Challenges and Opportunities in Drug Demand Reduction: What We Have Learned From Research

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Advances in Science Have Revolutionized Our Fundamental Views of Drug Abuse and Addiction

Drug Abuse is a Preventable Behavior
Drug Addiction is a Treatable Disease

Why Do People Take Drugs In The First Place?

Prevention Programs Should . . . .
Reduce Risk Factors

- ineffective parenting
- chaotic home environment
- lack of mutual attachments/nurturing
- inappropriate behavior in the classroom
- failure in school performance
- poor social coping skills
- affiliations with deviant peers
- perceptions of approval of drug-using behaviors in the school, peer, and community environments
Prevention Programs Should . . . .

Enhance Protective Factors
- strong family bonds
- parental monitoring
- parental involvement
- success in school performance
- prosocial institutions (e.g. such as family, school, and religious organizations)
- conventional norms about drug use

Prevention Programs Should . . . .

Target all Forms of Drug Use

. . . and be Culturally Sensitive

Prevention Programs Should . . . .

Include Interactive Skills-Based Training
- Resist drugs
- Strengthen personal commitments against drug use
- Increase social competency
- Reinforce attitudes against drug use

Prevention Programs Should be . . . .

Family-Focused
- Provides greater impact than parent-only or child-only programs
- Include at each stage of development
- Involve effective parenting skills

Prevention Programs Should . . . .

Involve Communities and Schools
- Media campaigns and policy changes
- Strengthen norms against drug use
- Address specific nature of local drug problem

People Take Drugs To:
- Feel good (sensation seeking)
- Feel better (self-medication)
A Major Reason People Take a Drug is They Like What it Does to Their Brains

Prolonged Drug Use Changes The Brain In Fundamental and Long-Lasting Ways
Methamphetamine Neurotoxicity

Methamphetamine abusers have significant reductions in dopamine transporters.

Normal Control

Methamphetamine Abuser

\[ p < 0.0002 \]

<table>
<thead>
<tr>
<th>Dopamine Transporters (Bmax/Kd)</th>
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<tr>
<td>Normal Controls</td>
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<tr>
<td>Meth Abusers</td>
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What We Have Learned From Research

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Addiction Results from Long-Term Effects of Drugs on the Brain

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

...And Those Differences Are An Essential Element of Addiction
Dopamine Transporters in Methamphetamine Abusers

Motor Task
Loss of dopamine transporters in the meth abusers may result in slowing of motor reactions.

Memory Task
Loss of dopamine transporters in the meth abusers may result in memory impairment.

Addiction Results from Long-Term Effects of Drugs on the Brain

Addiction is, Fundamentally, a Brain Disease

Addiction is Not Just a Brain Disease

Addiction is the Quintessential Biobehavioral Disorder

United States - Mexico High Level Contact Group
Third Bi-National Drug Demand Reduction Conference
The Most Effective Treatment Strategies Will Attend to All Aspects of Addiction:

- Biology
- Behavior
- Social Context

We Have A Variety Of Effective Treatment Options In The Clinical Toolbox

Medications for Drug Addiction

- Methadone
- LAAM
- Naltrexone
- Nicotine Replacement
  - patches
  - gum
  - buproprion

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

- Biology
- Behavior
- Social Context
**Components of Comprehensive Drug Addiction Treatment**

- Behavioral and medications treatment
- Diverse populations
- Partnership with community treatment programs

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**Clinical Trials Network**

- Infrastructure based on NIH model
- Test effectiveness in real-life settings
- Behavioral and medications treatment
- Diverse populations
- Partnership with community treatment programs

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**National Drug Abuse Treatment Clinical Trials Network**

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**We Have A Variety Of Effective Treatment Options In The Clinical Toolbox**

...But We Need To And Can Do Better

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**National Drug Abuse Treatment Clinical Trials Network Node**

RRTC -- Regional Research and Training Center
CTP -- Community-Based Treatment Program

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**We’ve Come A Long Way in Replacing**

IDEOLOGY

with

SCIENCE