

ADDRESSING MENTAL AND SUBSTANCE USE DISORDERS IN THE UNITED STATES

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MENTAL ILLNESS AND SUBSTANCE USE DISORDERS IN AMERICA PRE-COVID-19

Among those with a substance use disorder:

- 2 IN 5 (38.5% or 7.4M) struggled with illicit drugs
- 3 IN 4 (73.1% or 14.1M) struggled with alcohol use
- 1 IN 9 (11.5% or 2.2M) struggled with illicit drugs and alcohol

Among those with a mental illness:

- 1 IN 4 (25.5% or 13.1M) had a serious mental illness

7.7%
(19.3 MILLION)
People aged 18
or older had a
substance use
disorder (SUD)

3.8%
(9.5 MILLION)
People 18 or older
had BOTH an SUD
and a mental
illness

20.6%
(51.5 MILLION)
People aged 18
or older had a
mental illness

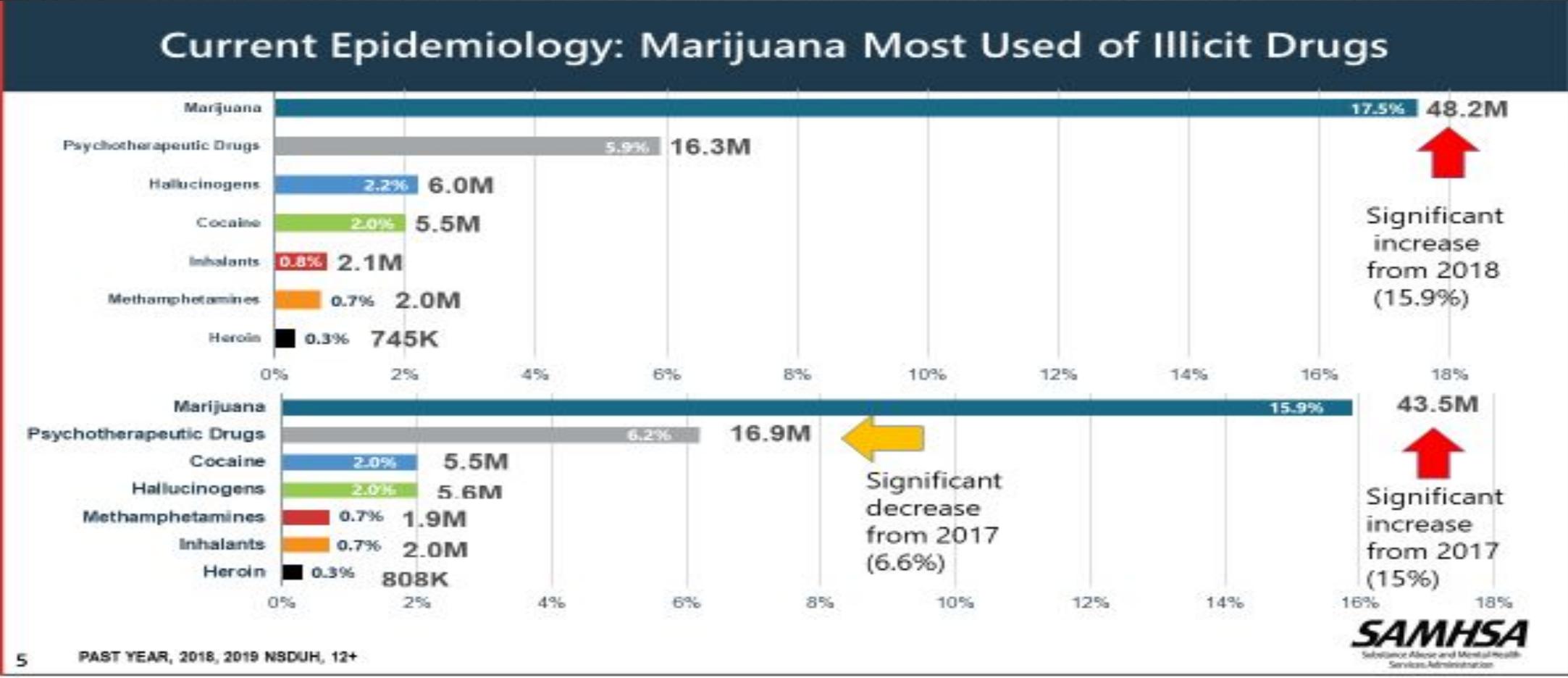
In 2019, **61.2M** Americans had a mental illness and/or substance use disorder—an increase of 5.9% over 2018 composed entirely of increases in mental illness.

