



JOHNS HOPKINS
MEDICINE

The Impact of Substance Use Disorders on Children, Adolescents and Families:

**Workshop on Family-Focused Interventions to Prevent
Substance Use Disorders in Adolescence**

The National Academies of Sciences, Engineering, Medicine

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Disclosures

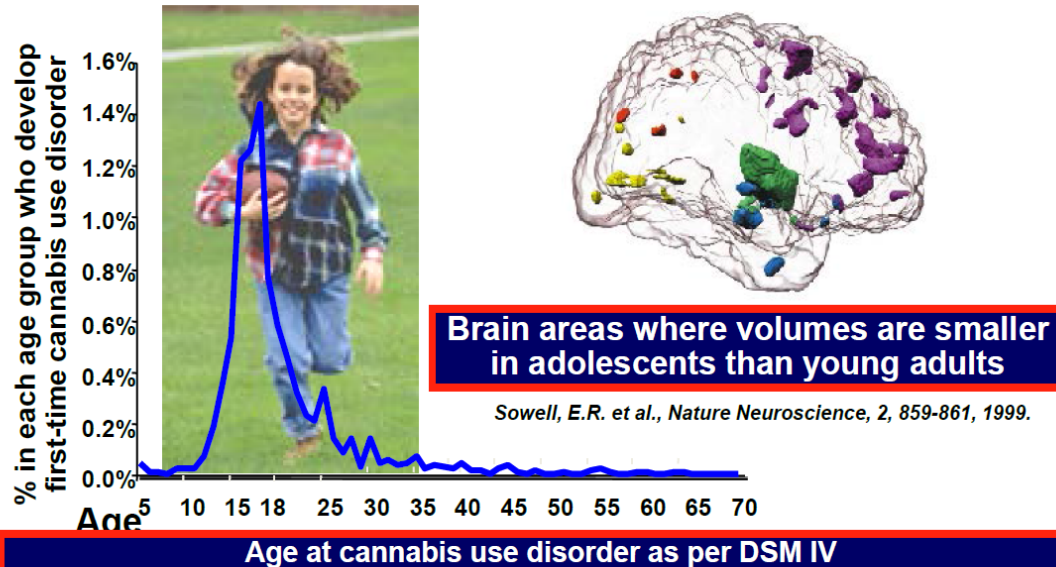
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Case History

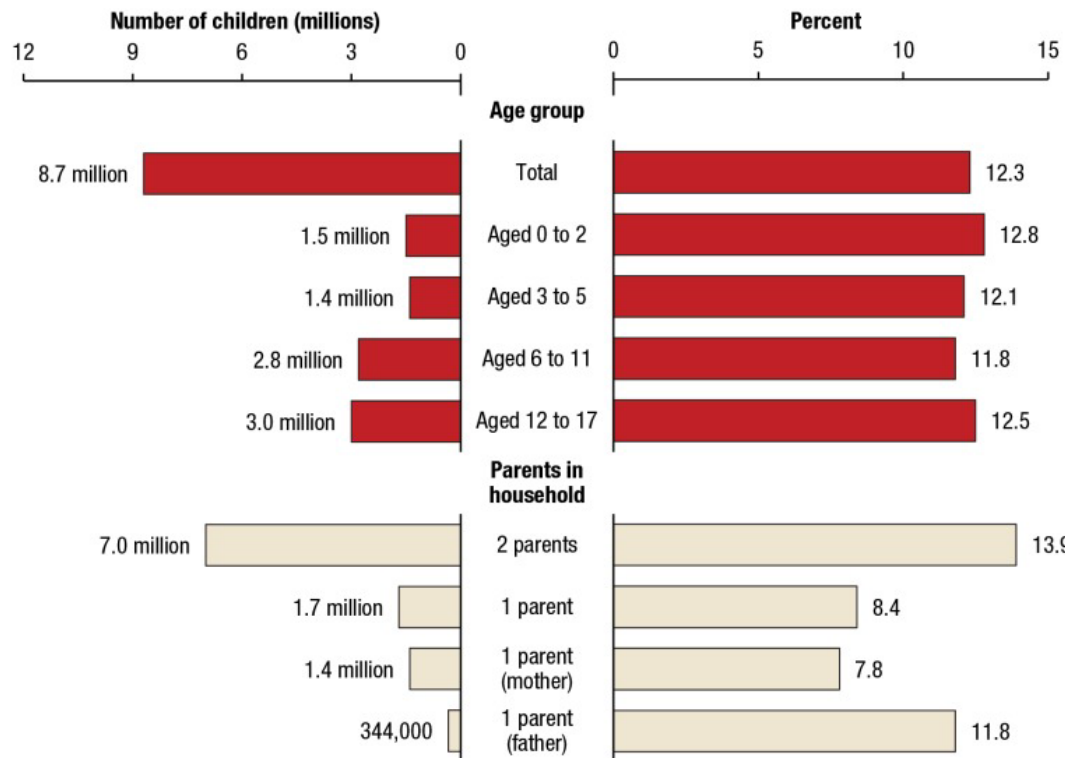
- 11 year old male with Type I Diabetes
- Multiple hospitalizations for DKA
- Parent and child sent to intensive educational program
- Admissions for new onset seizures and hypoglycemia
- Parental/family history
- What is the secret to this problem?
- There is another important benefit here!
- Treatment for the parent can be prevention for the child.

