The Importance of Prevention in a Changing Landscape

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The Important Role of Substance Abuse Prevention in the Health and Welfare of Our Nation

• Opioids crisis: Continues, but with evidence for positive effects of government efforts in partnership with states, communities, stakeholders

• Preventionists, clinicians, peers, first responders, faith-based groups, volunteers, families have contributed to the decrease in:
  • In 2018, CDC released provisional counts of overdose deaths decline by 4.1%. First drop since the 1990s.
  • Naloxone prescriptions dispensed; 2017: 270,000; 2018, 556,000 (CDC, MMWR, 2019).
  • SAMHSA’s First Responders grant programs has reported over 10,000 opioid reversals to date.

• Preventionists:
  • Address the risks presented by substance use in our communities
  • Increase the focus on potential harms and risks of substance use
  • Community outreach and education to youth and young adults

• Prevention interventions remain key to addressing substance use in a changing landscape over time:
  • Marijuana
  • Vaping
  • Methamphetamine

• We need preventionists to broaden and increase efforts to reach the adult population in America
THE OPIOIDS CRISIS

Status and Ongoing Strategy
Opioids Crisis Overview

• State Targeted Response to Opioids (500M/yr) 2017-18 as part of Cures Act
• $1B added in 2018 and 2019 to opioids prevention, treatment and recovery services (State Opioid Response) for total to SAMHSA of 1.5B/yr continued in FY 20 and $6B/yr overall to HHS to help American communities combat the crisis
• All states are using some of their funds for prevention programs; those with Medicaid expansion are dedicating a larger share of their funds to prevention
• We are starting to see positive effects:
  • Opioid misuser numbers have dropped from 11.4M in 2017 to 10.3M in 2018
  • Opioid Use Disorder dropped from 2.1M in 2017 to 2.0M in 2018
  • Opioid overdose deaths declined in 2018 (46,802) from 2017 (48,958)
  • Fentanyl and potent synthetic opioids remain the major source of toxicity and overdose deaths (45% from 2016-17) (Scholl, 2019)
• There is still much to be done, but progress is being made
Prescription Pain Reliever Misuse and Heroin Use

PAST YEAR, 2015-2018 NSDUH, 12+


Difference between this estimate and the 2018 estimate is statistically significant at the .05 level.
Sources Where Pain Relievers Were Obtained for Most Recent Misuse among People Who Misused Prescription Pain Relievers

PAST YEAR, 2018 NSDUH, 12+

- Prescriptions from One Doctor (34.7%)
- Got through Prescription(s) or Stole from a Health Care Provider (37.6%)
- Some Other Way (4.6%)
- Bought from Drug Dealer or Other Stranger (6.5%)
- Stole from Doctor's Office, Clinic, Hospital, or Pharmacy (0.9%)
- From Friend or Relative for Free (38.6%)
- From Friend or Relative (51.3%)
- Bought from Friend or Relative (9.5%)
- Took from Friend or Relative without Asking (3.2%)

83.2% of the friends or relatives were prescribed the pain reliever by a single doctor

9.9 Million People Aged 12 or Older Who Misused Prescription Pain Relievers in the Past Year
Nonmedical Use of Prescription Opioids Significant Risk Factor for Heroin Use

3 out of 4 people who used heroin in the past year misused prescription opioids first

7 out of 10 people who used heroin in the past year also misused prescription opioids in the past year

2018: 2 million with opioid use disorder

Synthetic Opioid Deaths Closely Linked to Illicit Fentanyl Supply

Known or suspected exposure to fentanyl in past year (n = 121)

<table>
<thead>
<tr>
<th>APR</th>
<th>95% CI</th>
<th>p</th>
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<tbody>
<tr>
<td>4.07</td>
<td>1.24–13.3</td>
<td>0.020</td>
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Source: Carroll et al, Int. J. Drug Policy, 2017 and CDC Epi-Aid 2015-2016
Opioid Misuse Related to Other Substance Use, MDE and SMI