WHERE ARE WE AT WITH BEHAVIORAL HEALTH ISSUES IN THE UNITED STATES?

THE PERFECT STORM: GROWING RATES OF MENTAL AND SUBSTANCE USE DISORDERS, LACK OF ADEQUATE FUNDING, AND THEN COMES COVID-19:

- IMPOSITION OF CHANGES TO LIFE AND ROUTINE GREATLY AFFECT MILLIONS OF AMERICANS:
 - LONELINESS, ISOLATION
 - UNEMPLOYMENT, BUSINESS JEOPARDY, FINANCIAL STRESSORS
 - CHILDREN OUT OF SCHOOL/PARENTS TRYING TO HOME-SCHOOL CHILDREN
 - LOSS OF HEALTH/MENTAL HEALTH USUAL SERVICES, THOSE WITH SPECIAL NEEDS UNABLE TO ACCESS SERVICES
- RESULTS: STRESS, TRAUMA, ANXIETY, DEPRESSION, GRIEF, NEGATIVE IMPACTS ON MENTAL HEALTH AND INCREASED DRUG/ALCOHOL ABUSE (CDC MMWR, AUGUST 2020, MARCH 2021)
- EFFECTS CAN BE LONG-LASTING AND ARE WELL DOCUMENTED IN THE LITERATURE—SEE BROOKS, S ET AL. LANCET 2020
- IT'S NO SURPRISE THAT UNDER THESE CONDITIONS WE SEE AN INCREASES IN DRUG AND ALCOHOL ABUSE, OVERDOSE DEATHS AND INCREASES IN THOSE WITH MENTAL HEALTH CRISES

RECENT HISTORY OF DRUG ABUSE IN THE UNITED STATES: MARIJUANA



5 PAST YEAR, 2018, 2019 NSDUH, 12+

36 STATES AND DC HAVE MEDICAL MARIJUANA, 18 STATES AND DC HAVE LEGALIZED RECREATIONAL MARIJUANA USE

MARIJUANA: IT'S NOT THE DRUG OF THE 70S, 80S, AND 90S

INCREASE IN THC CONTENT OVER TIME LED TO A HIGHER POTENCY INTOXICANT: THC CONTENT HAS INCREASED FROM 4% (1990s) TO 12% (2014) (EHSOLY MA ET AL. 2016) AND NOW 20% ([HTTPS://WAYOFFLEAF.COM/BLOG/AVERAGE-THC-CONTENT-OVER-THE-YEARS](https://wayofleaf.com/blog/average-thc-content-over-the-years))

EXTRACTS HAVE CONCENTRATION OF THC $\geq 75\%$

NSDUH (2018, 2019) SHOWS THE **ASSOCIATION OF MARIJUANA USE WITH DEPRESSION, SUICIDALITY, SERIOUS MENTAL ILLNESS INCLUDING PSYCHOTIC ILLNESS.**

USE IN ADOLESCENCE IS ASSOCIATED WITH INCREASED RISK FOR **PSYCHOTIC DISORDERS** IN ADULTHOOD AND IS LINKED WITH **SUICIDAL IDEATION OR BEHAVIOR** (D'SOUZA ET AL, 2016; MCHUGH ET AL, 2017).

