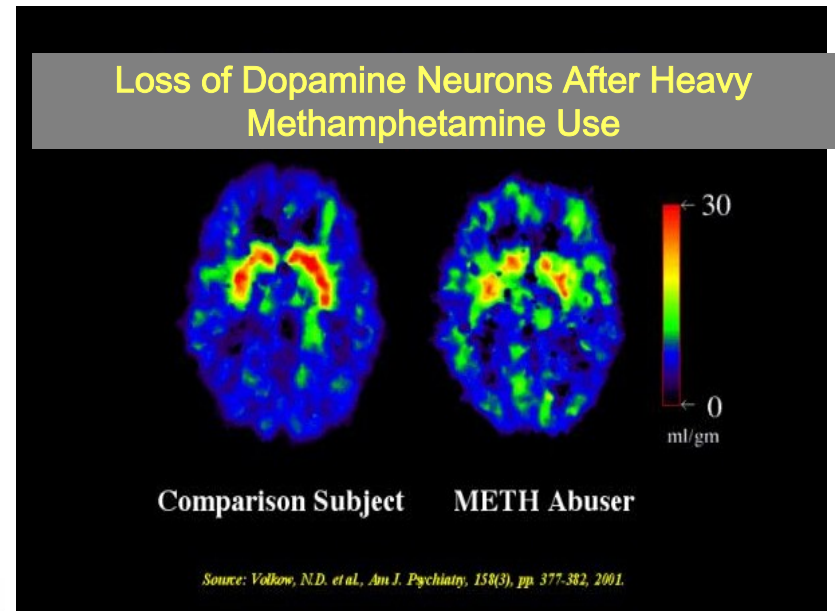
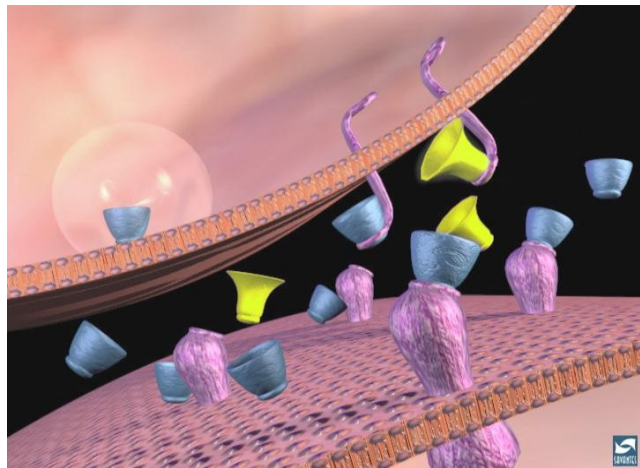
Methamphetamine



