Substance Use among Adolescents in Indiana

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Disclosures

No Financial Disclosures for This Presentation Content

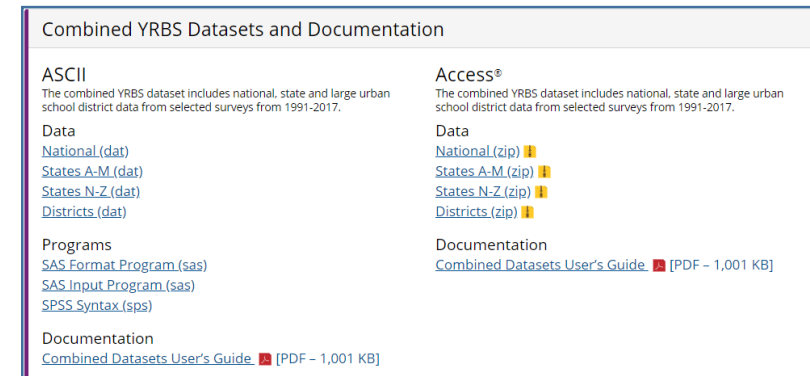# Sources of Data – *Where can we find information?*

Centers for Disease Control and Prevention (CDC) Fact Sheets

- https://www.cdc.gov/
- 'Bullet point' summary of national data
- Good for a quick talking point

Youth Risk Behavior Surveillance Survey (YRBSS) at the CDC
- https://www.cdc.gov/healthyyouth/data/yrbs/data.htm
- Data available at the state level
- Large project, so data are delayed (2017 is the most recent dataset available)
- Surveys grades 9 to 12 only
- Raw data are available, but 'data explorer' is slow to update (e.g., 2015 is the most recent year)
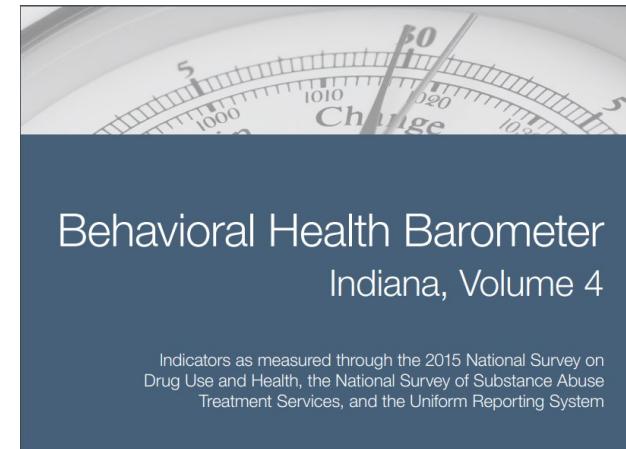
Sources of Data – *Where can we find information?*

Monitoring the Future (MTF) at University of Michigan

- http://www.monitoringthefuture.org/

- National random sample of 8th, 10th, and 12th graders

- US data only, *but* timely data releases

National Survey on Drug Use and Health (NSDUH)

- https://nsduhweb.rti.org/respweb/homepage.cfm

- National random sample of individuals > age 12

- Ability to analyze national data online

- Requires some analytic experience

- State-level reports are available, but on a delay

- Current Indiana report is for 2015

Behavioral Health Barometer
Indiana, Volume 4

Indicators as measured through the 2015 National Survey on Drug Use and Health, the National Survey of Substance Abuse Treatment Services, and the Uniform Reporting System

Sources of Data – *Where can we find information?*

Indiana Youth Survey (INYS)

      - https://inys.indiana.edu/survey-results

      - Sponsored by the Indiana Division of Mental Health and Addiction (DMHA)

      - Data collected for 6th through 12th grades (6th grade uses shortened survey)

      - Annual data collected since 1993, moved to biannual (even years) as of 2018

      - Substantial portion of all adolescents in Indiana (2018 usable sample was n=112,240)

