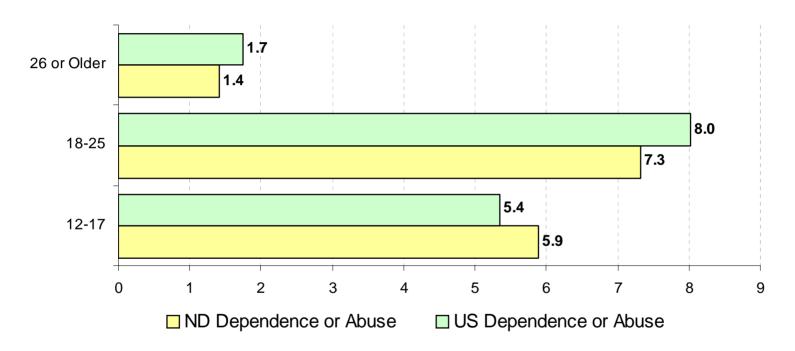
MATRIX Treatment Model

Commission on Alternatives to Incarceration
June 20, 2006

In 2003, an estimated 19.5 million Americans, or 8.2 percent of the population aged 12 or older, were current illicit drug users.

Illicit Drug Dependence or Abuse in Past Year, by Age Group



Source: TEDS data

Methamphetamine

• Methamphetamine is a powerful central nervous system stimulant that strongly activates multiple systems in the brain. Methamphetamine is closely related chemically to amphetamine, but the central nervous system effects of methamphetamine are greater.

Methamphetamine History

1887 Amphetamine developed

• 1919 Methamphetamine developed

• 1932 Amphetamine & methamphetamine used as decongestant

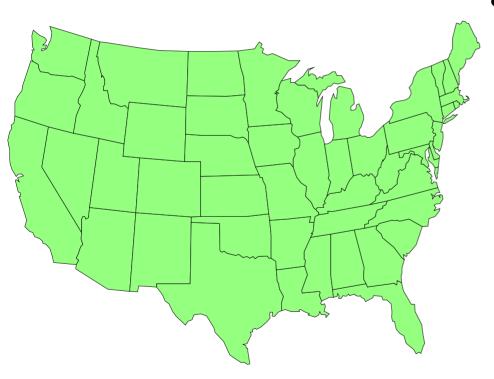
Methamphetamine History, continued

• WW II

Extensive use by:

- RAF fighter pilots
- German Panzer troops
- Japanese workers
- Led to Kamikaze fever

Methamphetamines

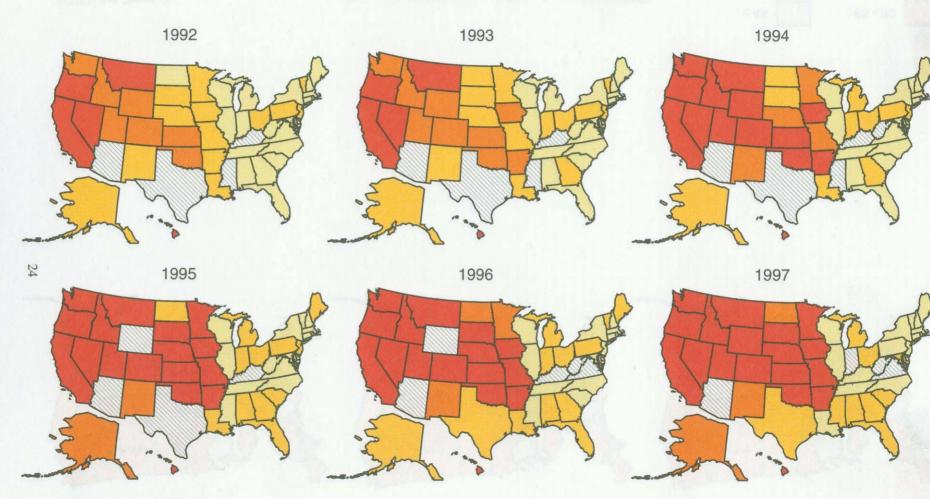


• FACTORS

- Base is legal
- Easy to make
- Large market
- Many IV users
- Law enforcement
- Child Welfare
- Rural areas

The Eastward Spread of Methamphetamine

Figure 7
Primary methamphetamine/amphetamine admission rates by State: TEDS 1992-2000 (per 100,000 population aged 12 and over)