Addiction is a Pediatric Disease: More than 90% of adults with a substance use disorder (SUD) started using during adolescence

ADDICTION IS A **DEVELOPMENTAL** DISEASE *starts in adolescence and childhood*



Epidemiological Issues: How Many Children/Adolescents are Affected by Family SUD?



Number and percentage of children aged 17 or younger living with at least one parent with a past year substance use disorder, by age group and household composition: annual average, 2009 to 2014

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2009 to 2014.

National Longitudinal Alcohol Epidemiologic Survey - 1992

- 7.4% of adults classified with DSM-IV alcohol use disorder in past year.
- 18% of adults classified with lifetime DSM-IV alcohol use disorder
- 9.7 million children living in households with 1 or more adults who were harmfully using or dependent on alcohol

National Longitudinal Alcohol Epidemiologic Survey - 1992

- 1 in every 4 children in the US exposed to alcohol use disorders in the family.
- The number.. “defines one of today’s major public health problems.”
- “Children exposed through no fault of their own....are thrust into families and environments that pose extraordinary risks to their immediate and future well-being and threaten the achievement of their fullest potential.

B F Grant, AJPH; 90 (1):112-115; 2000

Children of Parents Affected by Substance Use Disorders

- May lack consistency, stability, or emotional support due to chaotic family environment
- May be physically and emotionally traumatized due to accidental injury, verbal abuse or physical abuse due to parental drinking/drug use
- May encounter:
 - poor communication
 - permissiveness
 - violence
 - neglect
 - undersocialization

Oddly, the majority of Children/Adolescents in families affected by addiction go undetected.



Children are often the first hurt and the last helped
National Association for Children of Addiction

Children of Parents or in Families Affected by Substance Use Disorders

- Higher risk for SU/SUD related problems than other children.
- Family interaction is often defined by SUD in a family.
- A relationship between parental SUD and child abuse has been documented in a large proportion of child abuse and neglect cases.
- Higher risk for placement outside the home.
- Exhibit symptoms of depression and anxiety more than do children from non-affected families.
- More physical and mental health problems and higher health and welfare costs compared to children from non-affected families.
- Higher rate of behavior problems.
- Score lower on tests measuring school achievement and exhibit other difficulties in school.
- Maternal use of AOD during pregnancy associated with adverse outcomes or neurological deficits.
- May benefit from supportive adult efforts to help them.

