

# Adolescent Substance Use Disorder Treatment: What's the Latest?

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- Adams
  - NIDA

# Learning Objectives

1. Describe how to diagnose adolescents with substance use disorders.
2. Understand which evidence based models have been developed for adolescents.
3. Explain how treatment can be delivered via telemedicine.

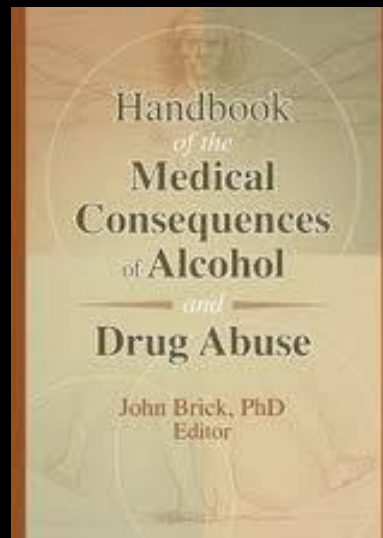
# Outline

- 1) The impact of substance use disorders
- 2) Substance diagnoses in teens
- 3) Epidemiology of adolescent substance use
- 4) Risk factors & comorbidities
- 5) Screening & intervention
- 6) Brief interventions for any provider (MI)
- 7) Treatment models

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# Impact of Substance Use Disorders



**\$193 billion**

Estimated cost of drug use to the U.S. society in lost productivity, health care and criminal justice costs in 2007

*(Source: NDIC)*



Every hour,  
**1 BABY**  
is born  
suffering  
from opiate  
withdrawal.

[drugabuse.gov](http://drugabuse.gov)

# Could we have seen this coming?



age 28



age 29



age 30



age 31



age 32



age 33



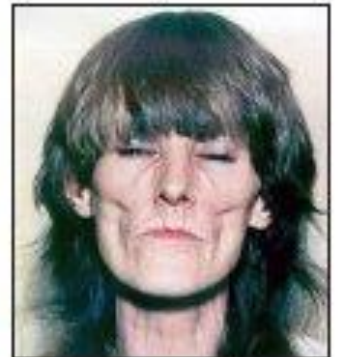
age 34



age 35



age 36



age 37

# Consequences and correlates

In 2000, youths ages 12 to 17 who reported past-year alcohol use (19.6%) were more than twice as likely as youths who did not (8.6%) to be at risk for **suicide** during this time period.

Girls ages 12 to 16 who are current drinkers are four times more likely than their nondrinking peers to suffer from **depression**.

Among adolescents who drink alcohol, 38% to 62% report having had problems related to their drinking, such as **interference with work, emotional and psychological health problems**, the development of tolerance, and the inability to reduce the frequency and quantity of use.

In 2006, 1.4 million youth ages 12 to 17 needed treatment for an alcohol problem. Of this group, only 101,000 of them received any treatment at a specialty facility, leaving an estimated 1.3 million youths who needed but did not receive treatment. (**< 8% in treatment**)