            - Validated in 2016 and 2018 using comparison to statewide random sample

      - Statewide report issued for each survey year

THE INSTITUTE FOR RESEARCH ON ADDICTIVE BEHAVIOR
2018 PREVALENCE STATISTICS
MAIN FINDINGS

INDIANA YOUTH SURVEY

Institute for Research on Addictive Behavior   Prevention Monograph Series   Monograph No. 18-01
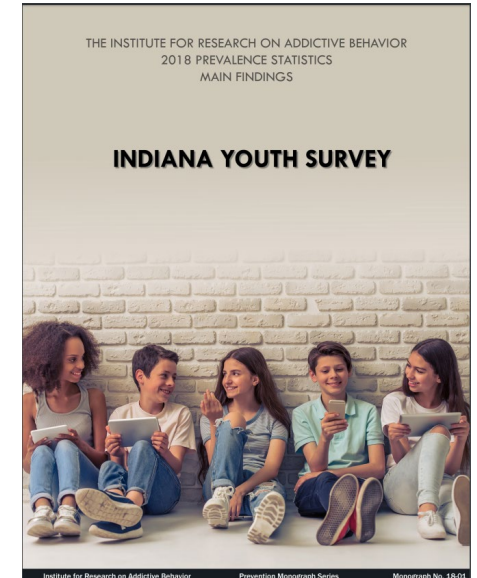
This survey has been administered through the Indiana Prevention Resource Center (IPRC) or Institute for Research on Addictive Behavior (IRAB) – now both part of Prevention Insights at IU – since its inception.

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Current Substance Use in Indiana – 7th through 12th Grades
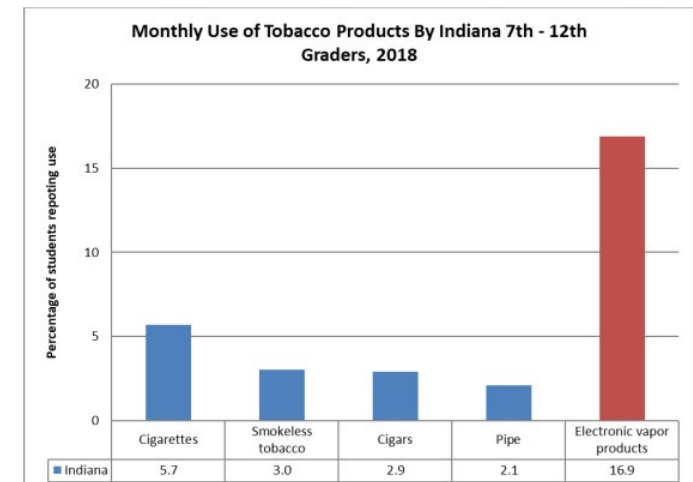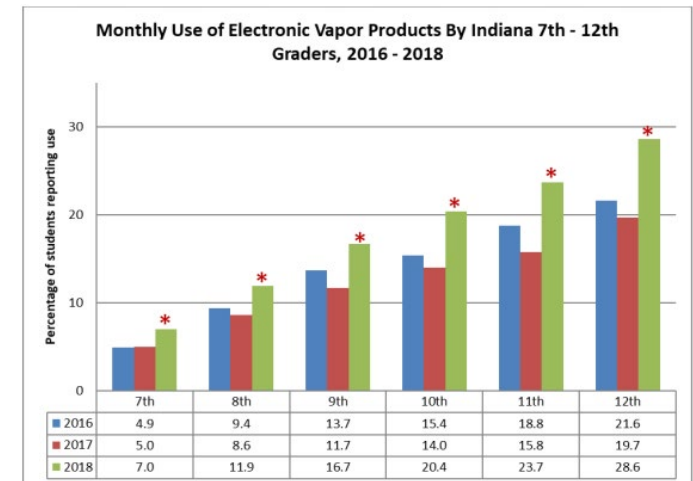
E-Cigarettes

Rates of past-month e-cigarette use significantly increased in 2018 for all grades after 'dipping' in 2017.

For all grades in aggregate, electronic vapor products were the most popular nicotine/tobacco-associated product in 2018 (vs. cigarettes, smokeless tobacco, cigars, and pipe).

In 2018, the National Academies asserted:
> "There is **substantial evidence** that e-cigarette use increases risk of ever using combustible tobacco cigarettes among youth and young adults." (Eaton, Kwan, & Stratton, 2018)

But they also concluded: "Based on the findings of this report, e-cigarettes cannot be simply categorized as either beneficial or harmful to health."