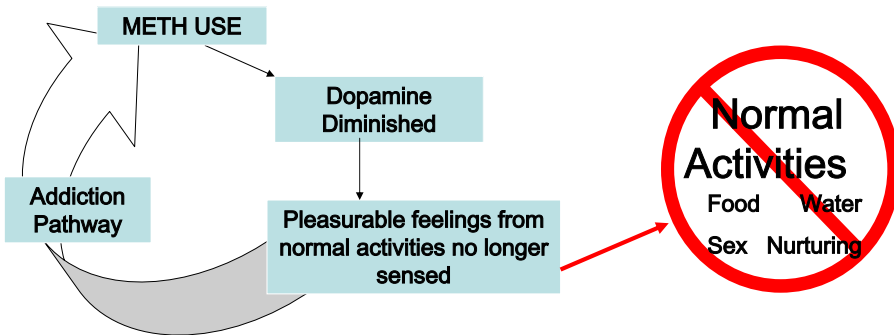
Dopamine Transmission

Dopamine

Crystal Meth

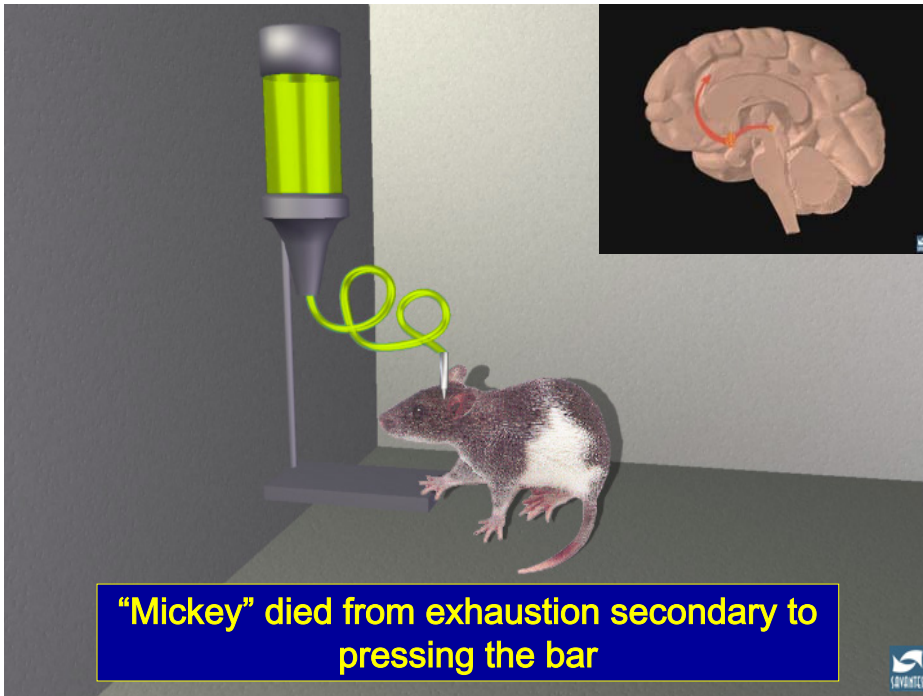


Meth Use Overrides Basic Instincts



Addiction

- A state in which an organism engages in a compulsive behavior.
- Behavior is reinforcing (rewarding or pleasurable)
- Loss of control in limiting intake.
- Pleasure through drugs overrides natural/normal activities.



Health Concerns

- Stroke
- Cardiac
 - Irregular heart beat
 - Valve damage
 - High blood pressure
- Nutritional Concerns
- Stomach cramps
- Dental Health
 - Heat & corrosives impact tooth enamel & gums
 - Hygiene



DDS. Peterson Scottsdale, AZ 2005



Health Concerns

- Multi-resistant infections
- Shaking & Anxiety
- Insomnia Issues & Paranoia
- Hallucinations
- Out of control Rages
- Car accidents
- Burns
- Many multi-thousand dollar hospitalizations



Eureka Ca. Police - arm injecting drugs

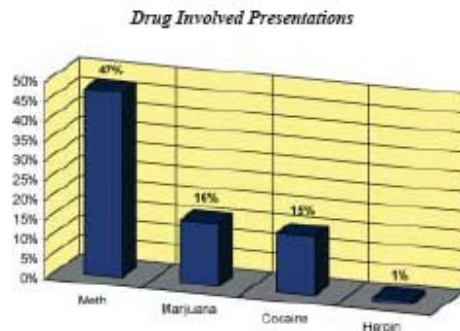


Emergency Rooms

- There are more meth-related ER visits than any other drug.
- 73% of hospital officials surveyed reported that meth presentations to ER's have increased within the past 5 years.



Burn from Meth Lab



National Association of Counties, The Effect of Meth Abuse on Hospital Emergenc Rooms, Jan. 2006



Public Health:
Wyoming's Reproductive Health and Methamphetamine



Natrona Co. BB Clients

Jan 05 5% use in 6mo prior to pg
Aug 05 20% (110 clients)
Jan 06 16% (139 clients)
Aug 06 7.5% (60 clients)

- 87% stated 1st meth use age 16-18
- Often introduced to meth by male (husband – boyfriend)
- Increased awareness that meth is dangerous during pg
- Broucher developed for Meth use in Pregnancy

From BB2 Pg Wellness Assessment Questions 68 & 69



Fetal Development

All illicit drugs taken during pregnancy cross the placenta & reach the fetus

1st Trimester

- First 6 wks most severe malformations
- Any organ or system often abdominal wall & GI, urinary & reproductive

2nd & 3rd Trimester

- Intrauterine growth retardation & vascular disruption



The earlier the cessation of the drug the better!