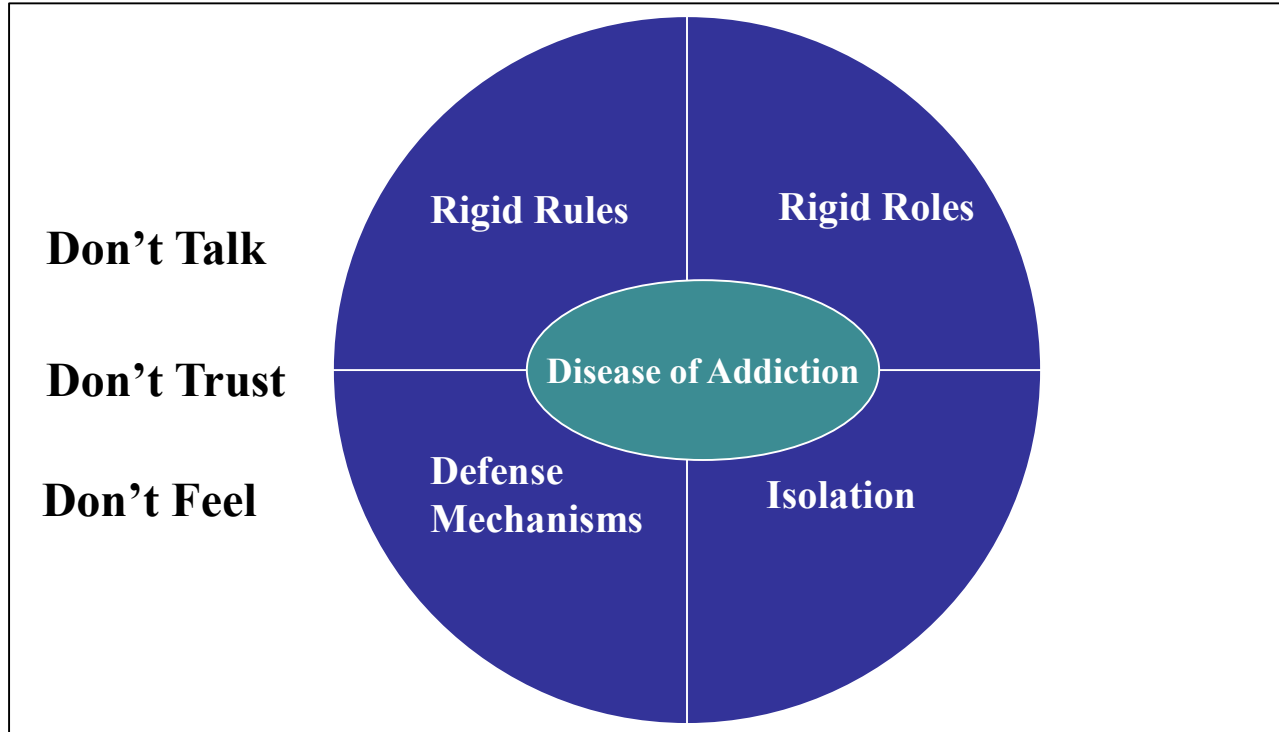
The Primacy of the Family in the Social and Cognitive Development of Children

Two relevant conclusions from the literature

- All familial variables that can, will affect child outcomes
- The parent-child interaction is characterized primarily by two major dimensions:
 - Nurturance (i.e., warmth and support)
 - Control (i.e., supervision and discipline)

Family Disease Model of Addiction

Everyone in the Family is Affected



Lending A Hand



<https://sesamestreetincommunities.org/activities/lending-a-hand>

Core Competencies for Involvement of Health Care Providers in the Care of Children and Adolescents Affected by Substance Use-Level I



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PEDIATRICS

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American Academy of Pediatrics



SUPPLEMENT TO PEDIATRICS

*Core Competencies for Involvement of
Health Care Providers in the Care of
Children and Adolescents in Families
Affected by Substance Abuse*

Report From a Conference

*Sponsored by the Office of National Drug Control Policy and the Substance Abuse
and Mental Health Services Administration*

*Held at The White House, Washington, DC
on September 15, 1997*

*Supplement supported by funding from the Scuffe Family Foundation and the
Substance Abuse and Mental Health Services Administration*

- Be aware of medical, psychiatric, and behavioral syndromes and symptoms
- Be aware of benefit of timely and early intervention
- Be familiar with community resources
- Include appropriate screening for AOD use
- Determine resource needs and services being provided
- Communicate appropriate concern and offer information, support and follow-up

Adger, Macdonald, Wenger. Pediatrics, 103: (103); 1083, 1999

Role of the Primary Health Care Provider

- Educate patients & families about the dangers of substance use and risk factors for problem use and addiction.
- Routinely screen for risky substance use and identify early affected individuals.
- Provide interventions to reduce risky use that are tailored to age and personal characteristics.
- Provide referral for assessment and diagnosis and assist with connection to treatment services.