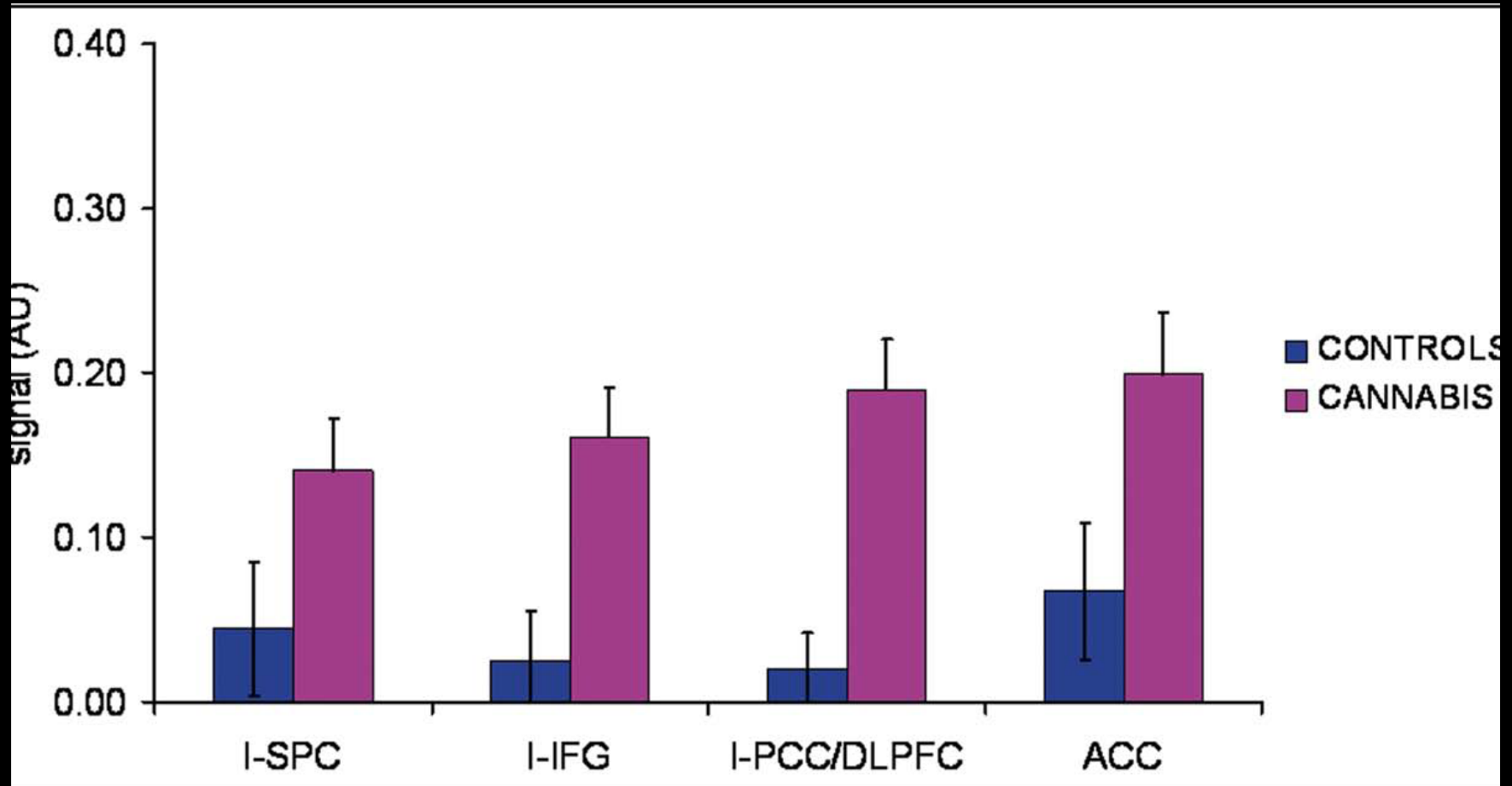
Of all children under age 14 killed in vehicle crashes in 2006, 23% were killed in **alcohol-related crashes**.

Cannabis use is associated with **earlier and worse psychosis** in a subset of people.



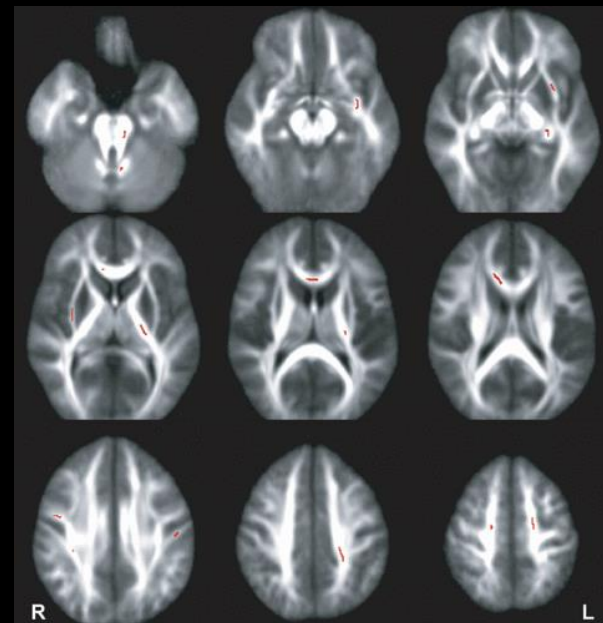
# Drugs and the adolescent brain

Cortical brain region activations on a working memory task in adolescents with heavy marijuana use vs controls (Jager et al., JAACAP, June 2010).



