Prevention and Intervention: The Response of Cities

© Bertha K. Madras, PhD (the Hon.)
Professor of Psychobiology
Department of Psychiatry
Harvard Medical School

Introduction

Public Health Challenges

Why Reduce the Demand for Drugs?

Public Health Solutions

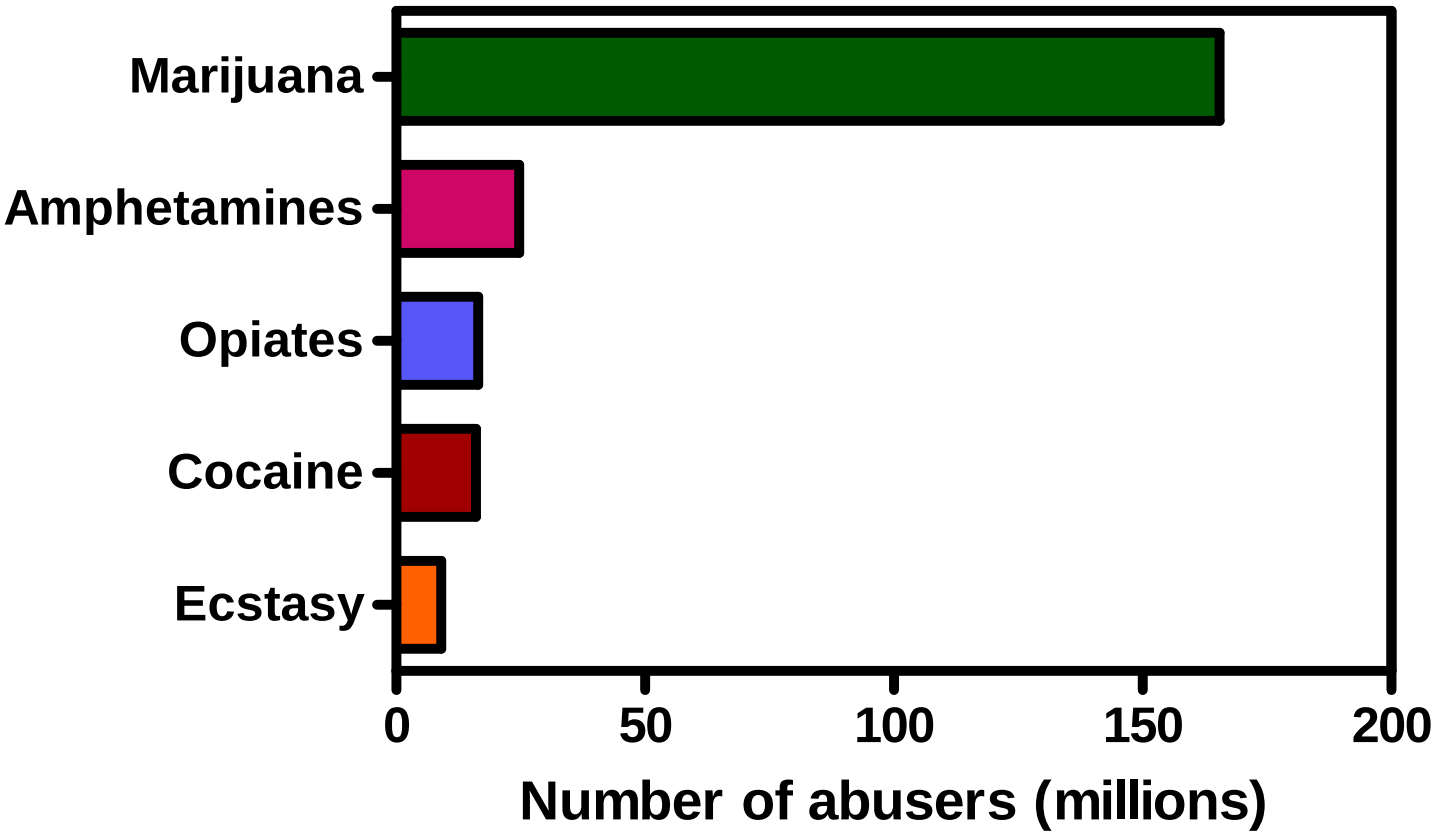
What Can Cities Do?

Public Health Challenges

1. High drug use, consequences, disease burden.
2. Nations that produce, are transit zones, are at risk.
3. Drug use during brain development is risky.
4. Prescription drug abuse is growing problem.
5. Drugs have significant medical consequences.
6. Many substance abusers are not identified.

1. Drug Use: World-wide

(annual prevalence) estimates 2006/2007



UN Report 2008

1. Substance Abuse Consequences from *in Utero* to Old Age

Adolescent drug use: poor academic grades, absenteeism, injuries, risky behaviors, overdose, violence, delinquency, crime, and high potential for addiction

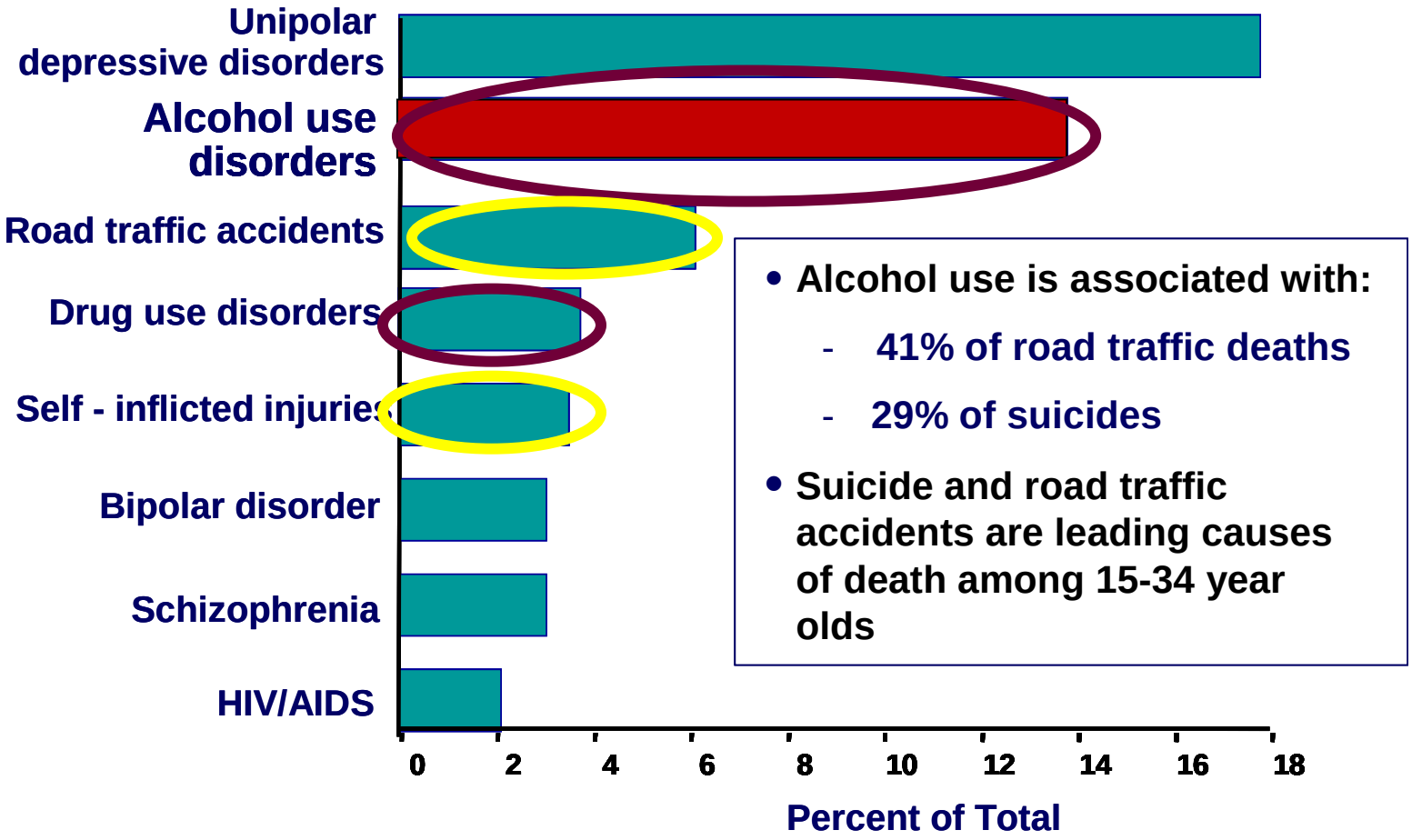
Children of drug using parents: neglect, abuse, exposure to drug culture, and to toxic chemicals

Prenatal exposure to drugs: premature delivery, low birth weight, developmental challenges

Adult drug use: injuries, accidents, violence, overdose, reduced work performance, higher error rates, absenteeism, and high turnover

Elderly drug use: compromised health, accidents, poor hygiene, and fewer resources

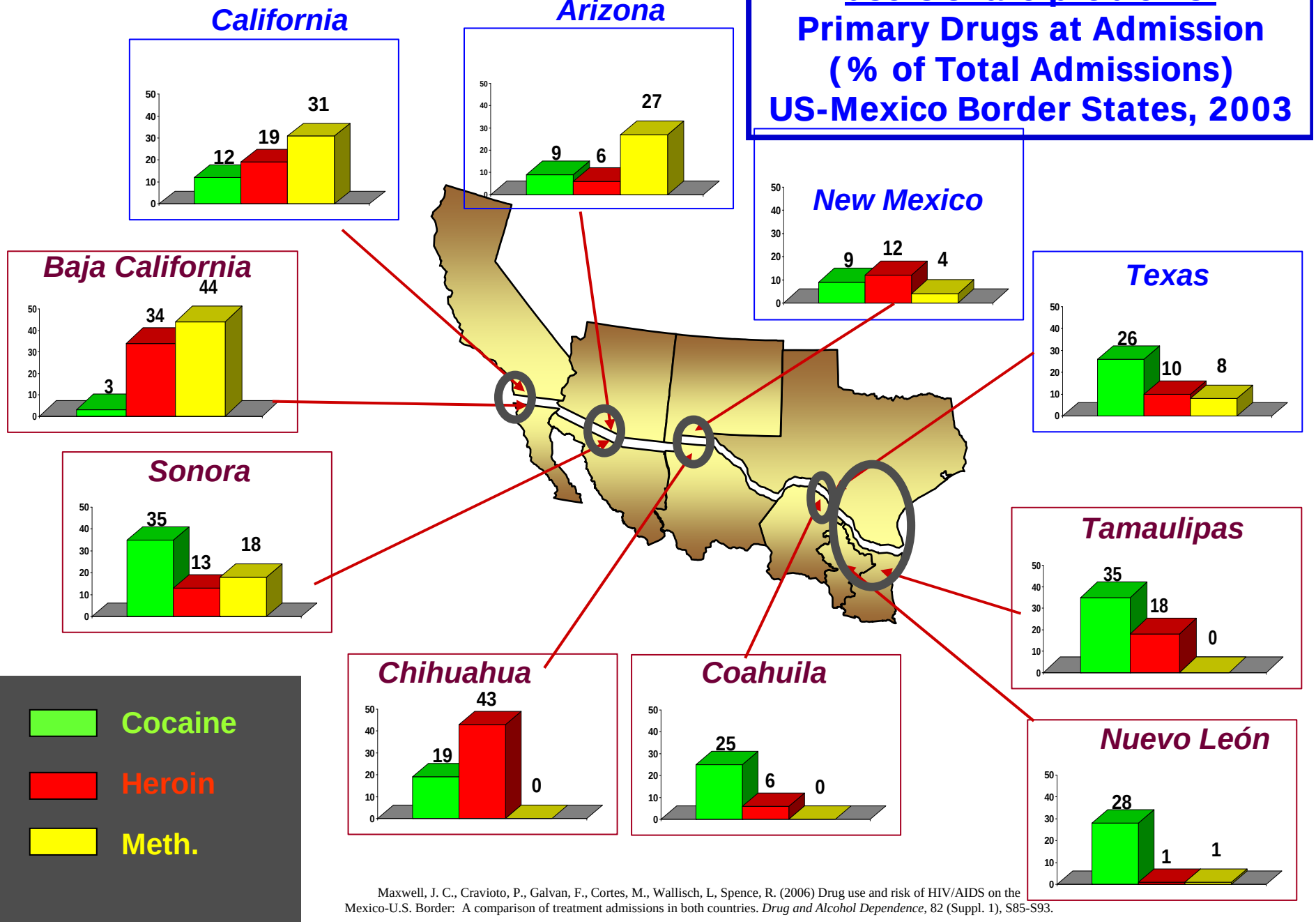
1. Disease Burden by Illness – DALY*
United States, Canada and Western Europe, 2000
(15 - 44 year olds)