COLORADO: INCREASED SUICIDALITY ASSOCIATED WITH MJ USE REPORTED—IN 2016 30.6% OF SUICIDES IN YOUNG PEOPLE AGES 10-19 HAD MARIJUANA PRESENT (COMPARED TO 9.7% WITH ALCOHOL PRESENT) (ROBERT, 2019).

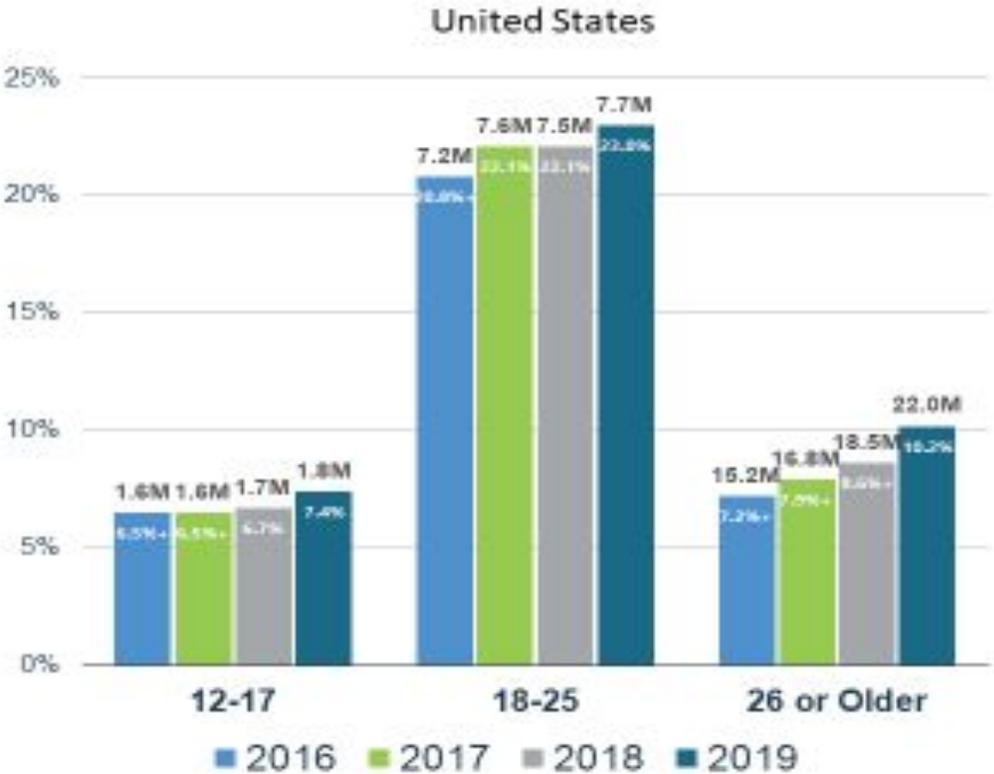
THE RISK FOR PSYCHOTIC DISORDERS INCREASES WITH FREQUENCY OF USE, POTENCY OF THE MARIJUANA PRODUCT, AND AS THE AGE AT FIRST USE DECREASES (NASEM, 2017).