Past Year Marijuana Use: 49.0% - 14.6% = 34.4%
Past Month Heavy Alcohol Use: 5.7% - 5.7% = 0%
Past Year Cocaine Use: 16.0% - 1.5% = 14.5%
Past Year Methamphetamine Use: 8.9% - 0.4% = 8.5%
Past Year MDE, 12+: 21.3% - 7.3% = 14.0%
Past Year SMI, 18+: 17.3% - 4.1% = 13.2%

+ Difference between this estimate and the estimate for people with past year opioid misuse is statistically significant at the .05 level.
Marijuana
The Need to Educate the Public About Health Risks Associated with Use
Marijuana is widely available in the U.S.:
- 33 states/DC/Guam/Puerto Rico: allow medical marijuana use
- 14 states and territories have legalized recreational use

Huge and profitable industry that markets heavily with health claims that have little to no basis and which have had virtually no counter arguments put forward until the present time

Numerous forms: smoked, edibles, oil for vaping, lotions, transdermal patches
Marijuana: The Issue in Review

• Increase in THC content over time led to a higher potency intoxicant: THC content has increased from 4% (1990s) to 12% (2014) and 20% in 2019 (marijuana break.com 2019, Ehsoly MA et al. 2016)

• Current average MJ extract has THC levels at > 50%; as high as 90+%

• THC: component responsible for euphoria/intoxication

• Can also produce anxiety, agitation, paranoia, and psychosis (D’Souza, 2016)

• Addiction liability: 10-20% of users will develop use disorder (Volkow et al. 2016)
Risks and Adverse Outcomes

• Downplayed by industry; ignored by states
  • Low birth weight
  • Pulmonary symptoms
  • MVAs
  • Cognitive impairment
  • Serious mental illness: psychotic illness, depression/suicidality
  • Poor performance in school and at work
  • Addiction

• The struggle to get the information about health risks of marijuana to the public continues. Efforts of preventionists are key.
Current Epidemiology: Marijuana Most Used of Illicit Drugs

- **Marijuana**: 15.9% (43.5M)
- **Psychotherapeutic Drugs**: 6.2% (16.9M)
- **Cocaine**: 2.0% (5.5M)
- **Hallucinogens**: 2.0% (5.6M)
- **Methamphetamines**: 0.7% (1.9M)
- **Inhalants**: 0.7% (2.0M)
- **Heroin**: 0.3% (808K)

Significant decrease from 2017 (6.6%)

Significant increase from 2017 (15%)
Perceived Great Risk from Substance Use among Youth

PAST YEAR, 2015-2018 NSDUH, 12-17

Difference between this estimate and the 2018 estimate is statistically significant at the .05 level.

SOURCE: See figure 35 in the forthcoming 2018 NSDUH Report for more information.
Perceived Great Risk from Substance Use among Young Adults

PAST YEAR, 2015-2018 NSDUH, 18-25

SOURCE: See figure 36 in the forthcoming 2018 NSDUH Report for more information.

+ Difference between this estimate and the 2018 estimate is statistically significant at the .05 level.
Perceived Great Risk from Substance Use among Adults 26+

PAST YEAR, 2015-2018 NSDUH, 26+

Difference between this estimate and the 2018 estimate is statistically significant at the .05 level.
Marijuana Use

PAST MONTH, 2015-2018 NSDUH, 12+

The difference between this estimate and the 2018 estimate is statistically significant at the .05 level.
Marijuana Use and Pregnancy

• NSDUH (2017) showed a startling increase in marijuana use in pregnancy; there are many health concerns about pregnant women using marijuana:
  • Emerging data on the ability of marijuana to cross the placenta and affect the fetus raise concerns about pregnancy outcomes (Metz and Borgelt, 2018).
  • Use during pregnancy may be associated with fetal growth restriction, stillbirth, preterm birth, and neonatal intensive care unit admission (Metz and Borgelt, 2018; Stickrath, 2019).
  • Marijuana exposure is associated with problems with neurological development, resulting in hyperactivity and poor cognitive function (Metz and Stickrath, 2015).
Marijuana Use and Pregnancy