Kathryn Wells, MD Methamphetamine and Pregnancy 1/2005, 9/30/05



Prenatal Complications

- Nutritional Neglect
- Increased maternal blood pressure and heart rate
- Drug constricts blood flow to the placenta reduced blood flow to the fetus reduced oxygen and nutrient supply
- Clots in the placenta
- Can cause elevated fetal blood pressure prenatal strokes or brain hemorrhages before birth
- Placenta Abrupto



C-NPHD 25-35 newborns 2005 with verified or potential exposure to meth

Newborns

- 80% Premature
- Low Birth Weight – tobacco
- 40% Gastric difficulty - GERD
- Excessive vomiting
- Frantic sucking
- Irritability – Jittery
- Difficulty regulating
- Sensitivity to light & touch
- Delayed growth & development
- 100% qualify for Child Development Services
- 80% qualify for Children Specialty Health



North Dakota Department of Health Oct 2002

Kathryn Wells, MD Methamphetamine and Pregnancy 1/2005

<http://www.whitehousedrugpolicy.gov>



Assessment of Mom & Baby at Birth for potential meth use

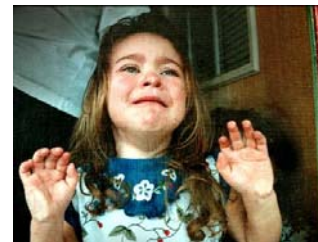
- Assessment of mom during labor
 - Low wt gain
 - Premature labor
 - Placental abruption
 - Hypertension
 - Violence or substance abuse in the home
 - History incarceration, probation or parole
- Assessment of baby
 - Premie - Low Birth Weight
 - Behaviors
 - Birth Defects
- Test Mom - UA or Serum Baby - Meconium Stool or UA



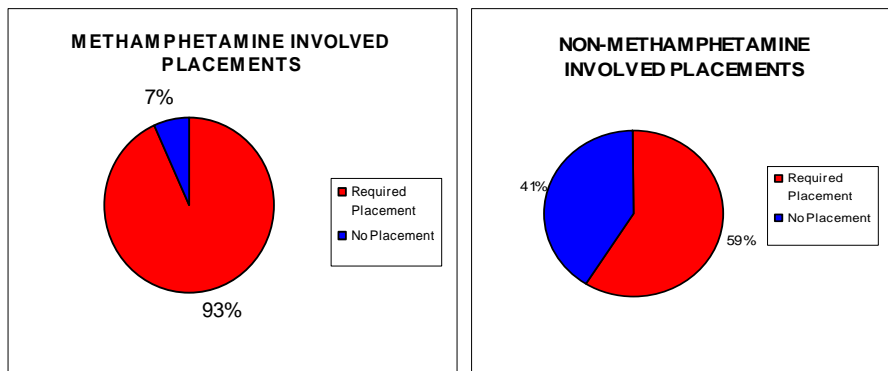
Impact to DFS



- Increased Numbers
- Increased Costs
- Number of Foster Parents Needed
 - Longer placements of more complex kids
- Need to have hearing within 48 hrs
 - 87.5% of Foster Care Placements are Meth Related (5/05)
- Children that have been neglected, food - clothing – basic care
- Physical abuse & injury
- Sexual abuse & injury
- Non-nurturing, chaotic environment; children with many, many needs



Methamphetamine and Child Welfare

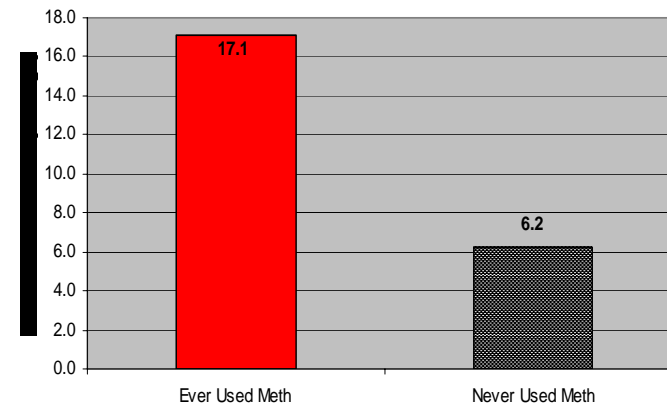


93% of meth-involved cases resulted in placement

Source: Wyoming Department of Family Services



Mean Number of Lifetime Sex Partners and Methamphetamine Use



"Who wouldn't want to use it? You lose weight and you have great sex." -- Assistant U.S. Attorney