*disability-adjusted life year

WHO – Burden of Disease Statistics, 2001

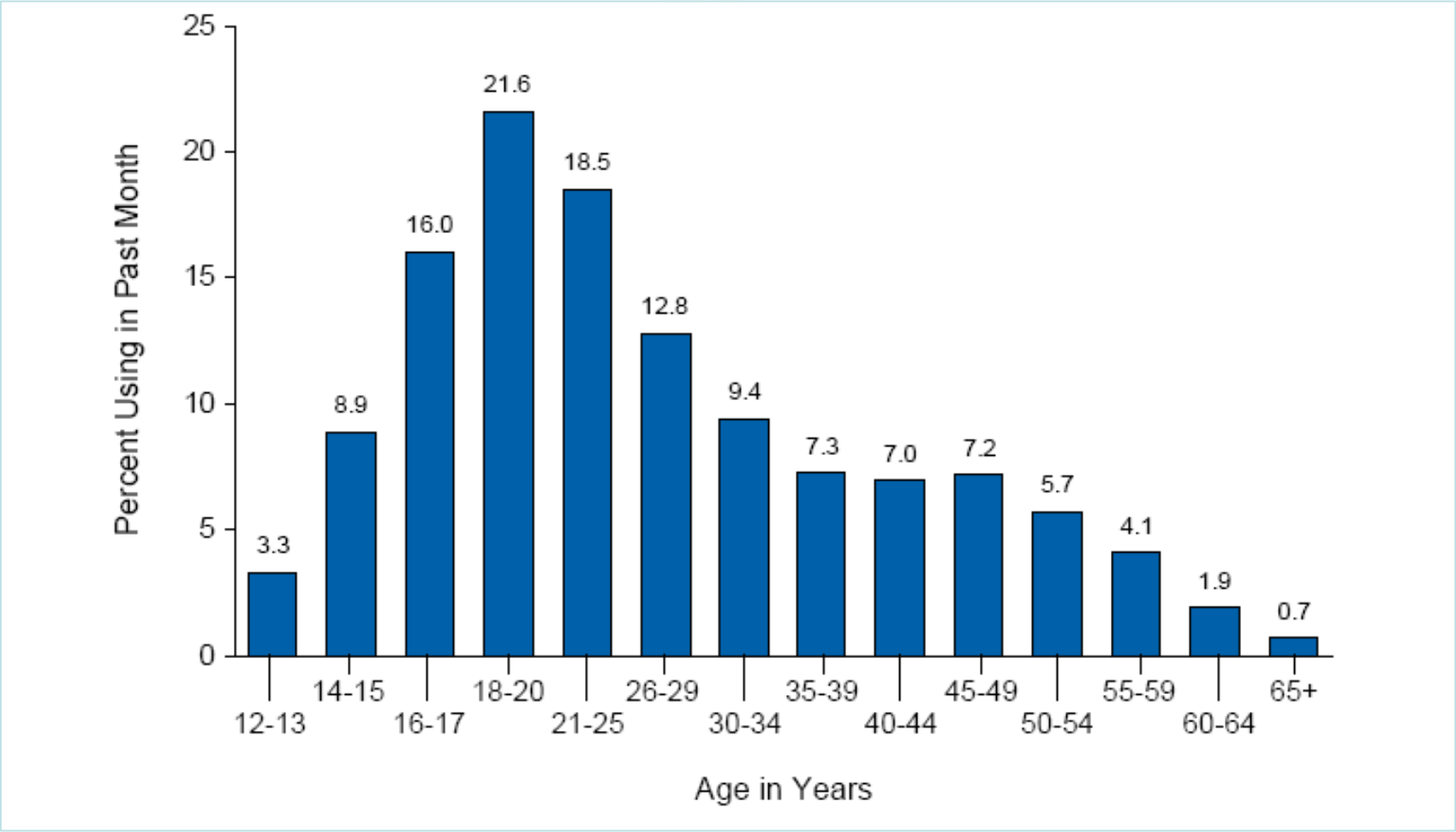
2. Producers, transit countries, users share problems:
Primary Drugs at Admission (% of Total Admissions) US-Mexico Border States, 2003



Maxwell, J. C., Cravioto, P., Galvan, F., Cortes, M., Wallisch, L, Spence, R. (2006) Drug use and risk of HIV/AIDS on the Mexico-U.S. Border: A comparison of treatment admissions in both countries. *Drug and Alcohol Dependence*, 82 (Suppl. 1), S85-S93.

3. Public Health Challenge: Youth drug use

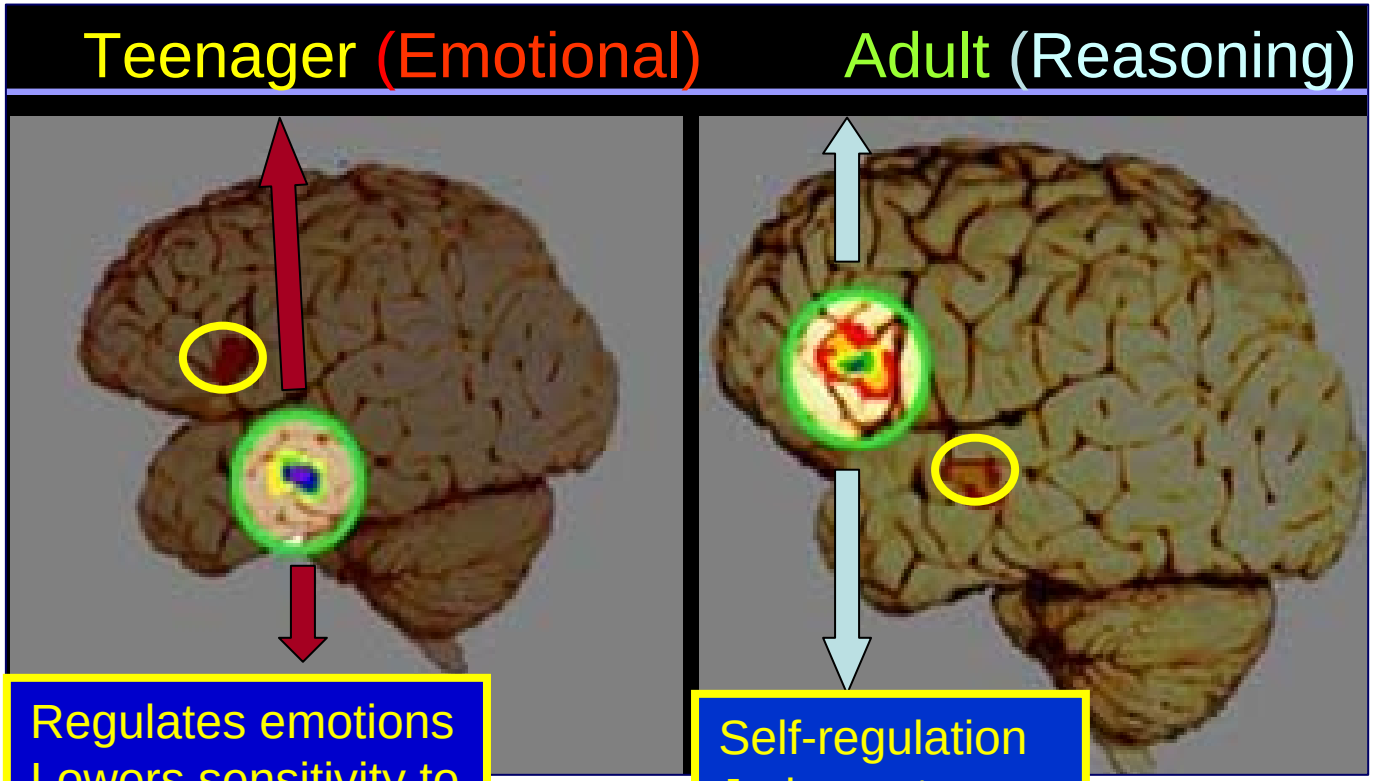
Drug Use Starts Early and Peaks During Youth



Source: NSDUH 2008

3. Why is drug use harmful to developing brains?
The adolescent brain is not fully developed

. . .a teenager uses the "Emotional" part of the brain; an adult uses the "Reasoning" part of the brain

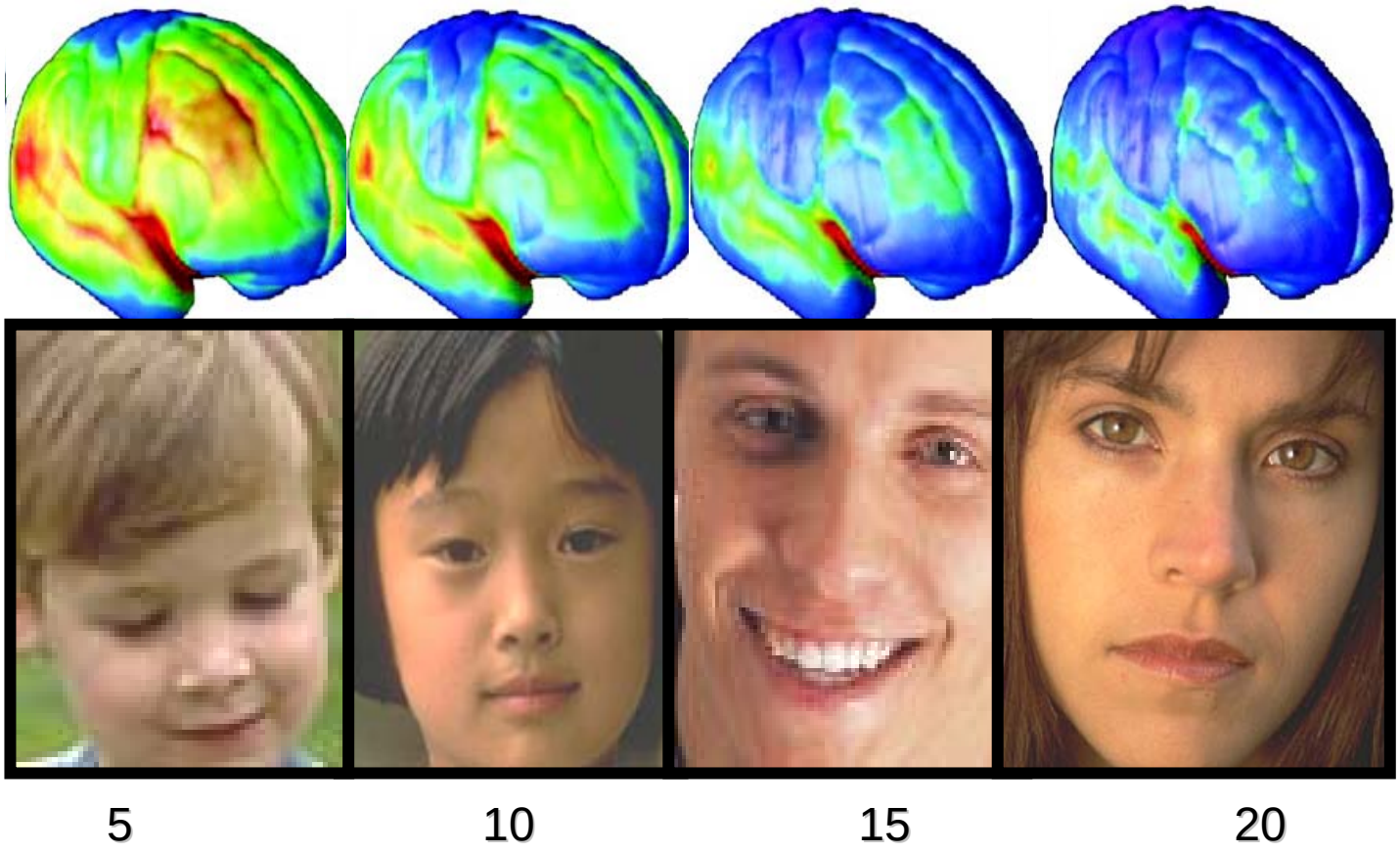


Yurgelun-Todd *et al.*, 2000; 2004

3. Why is drug use harmful to young people?

The adolescent brain is not fully developed

Drug use during adolescence could affect brain development



Gogtay et al, PNAS 101: 8174 (2004)

3. Marijuana Experimentation in High School has Immediate and Later Consequences

Adolescents who *abstain* from marijuana do better than experimenters and frequent users *both* during high school and later in life