# Drugs & Alcohol

- Brain development altered in alcohol-abusing teens
  - Reduced prefrontal white and gray matter in adolescent-onset alcohol-use disorder (De Bellis et al., 2005)
  - White matter development impaired in teen binge drinkers (McQueeney et al., 2009)



McQueeney et al., 2009

- Of people who begin drinking before age 14, 47% became dependent at some point, compared with 9% of those who began drinking at age 21 or older.

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# Warning Signs

- Any prescription or other drug seeking behavior.
- Contact with drug using peers.
- Unsupervised time.
- Need to medicate every symptom (fatigue, anxiety).
- Use of any one drug, alcohol or nicotine.
- Distress at inability to obtain substances.
- Family History of substance use disorders.

# How are substance use disorders different in adolescents than adults?

- Less chronic, less refractory
- Fewer withdrawal symptoms
- Can be as severely affected
- Fewer judicial/community resources
- More oversight from authorities (parents, school)
- A greater variety of drugs, use impacted more by availability

# DSM-5

- Substance Intoxication
- Substance Withdrawal
- Substance-Induced: Psychotic Disorder, Depressive Disorder, etc.
- Substance Use Disorder: (2/11 over 12 months) Problematic pattern of use leading to clinically significant impairment or distress
- New: Caffeine, Tobacco (not nicotine), gambling

# How to Diagnose?

- Diagnostic Evaluations (2-3 hours)
  - Standardized Measures and Evaluation for SUDs
    - Kiddie Schedule for Affective Disorders and Schizophrenia (KSADS); Composite International Diagnostic Interview (CIDI); etc.
    - Timeline Follow Back for Drug Use (Sobell & Sobell, 1992)
    - Urine Drug Screens
  - ...and Mental Health Comorbidities
    - KSADS, CIDI, CDISC, etc.
    - High risk sexual behaviors
    - Psychiatric symptom ratings: MASC, CDRS, ADHD-RS
    - Multiple respondents when possible

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# Epidemiology

- Nearly 50% of American youth used an illicit drug by the time of high school graduation.
- 7.6% of youth aged 12 to 17 years meet criteria at some point for substance dependence

# Consumption and Consequences of Alcohol, Tobacco and Drugs in Indiana: 2015

- **ALCOHOL**: 33% of high school students used and 20% engaged in binge drinking in the past 30 days
- **TOBACCO**: 9% of 12-17 year olds currently use
  - e-cigarettes on the rise (2012: 4%→2014: 16%)
- **MARIJUANA**: 20% of h.s. students currently use
- **COCAINE**: 5.6% of h.s. students have tried
- **HEROIN**: 2.8% of h.s. students have tried
- **METHAMPHETAMINE**: 4% of h.s. students have tried
- **RX DRUGS**: 5% of 12-17 year olds have misused pain relievers in the past year