Paul Laymon

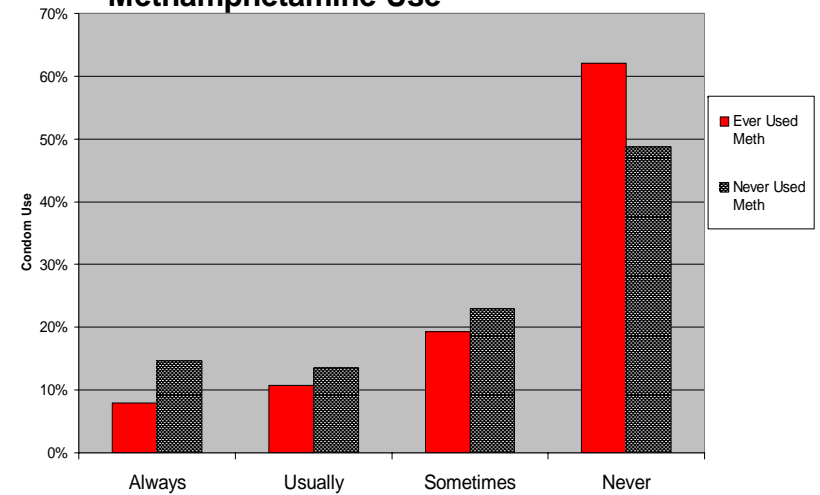


Source: WY MCH 2004

“Hair falls out, teeth fall out. That's not sexy.”
 -National Drug Czar John Walters



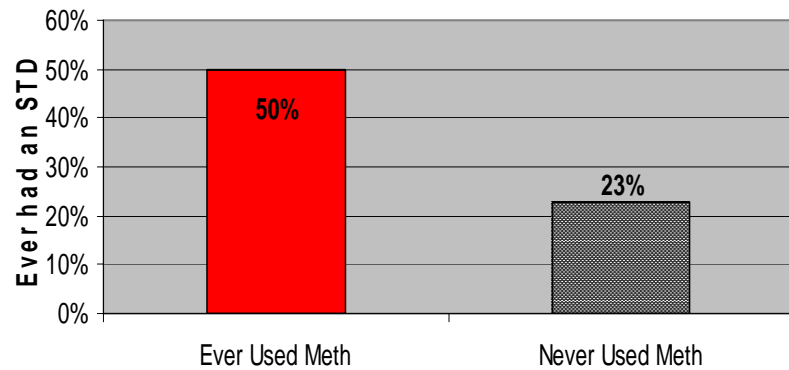
Condom Use Frequency and Methamphetamine Use



Source: WY MCH 2004



Sexually Transmitted Diseases (STDs) and Methamphetamine Use



Source: WY MCH 2004



Kathy Pionka / The Spokesman-Review

Hepatitis

- 2002 Natrona Co. had largest outbreak of hepatitis among meth users in the US
- CDC helped investigate the outbreak
- Cause was sharing needles & rinse water
- No cases of HIV although high risk
- Hep A/B vaccinations



Environmental Exposure

Difficult to separate exposure to drug vs social family environment
 Children can suffer from by-products and second hand inhalation
 - Residue in carpets /smoke in the air

- Anger-Defiance Disorders
- Attention Deficit Disorder
- Emotional mental health issue
- Delinquency
- Failure
- Isolation
- Poor peer relations
- Teen Pregnancy
- School Absenteeism

30-80% kids from meth homes tested + heavy metals or meth



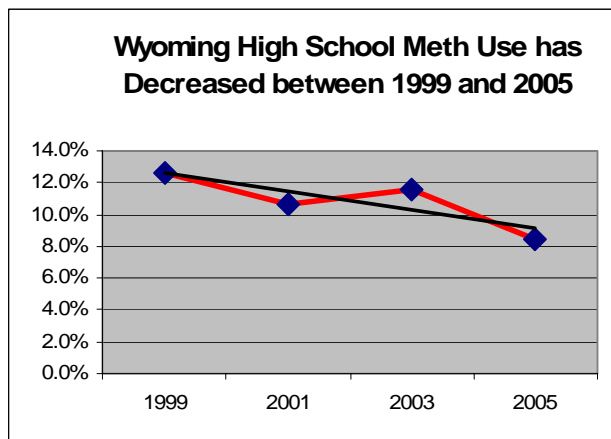
The Reach of Meth Community Map

INSIDE THE ADOLESCENT BRAIN

The brain undergoes two major developmental spurts, one in the womb and the second from childhood through the teen years, when the organ matures by its and starts in a sequence that moves from the back of the brain to the front.

