

Trends in Substance Use Disorders (SUDs) in Adolescents

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Pediatric Grand Rounds

February 5, 2014



Disclosures

- I have no financial disclosures or conflicts of interest

Objectives

- Current trends and rates of adolescent drug use
- Common cases of adolescents with SUDs
- Developmentally specific aspects of adolescent addiction
- Screening and evaluating adolescents for SUDs
- Treatment options
- Advocacy for adolescents with SUDs

CURRENT TRENDS

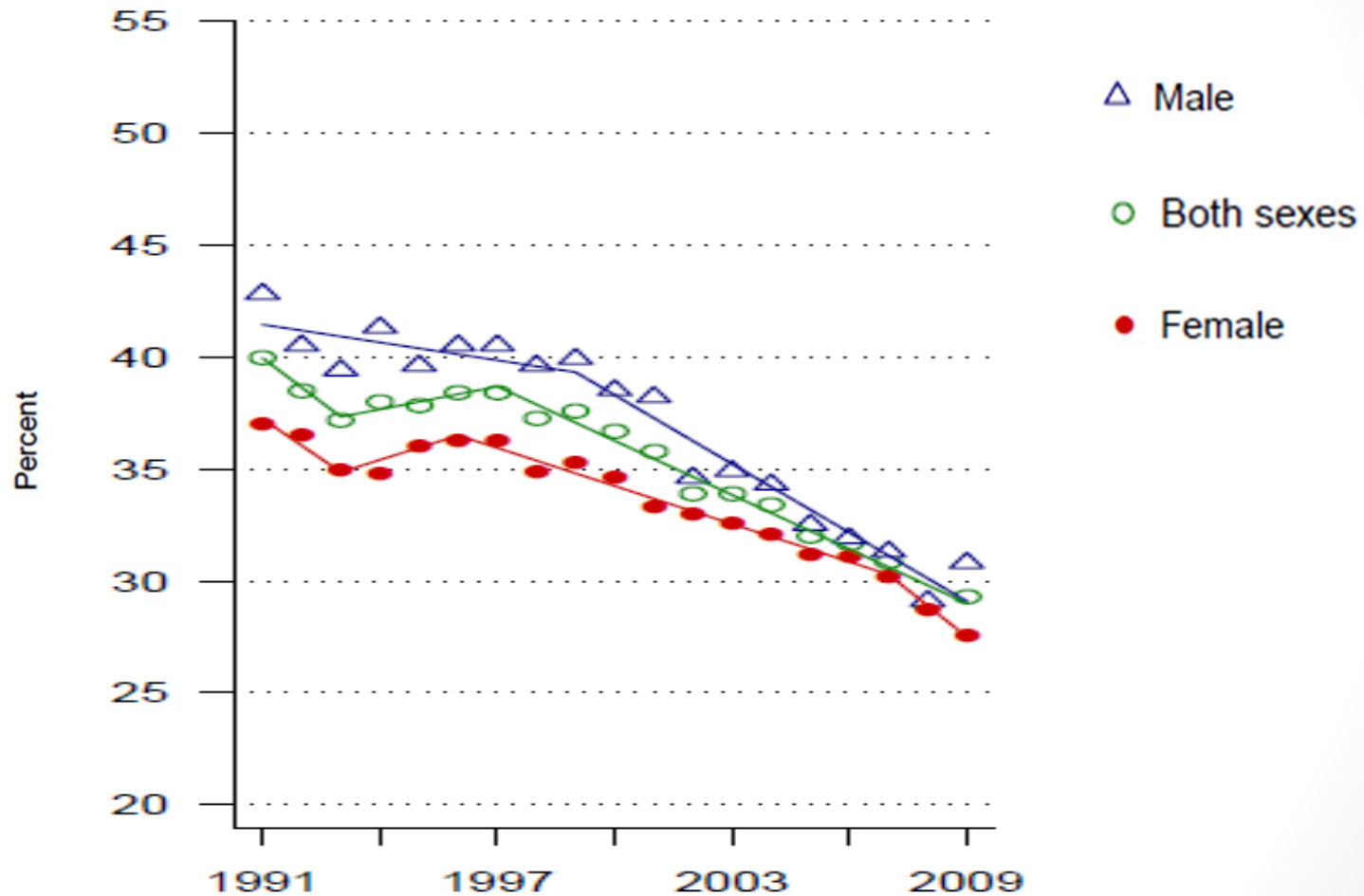
Why do youth use substances? How do they make their choices?

- Psychoactive potential
- Reports of its supposed benefits
- Perceived risk of its use
- Acceptability to peer group
- Accessibility/Availability

Monitoring the Future

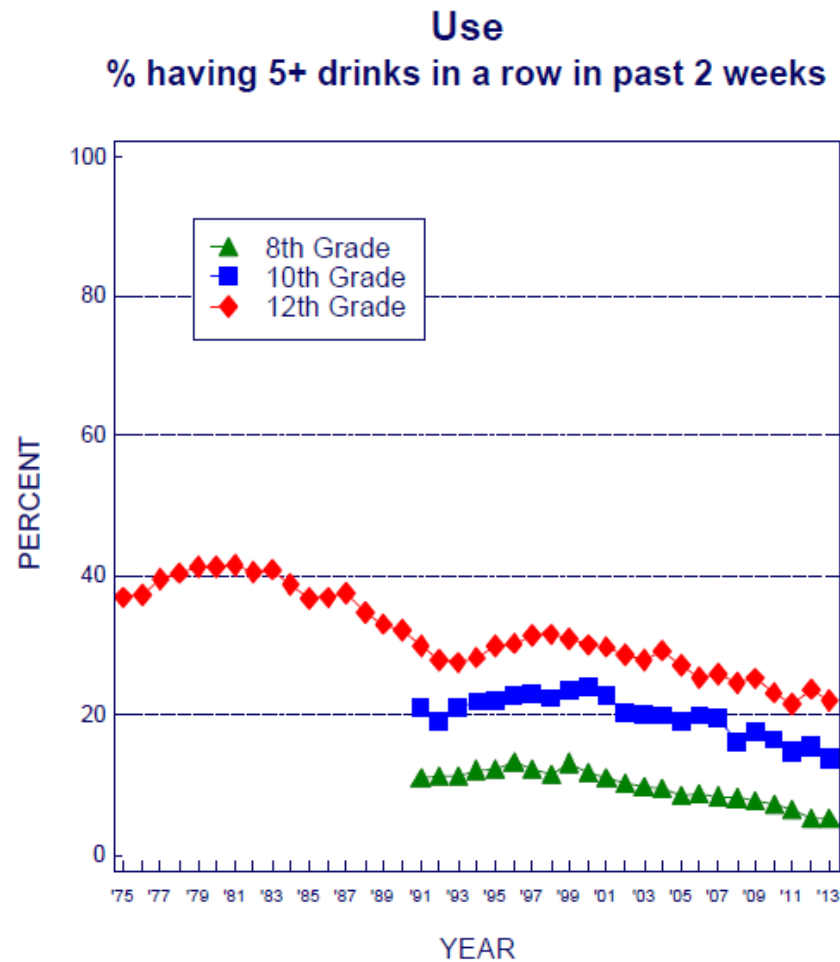
- University of Michigan
- N= Approximately 50,000
- Annual survey of high school students across the United States
- 12th graders since 1975
- 8th and 10th graders since 1991

Teen Alcohol Use (by gender)