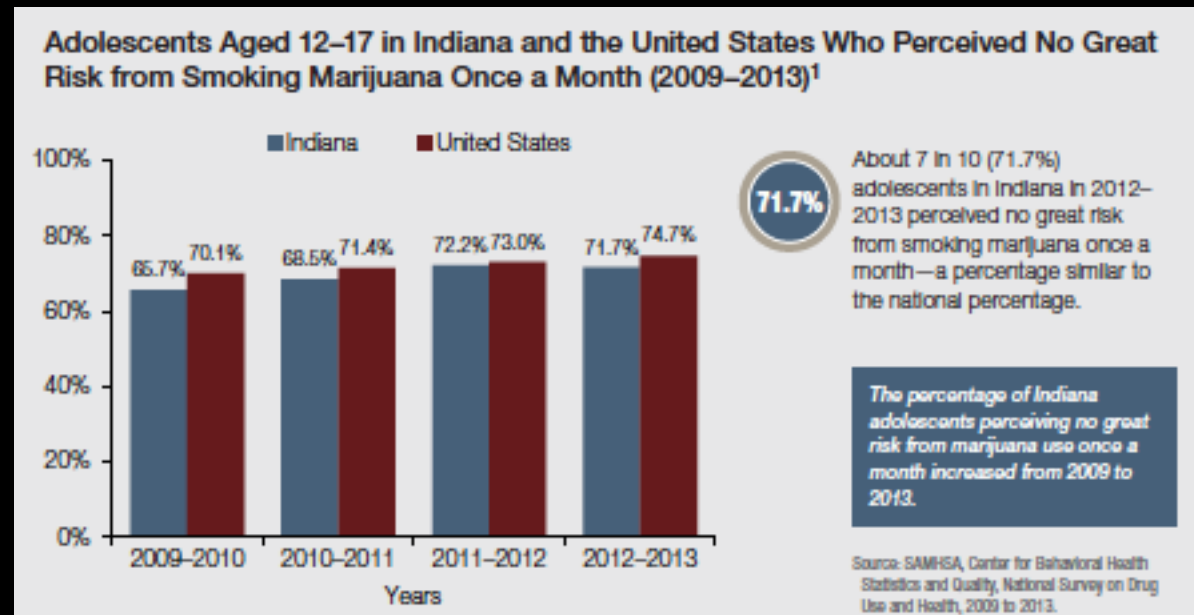
# Gateway Drugs?



- Alcohol
- Tobacco
- Marijuana

# Problems in Indiana 2015

- Cannabis is not dangerous?
- Synthetic cannabinoids
- Prescription pills: opiates and benzodiazepines
- Heroin



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# Risk Factors

- Early use
- Genetics: 80% of variance explained
- Externalizing disorders: ADHD, CD, ODD
- Internalizing disorders: depression, anxiety  
(O'Neil et al., *Clin Psychol Rev*, 2011)
- Environmental moderators: peer group (norms, use), childhood stressors, availability of drugs, antisocial activities
- “Neurobehavioral Disinhibition”

# Comorbidities (80-90%)

- ADHD, ODD, CD
- Depressive Disorders
- Anxiety Disorders
- Psychotic Disorders (less common)

# Why should we care about adolescent substance misuse?

- **Those who began drinking or using drugs early in life are more likely to develop substance use disorders**
- **The adolescent brain is more sensitive to toxicity from drugs and alcohol: cognitive impairments as well as psychiatric**
- **Adolescence is a crucial developmental period with necessary progress through milestones. Substance use derails this progress**



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What can we do in our clinical  
practice?

# More Background

- Results of multiple studies that have examined the screening practices of healthcare providers indicate rates far below recommended levels  
(Marcell et al, 2002; Vadlamudi et al, 2008)
- Many studies that have examined these inadequate screening practices have identified providers' attitudes and beliefs as two significant and influential factors  
(Marcell et al, 2002; Vadlamudi et al, 2008; Lock et al, 2002)

# Screening

Typically accomplished through semi-structured interview or questionnaire

- Interview
  - **HEADSS(S)**
  - GAPS: Guidelines for Adolescent Preventive Services
- Questionnaires
  - **CRAFFT**: Car, Relax, Alone, Forget, Friends, Trouble
  - POSIT: Problem Oriented Screening Instrument for Teachers
  - AUDIT: Alcohol Use Disorders Identification Test
  - CAGE-A: Cut down, Annoyed, Guilty, Eye Opener
  - S2BI: Gate questions, follow-up
  - BSTAD: adaptation of NIAAA questions, self and friends' use

# Screening – S2BI

## Screening to Brief Intervention (S2BI) Tool

The following questions will ask about your use, if any, of alcohol, tobacco, and other drugs. Please answer every question by checking the box next to your choice.