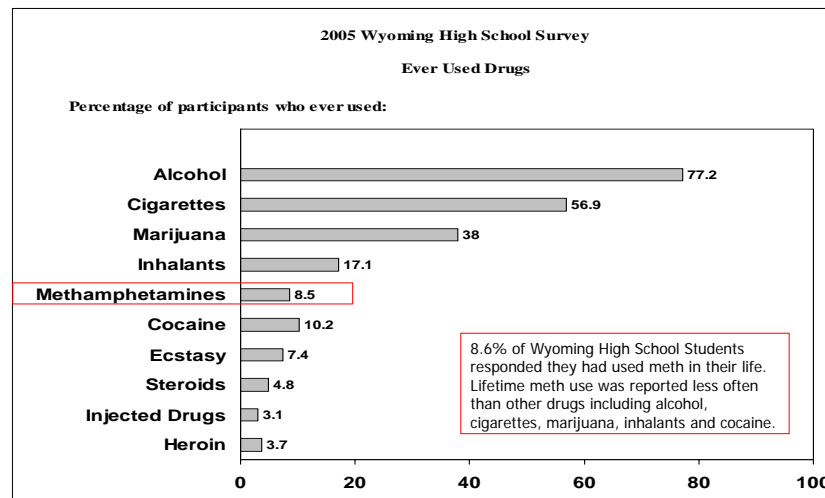
- Corpus Callosum**: Though it is the most developed brain structure, it is still in the process of maturing in the adolescent brain.
- Prefrontal Cortex**: The CEO of the brain, it is the last part of the brain to mature, and it is responsible for decision-making, planning, and impulse control.
- Basal Ganglia**: Located in the brain's motor system, it is responsible for movement, learning, and habit formation.
- Angiogenesis**: The process of forming new blood vessels, which is crucial for brain development.

Good News:



"Have you used methamphetamine at least once in your life?"

Source: 2003 and 2005 YRBS



Sources: Wyoming Department of Education, 2005; WYSAC, 2004
 Data collected by the 2003 YRBS from high school age participants (9th – 12th grade) regarding their use of tobacco, alcohol and other drugs (WYSAC 2004).
 These percentages were calculated by considering the total number of people who answered the drug specific question and the percentage of that number that replied yes to the question.



SPECIAL INVESTIGATIVE REPORT From The Oregonian

UNNECESSARY EPIDEMIC?

The Meth Epidemic in America

NEW STUDY DISPROVES MYTH OF METHAMPHETAMINE "EPIDEMIC"



“So in the case of meth in Wyoming, is it of epidemic proportions?”

- CONSIDER:
- LAW ENFORCEMENT; 80-90% of cases have a METH NEXUS
 - TREATMENT STATISTICS - Admissions to TX for Amphetamines in WY have increased by 1440% between 1992 & 2004.
 - PUBLIC HEALTH STATISTICS - STD & meth correlation.



Meth Lab Chemicals

Potential Exposures Babies- Users-Visitors

- Toluene
- Heet
- White Gas
- Anhydrous Ammonia
- Hydriotic Acid
- Red Phosphorous
- Lye
- Brake Cleaner
- Ether
- Paint Thinner
- Rock Salt
- Rubbing Alcohol
- MSM
- Starting Fluid
- Muriatic Acid
- Lithium Metal
- Sodium Metal
- Ephedra
- Etc...



©2005 Casper Police Dept



Dangerous Work Environment for Staff

- Environmental Health
 - Potentially dangerous environments
 - Both routine & special calls
- Home Visits for Nursing
 - Increased # of homes with potential meth use
 - Potentially dangerous environments
 - Guard Dogs
 - Toxins – usage & cooking
 - Spent syringes
 - Weapons
 - Meth users reactions





Clandestine Labs

Rare be admitted to an active lab home or when client is using

When in Doubt Get Out!!