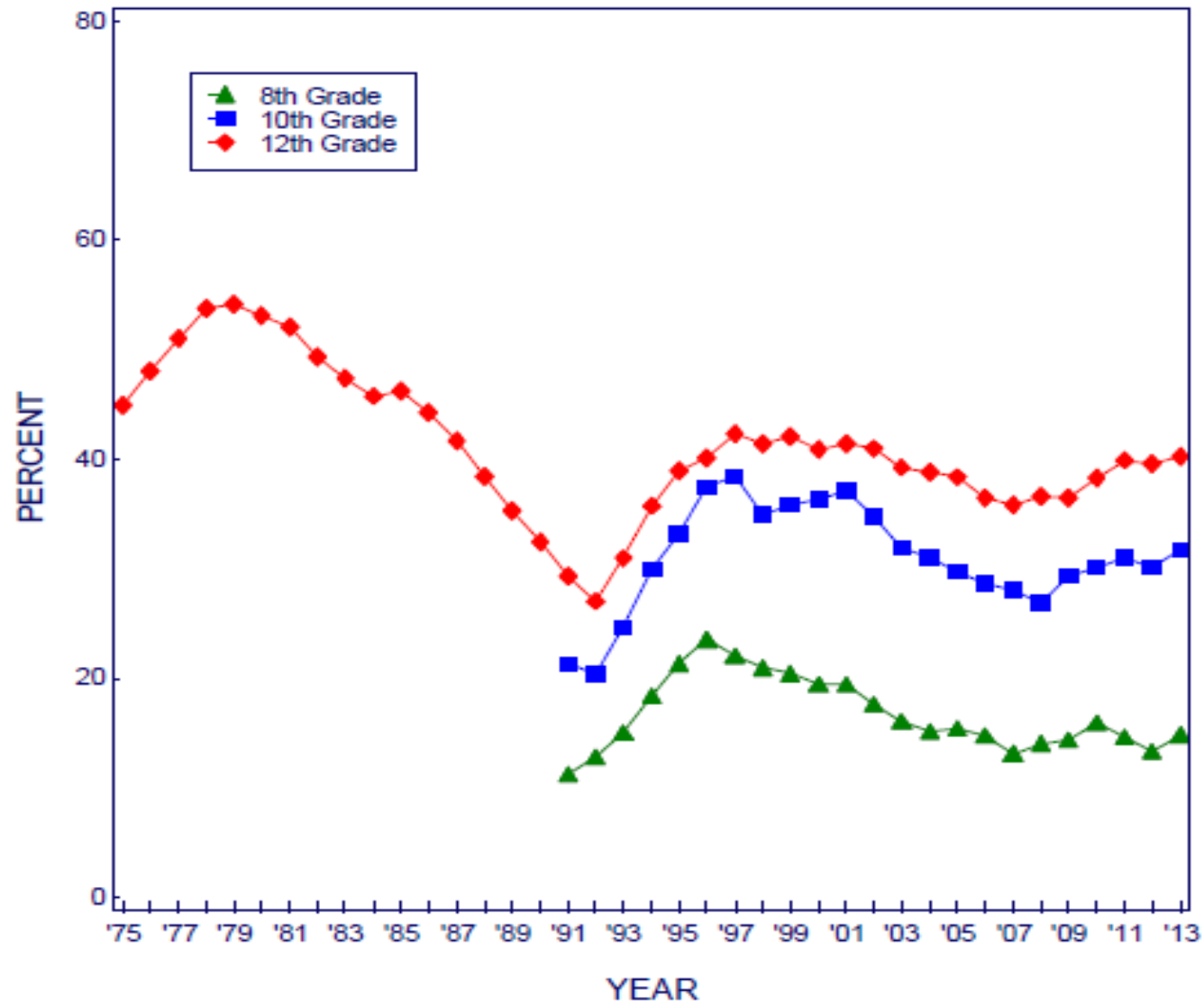
Source: 2009 Monitoring the Future Study, the University of Michigan

Binge Drinking in Teens



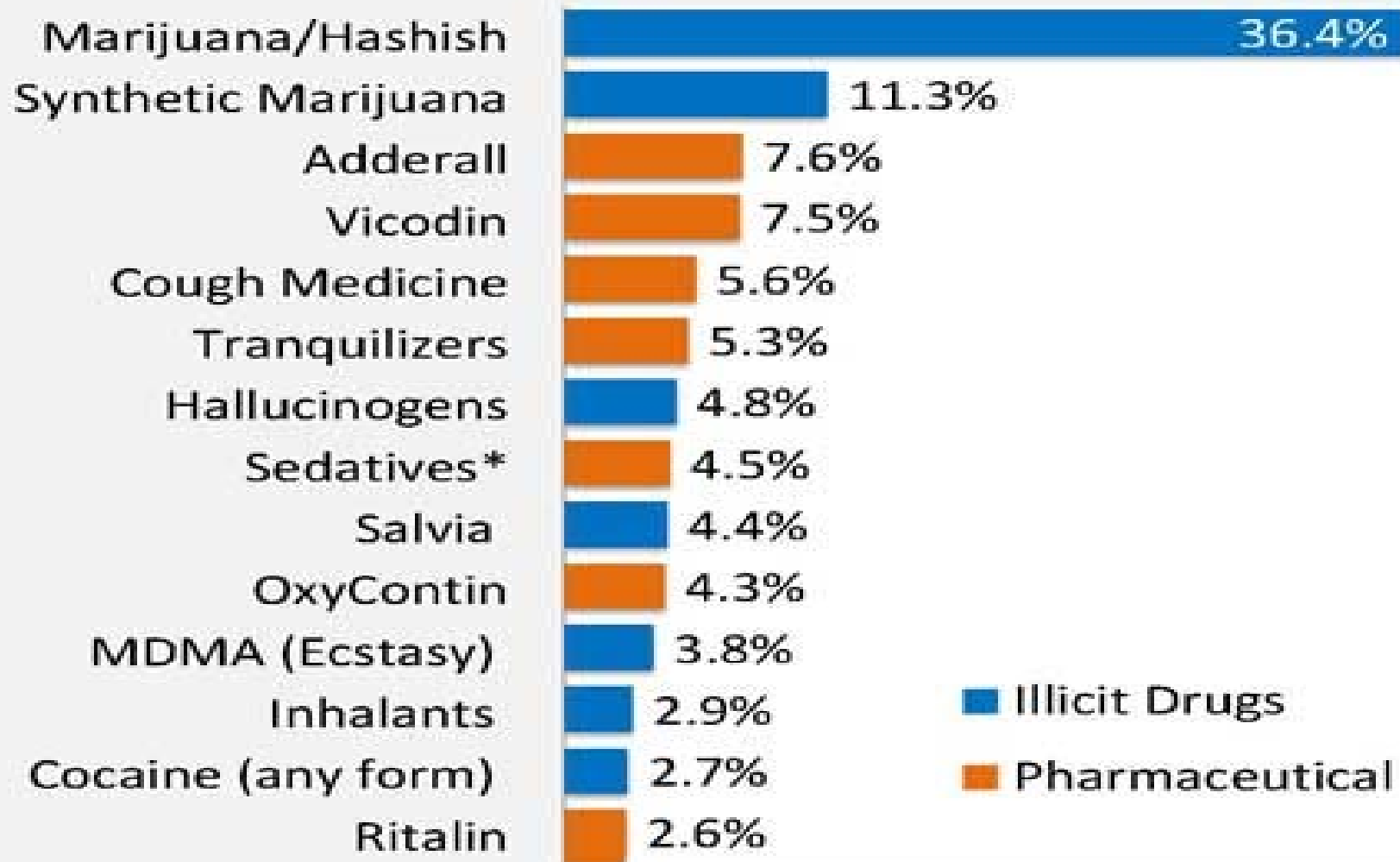
Source: 2013 Monitoring the Future Study, the University of Michigan

Trends in Annual Prevalence of an Illicit Drug Use Index Grades 8, 10, and 12



Source: 2013 Monitoring the Future Study, the University of Michigan

Past-Year Use of Illicit Drugs and Pharmaceuticals among 12th Graders



SOURCE: University of Michigan, 2012 Monitoring the Future Study

Adolescent Alcohol Use in Louisiana as compared to US (2011)

Alcohol related behavior in last 30 days	Percent reported by 9-12 graders in Louisiana	Percent reported by 9-12 graders in United States
Drank alcohol	44%	39%
Engaged in binge drinking* (>5 drinks in one sitting)	23%	22%
Drove a car while under the influence of alcohol	12%	8%
Driven by a person who was intoxicated	32%	24%

Source: hhs.gov/oah

Adolescent Substance Use in Louisiana as compared to US (2011)

Lifetime Substance Use	Percent of use reported by 9-12 graders in Louisiana	Percent of use reported by 9-12 graders in United States
Alcohol Use before age 13	26%	20%
Marijuana	34%	40%
Inhalant	13%	11%
Cocaine	3%	3%
Non-medical use of pain Relievers	6%	6%

Source: hhs.gov/oah

2013 Data from Maryland High School Students (N =27,507)

Substance Use in last 30 days	%
Cigarettes	12.1%
Alcohol	33.0%
Marijuana	21.1%
Prescription drugs or other medications for non-medical reasons	8.5%
K2, Spice, Bath Salts, or any other substances to get high	6.2%

- ***Association between students reporting their schools have a large drug problem and easy access to drugs are and use of marijuana, prescription drugs, and K2.***
- ***Majority of students underestimate risk of substance use.***

Source: Saha, S et al. (manuscript in preparation)