Adger, Macdonald, Wenger. Pediatrics, 103: (103); 1083, 1999

SU/SUDs are ***complex developmental disorders with etiologies that emerge through the intergenerational transmission*** of biological, familial, and environmental factors.

The ***family ecosystem both influences and is influenced by SU/SUDs***... Family dynamics and parent functioning and behaviors can represent either risk or protective factors for the development of SU/SUDs...

Primary care providers... are in an ideal position to deliver prevention messages and to intervene early...Despite recommendations from the AAP few pediatric primary care providers provide anticipatory guidance to prevent or screen for substance misuse.

Many ***barriers to those practices can be overcome through the integration and application of findings from the field of prevention science and the many lessons learned from the implementation of evidence-based interventions***... that can be adapted for use in primary care settings making wide-spread implementation of prevention feasible.

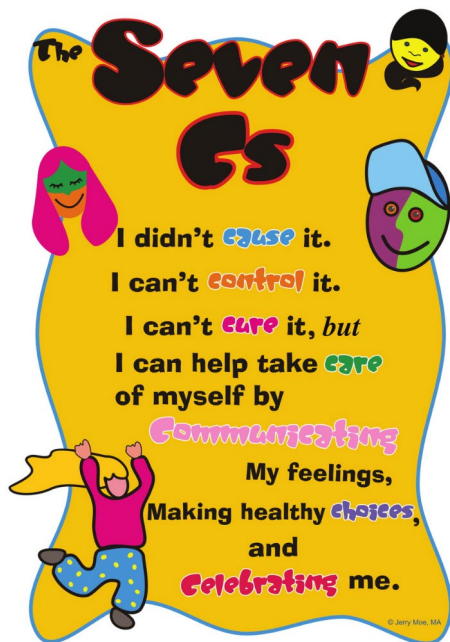
We ***propose a paradigm shift*** away from a model based on diagnosis and pathology to one upstream, that of ***family-focused prevention and early intervention***.

Pediatric primary care settings are ideally suited to increase access of children, adolescents, and families to evidence-based SU prevention interventions

At least three core lessons from prevention science can be applied to pediatric primary care settings:

- (1) using a set of evidence-based universal prevention strategies,
- (2) clarity of messaging based on an accurate understanding of the science, and
- (3) engagement with families.

A Little Bit of Caring Goes a Long Way



 National Association for Children of Addiction - www.nacoa.org

Addiction
Runs in
Families
and so
does
Recovery



Thank You!

With help, children
at risk become
children of promise

Questions?

Contact: hadger@jhmi.edu



EXTRA SLIDES

Detection of Alcoholism in Hospitalized Children and Their Families

Duggan AK, Adger H, McDonald EM, Stokes EJ, Moore R *AJDC*, 145:613-617, 1991

Comparison of Adolescents by Household Screening Status

Characteristics	Total % (N=59)	Positive (N=10)	Negative (N=59)	p-value
Has been troubled by a parent's drinking	5	23	2	<.001
Has used drugs	5	23	2	.07
Alcohol use	8	10	8	1.0
Depressed > 2 wks in past year	39	50	37	.69