Tweaker Tips for Field

Tweakers often behave or react violently

- May not have slept in three to fifteen days,
 - May be irritable and paranoid.
 - When using alcohol or another depressant, the danger may be intensified.
 - Tweakers may at first appear to be normal,
 - Eye movement ten times faster than normal,
 - Voice with a slight quiver, and jerky body movements.
1. Keep your distance – closeness can be perceived as threatening
 2. No bright light due to paranoia, if blinded by a bright light, may run or become violent
 3. Slow your speech and lower your voice, they already hear sound at a fast pace and in a high pitch
 4. Slow your movements, to decrease odds that a tweaker will misinterpret your physical actions
 5. Keep your hands visible. If a tweaker cannot see them, they may feel threatened and could become violent
 6. Keep a tweaker talking; Silence often means that their paranoid thoughts have taken over reality and anyone present may become part of their paranoid delusions.



www.methsummit.com 8/07

Treatment

Meth addiction isn't impossible to beat – but the treatment's not cheap. And good luck finding it

By [Sarah Fenske](#) Article Published Dec 8, 2005

- **Each individual must be evaluated**
- **One type of treatment does not fit everyone**
- **Addiction professionals use variety of treatment modalities**
- **Matrix Model for Treatment of Substance Dependency**

Must be ready to commit to recovery

39 Treatment Centers in WY for substance use
http://alcoholism.about.com/od/tx_wy/

<http://wdh.state.wy.us/SAD/TProviderMap.asp>



Treatment

Recovery Groups

- Narcotics Anonymous
425.210.2424
- Alcohol and Drug 24 Hour Help Line
1.800.562.1240
- Crystal Meth Anonymous
www.crystalmeth.org/aboutCMA.htm

Residential

Often recommended 1yr in part due to length of time for dopamine recovery
Deal with triggers and cravings

Outpatient

Change of friends/environmental

Success increases if the individual is ready to commit to recovery

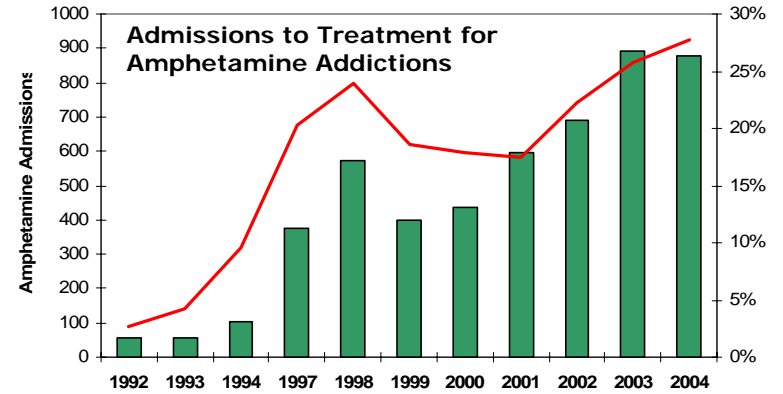


Access to Treatment



Difficult to get users into treatment
 Providers prioritize pregnant women
 Beds available if insurance – payment source
 Criminal Justice System: access to some of the best treatment options
 Shortage of trained counselors

Goal: Statewide clearinghouse to track capacity, identify openings & provide referrals.



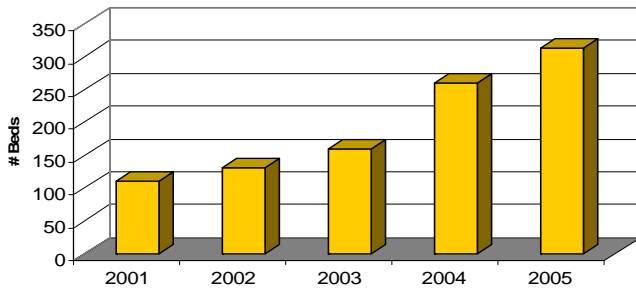
Admissions for treatment for amphetamines increased by 1,440% between 1992 and 2004 in Wyoming.

In FY04, 10,247 clients were served in Wyoming for substance abuse. 21.9% (2,243) of these clients were served for meth addictions. This figure represents those diagnosed with a primary, secondary or tertiary meth problem.

Source: Substance Abuse and Mental Health Services Administration, Treatment Episode Dataset 2006: Wyoming



Residential Treatment Capacity Expansion in Wyoming



Between 2001 and 2005, the capacity of residential treatment has increased 3 fold in Wyoming.

- This includes expansion of women & children programs statewide.
- Outpatient and Intensive outpatient services has also grown.