Monthly Use of Electronic Vapor Products By Indiana 7th - 12th Graders, 2016 - 2018

	7th	8th	9th	10th	11th	12th
2016	4.9	9.4	13.7	15.4	18.8	21.6
2017	5.0	8.6	11.7	14.0	15.8	19.7
2018	7.0	11.9	16.7	20.4	23.7	28.6

Monthly Use of Tobacco Products By Indiana 7th - 12th Graders, 2018

	Cigarettes	Smokeless tobacco	Cigars	Pipe	Electronic vapor products
Indiana	5.7	3.0	2.9	2.1	16.9

Current Substance Use in Indiana – 7th through 12th Grades

E-Cigarettes (cont'd)

Continue to monitor the research and debate… for example (<u>not</u> a comprehensive review):

A Randomized Trial of E-Cigarettes versus Nicotine Replacement Therapy (Hajek et al., 2019)

E-Cigarettes to Assist with Smoking Cessation [Editorial] (Borrelli & O'Connor, 2019)

E-Cigarettes: Use, Effects on Smoking, Risks, and Policy Implications (Glantz & Bareham, 2018)

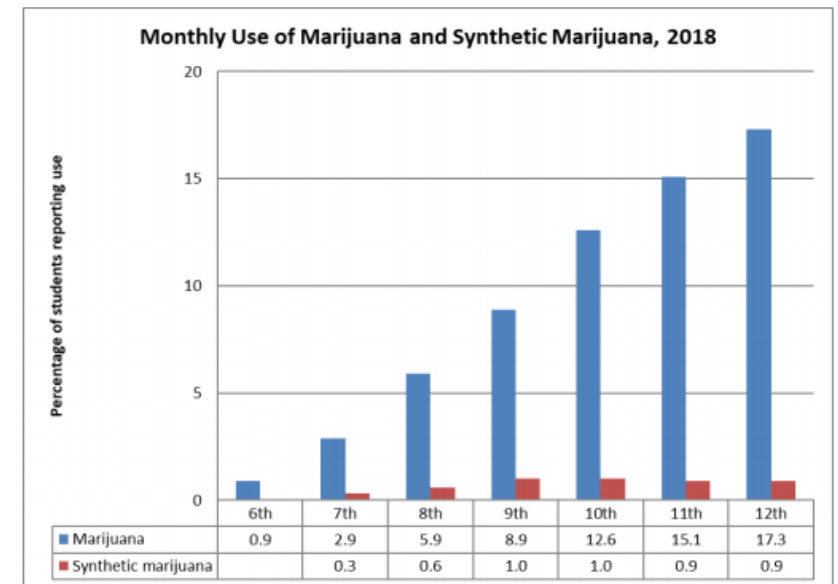*Adolescent Exposure to Toxic Volatile Organic Chemicals from E-Cigarettes* (Rubinstein et al., 2018)

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Current Substance Use in Indiana – 7th through 12th Grades

Cannabis

Rates of past-month cannabis use declined for most grades in 2018, but remained high overall.

Marijuana

	2017	2018
6th	1.3%	0.9%
7th	2.9%	2.9%
8th	6.4%	5.9%
9th	10.6%	8.9%
10th	14.1%	12.6%
11th	16.4%	15.1%
12th	19.5%	17.3%

Monthly Use of Marijuana and Synthetic Marijuana, 2018

	6th	7th	8th	9th	10th	11th	12th
Marijuana	0.9	2.9	5.9	8.9	12.6	15.1	17.3
Synthetic marijuana		0.3	0.6	1.0	1.0	0.9	0.9

These rates are higher than many other substances (e.g., Spice/K2 – synthetic marijuana).

Current Substance Use in Indiana – 7th through 12th Grades

Cannabis (cont'd)

Adolescents increasingly use cannabis in a variety of different ways, including smoking (99%), edible use (61%), and vaping (44%) (Knapp et al., 2018).

Research is ongoing, but associations have been found between adolescent cannabis use (5+ times) and psychosis (Mustonen et al., 2018) and differences in the adult prefrontal cortex (Tervo-Clemmens et al., 2018).

Importantly, increasing cannabis potency (THC concentration) has been summarily associated with "acute harms" – motor vehicle accidents, ER visits, and development of cannabis use disorder (Aterberry et al., 2019).

At the same time, much research is associative and some studies have found indicators in the opposite direction, such as cannabis use not being causally associated with IQ decline or executive function impairment (Meier et al., 2018).

As with e-cigarettes, continue observing research trends, but understand the risks of cannabis use disorder, acute outcomes, and potential changes to brain development.