- SAMHSA/HHS made strong efforts to address this situation in an effort to improve the health of mothers and their babies and young adults:
  - Publication of two Evidence-based Practice Guidebooks focused on preventing marijuana use among women of child bearing age as well as prevention of substance use, including marijuana, among 18-25 year olds
  - Launch of SAMHSA.gov/marijuana
  - Substance Abuse Prevention Technology Transfer Centers focus on prevention of marijuana and other substance use
  - Center for Substance Abuse Prevention funded state and community based grants that addressed marijuana prevention
  - SAMHSA worked with the Surgeon General to disseminate a Marijuana Advisory
Past Month Substance Use among Pregnant Women

Past Month Substance Use among Pregnant Women

*Estimate not shown due to low precision.

+ Difference between this estimate and the 2018 estimate is statistically significant at the .05 level.
Marijuana Use among Women by Pregnancy Status

Past Month, 2015-2018 NSDUH, 15-44

Difference between this estimate and the 2018 estimate is statistically significant at the .05 level.
Daily or Almost Daily Marijuana Use Among Women by Pregnancy Status

PAST YEAR, 2015-2018 NSDUH, 15-44

Difference between this estimate and the 2018 estimate is statistically significant at the .05 level.
Significant Increase in Marijuana Use among Adults 26+

Difference between this estimate and the 2018 estimate is statistically significant at the .05 level.
Marijuana Use Related to Other Substance Use, MDE and SMI

PAST YEAR/MONTH, 2018 NSDUH, 12+

+ Difference between this estimate and the estimate for people with past year marijuana use is statistically significant at the .05 level.
## Comparison of Rates of Mental/Substance Use Disorders Associated with Marijuana Use: National vs. Colorado Data from the National Survey on Drug Use and Health (2018)

<table>
<thead>
<tr>
<th>Disorder Type</th>
<th>National (%)</th>
<th>Colorado (%)</th>
<th>National vs. Colorado P-value</th>
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<tbody>
<tr>
<td>Past Month Marijuana Use (18-25 y)</td>
<td>22.1</td>
<td>35.4</td>
<td>0.0007</td>
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<tr>
<td>Past Month Marijuana Use (≥ 26y)</td>
<td>8.6</td>
<td>14.3</td>
<td>0.0024</td>
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<tr>
<td>Past Year Daily Marijuana Use (18-25y)</td>
<td>7.3</td>
<td>16.2</td>
<td>0.0510</td>
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<tr>
<td>Marijuana Use Disorder (18-25 y)</td>
<td>5.9</td>
<td>12.2</td>
<td>0.0074</td>
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<tr>
<td>Substance Use Disorders (18+)</td>
<td>7.8</td>
<td>15.1</td>
<td>0.0002</td>
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<tr>
<td>Mental Disorders (18+)</td>
<td>19.1</td>
<td>23.9</td>
<td>0.0133</td>
</tr>
<tr>
<td>Co-occurring Disorders (18+)</td>
<td>3.7</td>
<td>7.9</td>
<td>0.0045</td>
</tr>
</tbody>
</table>

* Estimate not shown due to low precision.
Accumulating Adverse Effects of Marijuana

- Loss of intellectual function with chronic use
- Link to serious mental illness:
  - Psychosis
  - Depression/suicide
- Children exposed during development:
  - Cognitive deficits
  - ADHD
- Motor vehicle accidents
- Prescription opioid abuse
Marijuana Use: Link to Prescription Pain Medication (Opioid) Abuse

What contributes to the increasing numbers using?

- 24,900 parent-offspring dyads sampled from the same household in the 2015-2018 NSDUH provides evidence on associations of parental marijuana use with offspring substance use (Madras et al., 2019)

- **Parental marijuana use is a risk factor for offspring substance use or misuse: including marijuana, tobacco, alcohol, and opioids,** even when parental marijuana use is infrequent or in the past (not past year).