**IN THE PAST YEAR, HOW MANY TIMES HAVE YOU USED:**

### Tobacco?

- ☐ Never
- ☐ Once or twice
- ☐ Monthly
- ☐ Weekly or more

### Alcohol?

- ☐ Never
- ☐ Once or twice
- ☐ Monthly
- ☐ Weekly or more

### Marijuana?

- ☐ Never
- ☐ Once or twice
- ☐ Monthly
- ☐ Weekly or more

**STOP** if answers to all previous questions are "never." Otherwise, continue with questions on the back.

*S2BI Tool developed at Boston Children's Hospital with support from the National Institute on Drug Abuse.*

*It is best used in conjunction with "The Adolescent SBIRT Toolkit for Providers" [mass.gov/maclearinghouse](http://mass.gov/maclearinghouse) (no charge).*

**Prescription drugs that were not prescribed for you (such as pain medication or Adderall)?**

- ☐ Never
- ☐ Once or twice
- ☐ Monthly
- ☐ Weekly or more

**Illegal drugs (such as cocaine or Ecstasy)?**

- ☐ Never
- ☐ Once or twice
- ☐ Monthly
- ☐ Weekly or more

**Inhalants (such as nitrous oxide)?**

- ☐ Never
- ☐ Once or twice
- ☐ Monthly
- ☐ Weekly or more

**Herbs or synthetic drugs (such as salvia, "K2", or bath salts)?**

- ☐ Never
- ☐ Once or twice
- ☐ Monthly
- ☐ Weekly or more

OVER

**Table 1. Definition of Substance Use Categories**

| Substance Use Disorder | Full Screen and Brief Assessment Tool   | Screen to Brief Intervention           |
|------------------------|---|--|
| None                   | Any past-year substance use, RAFFT score = 0, other assessment questions negative | Once or twice use of any substance     |
| Mild-moderate          | Any past-year substance use, RAFFT score >1, other assessment questions negative  | Monthly use of any substance           |
| Severe                 | Any past-year substance use, RAFFT score >1, other assessment questions positive  | Weekly or greater use of any substance |

Abbreviation: RAFFT, relax, alone, forget, friends or family, trouble.

- Promoted by NIDA

Source: Levy et al., 2014, *JAMA Pediatrics*; C2BI Toolkit

# Screening

In the past year, how many times have you used:  
Tobacco? Alcohol? Marijuana? (Ask separately.)



# Screening: CRAFFT



Have you ever ridden in a **CAR** driven by someone (including yourself) who was "high" or had been using alcohol or drugs?



Do you ever use alcohol or drugs to **RELAX**, feel better about yourself, or fit in?



Do you ever use alcohol or drugs while you are by yourself, **ALONE**?



Do you ever **FORGET** things you did while using alcohol or drugs?



Do your family or **FRIENDS** ever tell you that you should cut down on your drinking or drug use?



Have you ever gotten into **TROUBLE** while you were using alcohol or drugs?

# OTHER SCREENERS

- Bright Futures
  - Part of Screening, Assessment and Intervention System
  - American Academy of Pediatrics
  - Tailored screeners for younger, middle and older adolescents
  - We are currently testing a combined version
- GAIN Short Screener
  - Part of the Global Appraisal of Individual Need system
  - Short screener is 2 pages in length
  - GAIN-Q
  - GAIN-I
  - Collateral Questionnaire



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# Motivational Interviewing

*“A collaborative, person-centered form of guiding to elicit and strengthen motivation for change.”* – Miller & Rollnick, 2009

- Applicable with adolescents and/or caregivers
- Method or style, not a school or theory
- Assume most adolescents are not ready for change at first

# Motivational Interviewing Techniques for Adolescents

- Be supportive of their need for autonomy
- Collaborative: build a partnership, confidential
- Avoid *righting reflex*: correction/advice giving/data
- Roll with resistance
- Express empathy
- Develop discrepancy: evoke “change talk”
- Support self-efficacy: goal setting, positive focus

# <http://www.drugabuse.gov/family-checkup>



**Family Checkup**

Question 1: Communication

Question 2: Encouragement

Question 3: Negotiation

Question 4: Setting Limits

Question 5: Supervision



## ***Could your kids be at risk for substance abuse?***

Families strive to find the best ways to raise their children to live happy, healthy and productive lives. Parents are often concerned about whether their children will start or are already using drugs such as tobacco, alcohol, marijuana, and others, including the abuse of prescription drugs. Research supported by the National Institute on Drug Abuse (NIDA) has shown the important role that parents play in preventing their children from starting to use drugs.