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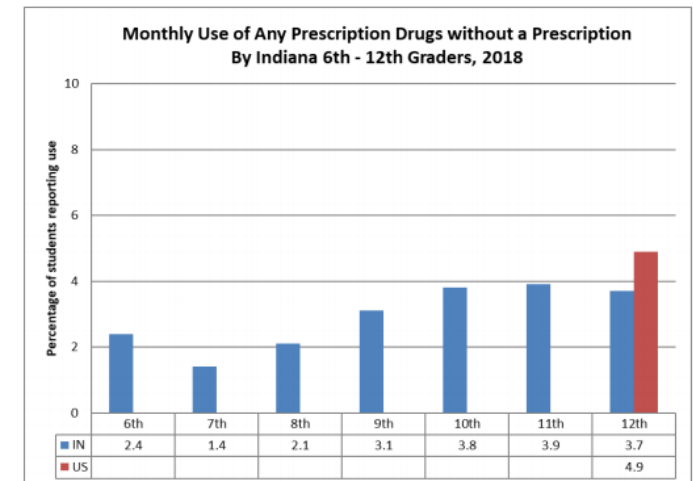# Current Substance Use in Indiana – 7th through 12th Grades

Prescription Drugs without a Prescription (and Opioids)

Nationally (2016 NSDUH), the 12-17 age group is equally or less likely than the 18-25 and the 26+ age groups to misuse or abuse any type of prescription substance (SAMHSA, 2017).

In Indiana, past-month rates of prescription use without a prescription for <u>any</u> reason was relatively uncommon (peaking at 3.9% of 11th grade students).

Past-month use of opioids without a prescription ranged from 0.8% (7th grade) to 2.3% (11th grade). Sixth grade students were not asked about specific classes of substances.

For comparison, past month alcohol use for 11th grade students was 24.1%, and past month marijuana use was 15.1%.

Monthly Use of Any Prescription Drugs without a Prescription
By Indiana 6th - 12th Graders, 2018

	6th	7th	8th	9th	10th	11th	12th
IN	2.4	1.4	2.1	3.1	3.8	3.9	3.7
US							4.9

A Note about Heroin: Past-month heroin use did not exceed 0.2% for any grade in the 2018 INYS!

Current Substance Use in Indiana – 7th through 12th Grades

Estimated Prevalence of Substance Use Disorder

The INYS includes questions from the CRAFFT screening instrument. This tool has been studied extensively (80+ research publications; http://crafft.org/about-the-crafft/).

The six items on the CRAFFT are listed to the right, along with the percentage of respondents who indicated "Yes" for each item.

Data from the CRAFFT were calculated for 68,807 survey respondents aged 14 or older.

Item	%
Have you ever ridden in a car driven by someone (including yourself) who was high or had been using alcohol or drugs?	28.5
Do you use alcohol or drugs to relax, feel better about yourself, or fit in?	13.0
Do you ever use alcohol or drugs while you are alone?	12.3
Do you ever forget things you did while using alcohol or drugs?	8.6
Do your family or friends ever tell you that you should cut down on your drinking or drug use?	3.7
Have you ever gotten into trouble while you were using alcohol or drugs?	6.1

The CRAFFT score is calculated from 0 to 6 based on the number of questions to which the respondent answers "Yes" and has been validated for self administration (e.g., as part of a survey).

Current Substance Use in Indiana – 7th through 12th Grades

Estimated Prevalence of Substance Use Disorder (cont'd)

On the CRAFFT, a score of 2 or higher is considered the optimal cut-point for sensitively and specifically identifying adolescents with either problematic or disordered use of alcohol or other drugs (Mitchell et al., 2014).

For youth aged 14 or older in Indiana, 63.4% had a CRAFFT score of **zero**, 19.9% had a CRAFFT score of **one**, and 16.7% had a CRAFFT score of **two or greater**.

CRAFFT Score	Age of respondent (number (n) of respondents in each group)				
	14 (n=18,171)	15 (n=15,766)	16 (n=14,983)	17 (n=11,790)	18+ (n=8,097)
0	70.1	65.0	61.3	58.2	56.3
1	20.1	19.9	20.1	19.6	19.8
2+	9.8	15.1	18.6	22.2	23.9

In addition, the CRAFFT has been cross-validated with likelihood of DSM-V substance use disorder diagnosis, with the following identified probabilities: (2 → 64%); (3 → 79%); (4 → 92%); (5 → 100%); (6 → 100%) (Mitchell et al., 2014).

The CRAFFT has also been cross-validated with other screening tools and against specific diagnoses such as alcohol use disorder and cannabis use disorder (D'Amico et al., 2016) and in HIV clinical settings for youth (Gamarel et al., 2017).

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Questions?