(n=2,255) A ten-year study: 1985-1995

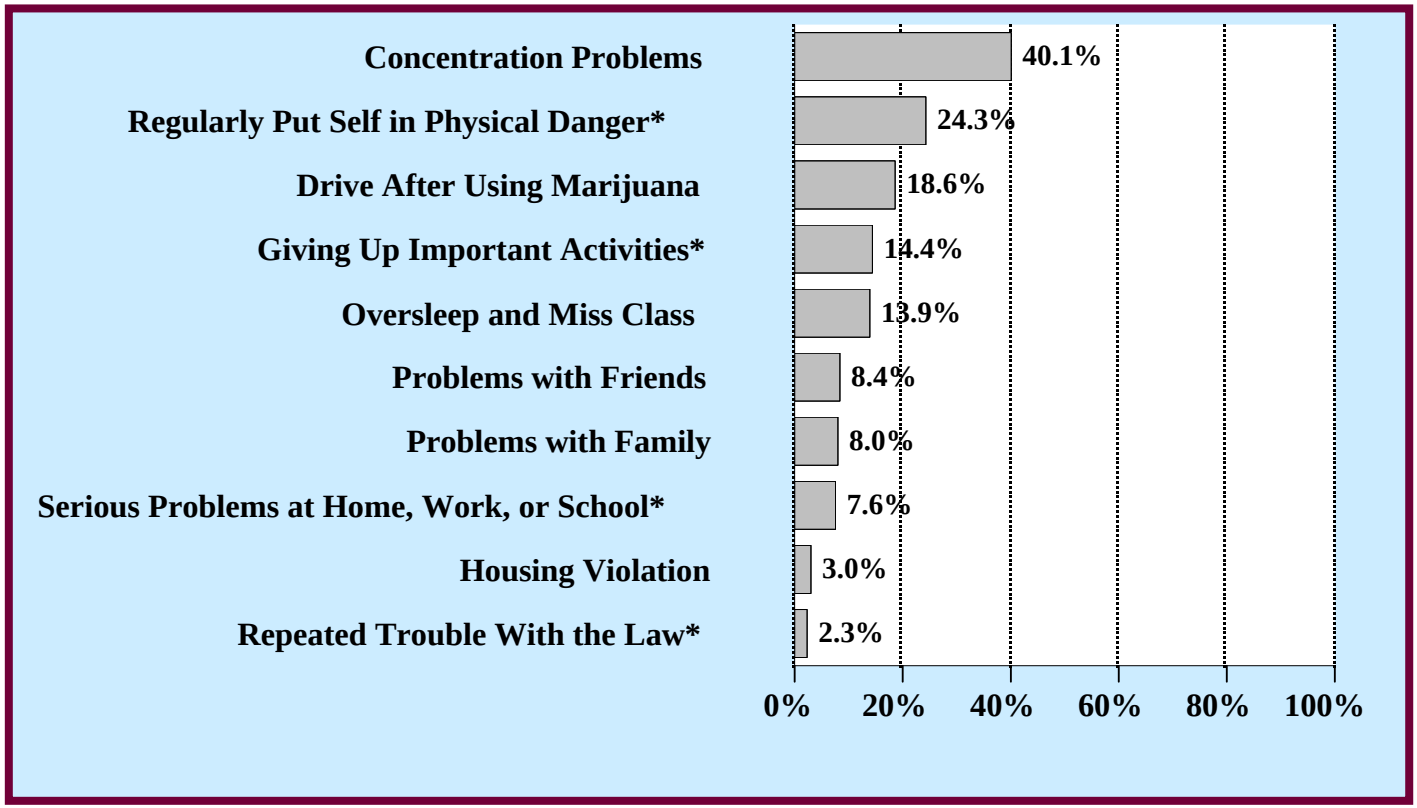
What?	***Abstain from marijuana***	***Experiment or frequent use***
Homework	More time	Less time
Grades	Higher	Lower
College Graduate	31%	14% / 8%
Stealing as adult	Less stealing	More stealing
Drug selling as adult	2%	6%/27%

Tucker et al, J. Adolescent Health 39:488 (2006)

Nearly One in Ten First-Year College Students at One University Have a Cannabis Use Disorder: "Potentially Serious Cannabis-Related Problems"

Percentage of At-Risk Cannabis Users Who Reported Cannabis-Related Problems, 2004-2005

(n=474 first-year college students who used cannabis five or more times in the past year)



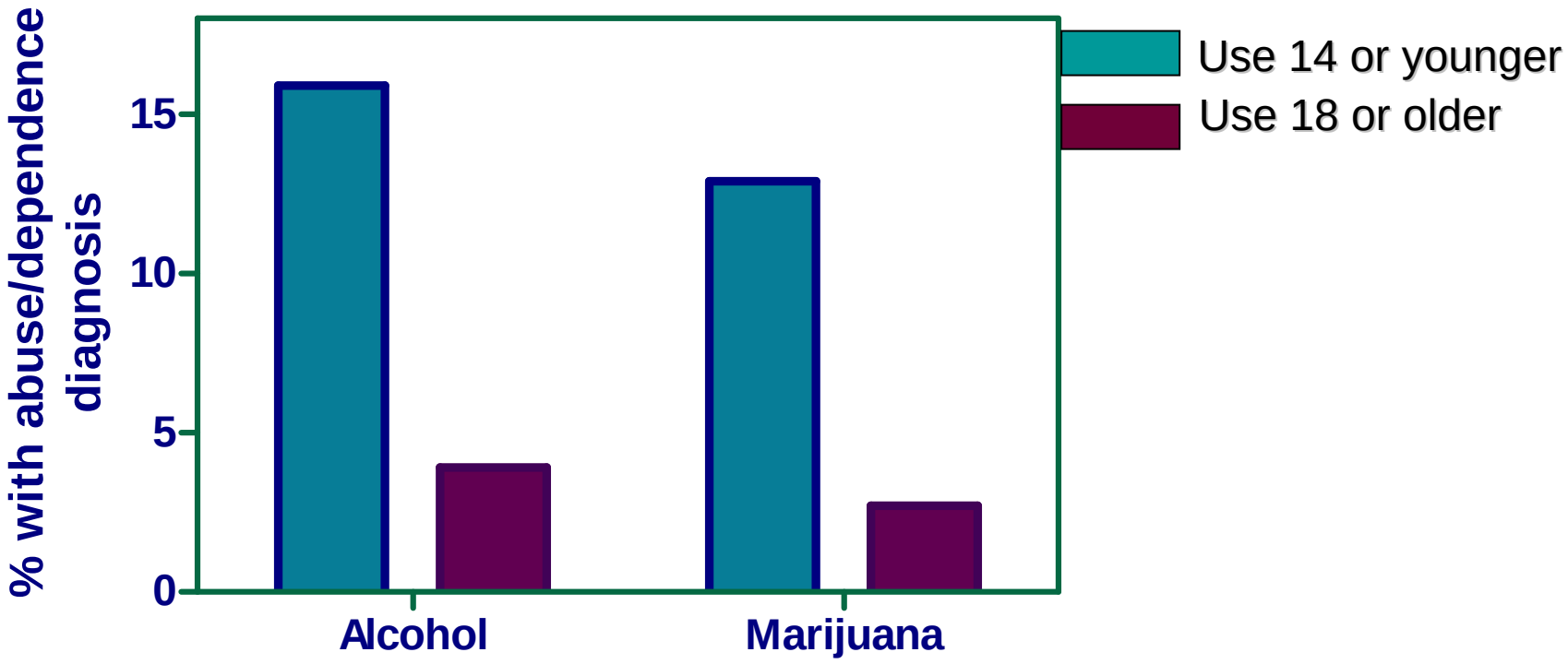
9.4% of first-year students met the clinical definition for cannabis abuse (5.4%) dependence (4.0%).
24.6% of past-year cannabis users and more than one-third (38.4%) of "at-risk" users.
Students who used cannabis five or more times in the past year reported problems related to their cannabis use.

*Problem is one of the DSM-IV diagnostic criteria for cannabis use disorders.

SOURCE: Adapted by CESAR from Caldeira, K.M., Arria, A.M., O'Grady, K.E., Vincent, K.B., and Wish, E.D. The Occurrence of Cannabis Use Disorders and Other Cannabis-Related Problems Among First-Year College Students, Addictive Behaviors 33(3):397-411, Forthcoming, March 2008. Available online at http://dx.doi.org/10.1016/j.addbeh.2007.10.001. This study was funded by the National Institute on Drug Abuse (R01DA14845-03).

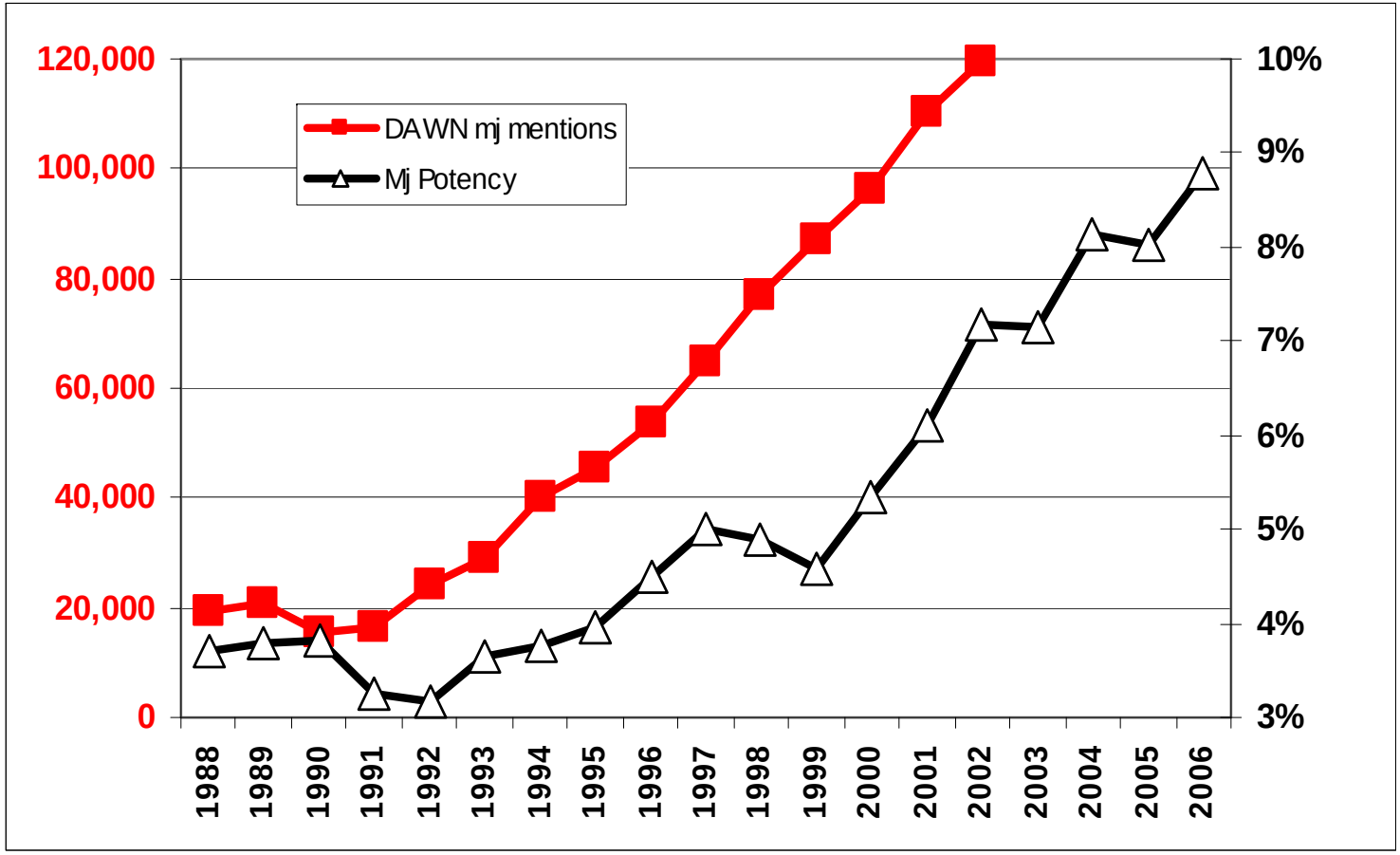
3. The younger drug use begins, the higher the risk for abuse/addiction

Age at first use and abuse/dependence as adult



3. Marijuana potency and Emergency Department Mentions

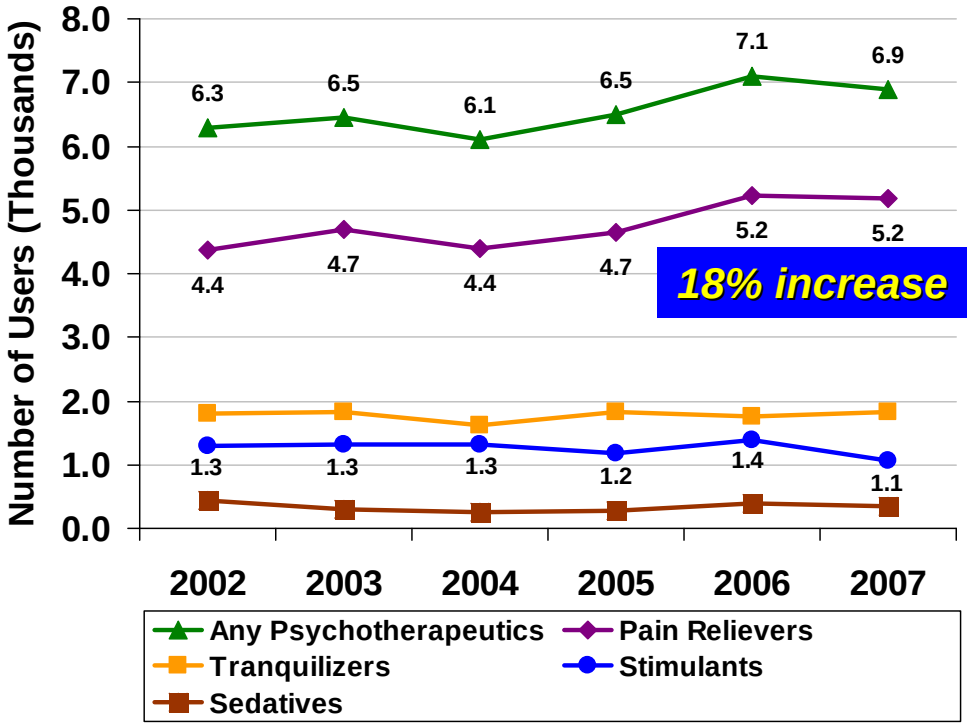
Marijuana Potency and DAWN Emergency Department Mentions



Source: Drug Abuse Warning Network (DAWN), SAMHSA, 2004
Marijuana Potency Monitoring Project, Univ. of Mississippi (Feb 2006)

4. Public Health Challenge: Non-medical Use of Prescription Drugs

Past Month Use (Ages 12 and older)



"Not prescribed for you"