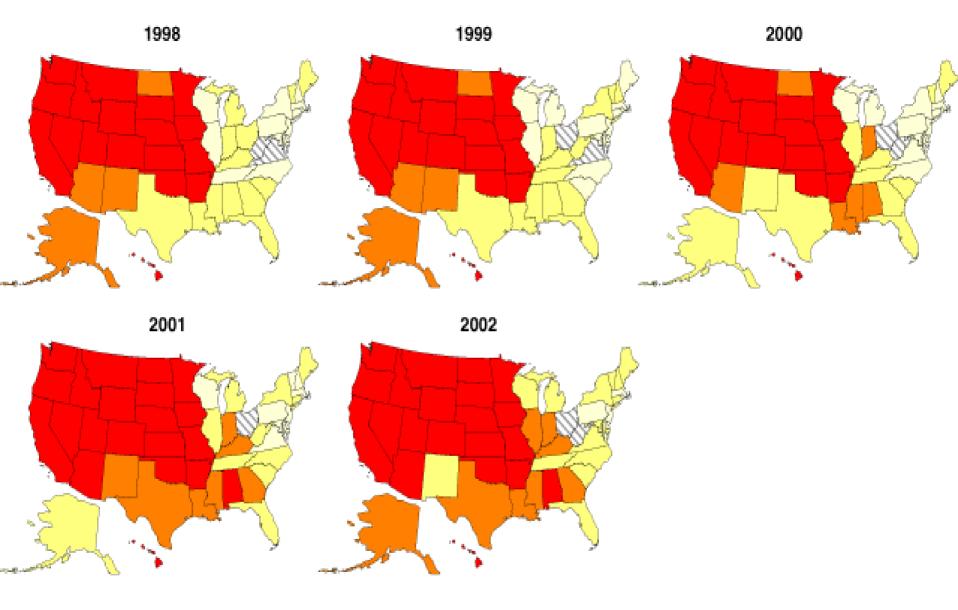


NOTES: See Chapter 2.

SOURCE: Office of Applied Studies, Substance Abuse and Mental He alth

Incomplete data

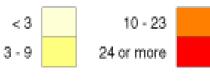
< 3 10 - 23 3 - 9 24 or more



NOTES: See Chapter 2. SOURCE: Office of Applied Studies, Substance Abuse and Mental Health

Services Administration, Treatment Episode Data Set (TEDS) - 3.01.04.

Incomplete data



KEY YEAR: 1992

Figure 1. Methamphetamine/Amphetamine Treatment Admission Rate per 100,000 Population Aged 12 or Older: 1992-2002