CASES

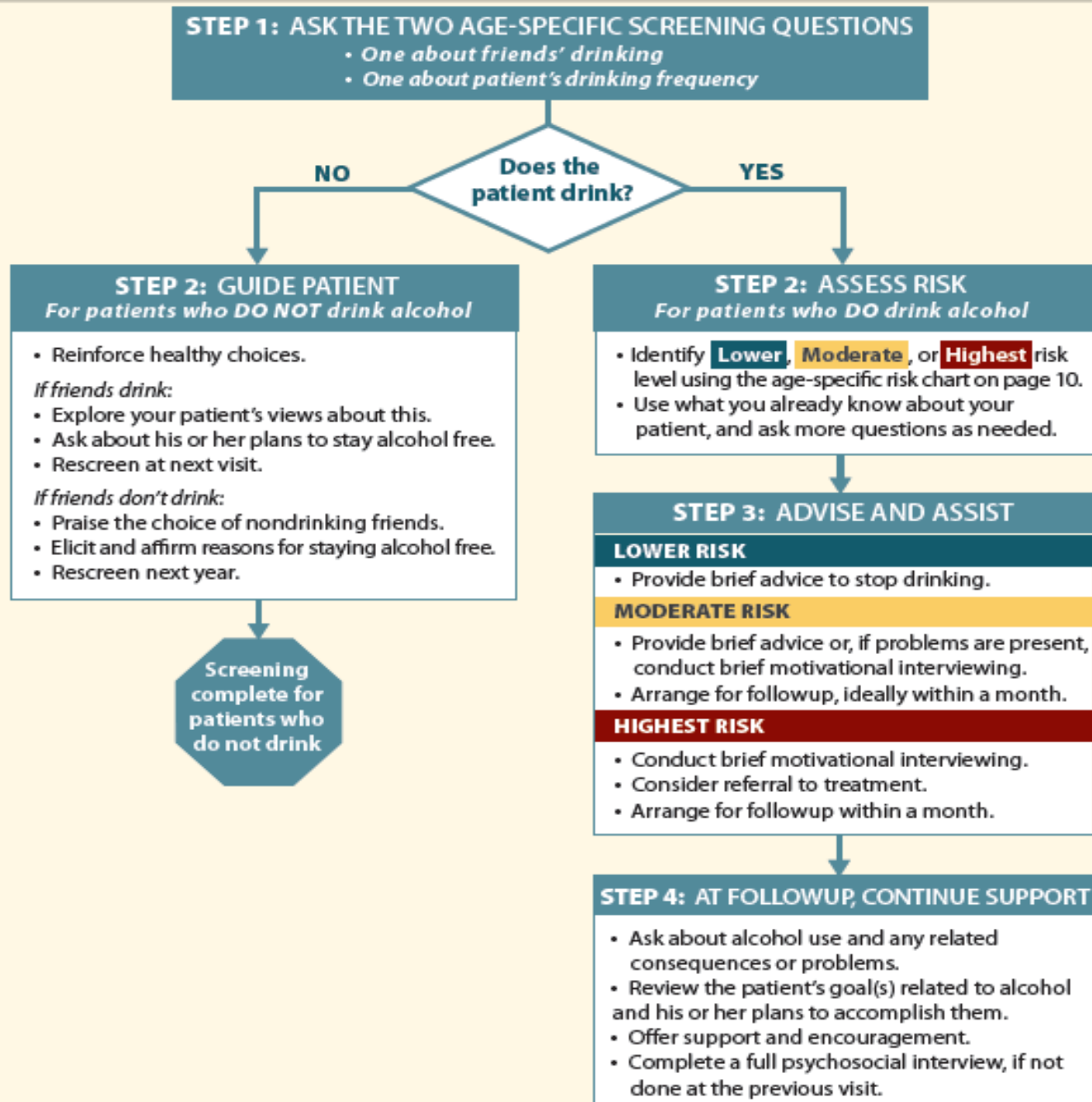
Case 1

13 year old M comes in for an annual physical. During routine screening, he tells you his friends have started drinking, but he has not. His father is a recovering alcoholic.

What more do you want to know about his friends?

What guidance do you offer him today?

How might his family history inform your counseling?

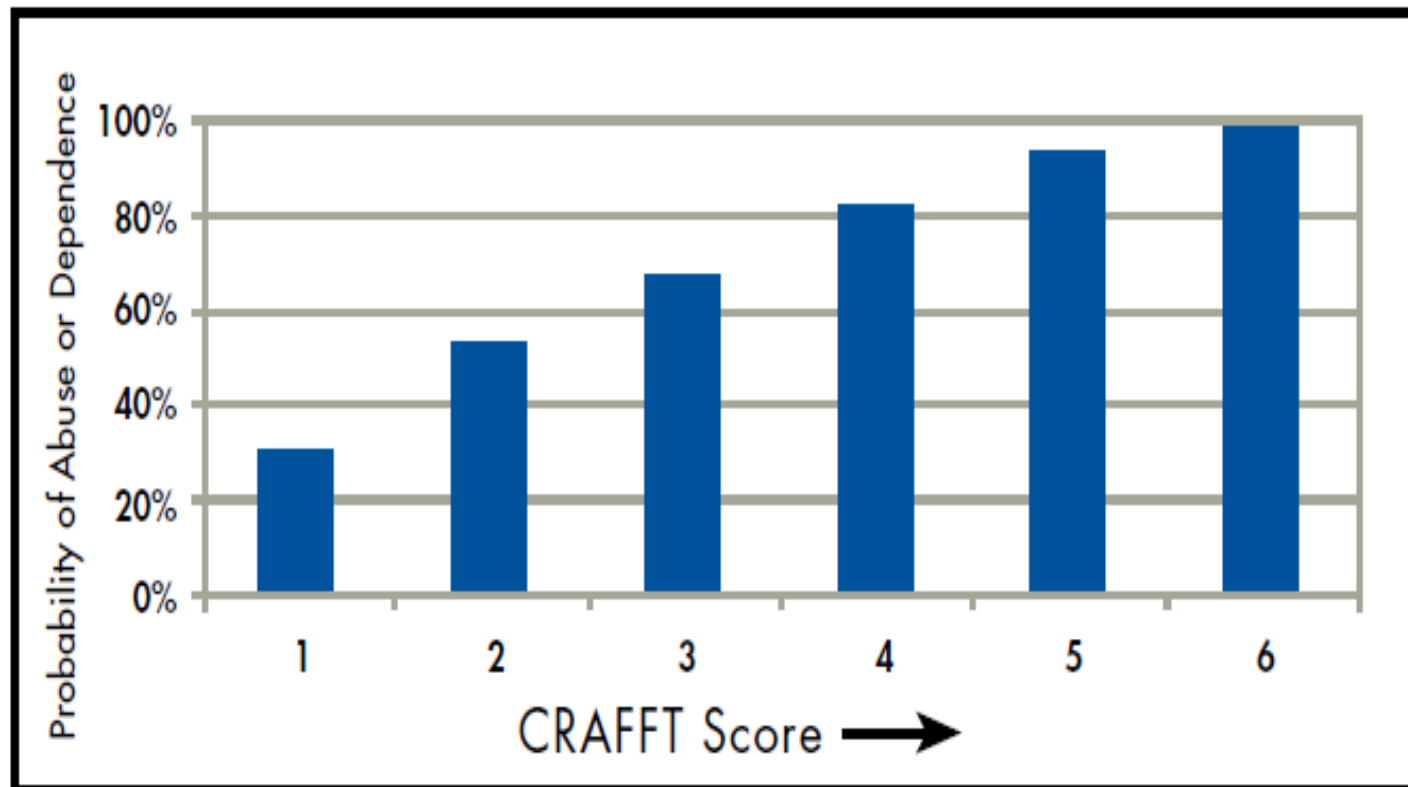


Source: www.niaaa.nih.gov/YouthGuide

- C** Have you ever ridden in a **CAR** driven by someone (including yourself) who was “high” or had been using alcohol or drugs?
- R** Do you ever use alcohol or drugs to **RELAX**, feel better about yourself, or fit in?
- A** Do you ever use alcohol or drugs while you are by yourself, **ALONE**?
- F** Do you ever **FORGET** things you did while using alcohol or drugs?
- F** Do you family or **FRIENDS** ever tell you that you should cut down on your drinking or drug use?
- T** Have you ever gotten into **TROUBLE** while you were using alcohol or drugs?

*Two or more yes answers on the CRAFFT suggest a serious problem and a need for further assessment. © Copyright, Children’s Hospital Boston, 2001. All Rights Reserved.

Probability of a Substance Abuse/Dependence Diagnosis Based on CRAFFT Score



Source: Knight et al, 2002.