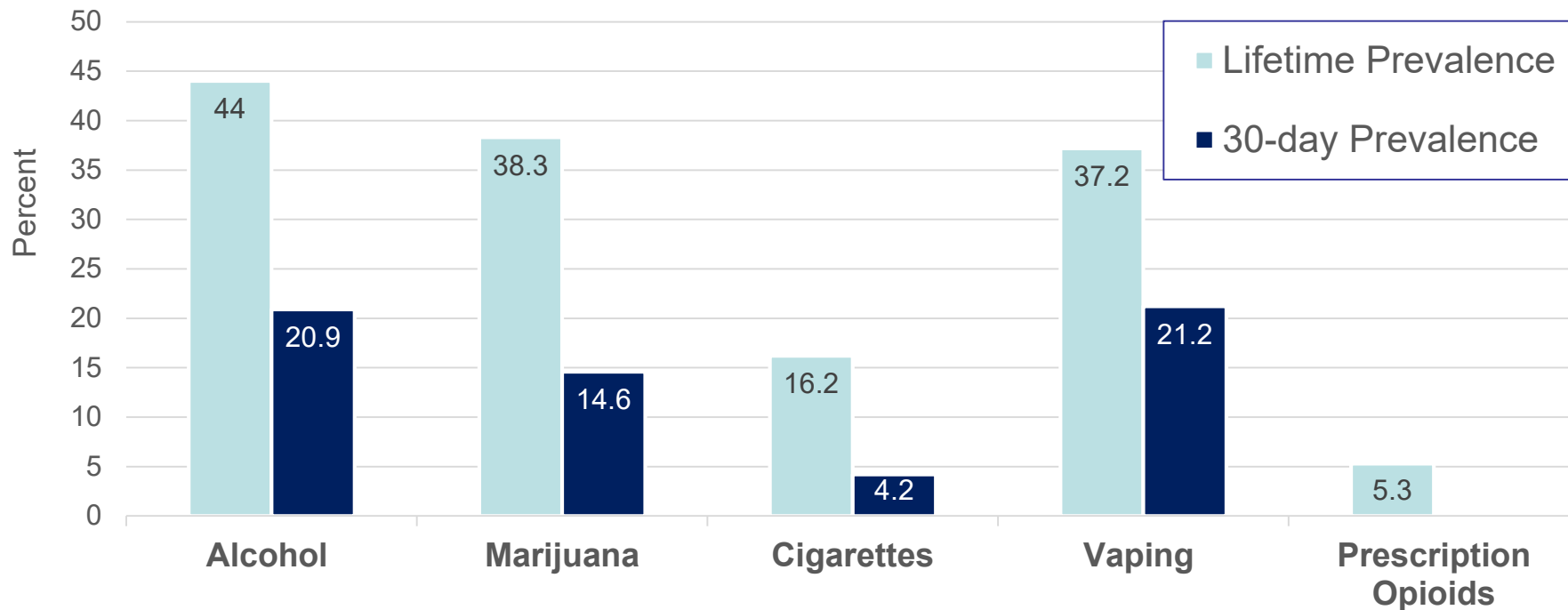
Despite feeling a responsibility to inquire about AOD in patients and families there appears to be a cultural ambivalence and a lack of skills in doing so.