Prevention vs Treatment

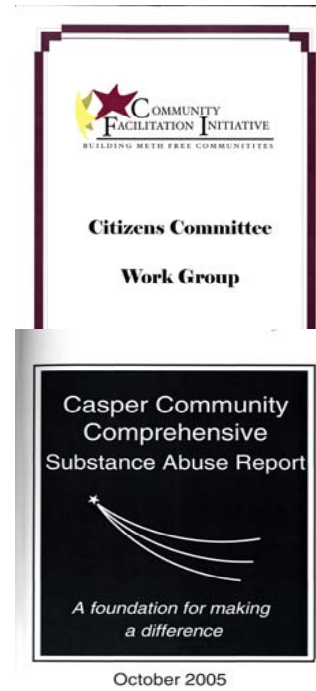
Decrease Risk Behavior with Alternate activities

- Girl Power
- Library Program Grant
- Breakfast program at HS
- Various School Programs
- Coaches – school & community
- Responsible Sexual Behaviors
- WAIT training
- Youth Organization
- Churches



Impact on Wyoming Communities

- Healthcare
- Infants
- Children & School System
- DFS & other Social Services
- Criminal Justice System
- Community Services
- Business
- Treatment Providers



Many WY communities are forming groups to address local issues

Casper Chose 4 Strategic Areas

- Identification & Early Intervention
- Treatment
- Law Enforcement & Judicial
- Prevention & Community

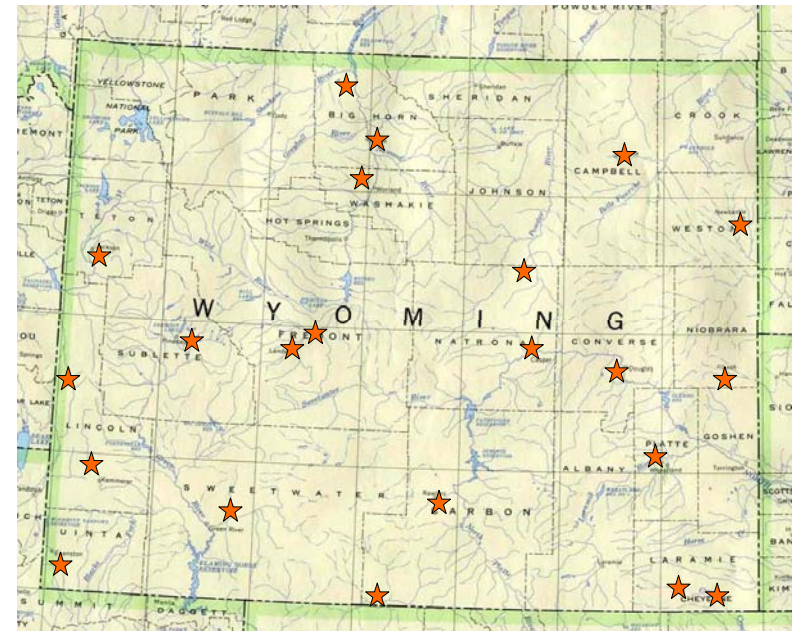
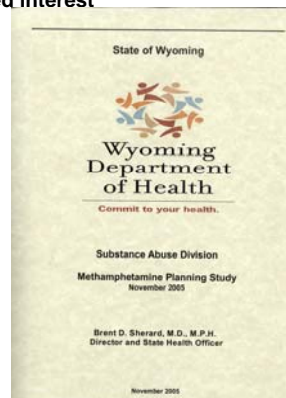
"...to serve Wyoming communities by providing assistance to local community meth initiatives in a manner that promotes community ownership."

- Wyoming Department of Health, Substance Abuse Division, Uinta County Sheriff Office, Wyoming Inc., Governor's Office, DFS, Casper Meth Initiative Members.
- May 2006 – letters to towns all across Wyoming.
- 27 communities (representing 17 of 23 counties) indicated interest
- Facilitated by the community members

Outcomes:

- Anecdotal → quantitative data
- Funding/Seed Grants
- Communication between initiatives
- Social marketing campaign – "hook on" component
- ..a process of partnership

- <http://wdh.state.wy.us/SAD/Meth.asp>



For more information...

- <http://wdh.state.wy.us/SAD/Meth.asp>
- <http://www.drugfree.org/>
- www.freeandtrue.com