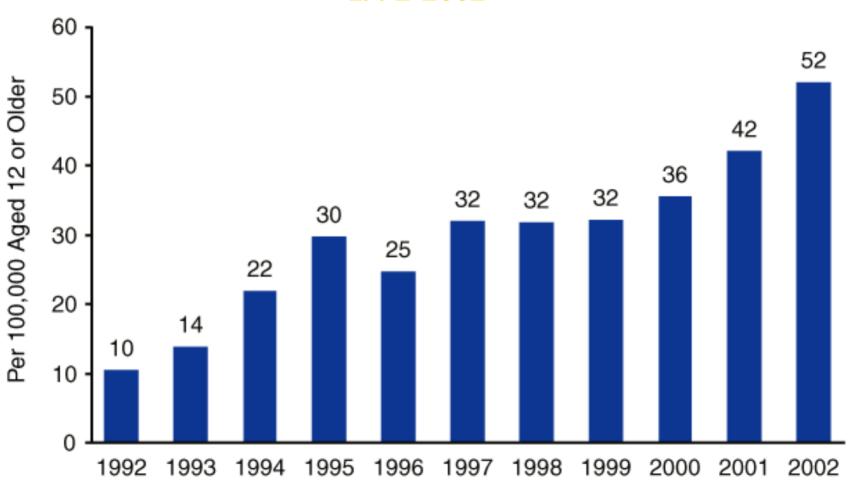
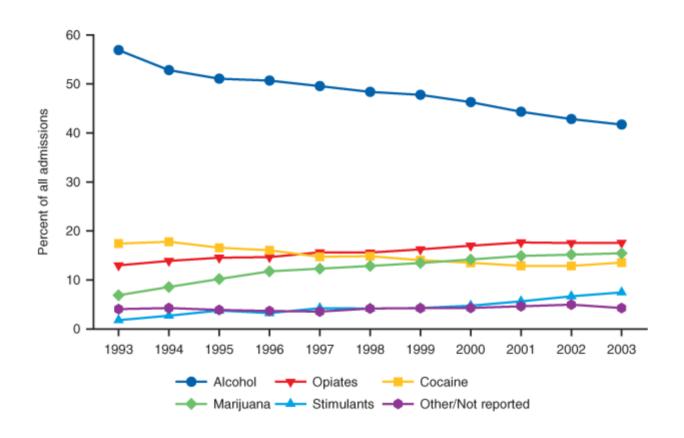
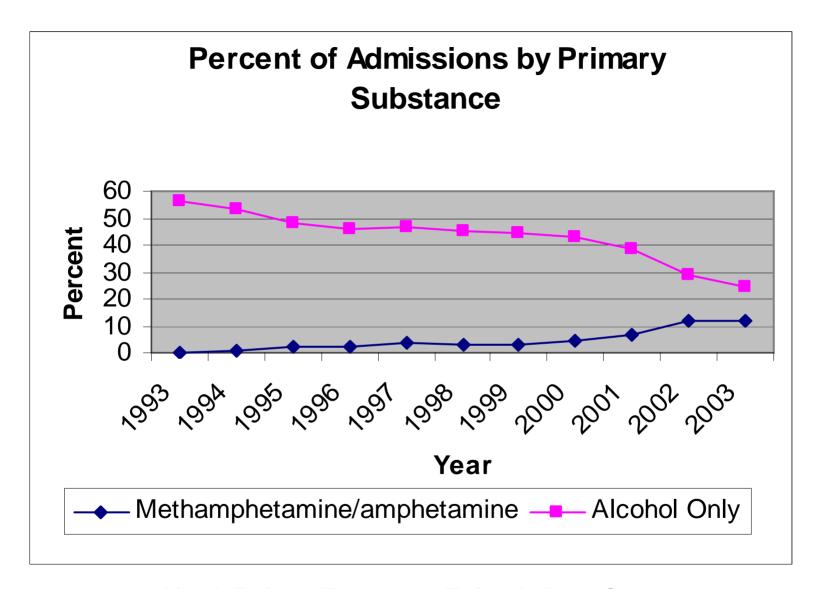


Figure 1
Primary substance of abuse at admission: TEDS 1993-2003



United States Treatment Episode Data Set



Self-Reported Reasons for Starting Methamphetamine Use



Meth and Women:

Typical gender ratio of heroin users in treatment: 3 men to 1 woman

Typical gender ratio of cocaine users in treatment: 2 men to 1 woman

Typical gender ratio of methamphetamine users in treatment: 1 man to 1 woman *

^{*}among large clinical research populations

North Dakota Treatment Admission Data

	All Primary Substances	Methamphetamine/ Amphetamine Primary Substance
Male	61%	46.9%
Female	39%	53.1%