- 0% Recognition by housestaff
- 1 Positive case identified by faculty



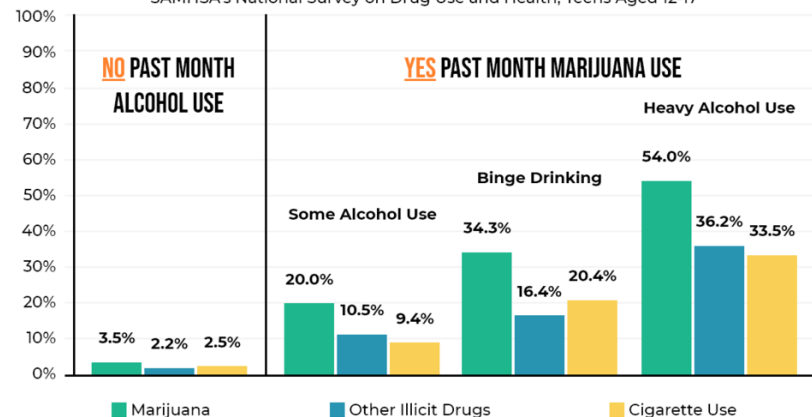
The “Big 3” + Opioids

Substance Use among 8th, 10th & 12th Graders Combined



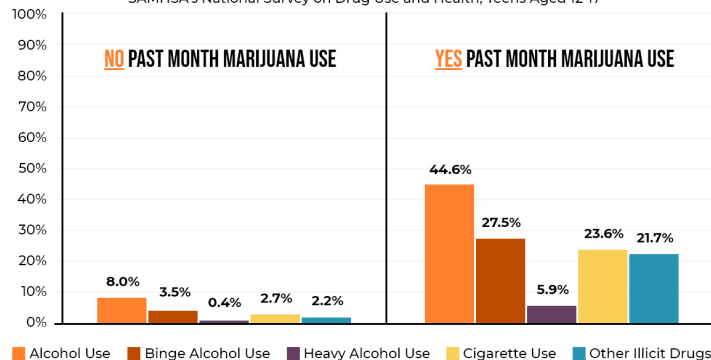
TEEN ALCOHOL USE IS ASSOCIATED WITH HIGHER USE OF OTHER DRUGS

SAMHSA's National Survey on Drug Use and Health, Teens Aged 12-17



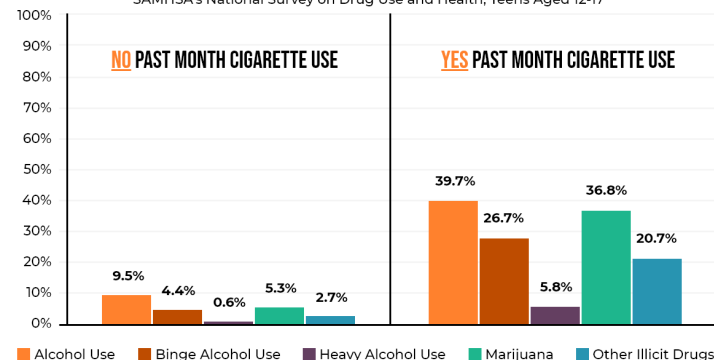
TEEN MARIJUANA USE IS ASSOCIATED WITH HIGHER USE OF OTHER DRUGS

SAMHSA's National Survey on Drug Use and Health, Teens Aged 12-17



TEEN CIGARETTE USE IS ASSOCIATED WITH HIGHER USE OF OTHER DRUGS

SAMHSA's National Survey on Drug Use and Health, Teens Aged 12-17





MARIJUANA USE & EDUCATIONAL OUTCOMES

Studies show that marijuana interferes with attention, motivation, memory, and learning. Students who use marijuana regularly tend to get lower grades and are more likely to drop out of high school than those who don't use. Those who use it regularly may be functioning at a reduced intellectual level most or all of the time.

MOST MARIJUANA USE BEGINS IN
ADOLESCENCE



78%

of the 2.4 million people who began using in the last year were aged 12 to 20.¹

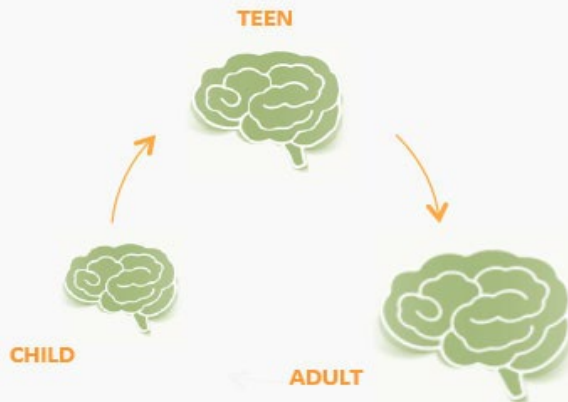
As perception of harm
decreases...



**EVERY DAY,
3,287 TEENS
USE MARIJUANA
FOR THE
FIRST TIME¹**

MARIJUANA MAY HURT THE DEVELOPING TEEN BRAIN

The teen brain
is **still**
developing
and it is
especially
vulnerable to
drug use.



↓ IQ

Regular heavy
marijuana use by
teens can lead to
an IQ drop of up to
8 points³

HEAVY MARIJUANA USE BY TEENS IS LINKED TO⁴:

Educational Outcomes



lower
grades and
exam scores



less likely
to graduate
from HS or
college



less likely
to enroll in
college

Life Outcomes



lower
satisfaction
with life



more
likely to be
unemployed



more likely to
earn a lower
income

Adverse Effects of Short-Term Use and Long-Term or Heavy Use of Marijuana

Table 1. Adverse Effects of Short-Term Use and Long-Term or Heavy Use of Marijuana.