# Brief Education and Advice

- **Q:** What advice can I give?

**A:** The safest option is to NOT use substances, so you can recommend this option to all of your patients.

- Provide medically accurate, developmentally appropriate education to youth and families



**National Institute  
on Drug Abuse for Teens**  
*Advancing Addiction Science*

[teens.drugabuse.gov](https://teens.drugabuse.gov)

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# Existing Models



- Separate treatment programs for substance use problems, mental health, and other medical issues

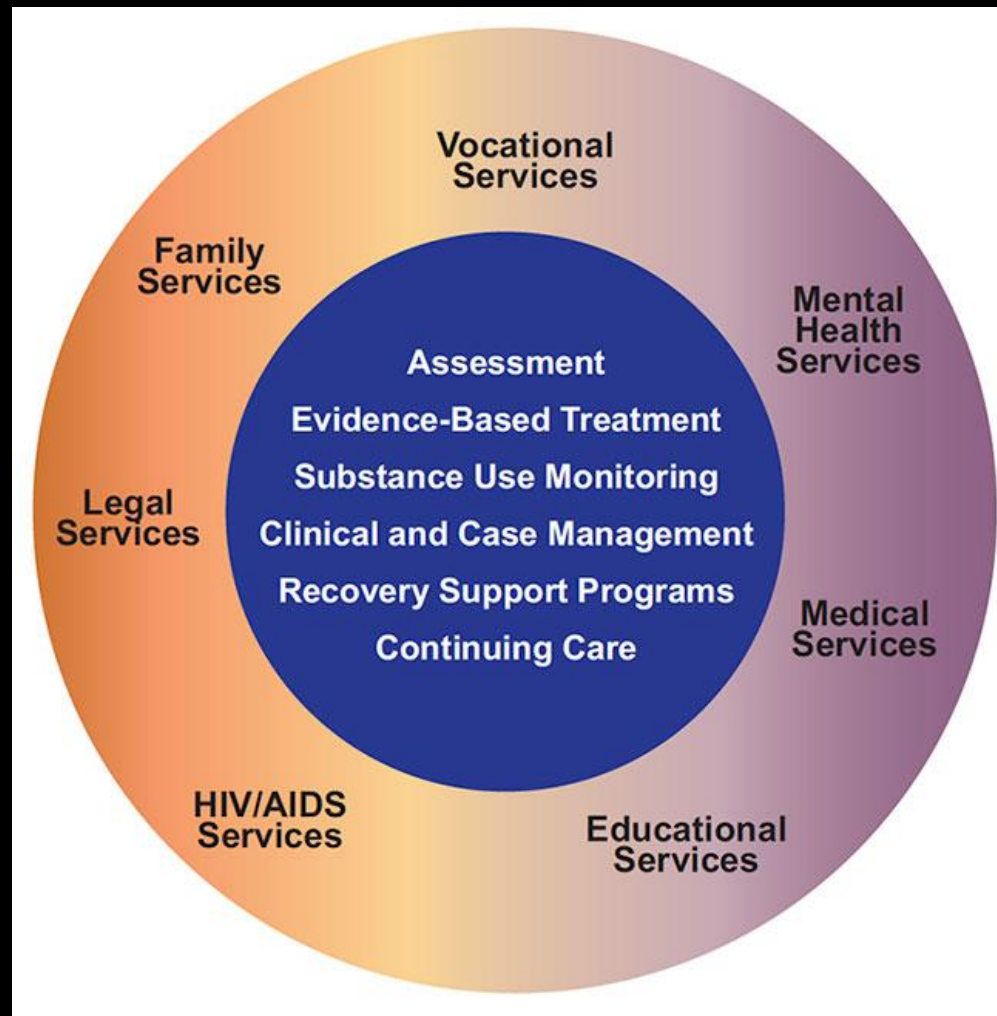
Source: Sterling et al., 2010, *JAACAP*; Suarez et al., 2012, *Am J Comm Psych*