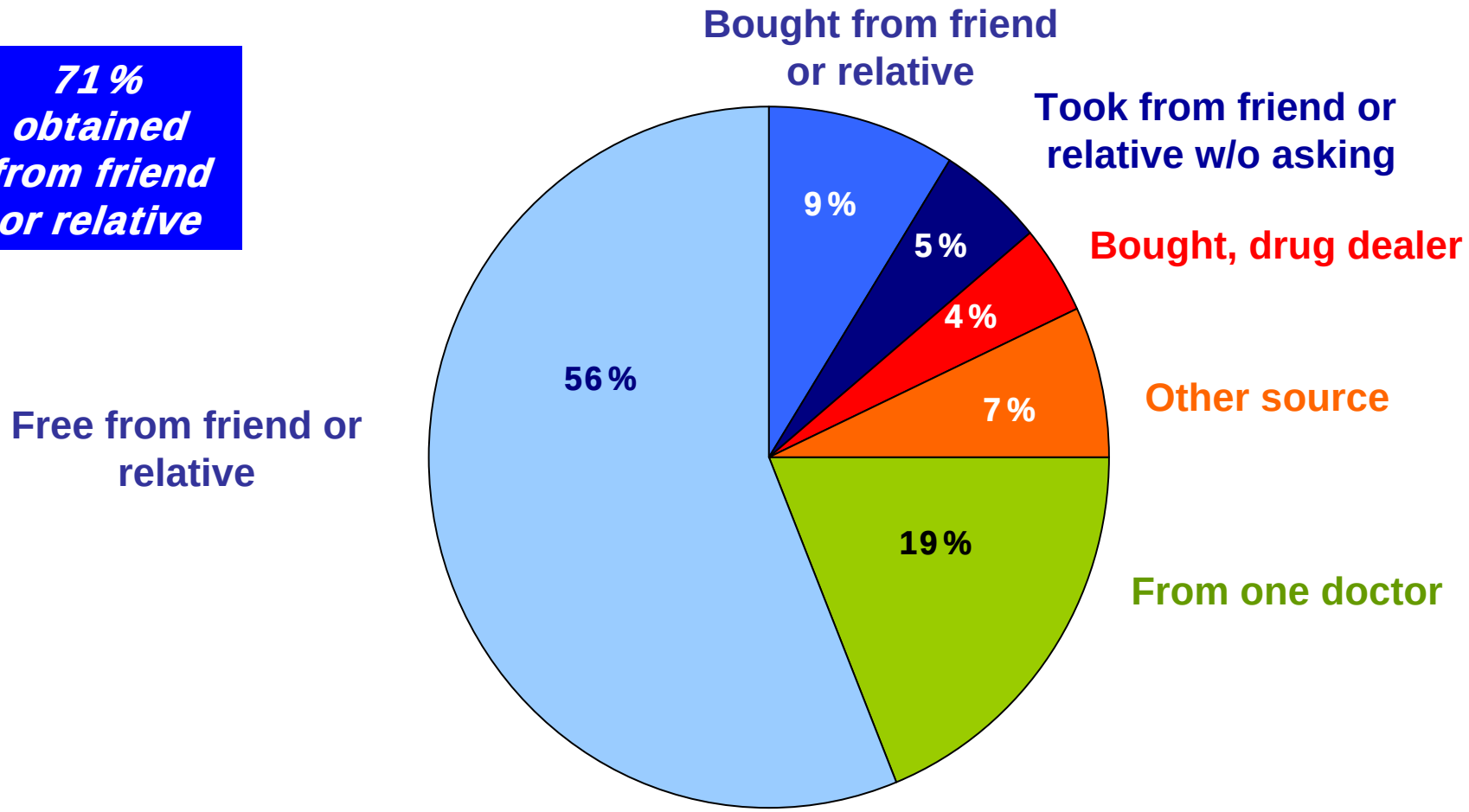
OR

"You took the drug only for the experience or feeling it caused"

Source: SAMHSA, 2007 *National Survey on Drug Use and Health* (September 2008).

4. Source of Pain Relievers for Most Recent Nonmedical Use Among Past Year Users

71 % obtained from friend or relative

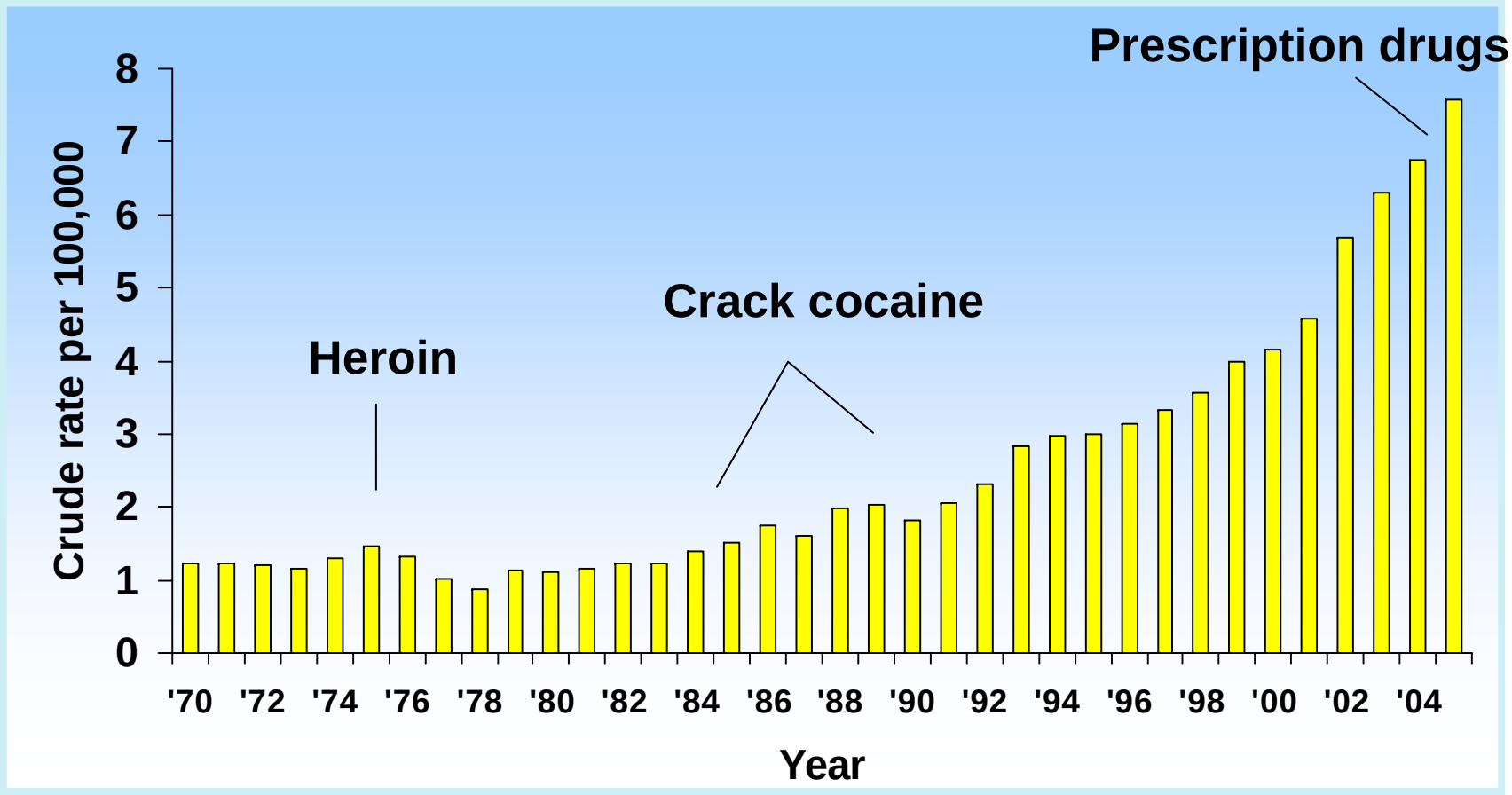


Past Year Nonmedical Users of Pain Relievers: 12.6 million

Source: SAMHSA, *2006 National Survey on Drug Use and Health* (September 2007).

4. Public Health Consequences:
Prescription Drug Abuse Deaths

Unintentional drug poisoning (overdose) mortality in the US due to prescription drugs escalating rapidly (1970-2005)



(Source: Dr. L. Paulozzi, CDC, 2008)

5. Medical Consequences of Substance Use Cross Medical Specialties

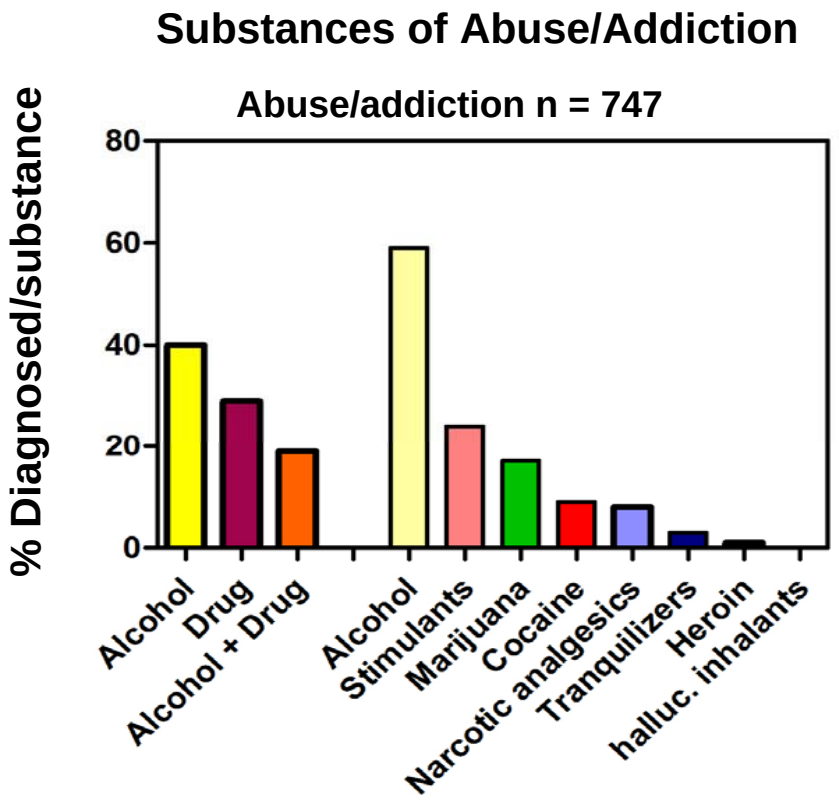
Substance abuse can have a major impact on health

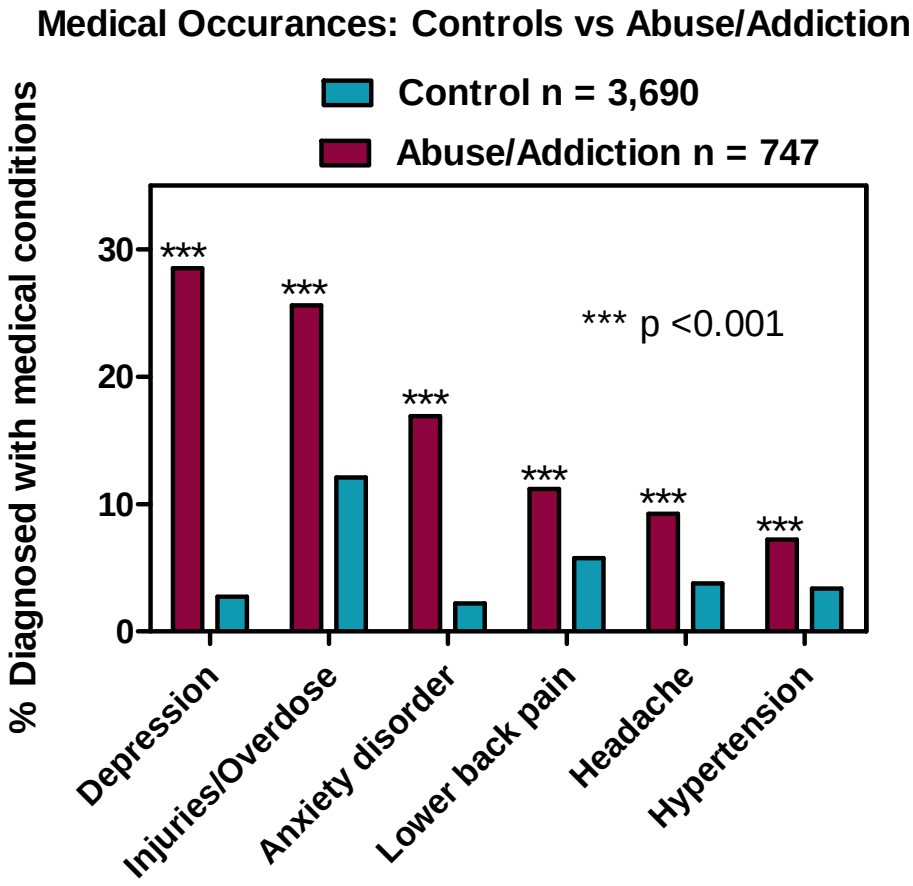
Substance abuse can:

- Lead to **unintentional injuries** and violence.
- **Exacerbate medical** conditions: e.g. diabetes, hypertension.
- **Exacerbate neuropsychiatric** disorders: e.g. depression, sleep disorders.
- **Induce** medical diseases: e.g. stroke, dementia, hypertension, cancers.