Effects of short-term use

Impaired short-term memory, making it difficult to learn and to retain information

Impaired motor coordination, interfering with driving skills and increasing the risk of injuries

Altered judgment, increasing the risk of sexual behaviors that facilitate the transmission of sexually transmitted diseases

In high doses, paranoia and psychosis

Effects of long-term or heavy use

Addiction (in about 9% of users overall, 17% of those who begin use in adolescence, and 25 to 50% of those who are daily users)*

Altered brain development*

Poor educational outcome, with increased likelihood of dropping out of school*

Cognitive impairment, with lower IQ among those who were frequent users during adolescence*

Diminished life satisfaction and achievement (determined on the basis of subjective and objective measures as compared with such ratings in the general population)*

Symptoms of chronic bronchitis

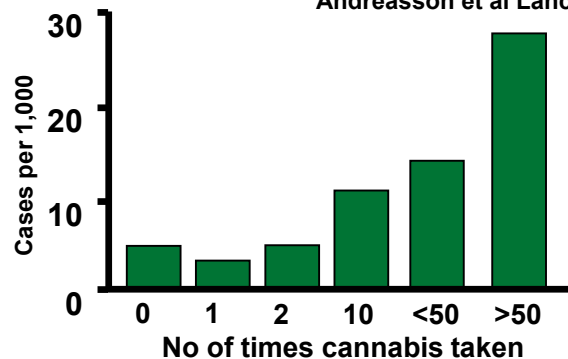
Increased risk of chronic psychosis disorders (including schizophrenia) in persons with a predisposition to such disorders

* The effect is strongly associated with initial marijuana use early in adolescence.

Cannabis-Associated Psychosis

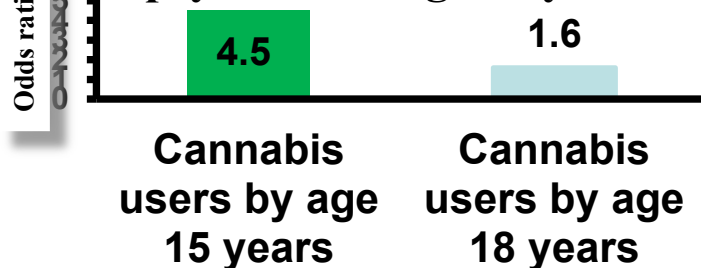
Study of Swedish Conscripts (n=45570)

Andréasson et al Lancet, 1987.



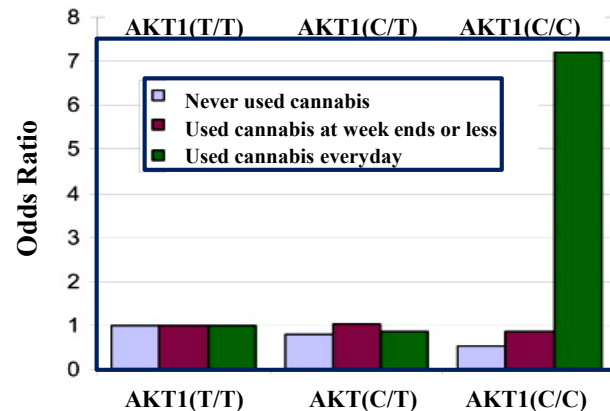
Prospective Dunedin study (n=1037)

Risk of schizophrenia-like psychosis at age 26 years



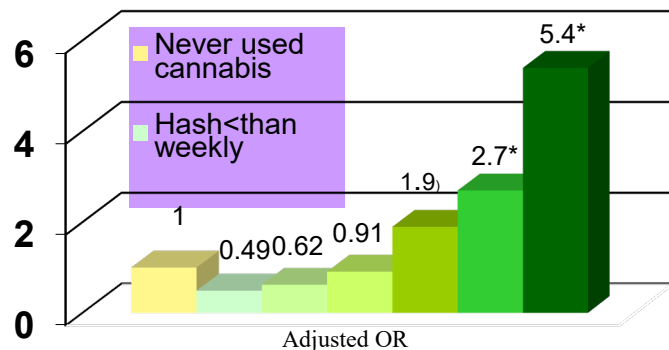
Arseneault et al BMJ 2002

Regular Cannabis Use Increases Schizophrenia Risk in those with AKT1 rs2494732 genotype



Di Forti et al., Biological Psychiatry, 2012. GXE model: $p^*=0.014$

Effect of High Potency Cannabis on Risk of Psychosis



Di Forti M et al., The Lancet published online February 18, 2015.