Case 2

15 y/o M with a history of daily marijuana use, ADHD, and asthma

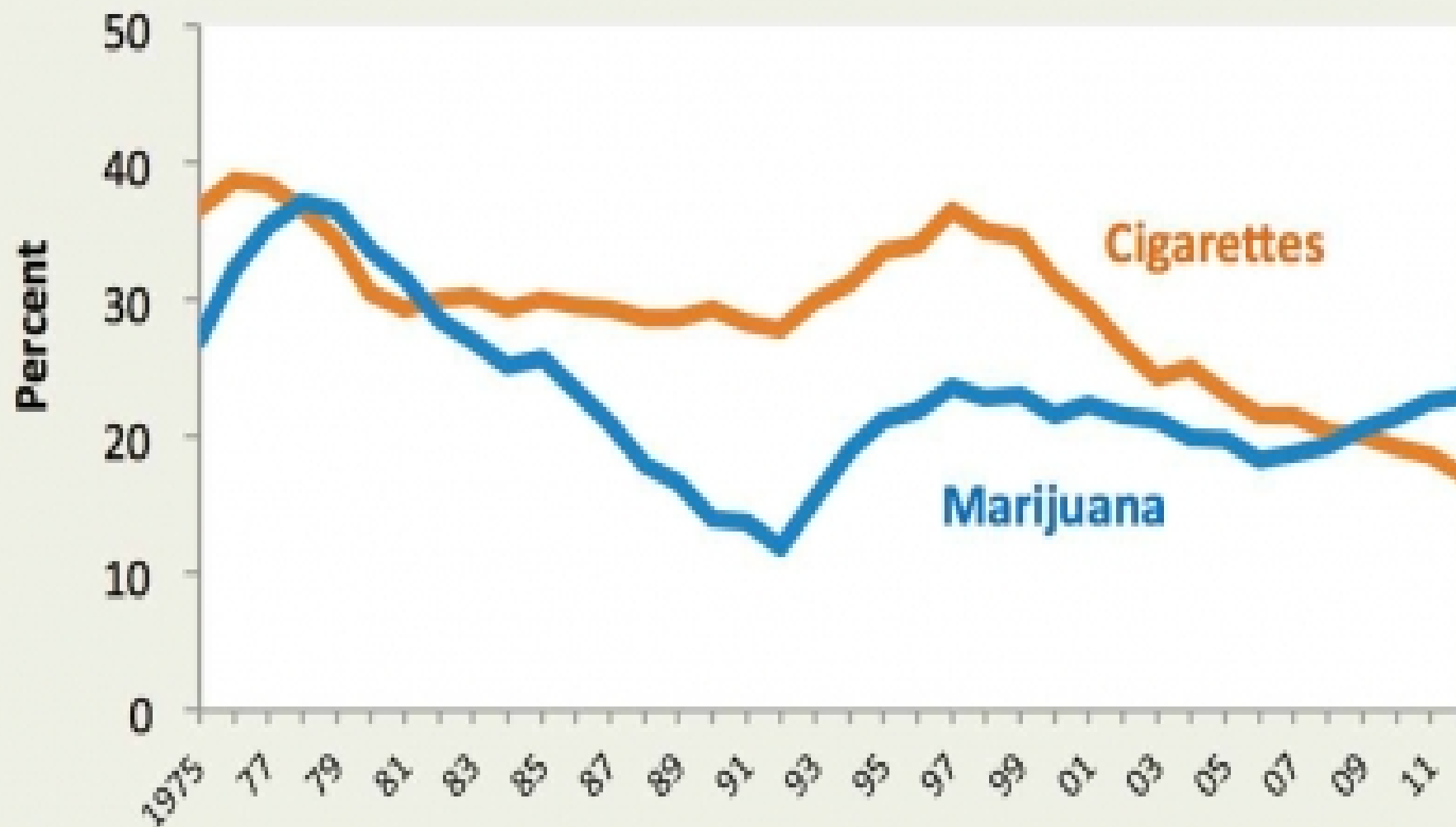
- Previously smoked \$20 a day at last visit 2 years ago
- Recent positive urine toxicology by Probation Officer after 3 months of negative ones
- Mother concerned about ADHD medication interacting with marijuana and stopped giving it to him

What are the major concerns to address in the visit?

What testing do you want to do?

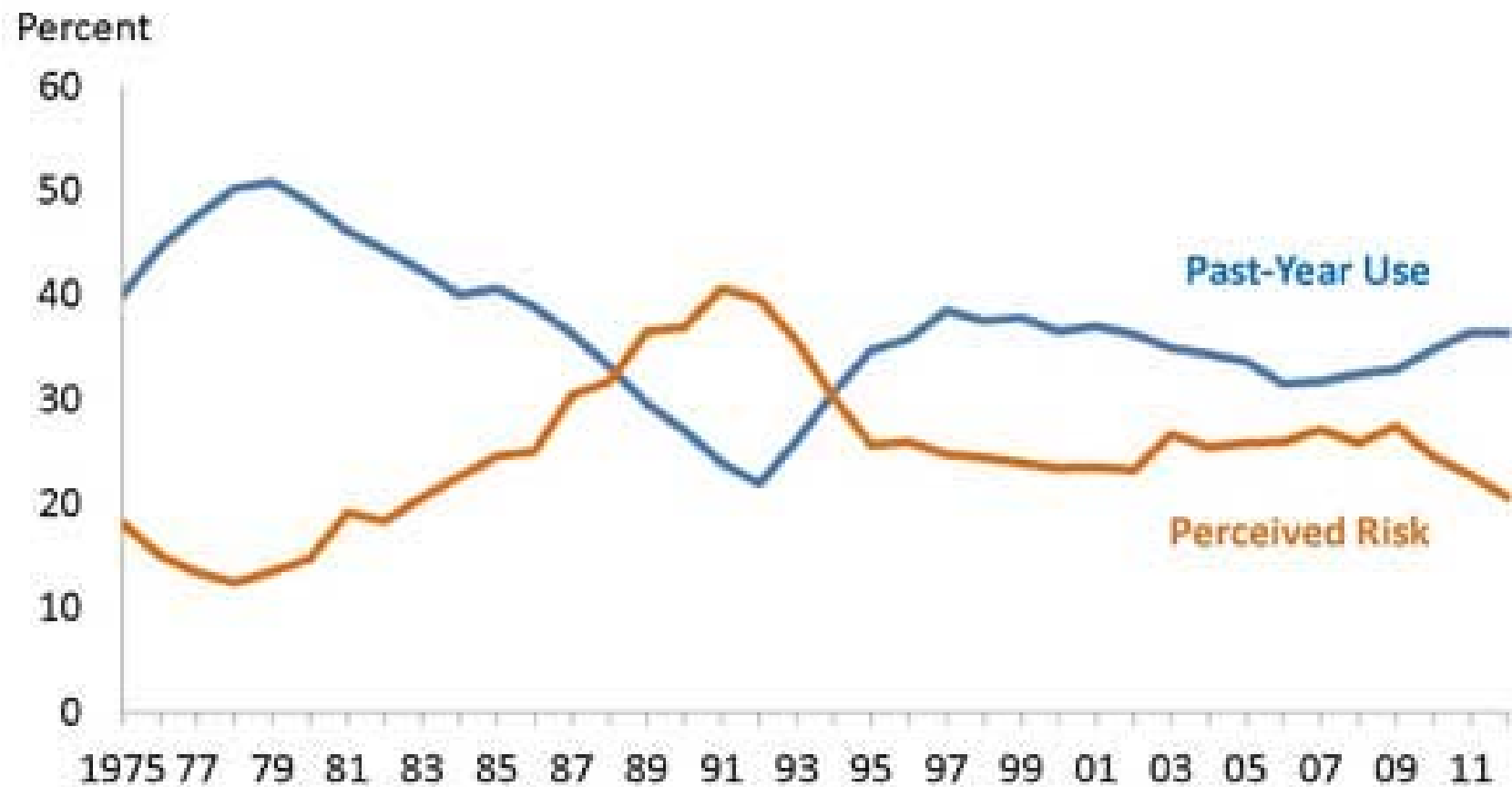
What do you tell your patient when he says, “But Doc, weed is a plant. It is natural?”

Past Month Use of Cigarettes and Marijuana among 12th Graders, 1975 to 2012



Source: The Monitoring the Future study, the University of Michigan

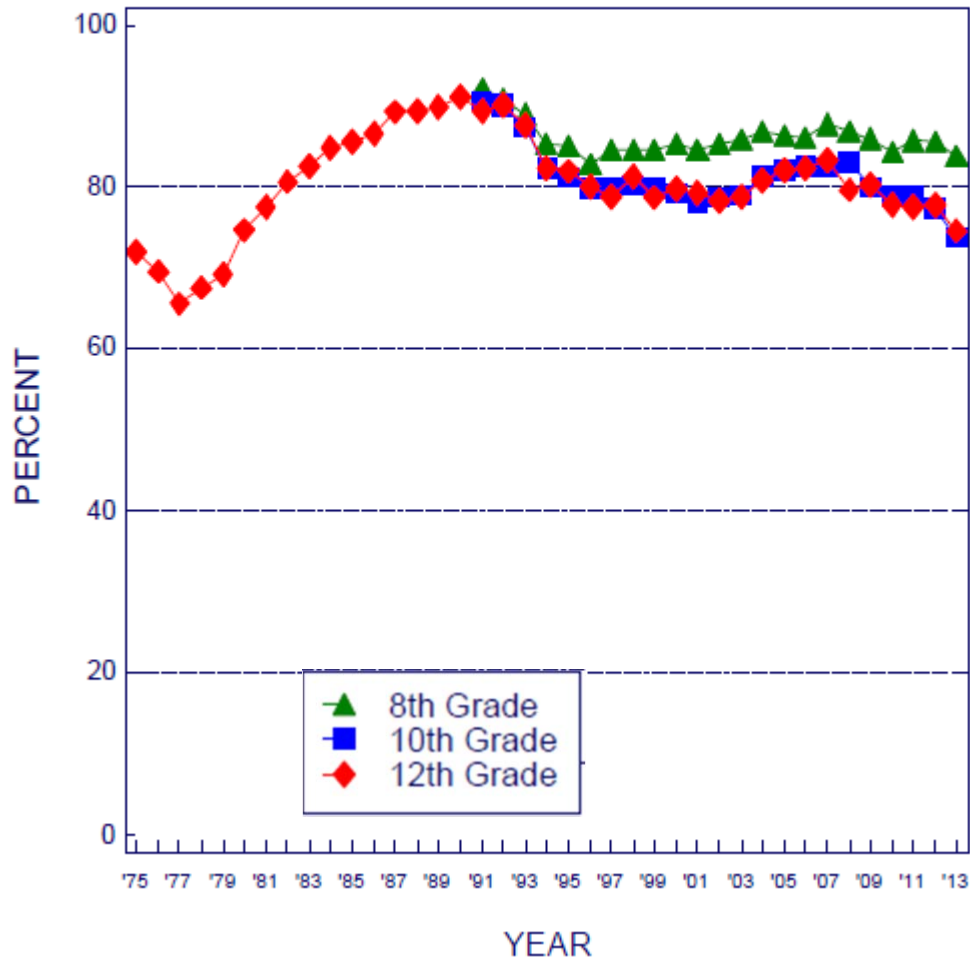
Marijuana Past-Year Use vs. Perceived Risk among 12th Graders