- **Increase** risk of infectious diseases and infections: e.g. HIV, Hepatitis C.
- Affect the **efficacy** of prescribed medications.
- Be associated with **abuse of prescription medications**.
- Result in **low birth weight**, premature deliveries, and **developmental** disorders.
- **Result in dependence, which may require multiple treatment services.**

5. Medical and Psychiatric Conditions Occur More Frequently in DSM-IV Abuse/Dependent Patients

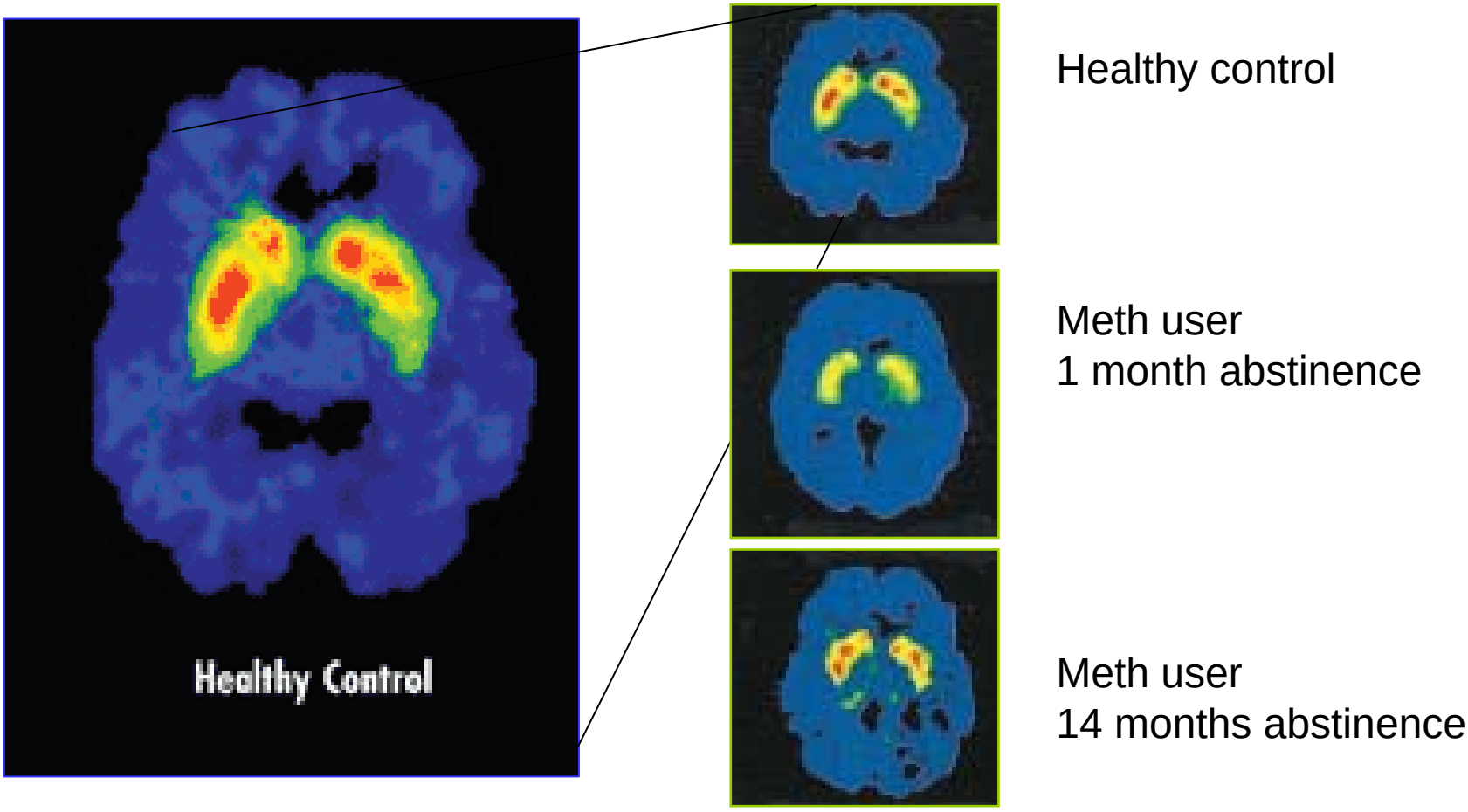




Patient records from Dec '97-Apr '98

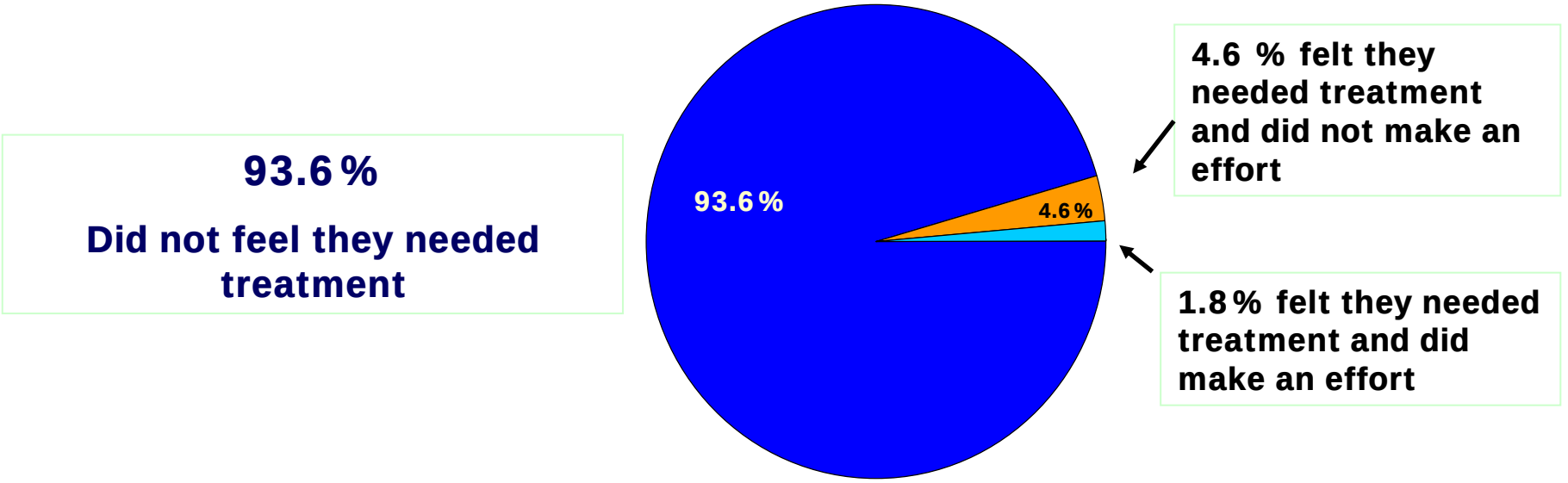
Adapted from Mertens JR et al, Arch Intern Med 163: 2511-2517, 2003

5. Heavy Methamphetamine Use is Harmful to the Brain



Source: Volkow, N.D. et al., Am J. Psychiatry, 158(3), pp. 377-382, 2001. J. Neurosci 2001.

6. Public Health Challenge: The vast majority of people with a medical diagnosis of alcohol or illicit drug abuse/addiction are unaware of the problem, do **not** seek help



Source: SAMHSA, *2007 National Survey on Drug Use and Health* (September 2008)

21 Million People Need, But Do Not Receive Treatment for Illicit Drug or Alcohol Use

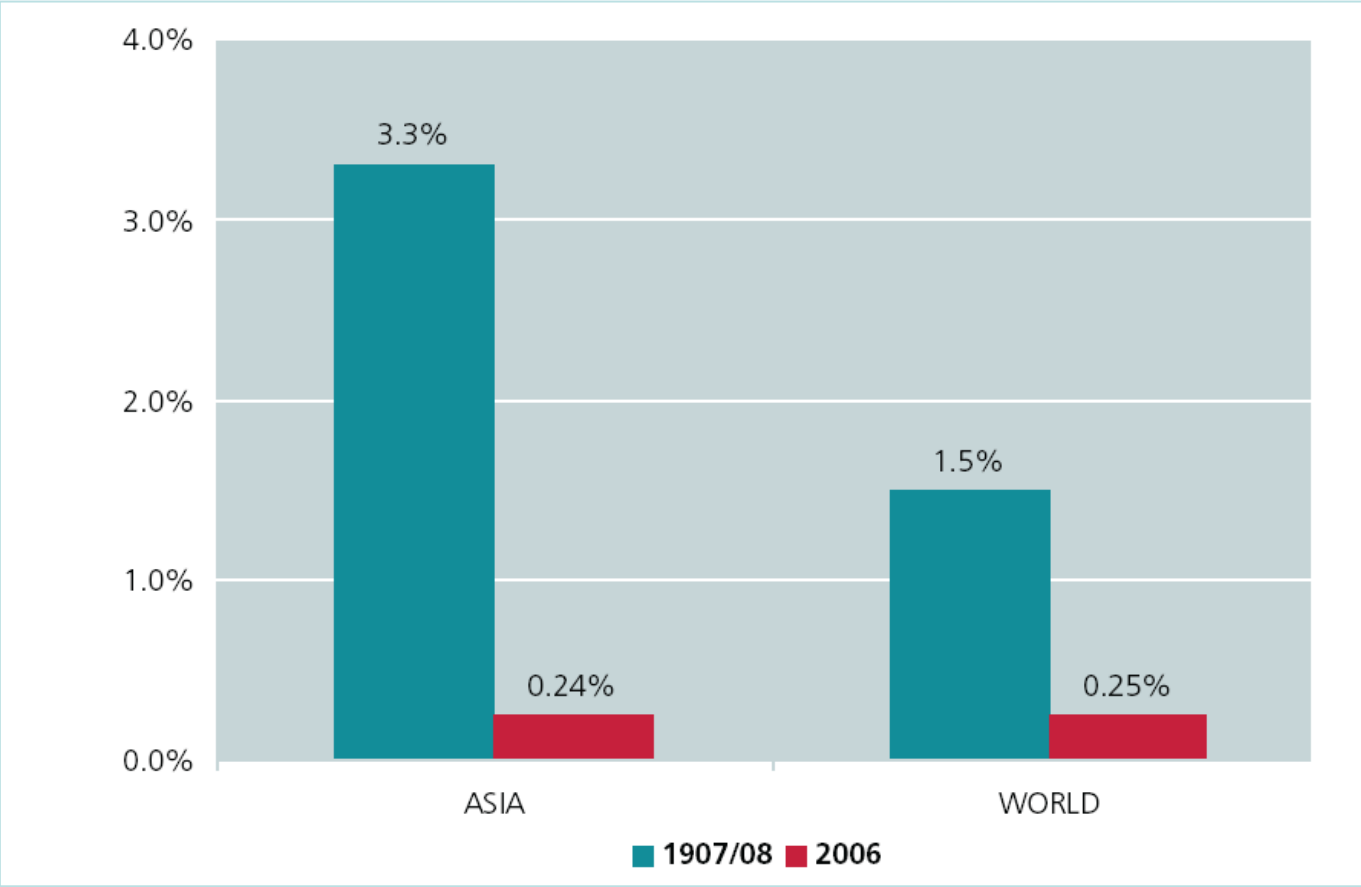
Public Health Solutions

What Can Cities Do?

1. Prevention works!
2. Task force; community coalitions
   - strategic plan and track progress
3. Prevent use before it starts
   - Media
   - School
   - Parents
4. Intervene with Drug Users
   - SBIRT
5. Provide Treatment
   - Support services
   - Drug courts