Drug use is a preventable behavior.
Drug Addiction is a treatable disease.

Partnership To End Addiction

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

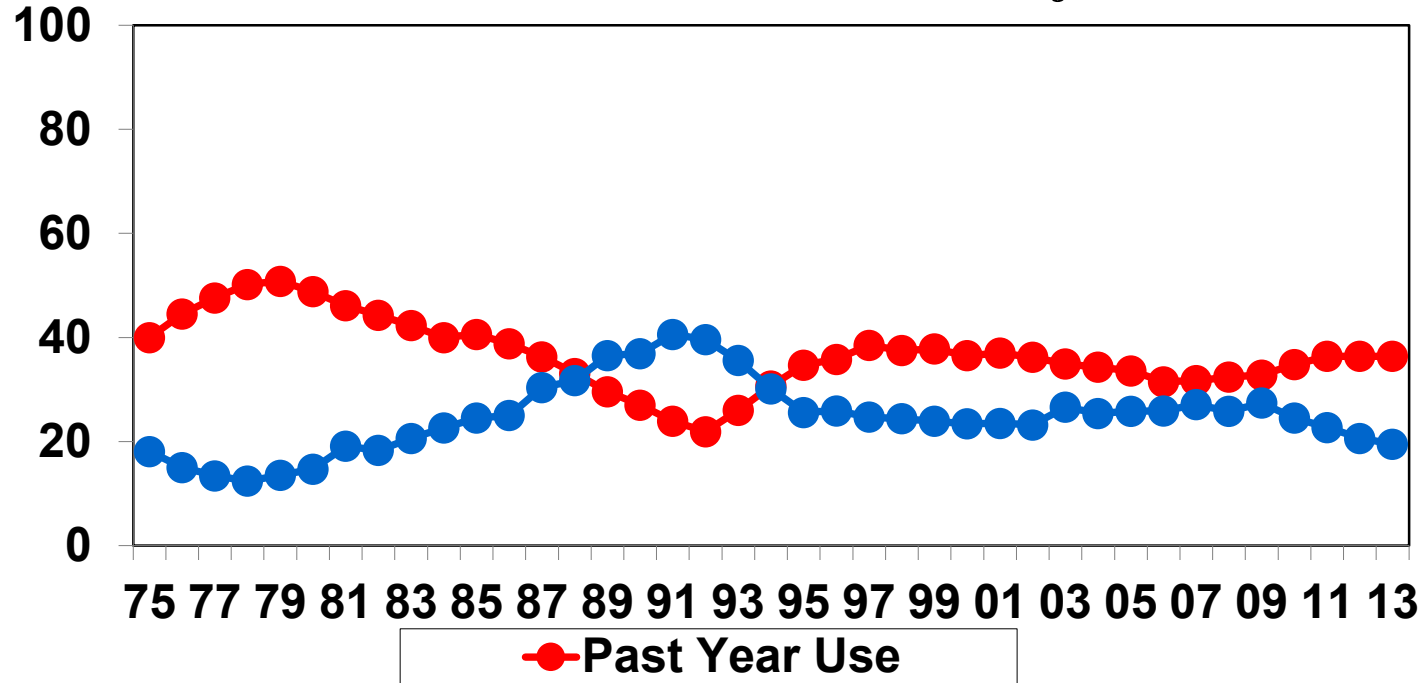
Enhance Protective Factors

- 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



Marijuana Use & Marijuana Use Disorders Is **PREVENTABLE**

12th Graders' Past Year Marijuana Use vs. Perceived Risk of Occasional Marijuana Use



**No amount of substance use is
safe for adolescents.**

**Your Message to youth: No use of alcohol, tobacco
or other drugs for reasons of health and the
increased vulnerability to harm during adolescence.**

Levy, Dupont, et. al., Peds, 2020, 146 (6)