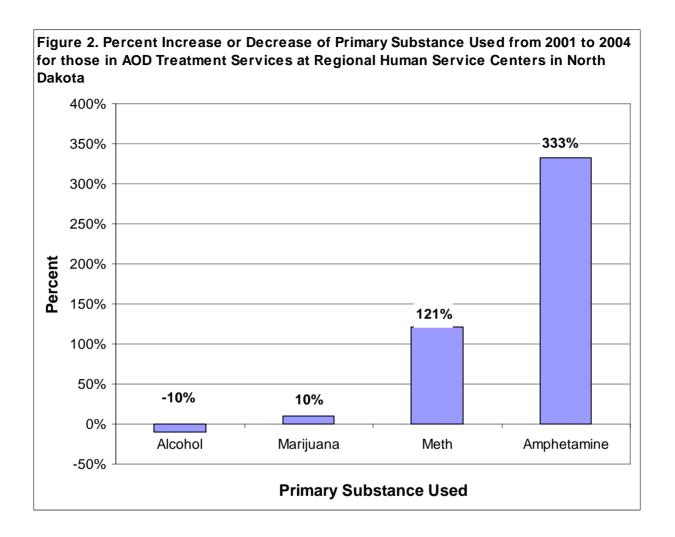
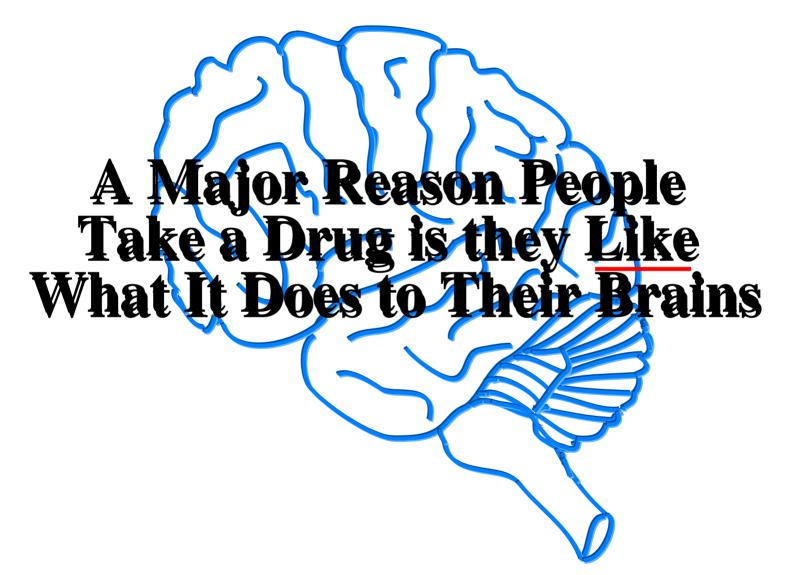
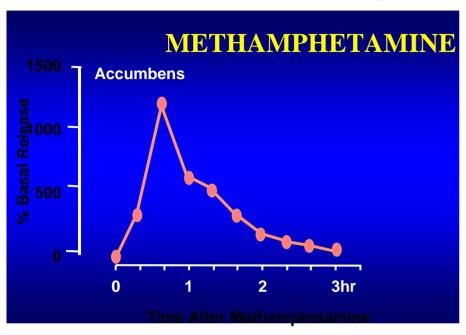


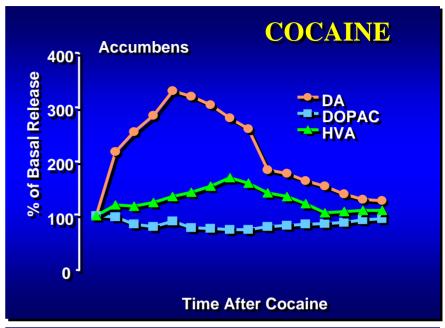
Figure 2 indicates alcohol, followed by marijuana, methamphetamines and amphetamines as the top four substances used in calendar years 2001 – 2004. From 2001 to 2004, alcohol use as a primary substance decreased by 10 percent; marijuana use increased by 10 percent and methamphetamine use increased by 121 percent. Amphetamines used as a primary substance increased the most at 333 percent going from a count of 33 in 2001 to 143 in 2004.

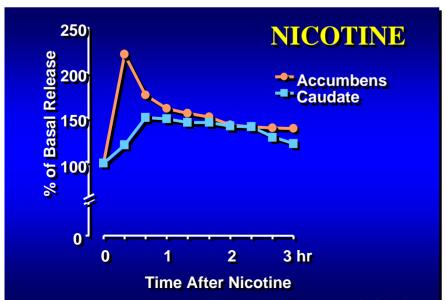


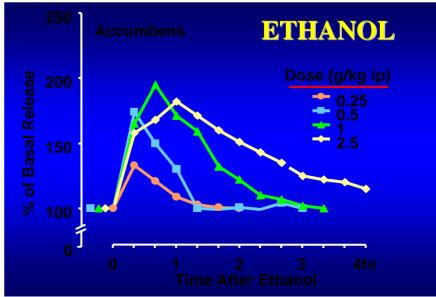
Source: UCLA – Richard A. Rawson, Ph.D Adjunct Associate Professor