CHRONIC, REGULAR USE ASSOCIATED WITH **LOSS OF IQ.**

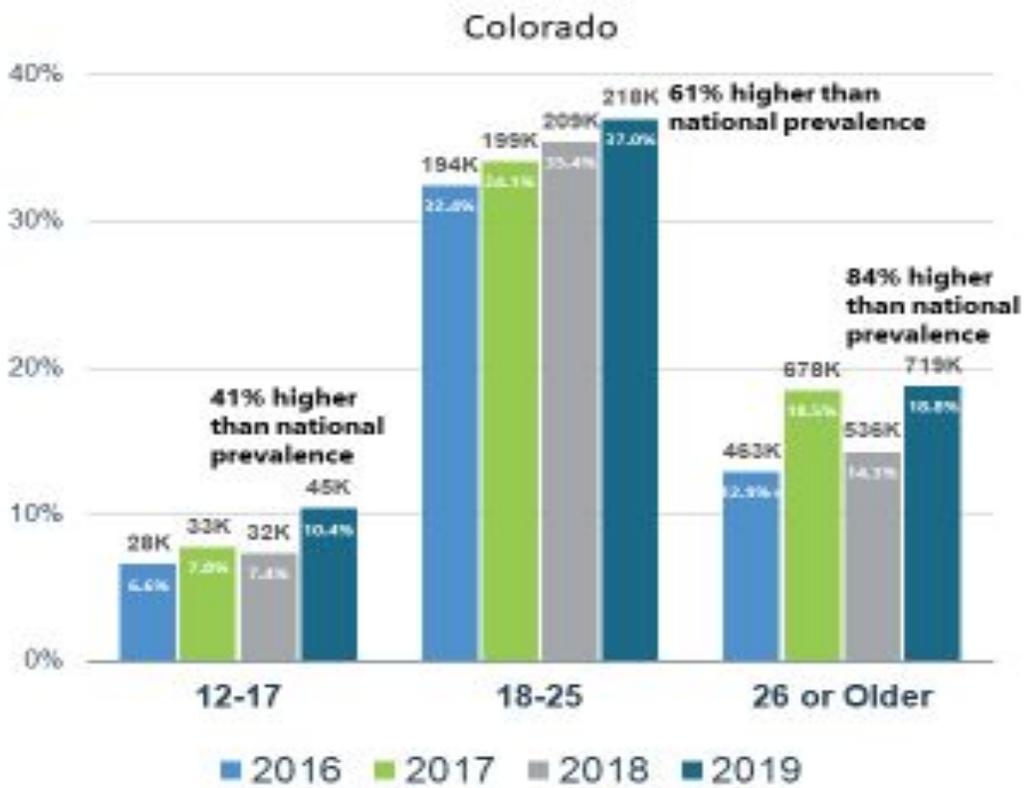
AS USE INCREASES SO DOES RISK OF CANNABIS DEPENDENCE, OTHER DRUG USE, SUICIDE ATTEMPTS, SCHOOL DROPOUT, LACK OF DEGREE ATTAINMENT, WELFARE DEPENDENCE (SILINS, ET AL. 2014)