1. Demand reduction is effective!

Opiate use declined dramatically from 1907/08 to 2006



Source: UN Office on Drugs and Crime, 2008 Report

1. Demand Reduction can be Effective!

In 2008, 900,000 fewer youth were using illicit drugs than in 2001

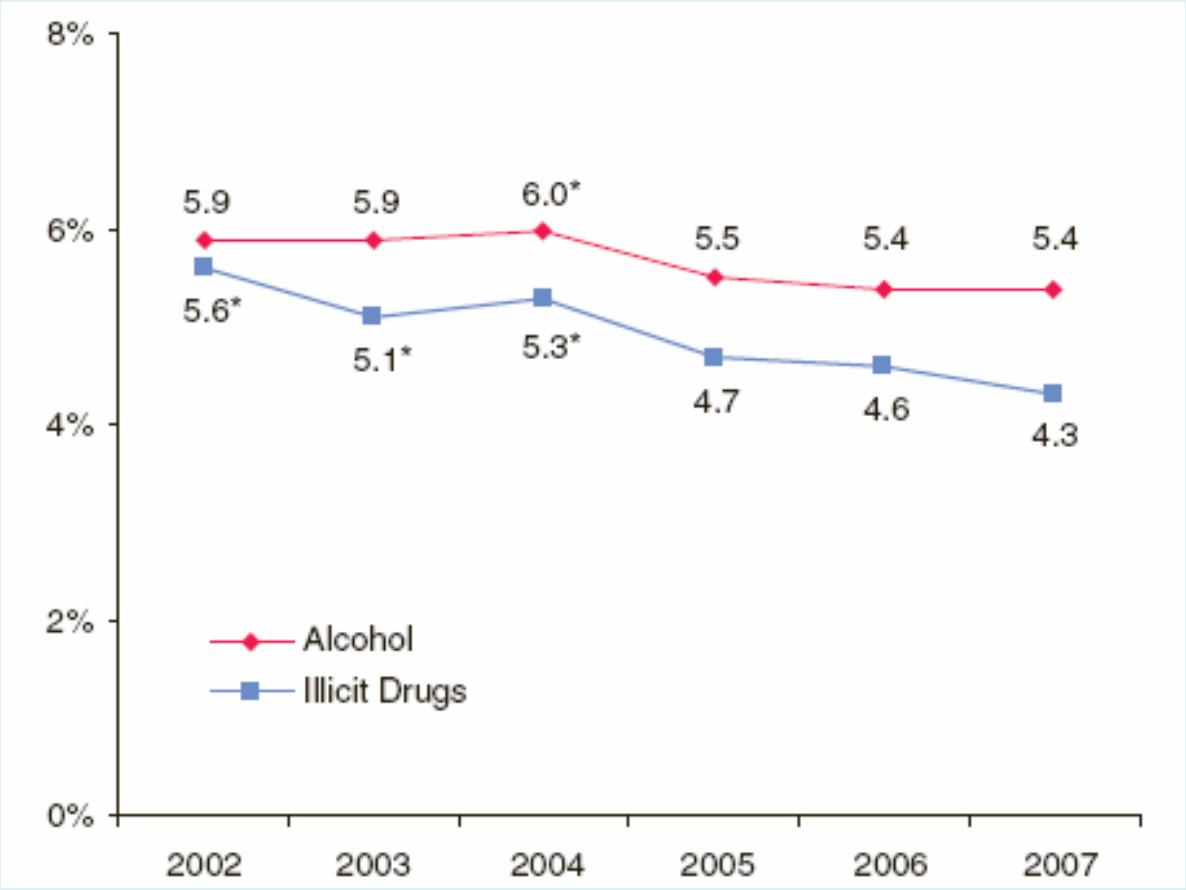
Percent Reporting Past Month Use

	2001	2008	Change as a % of 2001
Any Illicit Drug	**19.4%**	**14.6%**	**-25***
Marijuana	16.6%	12.5%	-25*
MDMA (Ecstasy)	2.4%	1.2%	-50*
LSD	1.5%	0.7%	-53*
Amphetamines	4.7%	2.6%	-45*
Inhalants	2.8%	2.6%	-7
Methamphetamine	1.4%	0.7%	-50*
Steroids	0.9%	0.6%	-33*
Cocaine	1.5%	1.3%	-13
Crack	0.9%	0.6%	-33*
Heroin	0.4%	0.4%	0
Alcohol	35.5%	28.1%	-21*
Been drunk	19.7%	14.9%	-24*
Cigarettes	20.2%	12.6%	-38*

* Denotes statistically significant change from 2001.

Source: *2008 Monitoring the Future* study special tabulations for combined 8th, 10th, and 12th graders (December 2008).

1. Adolescents meeting medical diagnosis criteria for illicit drug abuse/addiction has declined (2002-2007)



NSDUH, 2008

2. Prevention: A City, Community, or Regional Task Force

1. Create a task force: policy makers, healthcare providers, police, judges, social workers, educators, parents, local leaders, etc.
2. Independent statisticians measure the problem: drug use, age range, drug source, where used, emergency department mentions, traffic accidents, etc.
3. Create a detailed strategic plan, with specific goals and outcome measures: educate 50% of school parents on internet sites and drug hazards; reduce drug use 25% in 5 years for youth, young adults.
4. Measure progress: quarterly and yearly basis
5. Revise plan: if statistics change or plan not effective.

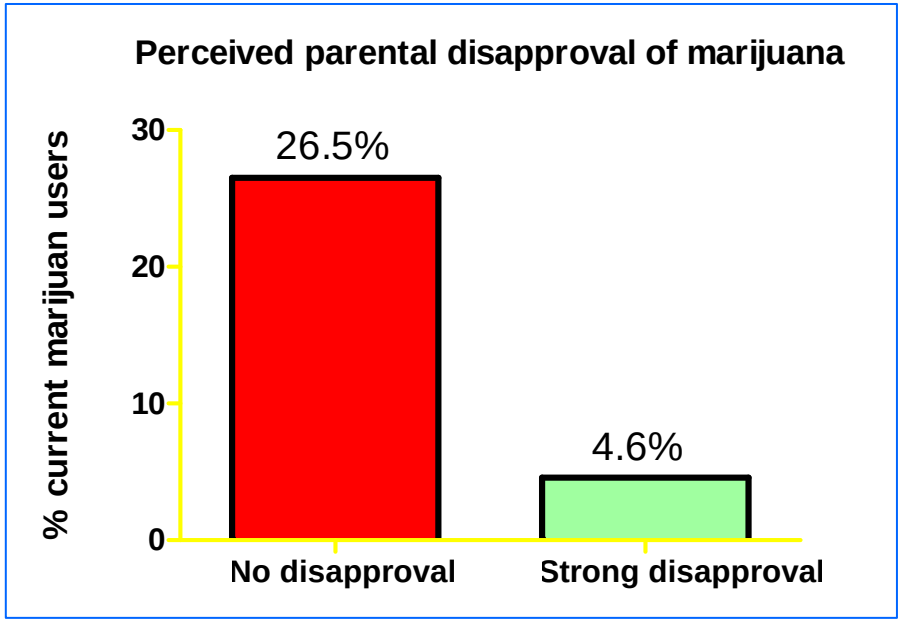
2. Prevent use: Media and schools

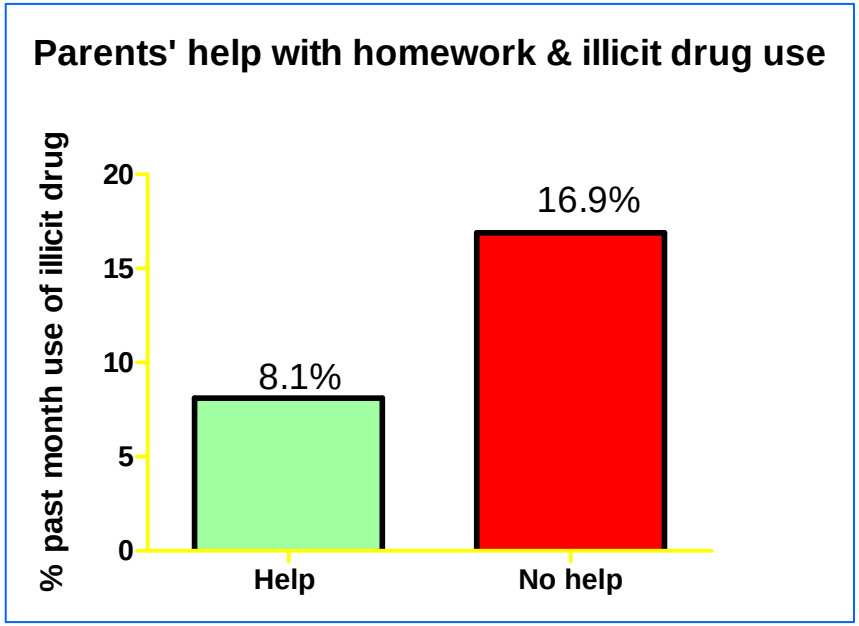
Media: articles, videos, ads on drugs and consequences in local media, TV, radio, internet sites, newspapers, magazines

School: Evidence-based prevention programs in schools.

Community coalitions: Community organizations that promote drug-free communities and schools.

3. Prevent use: Parents have critical Influence on Children's Drug Use



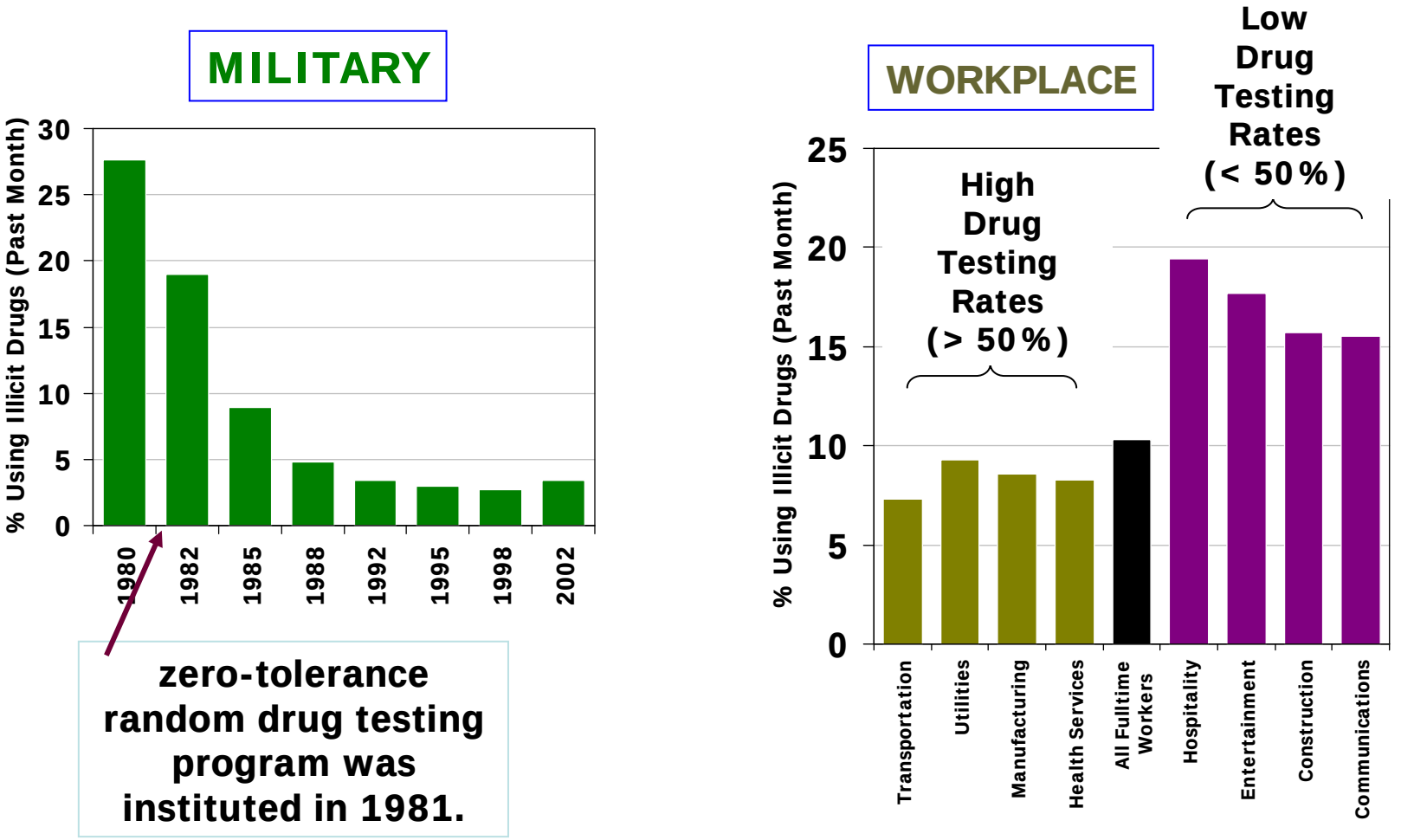


Source: SAMHSA, 2006 *National Survey on Drug Use and Health* (September 2007)

3. Prevent use: Parents have critical Influence on Children's Drug Use

- Educate parents on internet sites, cell phone contacts, web social networks, web sites for drug marketing.
- Educate parents on drug hazards and consequences.
- http://www.theantidrug.com/

3. Prevent Drug Use: Drug Testing



Sources: MILITARY-- Bray, et al., *2002 Department of Defense Survey of Health Related Behaviors Among Military Personnel* (November 2003);
WORKPLACE -- SAMHSA, *Worker Drug Use and Workplace Policies and Programs: Results from the 1994 and 1997 NHSDA* (September 1999).

4. Intervention

Healthcare professionals can reduce drug use

4. A Public Health Solution: Screening, Brief Intervention (SBI)

Substance abuse leads to significant ***medical***, social, legal, financial consequences.

Excessive drinking, illicit drug use, and prescription drug misuse are often undiagnosed by medical professionals.

Treatment GAP
Why SBI?

The brief intervention itself is inherently valuable, and positive screens may not require referral to specialty treatment.

Early, brief interventions are clinically effective and cost-efficient.

SBIRT

Screening:

Brief Intervention (BI):

SBIRT

Brief Treatment (BT):

Referral (RT):

Source: SAMHSA. A Guide to Substance Abuse Services for Primary Care Clinicians TIP Series No. 24 (1997)

SBIRT Procedures

Screening:	Brief questionnaire yields a score that identifies and quantifies substance abuse and associated problems.
Brief Intervention (BI):	Give feedback about screening results, inform patient about consuming substances, advise on change, assess readiness to change, establish goals, strategies for change, and follow-up.
Brief Treatment (BT):	Enhanced level of intervention with more than one session.
Referral (RT):	Referral to treatment for substance abuse or dependence.