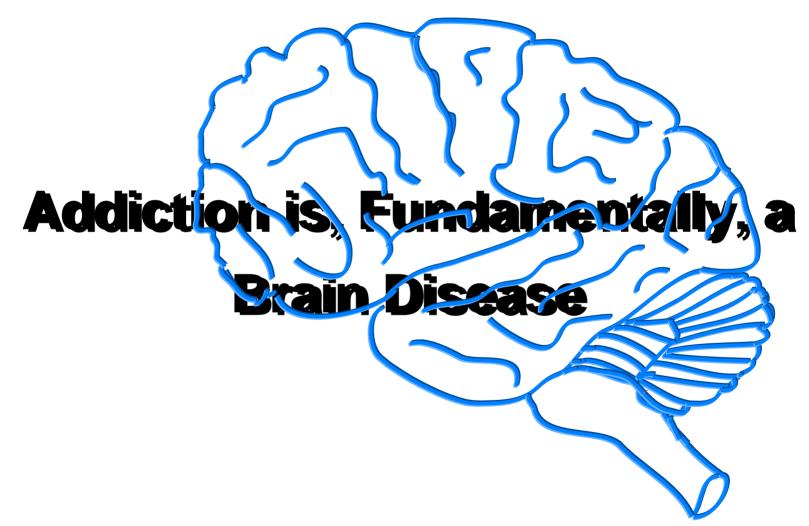
Effects of Drugs on Dopamine Release





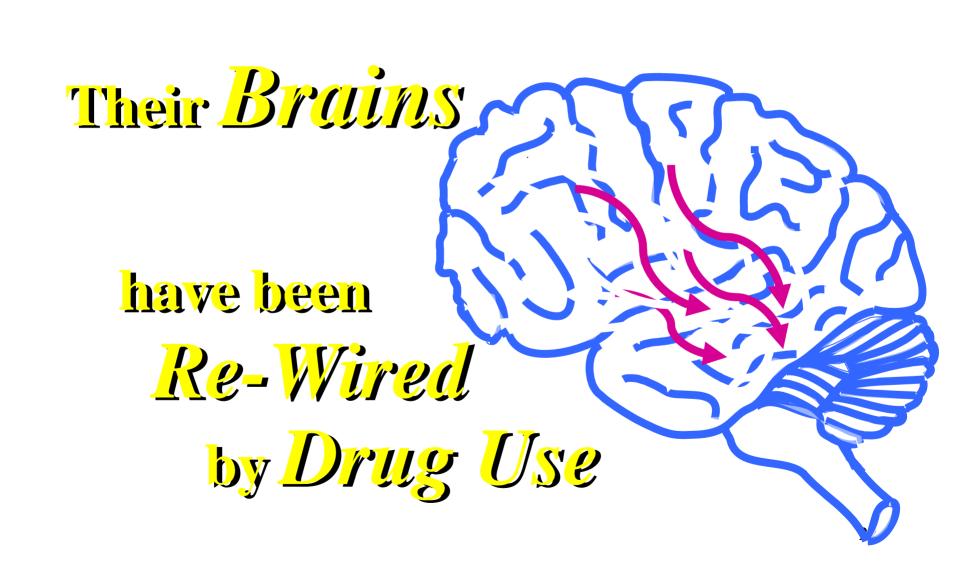






The Brains of Addicts Are Different From the Brains of Non-Addicts

...And Those Differences
Are An Essential Element
of Addiction



A Major Task for Drug Treatment is Changing Brains Back!

Pharmacologically

Behaviorally

Two Decades of Research Have Brought Us A New Understanding of the Neurobiology of Addiction

AND...

This Knowledge Is Allowing Us to Develop More Targeted Strategies for Its Treatment



The Most Effective Treatment Strategies Will Attend to All Aspects of Addiction:

- Biology
- Behavior
- Social Context

Meth Treatment Effectiveness?

A pervasive rumor has surfaced in many geographic areas with elevated MA problems:

- ✓ MA users are virtually untreatable with negligible recovery rates.
- ✓ Rates from 5% to less than 1% have been quoted in newspaper articles and reported in conferences.

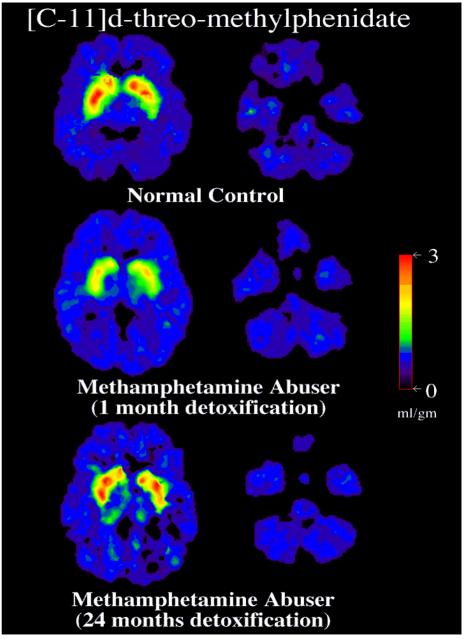
Comparison of Treatment

A comparison of treatment outcomes between individuals diagnosed with methamphetamine dependence and all other diagnostic groups indicated no between group significant differences in any treatment outcome measures including:

- Retention in treatment rates
- Urinalysis data during treatment
- Rates of treatment program completion.