RECENT HISTORY OF DRUG ABUSE IN THE UNITED STATES: MARIJUANA

Marijuana Use



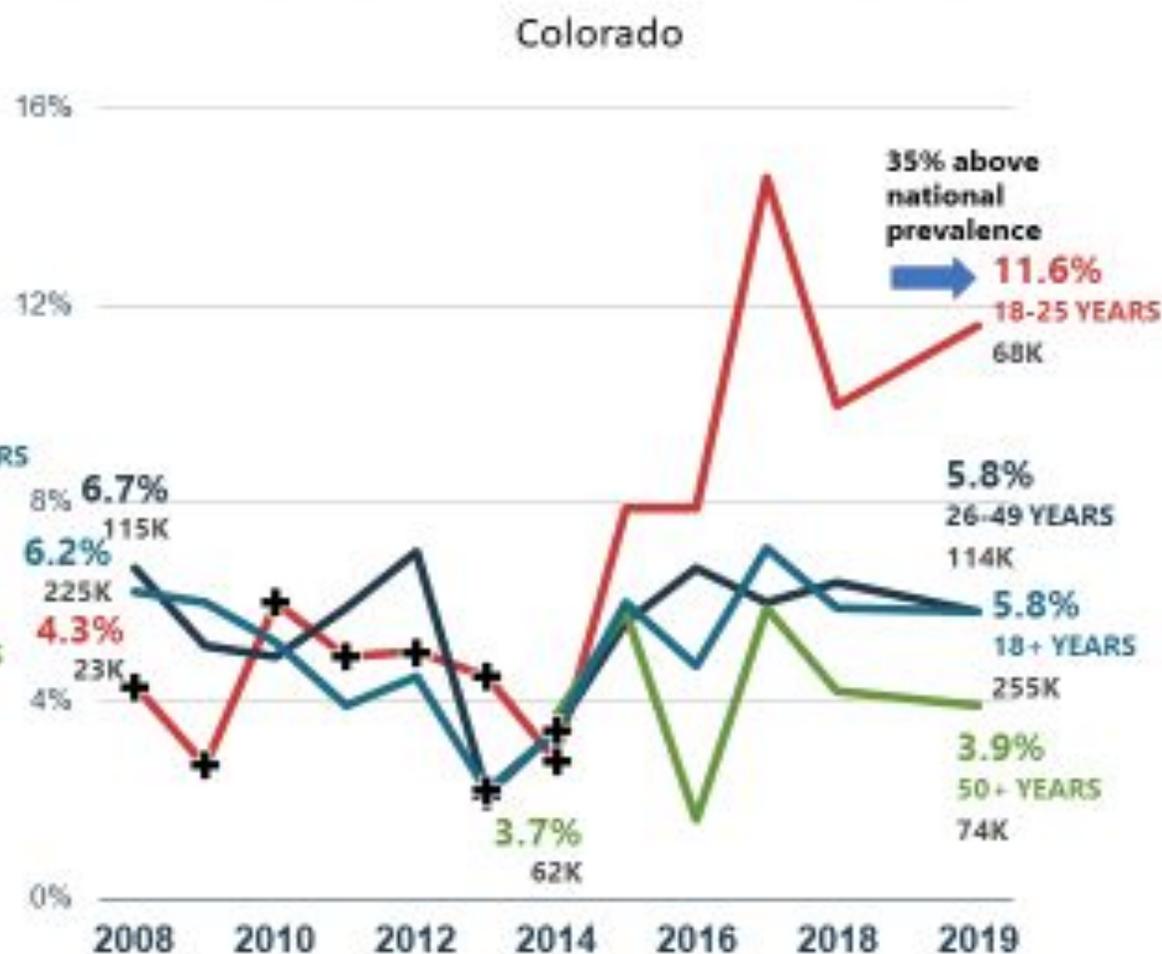
PAST MONTH, 2016-2019 NSDUH, 12+



+ Difference between this estimate and the 2019 estimate is statistically significant at the .05 level.



Serious Mental Illness



+ Difference between this estimate and the 2019 estimate is statistically significant at the .05 level.

SAMHSA
Substance Abuse and Mental Health
Services Administration

PAST YEAR, 2008-2019 NSDUH, 18+

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 (2019)

	National (%)	Colorado (%)	National vs. Colorado P-value
Past Month Marijuana Use (18-25 y)	23.0	37.0	0.0009
Past Year Daily Marijuana Use (18-25y)	7.5	14.8	0.0085
Past Month Marijuana Use (\geq 26y)	10.2	18.8	<0.0001
Substance Use Disorder (SUD) (18+)	7.7	10.9	0.0206
Co-occurring SUD and SMI (18+)	1.4	2.5	0.0430

Estimates for Colorado are direct single-year estimates for 2019 and will differ from model-based estimates using data from 2018 and 2019.

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, ASSOCIATED WITH HYPERACTIVITY AND POOR COGNITIVE FUNCTION (METZ AND STICKRATH, 2015).
 - **ACOG** AND **AAP** WARN AGAINST MARIJUANA USE BEFORE, DURING, AND AFTER PREGNANCY AND WHILE BREASTFEEDING
 - SEE: [HTTPS://WWW.ACOG.ORG/WOMENS-HEALTH/INFOGRAPHICS/MARIJUANA-AND-PREGNANCY](https://www.acog.org/womens-health/infographics/marijuana-and-pregnancy)