Source: University of Michigan, 2012 Monitoring the Future Study

Disapproval of Daily Use of Marijuana by Youth

Disapproval
% disapproving of using regularly

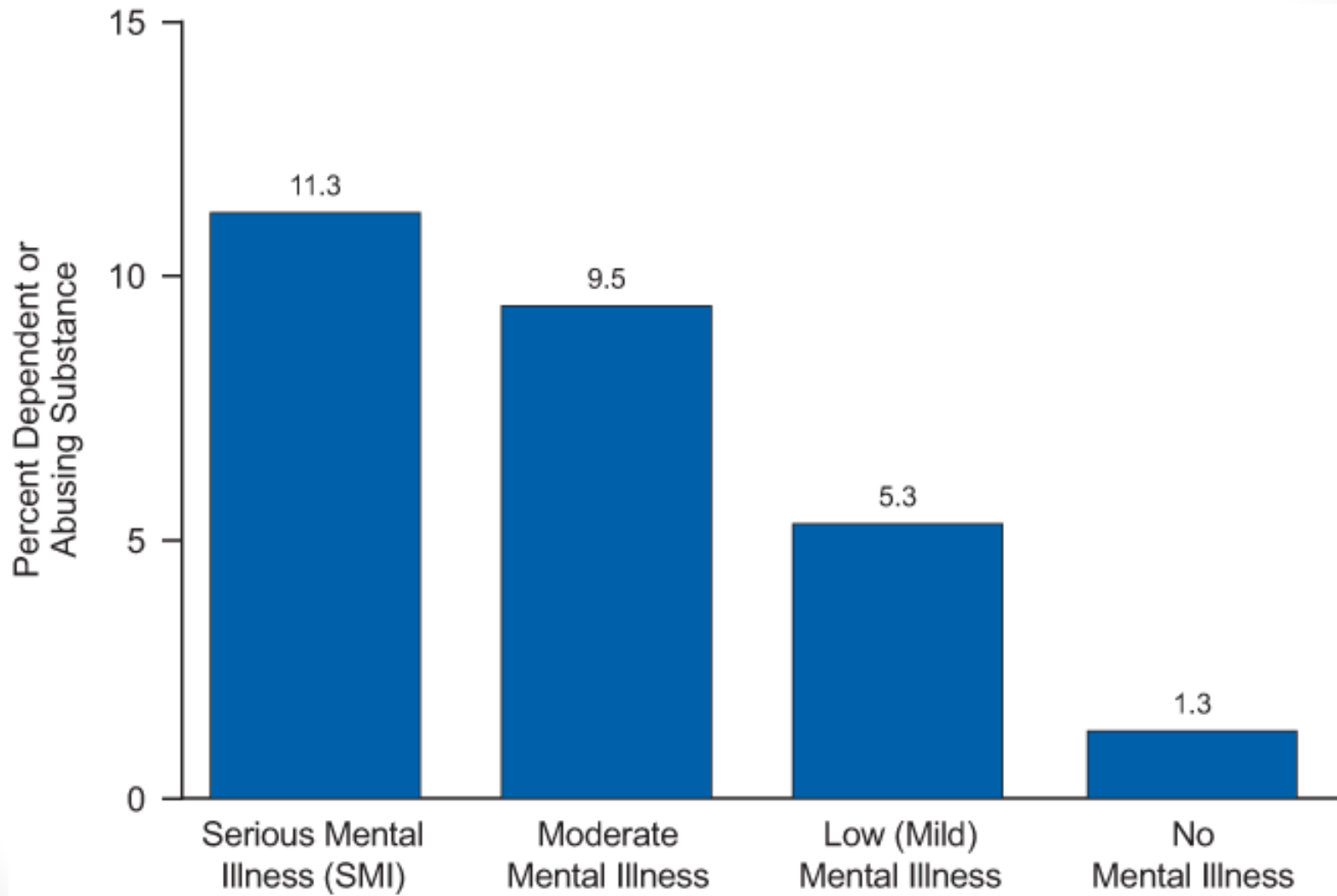


Source: 2013 Monitoring the Future Study, the University of Michigan

Addressing Mom's concerns

- What do you tell his mother interactions about the ADHD medicine?
- What illicit drugs would you consider contraindicated with stimulant use?
- What do you tell her when she asks you “to screen for everything” at today's visit?

2010 National Survey on Drug Use and Health: Association between Substance Problems and Mental Illness Severity

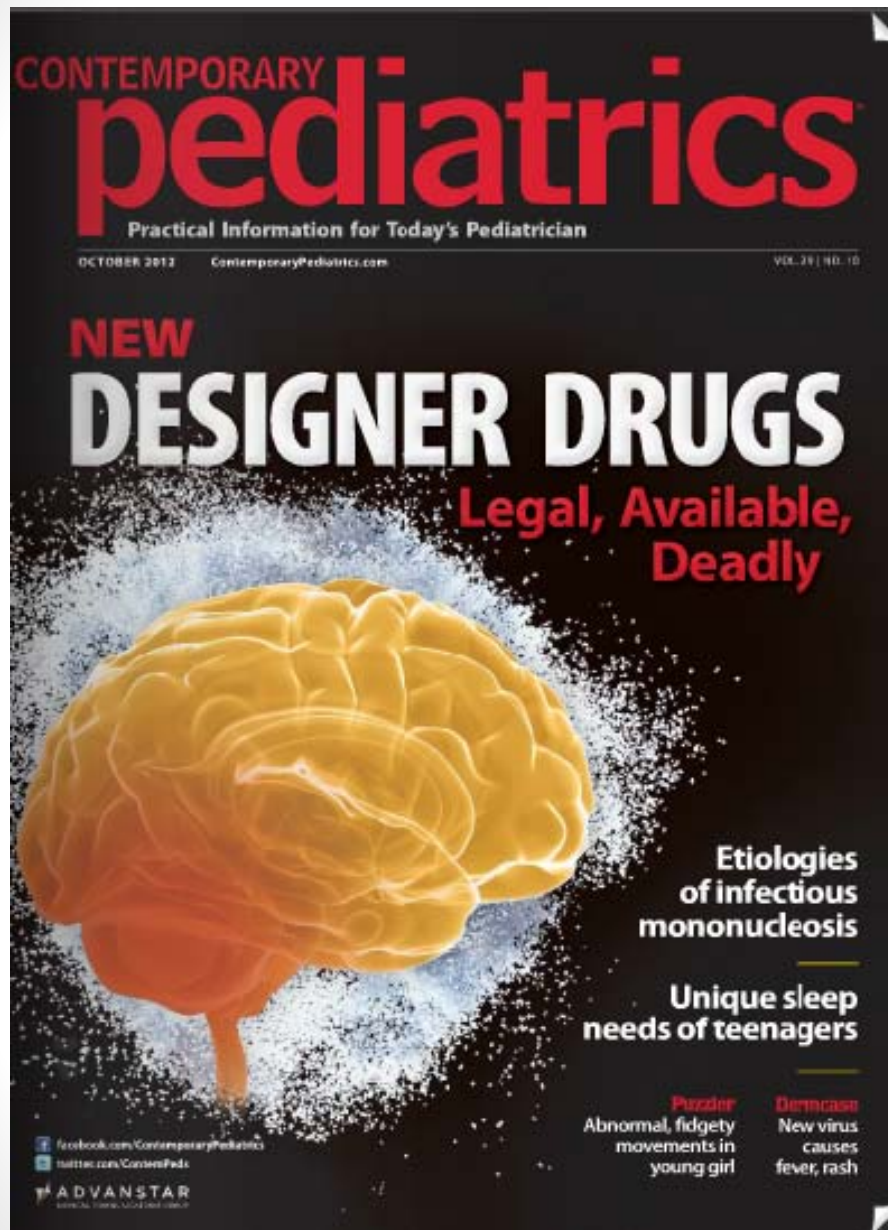


Source: samhsa.org

Signs and Symptoms of Synthetic Cannabinoid Intoxication

	Psychoactive effects	Physical effects
Synthetic cannabinoids (K2, spice)	Euphoria Irritability Anxiety Aggression Numbness/Apathy Sadness Sedation Memory changes Paranoia Hallucinations Psychosis	Conjunctival injection Dry mouth Tachycardia Change in appetite Muscle pain and weakness Rhabdomyolysis Myocardial infarction Seizure

Source: Saha, S et al. (2012)