# Existing Models

- Outpatient:
  - Family Therapy: Multidimensional Family Therapy, Functional Family Therapy, SOFT, Adolescent Community Reinforcement Approach (A-CRA)
  - Individual Therapy: CBT, Motivational Interviewing/Motivational Enhancement Therapy (+/- CBT), Contingency Management
  - Group Treatments: 12 step, CBT
- Inpatient
- Residential “Rehab”
- Integrated outpatient treatments for co-occurring disorders: ENCOMPASS
- Non evidence based practices



# Components of Comprehensive Drug Abuse Treatment (NIDA, 2014)



# Co-Occurring Disorders: Outpatient Treatment

- Psychiatric and substance use focused diagnostic evaluation
  - Youth report, caregiver report
- Pharmacologic Intervention
- Individual CBT: 16 weeks
- Motivational Enhancement Program
- Family/Parent Therapy

# Evaluation

- Diagnostic Evaluations (2-3 hours)
  - Standardized Measures and Evaluation for SUDs and Mental Health Comorbidities
    - E.g. Kiddie Schedule for Affective Disorders and Schizophrenia (KSADS)
    - High risk sexual behaviors
    - Baseline psychiatric ratings: MASC, CDRS, ADHD-RS
    - Timeline Follow Back for Drug Use
    - Urine Drug Screens

# Treatment

- Medication Management
  - Comorbidities
    - Depression and Anxiety have clear pharmacologic targets
    - ADHD: Stimulants (controversial), Bupropion
  - SUDs
    - Small literature for use in adolescents but wealth of adult research in treatment for SUDs

# Medication Treatments for Substance Use Disorders

- Replacement
  - Opiates
    - Suboxone
    - Methadone
  - Nicotine
- Aversive (rarely used)
  - Alcohol
    - Disulfiram
- Others
  - Nicotine
    - Varenicline, Bupropion
  - Opiates
    - Naltrexone
  - Alcohol
    - Acamprosate
    - Naltrexone

# ENCOMPASS

- 13 weeks of individual CBT + 3 sessions with family/supports
- **Week 1:** Personal rulers, Supportive People, Functional Analysis of Pro-Social Activities
- **Week 2:** Personal Feedback, Goal Setting, Happiness Scale
- **Week 3 Exploring Use:** Functional Analysis of Drug Use behavior, Expectation of Effects, Consequences of Use
- **Other 13 Modules:**
  - Coping with cravings
  - Communication
  - Managing anger
  - Negative moods
  - Problem solving
  - Refusal skills
  - Support systems
  - School & employment
  - Coping with a slip
  - Seemingly irrelevant decisions
  - HIV prevention
  - Saying goodbye
  - Bringing in the family (3 sessions)



# Contingency Management

- Strong data to support decrease in drug use in adults and adolescents
- Not a psychotherapy, can be used by parents alone
- “Prize draws” for session attendance, negative UDS, and pro-social activities (adolescent modifier)
- Bonus prizes for sustained or early abstinence

FAMILY THERAPY IS A KEY  
INGREDIENT OF NEARLY ALL  
ADOLESCENT ADDICTION  
TREATMENT PROGRAMS



# Goals of family/parenting interventions

- Parent training
- Improve Family Functioning
- Reduce/Eliminate Substance Use
- Increase Problem Solving Skills
- Develop (Nurture Existing) Future Orientation
- Address Ecology of the Problem

**1. Decatur County Memorial  
Hospital**

**(Greensburg, IN)**

**2. IUH White Memorial  
Hospital**

**(Monticello, IN)**

**3. Deaconess Riley Children's  
Specialty Center**

**(Evansville, IN)**

**4. The Bowen Center**

**(Albion, IN)**

**5. Foundations Family  
Medicine**

**(Austin, IN)**

**6. IU North**

**(Carmel, IN)**

**COMING SOON**

**7. IUH Arnett Hospital**

**(Lafayette, IN)**

**8. The Hamilton Center**

**(Linton and Bloomfield, IN)**



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