Source: SAMHSA. A Guide to Substance Abuse Services for Primary Care Clinicians TIP Series No. 24 (1997)

Screening tools
WHO ASSIST Questionnaire

Question 2

In the past three months, how often have you used the substances you mentioned *(FIRST DRUG, SECOND DRUG, ETC)*?	Never	Once or Twice	Monthly	Weekly	Daily or Almost Daily
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)	0	2	3	4	6
b. Alcoholic beverages (beer, wine, spirits, etc.)	0	2	3	4	6
c. Cannabis (marijuana, pot, grass, hash, etc.)	0	2	3	4	6
d. Cocaine (coke, crack, etc.)	0	2	3	4	6
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)	0	2	3	4	6
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)	0	2	3	4	6
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)	0	2	3	4	6
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)	0	2	3	4	6
i. Opioids (heroin, morphine, methadone, codeine, etc.)	0	2	3	4	6
j. Other - specify:	0	2	3	4	6

Screening tools

AUDIT

ASSIST

CAGE-Aid

MAST

TWEAK

DAST

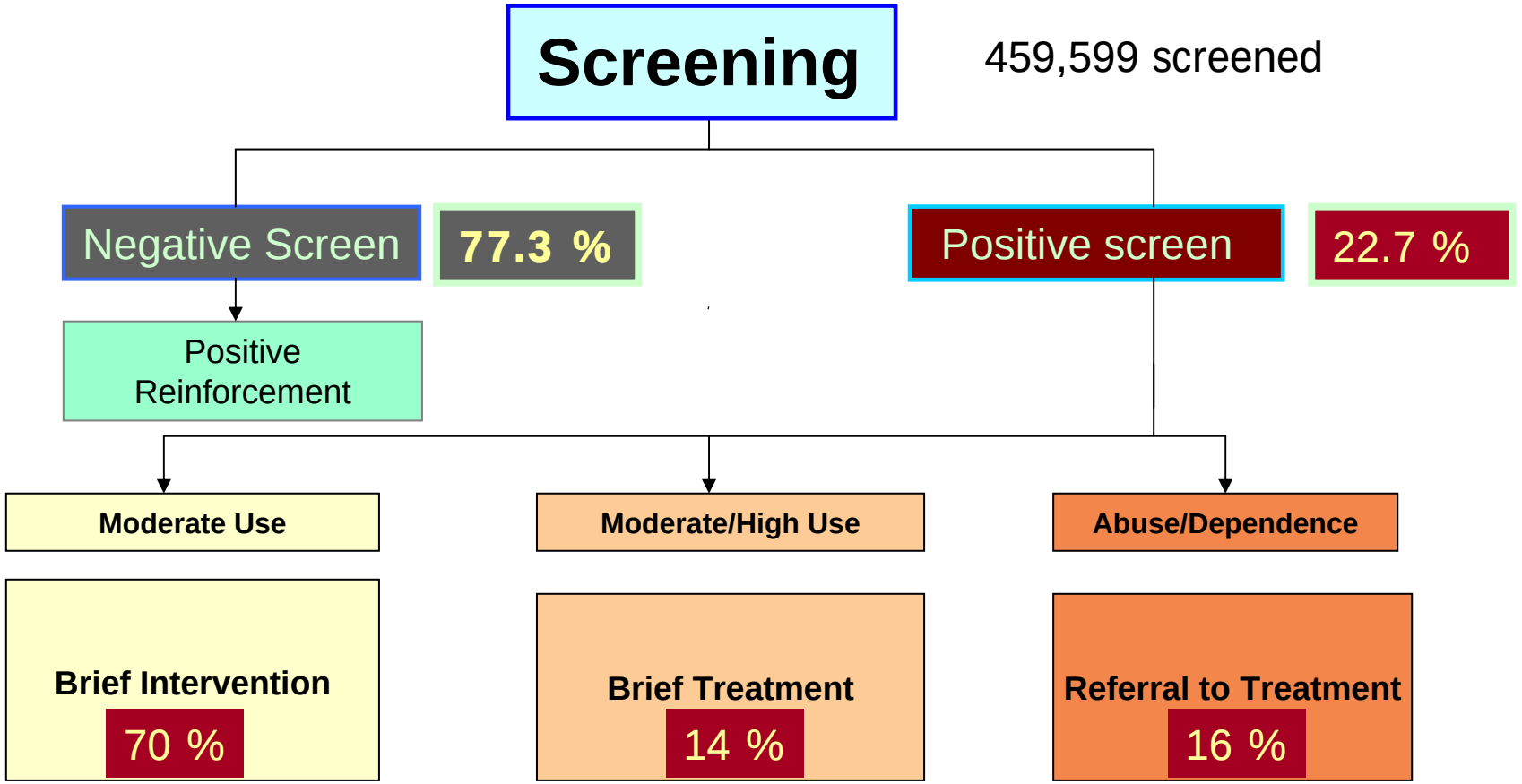
CRAFFT

TICs

Is SBIRT Effective?

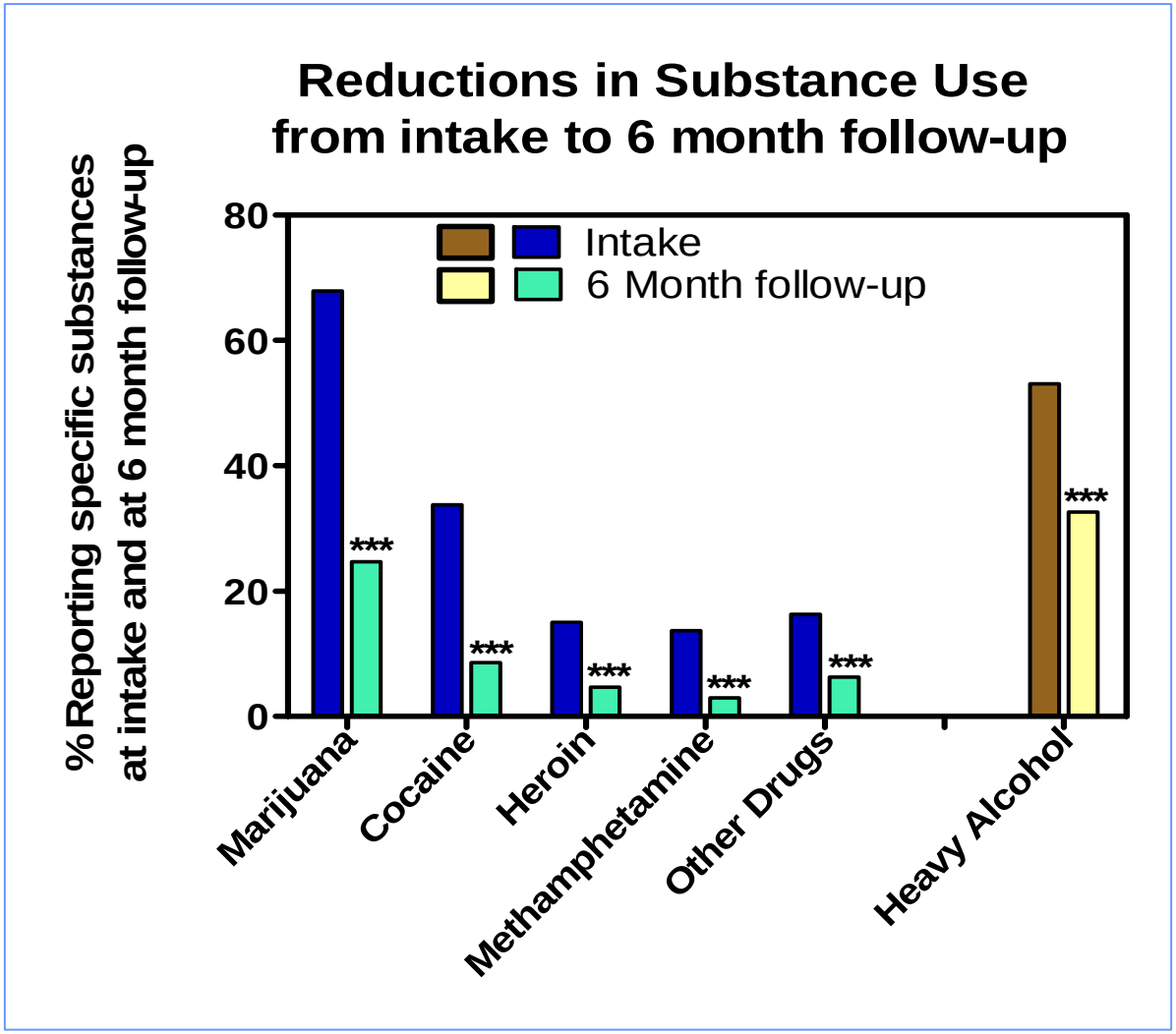
U.S. SBIRT Study

Follow-up Procedure Depends on Screening Score



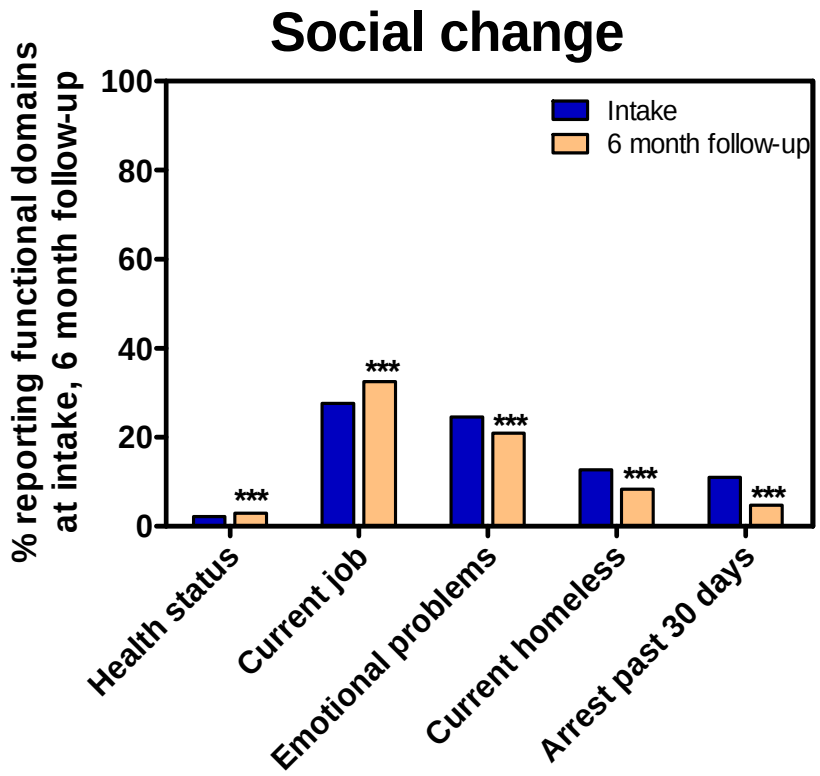
Madras et al, Drug and Alcohol Dependence 99: 280-295, 2009.

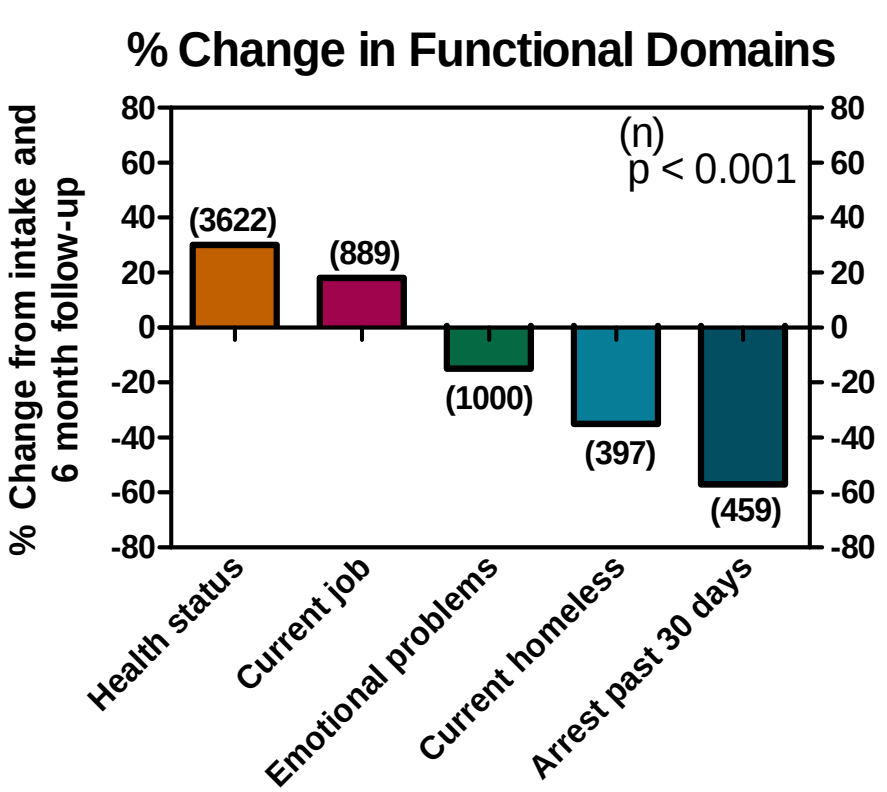
Positive screens in need of intervention



Madras et al, Drug and Alcohol Dependence 99: 280-295, 2009.

Health and social outcomes for those assigned to brief treatment or specialty care





Madras et al, Drug and Alcohol Dependence 99: 280-295, 2009.