For more information:
See article in
[Contemporary Pediatrics](#)
October 2012

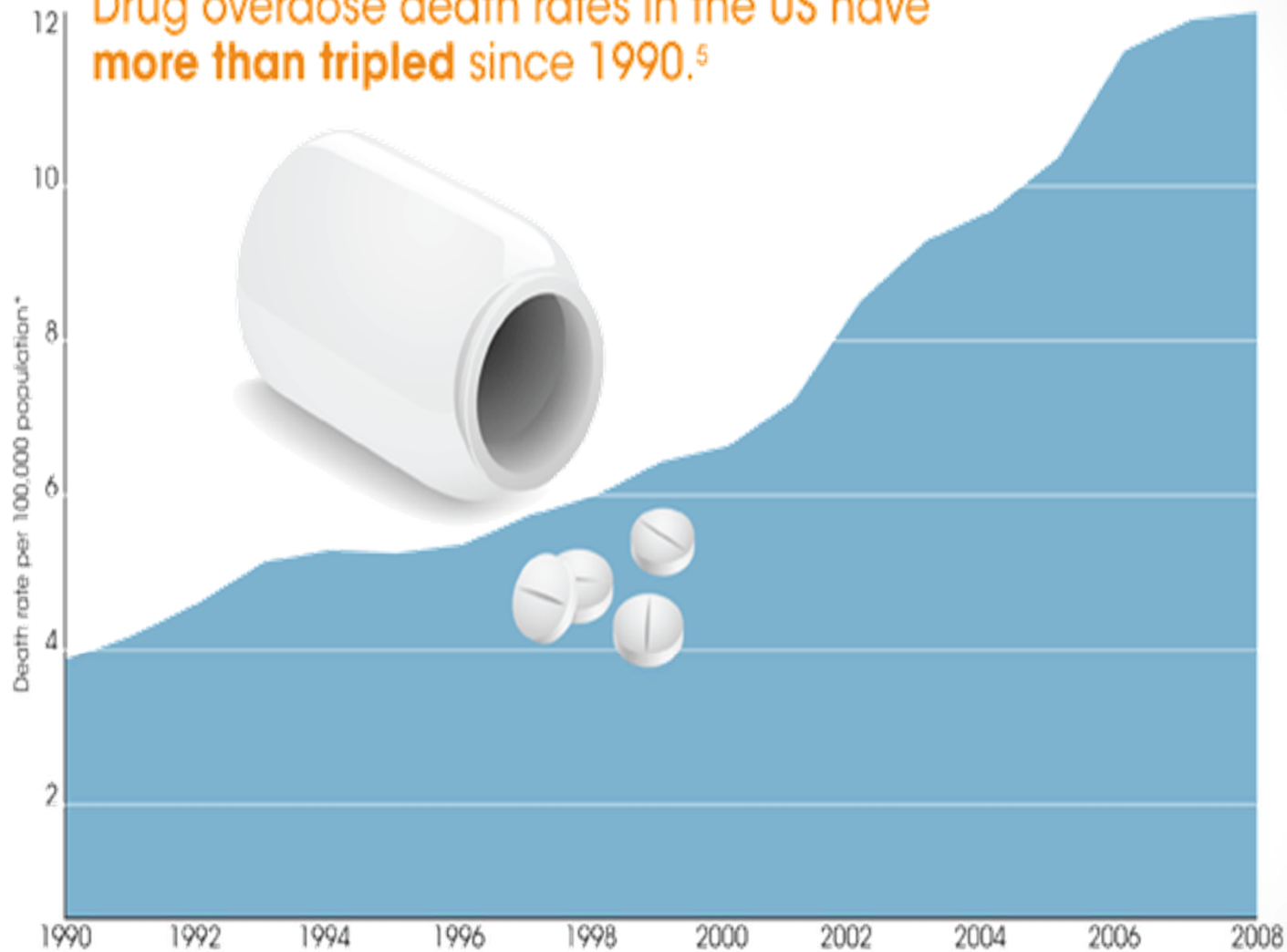
Case 3

16 y/o F new patient comes to your office with functional abdominal pain requesting refill of percocets?

- What are the key elements of her history and physical exam to evaluate for chronic pain besides a traditional work up for abdominal complaints?
- If you decide to give her narcotics for pain, what is indicated besides the prescription?

Prescription drugs

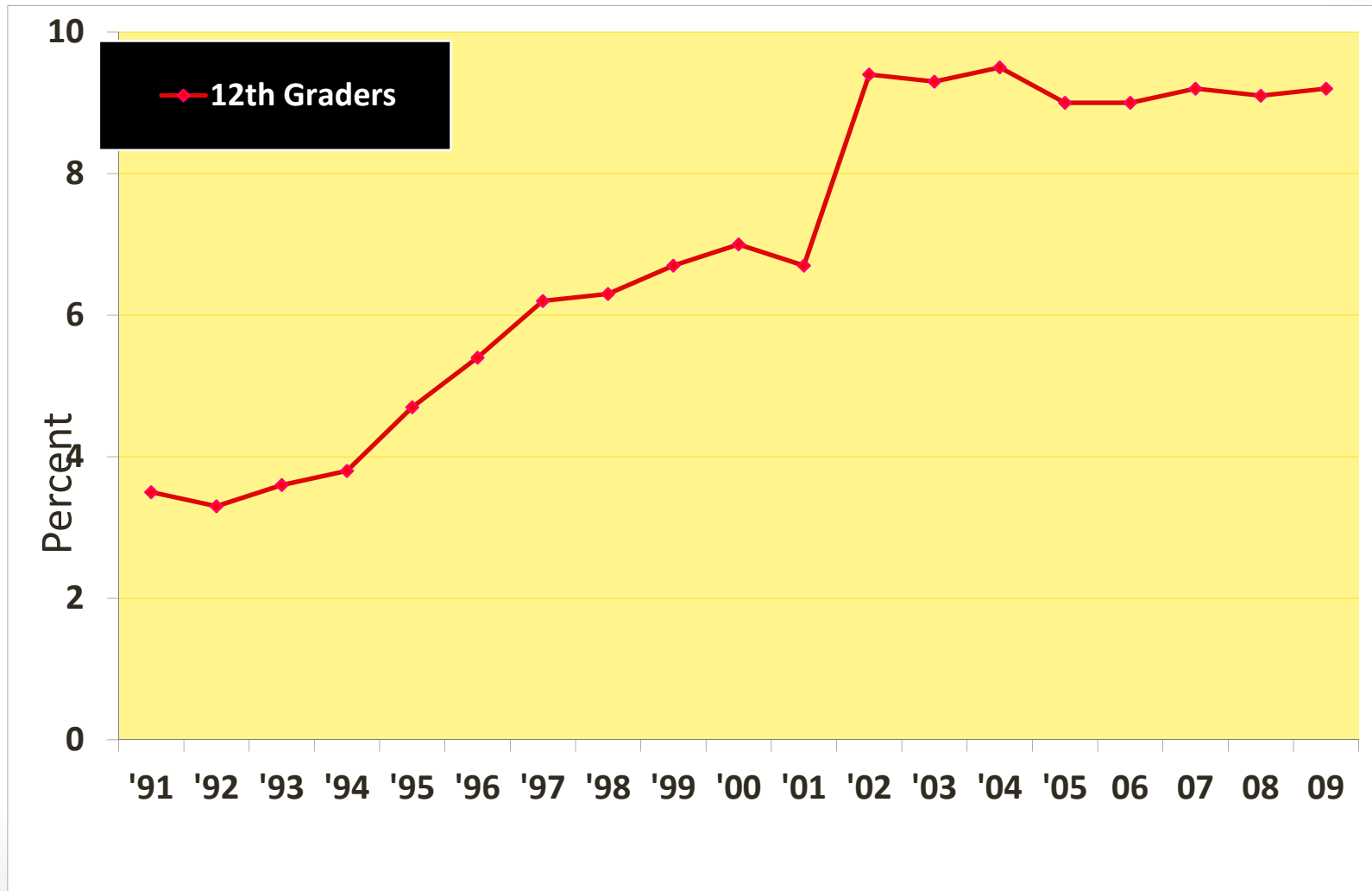
Drug overdose death rates in the US have **more than tripled** since 1990.⁵



*Deaths are those for which poisoning by drugs (illicit, prescription, and over-the-counter) was the underlying cause.