PAST YEAR SUBSTANCE USE AND MENTAL HEALTH ISSUES AMONG PREGNANT WOMEN AGED 15 TO 44 BY MARIJUANA USE STATUS

Substance	No Past Year Marijuana Use		Any Past Year Marijuana Use	
	Number (Thousands)	Percentage	Number (Thousands)	Percentage
Cocaine	4+	0.3+	29	8.5
Crack	1	0.1	*	*
Heroin	1	0.1	*	*
Hallucinogens	2+	0.1+	28	8.3
LSD	*	*	17	5.2
PCP	*	*	0	0.1
Ecstasy	2	0.1	5	1.5
Inhalants	*	*	*	*
Methamphetamine	*	*	18	5.5
Misuse of Psychotherapeutics	48	2.7+	89	26.7
Pain Relievers	24	1.4+	60	17.9
Stimulants	6+	0.3+	38	11.5
Tranquilizers or Sedatives	20	1.2+	42	12.5
Tranquilizers	19	1.1+	42	12.5
Sedatives	1	0.1	*	*
Benzodiazepines	19	1.1+	40	12.1
Opioids	25	1.5+	60	17.9
Illicit Drugs Other than Marijuana	51+	2.9+	101	30.3
ALCOHOL (PAST MONTH)	105	6.1+	91	27.3
Binge Alcohol Use	54	3.1+	46	13.7
Heavy Alcohol Use	*	*	6	1.7
MENTAL HEALTH STATUS				
SUICIDAL BEHAVIORS				
Suicidal Thoughts	56	3.3+	45	14.0
Suicide Plans	11	0.7+	23	7.3
Suicide Attempts	13	0.8	17	5.4
Serious Mental Illness	55	3.2+	46	14.3
Major Depressive Episode (MDE)	111+	6.6	44	14.0
MDE with Severe Impairment	73+	4.3	24	7.6

PAST YEAR, 2019 NSDUH, 15-44

+ Difference between this estimate and the estimate for people with past year marijuana use is statistically significant at the .05 level.

* Estimate not shown due to low precision.

WHAT ABOUT PREVENTION?

- SOME QUESTION WHETHER ABSTINENCE CAMPAIGNS ORIENTED TOWARD YOUTH WORK.
- SOME POINT TO THE CURRENT OPIOIDS/STIMULANTS CRISIS TO SAY THE “WAR ON DRUGS” HAS FAILED.
- BUT HERE IS ACTUAL DATA:
- DUPONT R, ET AL. *PREV MED* 2018: AFTER CONTROLLING FOR AGE, SEX, AND RACE/ETHNICITY, COMPARED WITH YOUTH WITHOUT PAST-MONTH MARIJUANA USE, YOUTH WITH PAST-MONTH MARIJUANA USE WERE 8.9 TIMES MORE LIKELY TO REPORT PAST-MONTH CIGARETTE USE, 5.6, 7.9 AND 15.8 TIMES MORE LIKELY TO REPORT PAST-MONTH ALCOHOL USE, BINGE USE, OR HEAVY USE (RESPECTIVELY), AND 9.9 TIMES MORE LIKELY TO REPORT PAST-MONTH USE OF OTHER ILLICIT DRUGS. SIMILAR FINDINGS IN COMPARING TOBACCO AND ALCOHOL USERS TO THOSE ABSTINENT FROM THESE SUBSTANCES.
- **MADRAS ET AL. *JAMA Netw. Open* 2019: PARENTAL MARIJUANA USE WAS ASSOCIATED WITH INCREASED RISK OF SUBSTANCE USE (TOBACCO, MARIJUANA, ALCOHOL) AMONG ADOLESCENT AND YOUNG ADULT OFFSPRING LIVING IN THE SAME HOUSEHOLD**
- THESE STUDIES UNDERSCORE THE IMPORTANCE OF PARENTAL ROLE MODELING AND RELATIONSHIPS OF SUBSTANCE USE. PREVENTION, INCLUDING EDUCATION CAMPAIGNS FOCUSED ON **BOTH** ADOLESCENTS AND ADULTS ARE NEEDED.