All these measures indicate that MA users respond in an equivalent manner as individuals admitted for other drug abuse problems.

DAT Recovery
with prolonged
abstinence from
methamphetamine



MA "Withdrawal"

- Depression
- Fatigue
- Anxiety
- Confusion

- Paranoia
- Cognitive Impairment
- Agitation

• Duration: 2 days – 10 days

STAGES OF RECOVERY

BEGINNING

(1-6 Weeks)

MIDDLE

(6-20 Weeks)

ADVANCED

(20+ Weeks)

Withdrawal

Honeymoon

Wall

Adjustment

Resolution

Matrix Model: Key Elements

- Relies primarily on group therapy
- Therapist functions as a teacher/coach
- A positive, encouraging relationship not confrontational
- Time planning and scheduling
- Accurate information
- Relapse Prevention
- Family Involvement
- Self Help Involvement
- Urinalysis / Breath Testing

Matrix Model

- Is a manualized, 16-week, non-residential, psychosocial approach used for the treatment of drug dependence.
- Designed to integrate several interventions into a comprehensive approach. Elements include:
 - Individual counseling
 - Cognitive behavioral therapy
 - Motivational interviewing
 - Family education groups
 - Urine testing
 - Participation in 12-step programs

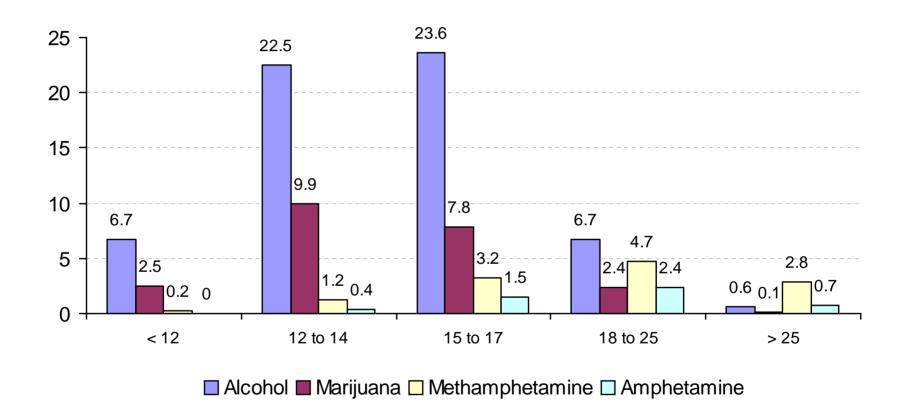
Medications

- Currently, there are no medications that can quickly and safely reverse life threatening MA overdose.
- There are no medications that can reliably reduce paranoia and psychotic symptoms, that contribute to episodes of dangerous and violent behavior associated with MA use.

Summary

- Methamphetamine is a significant public health problem in the US and in the world.
- It produces significant damage to the body and the brain.
- Recovery from methamphetamine dependence is possible and most brain changes are reversible.
- There are effective treatments for methamphetamine dependence.

Percent of Persons Receiving Substance Abuse Services at Regional Human Service Centers by Substance and Age – CY 2005



North Dakota's Response

- •Human Service Centers (HSC's) treat individuals using meth in low intensity outpatient, intensive outpatient, day treatment, and residential levels of care. A variety of methods used.
- •NDSH using version of MATRIX adopted for inpatient use.
- •HSC's trained in MATRIX model by UCLA– April 2006
 - •Currently beginning stages of implementation
 - •UCLA training on-going
 - •One MATRIX group at each HSC
- •Sharehouse (Robinson Recovery Center RRC)— uses MATRIX model adapted to residential contract with DHS

MATRIX adds an additional tool to the list of options for clients dependent upon any substance

Goal: Keep people in treatment longer = better outcomes