Source: cdc.gov

Non-Medical Prescription Opioid Use



Source: 2009 Monitoring the Future Study, the University of Michigan

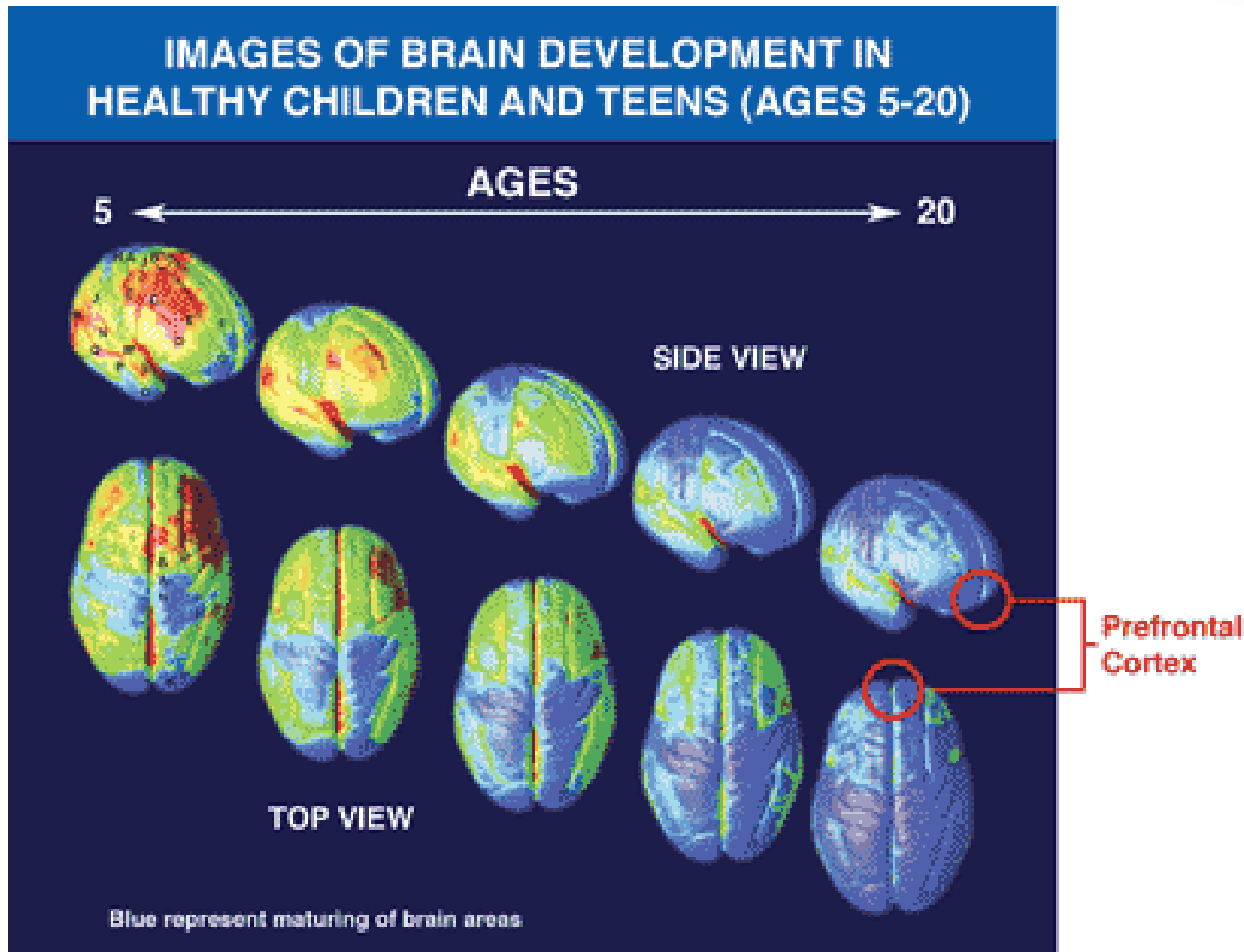
Responsible Prescribing of Controlled Substances

- Treatment plans that incorporate functional goals
- Informed consent
- Prescribing agreements
- Periodic review
- Monitoring with routine urine toxicology
- Referral for patient requiring high doses
- Patient education on safe use, storage, and disposal of opioid medication
- Termination strategies for chronic opioid therapy

Source: FSMB Responsible Opioid Prescribing: A Clinician's Guide

DEVELOPMENT AND SUBSTANCE USE

Unique Issue of Teens and Toxins

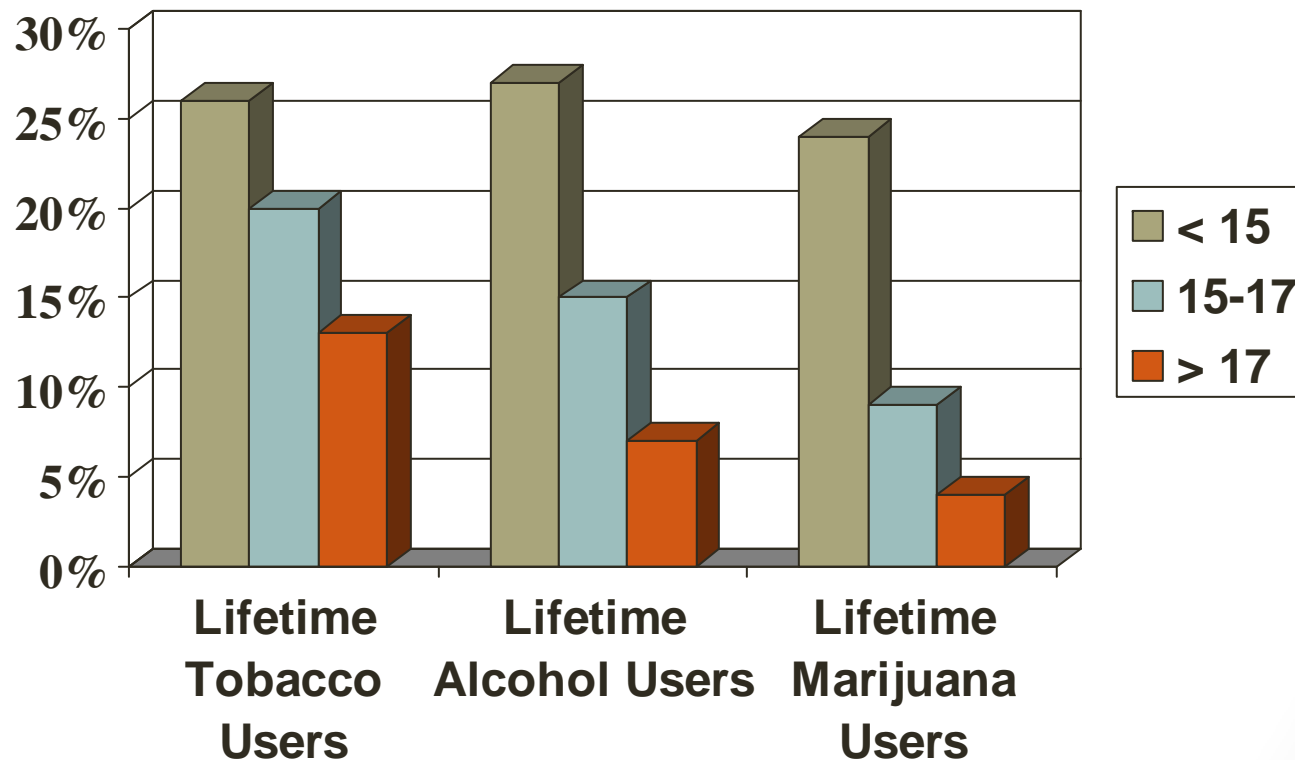


Source: Copyright PNAS ;101(21):8174-9, 2004

Does Development Matter?

Probability of Having 1 or More Dependence Symptom(s) as an Adult

Based on Age of First Use



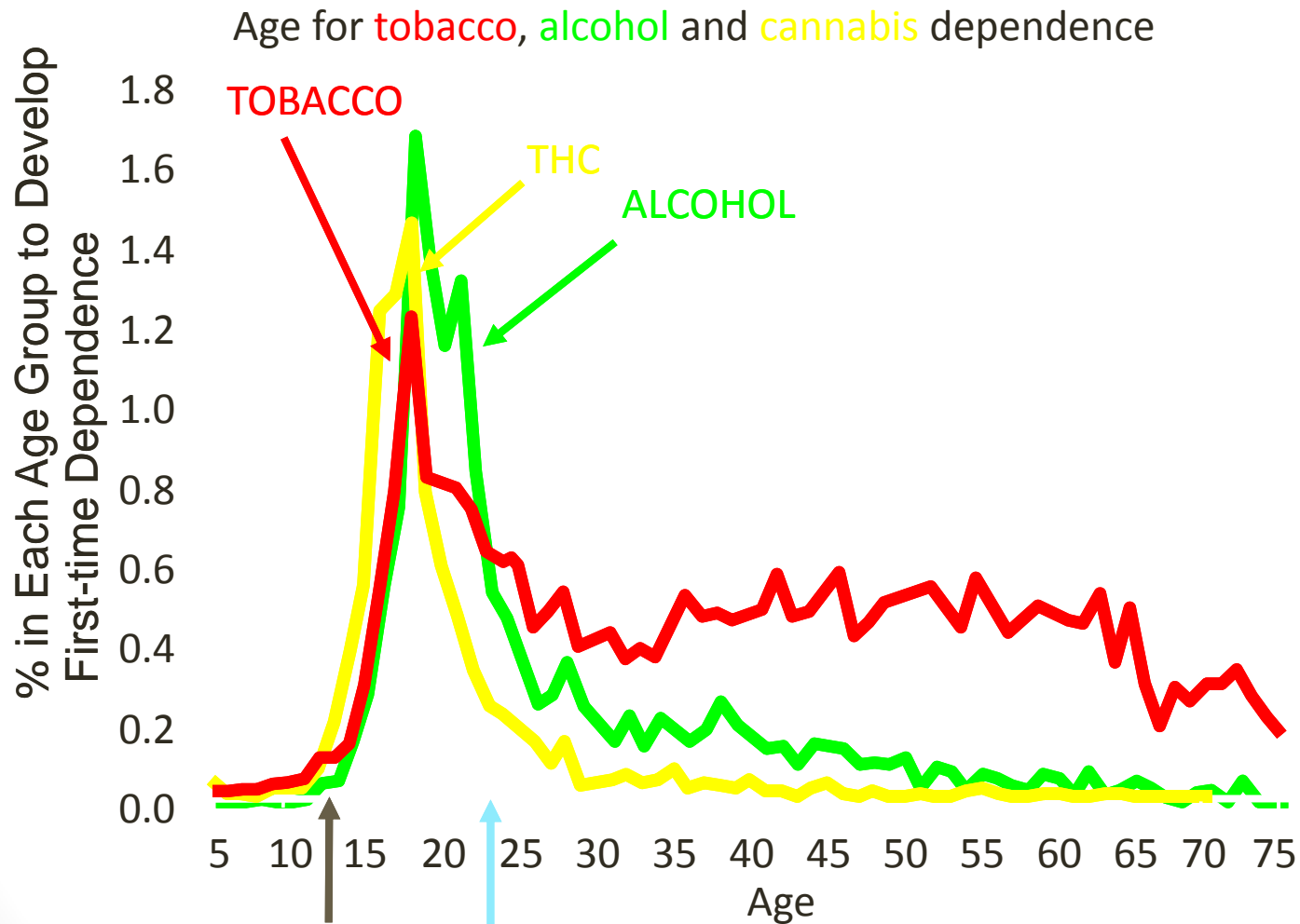
Source: Dennis, et al.(2005)