Association of Marijuana with Emergency/Urgent Care and Suicide in Colorado

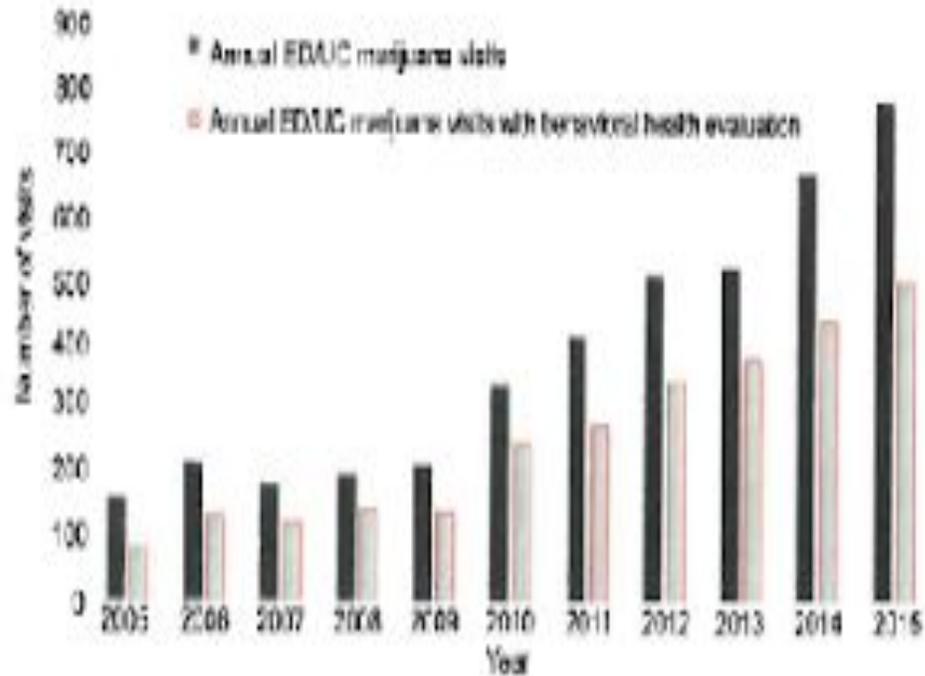


Figure 4. Number of emergency department (ED)/urgent care (UC) visits with cannabis-related International Classification of Diseases codes or positive urine drug screens by adolescents aged 13 to 21 to a tertiary-care children's hospital system in Colorado by year.¹⁹