- Because we know that any substance use among young people increases the probability of using other or multiple psychoactive substances and of experiencing substance-related consequences, **preventing a cycle of multigenerational substance use should be a national priority.**

- Screening household members for substance use and counseling parents on risks posed by current and past marijuana use are warranted.
What More Can the Federal Government Do?

- Government has a responsibility to inform Americans of the risks of marijuana use, so people can make informed choices
- SAMHSA:
  - Continues NSDUH and DAWN data collection related to marijuana
  - Provide educational materials for providers and for the public related to marijuana risks
  - Develop specific materials aimed at special populations re: pregnant women, youth
  - Assists in training on identification of hazardous use and use disorders with SBIRT
  - Fund prevention, treatment and recovery services in states/communities
  - Require use of evidence-based practices: no use of marijuana to treat mental/SUD
Why Prevention is So Critical to Addressing Marijuana

• The true cost of cannabis: Why don't its illnesses, deaths command media headlines?

• In August, I started covering vaping lung injuries from high-potency THC. Next, I added the link between cannabis and mental illness, but it's lonely.

   Jayne O'Donnell
   USA TODAY

• An editorial calling out media’s refusal to report on the harms of marijuana:

• “What if the purported problem is something advocates have been trying to get mandated or legalized for years?

• Press lets pot’s bad news slip by”

• “a genuine misunderstanding of the strength of the science supporting the cannabis-psychosis link," which is worsened by "the endless industry/advocacy yelling about 'Reefer Madness.'"

   Alex Berenson, author: Tell Your Children: The Truth About Marijuana, Mental Illness and Violence

PREVENTION WORK IN COMMUNITIES ACROSS AMERICA WILL BE THE KEY TO INFORMING OUR PEOPLE AND ADDRESSING THE HEALTH RISKS OF MARIJUANA
Vaping
Emerging and Urgent
E-Cigarette Use on the Rise: Adult Ever Use of E-Cigarettes by Cigarette Smoking Status – U.S., 2010-2018

- Current Cigarette Smoker
- Former Cigarette Smoker
- Never Cigarette Smoker

Source: CDC licensed data fielded by Porter Novelli Services. Summer Styles Survey, 2010-2018
HIGH SCHOOL STUDENTS REPORTING USE WITHIN 30 DAYS PRECEDING ADMINISTRATION OF THE NATIONAL YOUTH TOBACCO SURVEY, 2019

NATIONAL YOUTH TOBACCO SURVEY*: YOUTH USE OF E-CIGARETTES CONTINUES TO CLIMB

* Preliminary data
* Reported use within 30 days preceding administration of survey.
FLAVORS POPULAR AMONG HIGH SCHOOL USERS OF E-CIGARETTES*

* Preliminary NYTS data

• On Dec. 20, 2019, the President signed legislation to amend the Federal Food, Drug, and Cosmetic Act, and raise the federal minimum age of sale of tobacco products from 18 to 21. It is now illegal for a retailer to sell any tobacco product, including cigarettes, cigars, and e-cigarettes, to anyone under the age of 21.

• To help reverse the deeply concerning epidemic of youth e-cigarette use FDA announced on January 2, 2020 that companies must cease manufacture, distribution and sale of unauthorized flavored cartridge-based e-cigarettes (other than tobacco or menthol) within 30 days or risk FDA enforcement actions.

Health Effects

• Nicotine exposure during adolescence can cause addiction and can harm the developing adolescent brain affecting attention, learning, and memory.

• Nicotine delivered by e-cigarettes during pregnancy can result in multiple adverse consequences, including sudden infant death syndrome, altered brain structure (corpus callosum) and function (deficits in auditory processing), and obesity.

• Ingestion of e-cigarette liquids containing nicotine can cause acute toxicity and possibly death if the contents of refill cartridges or bottles containing nicotine are consumed.