Adolescents vs. Adults: Sensitivity to Alcohol Intoxication

Compared to adults, adolescents show

- Decreased dysphoria with hangover
- Decreased sedation, motor impairment with acute intoxication
- Increased social facilitation with intoxication
- Increased memory disruption

Addiction and Other Mental Illness ARE Developmental Diseases



½ psychiatric disorders
onset before age 15

¾ psychiatric disorders
onset before age 24

Adolescent Consequences of SUDs



EVALUATION AND TREATMENT

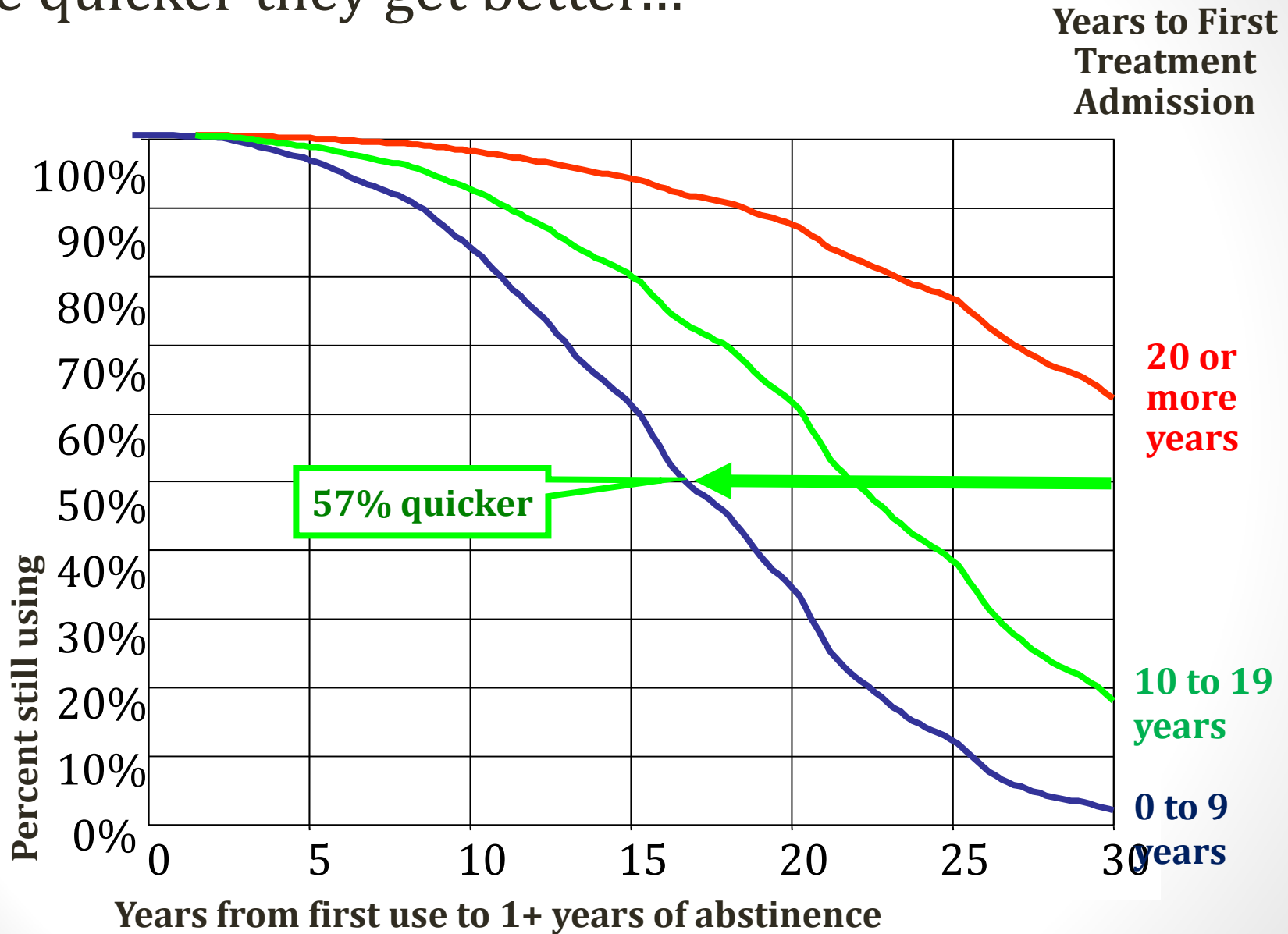
Comprehensive Substance Use History

- Last use
- Age of onset
- Frequency of use
- Types of substances used
- Reasons for use (somatic and psychological benefits)
- Adverse events/consequences
- Cost of drugs
- Means of getting substances and money to pay for them
- Longest periods of abstinence
- Triggers
- Peer group
- Family support/lack of support
- Motivation to quit

Evaluation

- Outside informants
- Developmental trajectory
- Family context
 - Assets and vulnerabilities
 - Likely role in assisting (or impeding) recovery
- Peers and adolescent culture
- Personal assets and goals
- Therapeutic alliance

The sooner we intervene,
The quicker they get better...



Source: Dennis, et al.(2005)

Levels of Care

- Early intervention
- Outpatient treatment
- Intensive outpatient treatment
- Residential treatment
- Medically managed intensive inpatient treatment/Hospitalization

Treating SUDs in General Pediatrics

- Stay informed about the harms of drugs
- Talk candidly to youth and their parents about substances
- Conduct routine toxicology screens in PCP visits
- Screen in urgent and emergency care settings
 - see an injury->take a detailed alcohol and drug use history
- Conduct brief interventions
- Treat or refer to specialty care

Source: <http://www.casacolumbia.org>

Treatment for Adolescent Substance Use

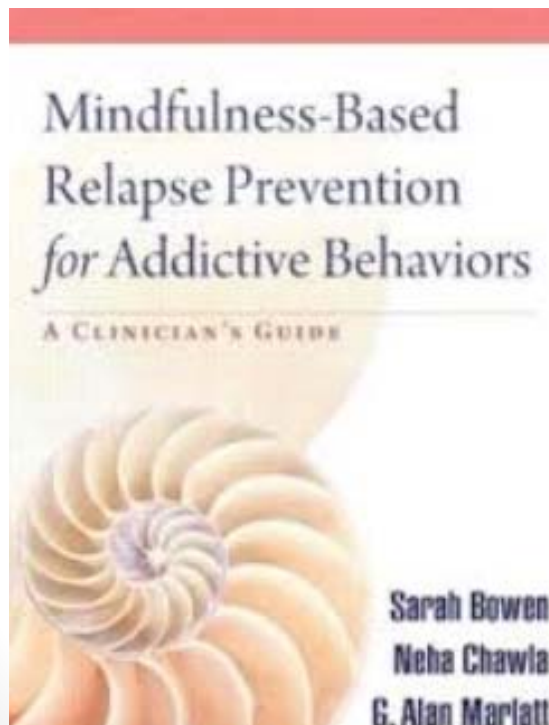
- Habilitation vs. Rehabilitation
- Outpatient vs. Inpatient
- Programmatic vs. Individualized Care
- Episodic vs. Longitudinal Care
- Treating co-morbid psychiatric conditions
- Use of medications and novel strategies

Source: Fishman, et al. (2008)

My Current Research



Adapting Mindfulness Based Relapse Prevention (MBRP) for Urban Youth



What more can physicians do?

- **Expand treatment capacity in the medical system**
- Require education and training in addiction
 - *behavior change counseling and motivational interviewing
- Advocate for government and private health care insurers to reimburse for adolescent substance use screenings, brief interventions, and treatment
- Support changing cultural norms about the acceptability of adolescent tobacco, alcohol, and other drug use

Acknowledgements

- Alfonso Vargas, MD
- Ryan Pasternak, MD
- Ms. Leone Coe
- Ms. Susan Wack
- LSUHSC Department of Pediatrics
- Marc Fishman, MD
- Hoover Adger, Jr. MD, MBA
- And thanks to all of you!