21 months later….e-pub

Screening, brief interventions, referral to treatment (SBIRT) for illicit drug and alcohol use at multiple healthcare sites: Comparison at intake and 6 months later

Bertha K. Madras[a,*], Wilson M. Compton[b], Deepa Avula[c], Tom Stegbauer[c], Jack B. Stein[c], H.Westley Clark[c]

[a] *White House Office of National Drug Control Policy, Office of Demand Reduction, 750 17th Street N.W., Washington, DC 20503, USA*
[b] *Division of Epidemiology, Services and Prevention Research, National Institute on Drug Abuse, National Institutes of Health, Department of Health and Human Services, Neuroscience Center, 6001 Executive Boulevard, Rockville, MD 20892-9561, USA*
[c] *Substance Abuse and Mental Health Services Administration, Department of Health and Human Service, 1 Choke Cherry Road, Rockville, MD 20857, USA*

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http://dx.doi.org/10.1016/j.drugalcdep.2008.08.003

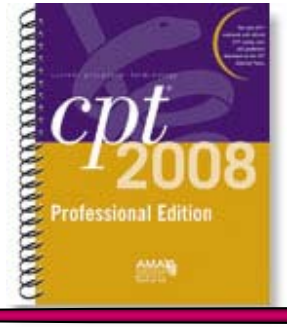
WHO Study The Effectiveness of a Brief Intervention for Illicit Drugs linked to the ASSIST* Screening test in Primary Health

- Phase 1: Reliability Test-retest of ASSIST: n = 236; 9 countries
- Phase II: Validity study to compare ASSIST with other questionnaires: n=1047; 7 countries
- Phase III: Randomized control trial; **Australia, Brazil, India, United States**: n = 731
- **Drug use, n:** Cannabis: 395; Cocaine/amph: 247; Opioids: 89
- **Age:** 16 - 62 years
- **Follow-up:** 86% follow-up at ~11.2 weeks
- **Results:** Statistically significant reductions in illicit drug use: 60.2%

*ASSIST: Alcohol, Smoking, Substance Involvement Screening Test

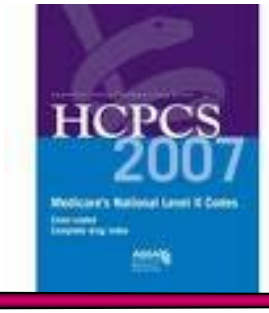
2008: http://www.who.int/substance_abuse/activities/assist_technicalreport_phase3_final.pdf

Reimbursement for SBIRT Services



99408: Alcohol and/or substance (other than tobacco) abuse structured screening (e.g., AUDIT, DAST), and brief intervention (SBI) services; 15 to 30 minutes,

99409: Alcohol and/or substance (other than tobacco) abuse structured screening (e.g., AUDIT, DAST), and brief intervention (SBI) services; greater than 30 minutes.



HCPCS H Codes: Jan 2007, MEDICAID

HCPCS: H0049: Alcohol/Drug Screening – Alcohol and/or Drug Screening

HCPCS: H0050: Alcohol/Drug Service 15 min – Alcohol and/or Drug Service, Brief Intervention, per 15 minutes

HCPCS G CODES: January 2008, MEDICARE

HCPCS G0396: Alcohol and/or substance (other than tobacco) abuse structured assessment (eg, AUDIT, DAST) and brief intervention, 15 to 30 minutes

HCPCS G0397: Alcohol and/or substance (other than tobacco) abuse structured assessment (eg, AUDIT, DAST) and intervention greater than 30 minutes.

Performed in the context of the diagnosis or treatment of illness or injury.

New Billing Codes: Majority of patients presented for medical reasons; SBIRT detected substance abuse problems

Presented to

Bertha K. Madras, PhD

In appreciation for your help making SBI reimbursement a reality.

First Paid Claims for CPT Codes 99408 and 99409

PRCDR CD	DG Description
99408	Alcohol Abuse
99408	Angina/Chest Pain
99408	Back Pain/Degenerative Dx
99408	Congenital Orthopedic Dx
99408	Contusion/Crushing Injury
99408	Depression
99408	Diabetes Mellitus
99408	Digestive Disorders - Other
99408	Drug Abuse
99408	Fractures
99408	Hypertension
99408	Hypertensive Renal Disease
99408	Male Sexual Dx/Infertility
99408	Mechanical Joint Disorders
99408	Migraine/Other Headaches
99408	Muscle/Ligament/Fascia Dx
99408	Neck Pain/Degenerative Dx

PRCDR CD	DG Description
99408	Neurotic/Personality/Oth Dx
99408	Synovium/Tendon/Bursa Dx
99408	Thoracolumbar Herniated Disc
99408	Unspecified Morbidity
99408	Uterine Disorders
99409	AIDS
99409	Alcohol Abuse
99409	Asthma
99409	Back Pain/Degenerative Dx
99409	Drug Abuse
99409	Endocrine Disorders - Other
99409	Hypertension
99409	Neoplasms - Other
99409	Paralytic Disorders
99409	Unspecified Morbidity
99409	Viral Infections

THE CENTER FOR INTEGRATED BEHAVIORAL HEALTH POLICY

THE GEORGE WASHINGTON UNIVERSITY
SCHOOL OF PUBLIC HEALTH
AND HEALTH SERVICES

Treatment Needs for Addiction

Use

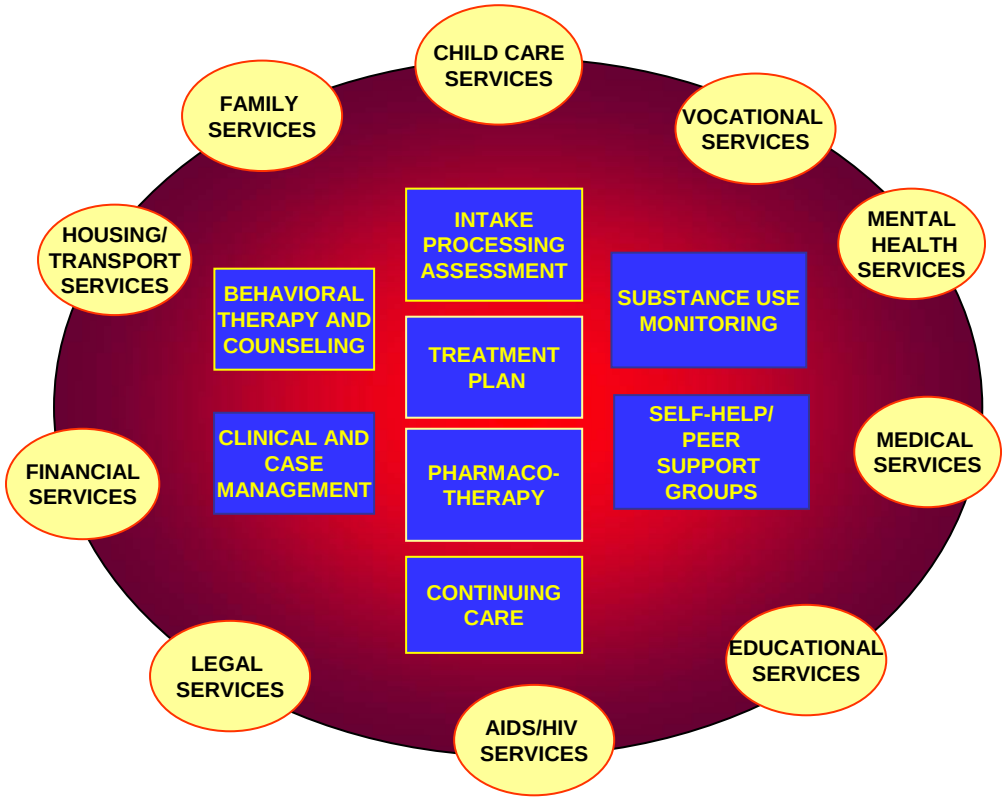
↓

Abuse

Dependence

→

Treatment Services

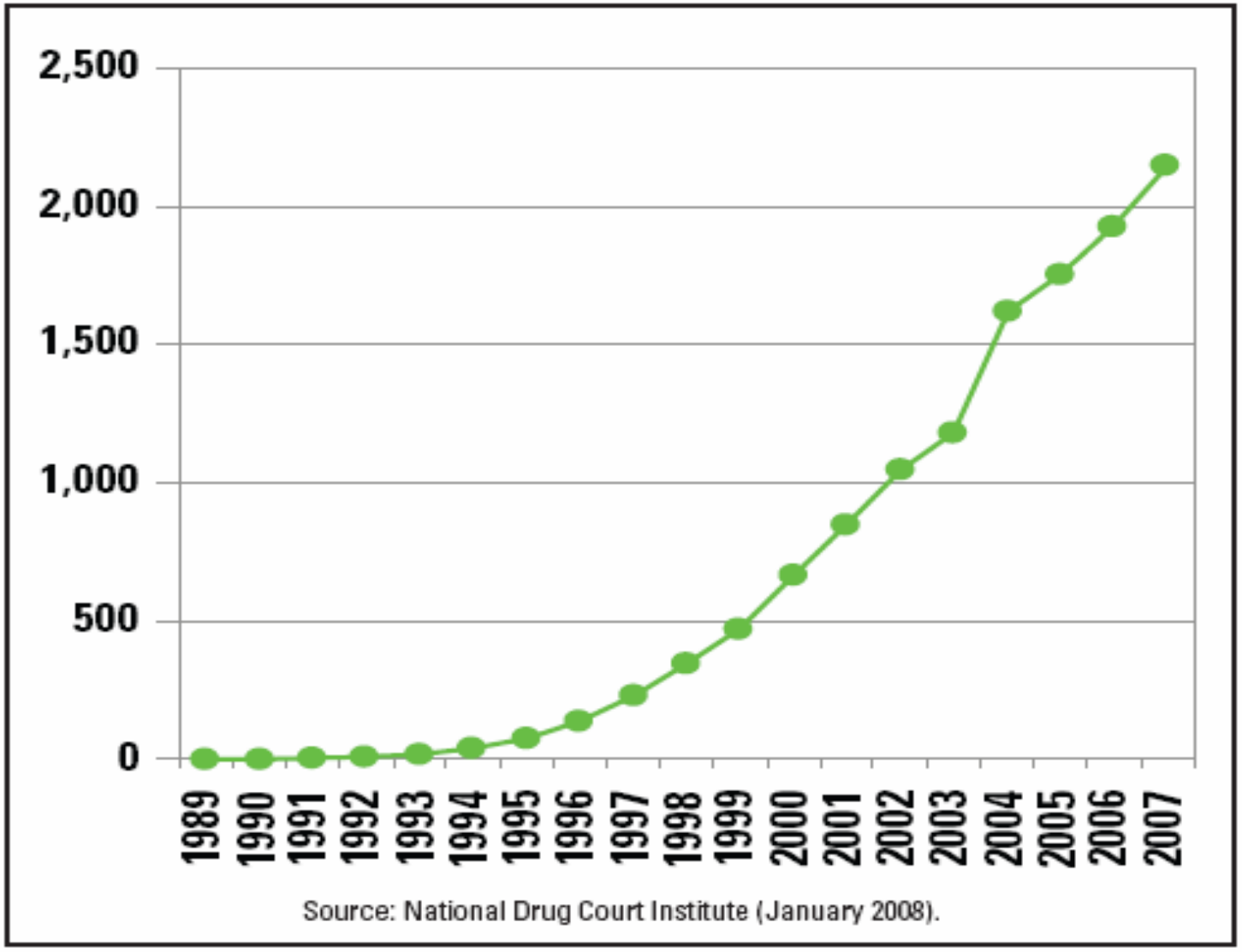


Source: NIDA

Treatment Program
DRUG COURTS (>2,100)

- Drug courts offer choice of treatment and abstinence, or prison.
- Drug courts provide counseling and treatment for non-violent offenders who commit crimes arising from drug abuse, addiction.
- Drug courts are *highly effective* at reducing repeat offenses, imprisonment and enhancing recovery.

The Number of Drug Courts Continues to Increase Nationwide (1989–2006)



Source: National Drug Court Institute (January 2008).

Public Policy: Issues and Challenges

Marijuana

- Medical marijuana
- Decriminalization of marijuana, other drugs
- Legalization of marijuana, other drugs
- Marijuana vs alcohol

Heroin

- Needle exchange - few programs actually meet comprehensive treatment, counseling, other services
- Injection sites
- Medically controlled heroin doses
- Buprenorphine, methadone (prevents criminality, iv heroin use antisocial behaviors
- Narcan to heroin addicts

"Harm reduction"

Effectiveness: data on "harm-reduction" programs is scarce

Definition confusion: What kind of harm?

Definition confusion: Who benefits?

- Reduce negative consequences of drug abuse to whom:
  - Individual?
  - Family?
  - Society?

(Leshner A, 2008)

Our Magnificent Brain(bows)

Livet, Weissman, Kang, Draft, Lu, Bennis, Sanes, Lichtman, Nature, November, 2007

Resources and Thank you….

SAMHSA SBIRT Web Site
http://sbirt.samhsa.gov/index.htm
CSAT/SAMHSA TIP 34: Brief Interventions and Brief Therapies
for Substance Abuse
http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat5.chapter.59192
WHO Brief Intervention for Hazardous and Harmful Drinking
http://whqlibdoc.who.int/hq/2001/WHO_MSD_MSB_01.6b.pdf
Web BI: A Web-based Training Program for Brief Intervention (BI).
A University of Vermont site supported by NIAAA
http://dln.uvm.edu/webbi/index.html
Screening and Brief Intervention Curriculum
Boston University School of Medicine and Public Health site supported by NIAAA
http://www.bu.edu/act/mdalcoholtraining/objectives.html
NIAAA Alcohol Alert Brief Interventions
http://pubs.niaaa.nih.gov/publications/AA66/AA66.htm
CSAT/SAMHSA Alcohol Screening and Brief Intervention: The
Committee on Trauma Quick Guide, Substance Abuse and Mental
Health Services Administration
http://sbirt.samhsa.gov/documents/SBIRT_guide_Sep07.pdf
www.motivationalinterviewing.org.

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