Health Effects (cont.)

• There’s more in vaping fluid than nicotine:
• E-cigarettes can expose users to several chemicals, including nicotine, carbonyl compounds (glycerin and propylene glycol), and volatile organic compounds (propylene oxide, acrylamide), with potential for adverse health effects.
• The health effects and potential harm of heated and aerosolized constituents of e-cigarette liquids, including solvents and flavorants are not completely understood.
• E-cigarettes can also be used to deliver other drugs, including marijuana.

“E-cigarette products can be used as a delivery system for cannabinoids and potentially for other illicit drugs.”

33.3% of high school e-cigarette users report using marijuana in the device.
23.1% of middle school e-cigarette users report using marijuana in the device.

Outbreak of E-cigarette, or Vaping, Product Use-Associated Lung Injury (EVALI)

- Over 2,700 hospitalized cases of EVALI, 55 deaths
- THC-containing e-cigarette, or vaping, products are linked to most EVALI cases and play a major role in the outbreak.
- Vitamin E acetate is strongly linked to the EVALI outbreak and has been found in product samples tested by FDA and state laboratories and in patient lung fluid samples
- Evidence is not sufficient to rule out the contribution of other chemicals of concern, including chemicals in either THC or non-THC products, in some of the reported EVALI cases.

Source: Centers for Disease Control and Prevention, Outbreak of Lung Injury Associated with the Use of E-Cigarette, or Vaping, Products: https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html
CDC Recommendations

- CDC and FDA recommend that people not use THC-containing e-cigarette, or vaping, products, particularly from informal sources like friends, family, or in-person or online dealers.
- Vitamin E acetate should not be added to any e-cigarette, or vaping, products.
- THC use has been associated with a wide range of health effects, particularly with prolonged frequent use.
- Adults using nicotine-containing e-cigarettes or vaping products as an alternative to cigarettes should not go back to smoking; consider using FDA-approved cessation medication.
- E-cigarette, or vaping, products should never be used by youths, young adults, or women who are pregnant.
- Adults who do not currently use tobacco products should not start using e-cigarette, or vaping, products.

Sources: Centers for Disease Control and Prevention: Outbreak of Lung Disease Associated with E-Cigarette Use, or Vaping, https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html
Current Smoking among Adults (Age ≥ 18) with Past Year Serious Mental Illness (SMI): NSDUH, 2015-2018

Current Smoking is defined as any cigarette use in the 30 days prior to the interview date. Serious Mental Illness is defined as having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder resulting in serious functional impairment, based on the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).

* Difference between this estimate and the 2018 estimate is statistically significant at the .05 level.
Current Smoking among Adults (Age ≥ 18) with a Past Year Substance Use Disorder (SUD): NSDUH, 2015-2018

Current Smoking is defined as any cigarette use in the 30 days prior to the interview date. Substance Use Disorder is defined as meeting criteria for illicit drug or alcohol dependence or abuse. Dependence or abuse is based on definitions found in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).

* Difference between this estimate and the 2018 estimate is statistically significant at the .05 level.
METHAMPHETAMINE

Spiking Use in Some Regions, Increasing Toxicities and Deaths
Methamphetamine

- Increasing prevalence in some states/tribal lands: eclipsing opioids
- History of easy synthesis from readily obtainable chemicals (i.e.: pseudoephedrine), but now made in large quantities in Mexico/South America
- Stimulant with substantial abuse potential; highly addictive
Methamphetamine Use by State

Source: NSDUHs, 2016 and 2017.

PAST YEAR, 2016-2017, 12+

Percentages of People Aged 12 or Older

- 0.98–1.57
- 0.74–0.97
- 0.54–0.73
- 0.33–0.53
- 0.08–0.32

Differences in colors across states does not indicate significant differences in estimates.

Source: NSDUHs, 2016 and 2017.
Methamphetamine Use: Significant Increase in Adults > 26 y.o.

PAST YEAR, 2015-2018 NSDUH, 12+

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Methamphetamine Use Disorder

PAST YEAR, 2015-2018 NSDUH, 12+

Difference between this estimate and the 2018 estimate is statistically significant at the .05 level.
Another Form of Stimulant Toxicity: Fentanyl/Carfentanil-Contaminated Methamphetamine

**Fentanyl in meth: How often?**

<table>
<thead>
<tr>
<th></th>
<th>Meth + fentanyl (with or without heroin)</th>
<th>Meth + fentanyl (No heroin)</th>
</tr>
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<tbody>
<tr>
<td>2014</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>2015</td>
<td>0.5%</td>
<td>0.0%</td>
</tr>
<tr>
<td>2016</td>
<td>1.6%</td>
<td>0.5%</td>
</tr>
<tr>
<td>2017</td>
<td>2.8%</td>
<td>1.5%</td>
</tr>
<tr>
<td>2018</td>
<td>2.7%</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

Source: Harm Reduction Ohio analysis of state crime lab data.

- Increasing popularity of speedballs: “opioids ‘slow’ heart/breathing while stimulants ‘speed’ them up”
- Stimulant users lack opioid tolerance: fentanyl overdose/death more likely
- Underscores the need to warn the public and provide treatment for stimulant use disorders
- Naloxone
Growth of Methamphetamine Use

• Toxicology screening from routine samples (SUD programs, pain management programs, primary care, OB/GYN) showed 3.1% of samples positive for methamphetamine and an increase in methamphetamine positive samples with non-prescribed fentanyl present:
  • 2013: 0.9%
  • 2018: 7.9% p< 0.001, 798% increase (LaRue L, et al. 2019)

• Overdose death rates are increasing for psychostimulants led by cocaine, but increasing for methamphetamine as well
• 50.4% of overdose deaths involving psychostimulants included synthetic opioids such as fentanyl
• Synthetic opioids appear to be the primary driver of cocaine-involved death rate increases and in psychostimulant-involved deaths (Kariisa et al., 2019)
DRUG OVERDOSE DEATHS WITH PSYCHOSTIMULANTS +/- OPIOIDS: 1999 - 2017

Source: CDC WONDER
Reinstitution of the Drug Abuse Warning Network (DAWN) shows rise in methamphetamine toxicities

Initial 35 hospitals, as of December 31, 2019
Over 338,000 ED records being reviewed to date: trends in substance use/emerging issues

HER: heroin; MAR: marijuana; COC: cocaine
AMP: amphetamine; MET: methamphetamine
SAMHSA: addressing methamphetamine as authorities allow

- Monitoring of NSDUH data, DAWN
- Targeted Capacity Expansion grants: allowing communities to tell us what they need
- Making the administration and Congress aware of the increases in stimulant abuse
- Grantee meeting held to review:
  - Methamphetamine epidemiology
  - Psychiatric and medical complications of use
  - Treatment components
  - Focus on contingency management approaches
- Public service campaigns including HIV risk
- Training of practitioners and public awareness: Substance Abuse Prevention and Addiction Technology Transfer Centers
- Center for Substance Abuse Prevention work with communities using Strategic Prevention Framework funding
Congress heard and provided funding for 2020

- SAMHSA has been making the case that polysubstance misuse is the rule—not the exception
- Need for information/education to the public: Training and technical assistance
- Need to expand state and community capacity to address polysubstance use
- Need to improve linkages to care programs that can address all substance use problems
- The FY 2020 budget allows states to use the $1.5B State Opioid Response Grant funds to address stimulants as well as opioids—key to necessary treatment and building out infrastructure
Successes of Prevention

Decreases in past-month use or misuse of the following substances among youth or young adults:

- Binge Alcohol Use
- Stimulant Use
- Benzodiazepine Use
- Tranquilizer Use
- Misuse of pain relievers

NSDUH, 2018
SAMHSA’s mission is to reduce the impact of substance abuse and mental illness on America’s communities.

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