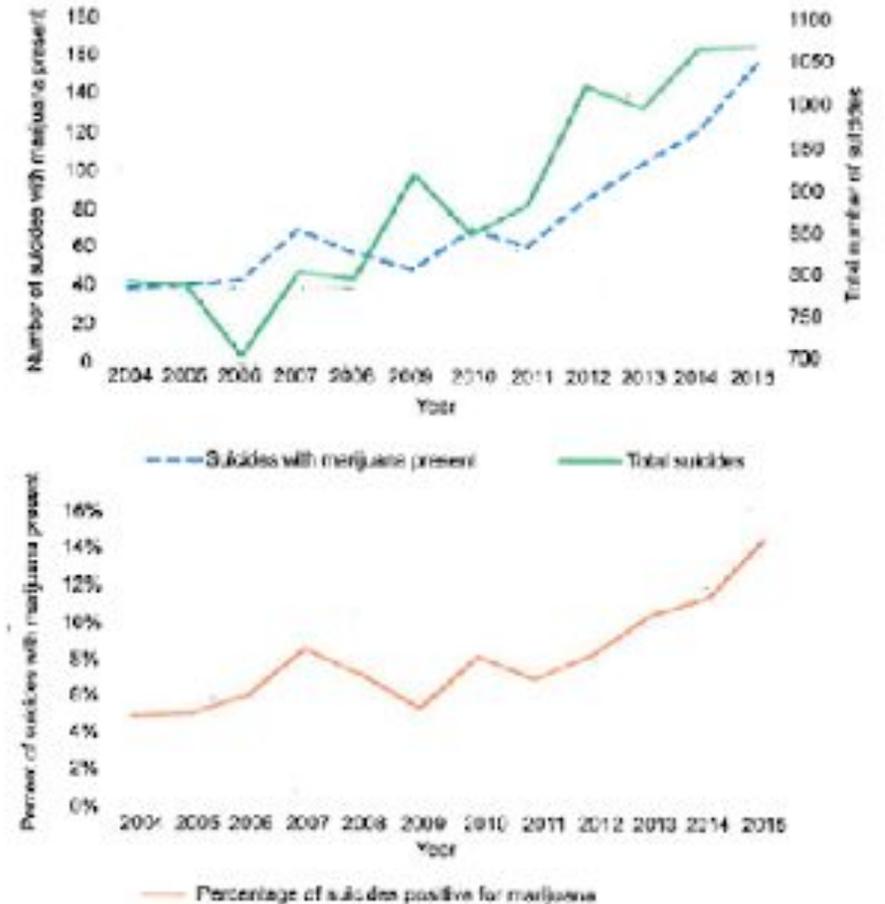


Figure 5. Suicides with marijuana toxicology by year and total suicide by year in Colorado (A). Percent of suicides with marijuana present by year (B).²⁰

From: Roberts, BA: Legalized cannabis in Colorado emergency departments: A cautionary review of negative health and safety effects. Western Journal of Emergency Medicine; 20: 557-572, 2019.

HOW IS OPIOID USE DISORDER TREATED?

- COMBINATION OF FDA-APPROVED MEDICATION (MEDICATION ASSISTED TREATMENT (MAT)): FOR AS LONG AS THE PERSON BENEFITS FROM THE CARE
 - NALTREXONE: BLOCKS EFFECTS OF OPIOIDS
 - METHADONE: LONG ACTING, ONCE-DAILY, OPIOID FROM SPECIALLY LICENSED PROGRAMS
 - BUPRENORPHINE/NALOXONE: LONG ACTING, ONCE-DAILY, OPIOID WITH LESS RISK OF DEATH BY OVERDOSE; AVAILABLE BY PRESCRIPTION
- MEDICAL WITHDRAWAL (“DETOXIFICATION”)
 - > 80% RELAPSE RATE IN THE YEAR FOLLOWING TREATMENT
 - HIGH RISK FOR OVERDOSE AND DEATH WHEN RELAPSE OCCURS
 - SHOULD NOT BE A STAND ALONE TREATMENT; OFFER INJECTABLE NALTREXONE
- **ADDRESSING SAFETY: NALOXONE DISPENSING TO REVERSE OPIOID OVERDOSE**
- NALOXONE IS **NOT** A TREATMENT FOR OPIOID ADDICTION

CURRENT APPROACH TO OPIOID ADDICTION

- HARM REDUCTION EMPHASIS
- NO JUDGMENT
- ADVOCATE TO MAKE CONSUMPTION SAFE THROUGH SAFE INJECTION/CONSUMPTION SITES
- REMOVED 'EDUCATION REQUIREMENT' BARRIER FOR CLINICIANS TO PRESCRIBE BUPRENORPHINE
 - EDUCATION IS NOT THE REASON FOR NOT PRESCRIBING: LACK OF SUPPORTS FROM OTHER FIELDS, FEAR OF INABILITY TO PROVIDE NECESSARY AND TIME-CONSUMING INTERVENTIONS IF PATIENT RELAPSES
 - DIVERSION WILL INCREASE PLACING PUBLIC AT RISK
 - DIVERSION ACCEPTABLE TO HARM REDUCTIONISTS BECAUSE THEY SEE IT AS A MEANS OF WITHDRAWAL TREATMENT
- THESE APPROACHES WILL NOT ADDRESS OPIOID USE DISORDER, WHETHER OVERDOSE DEATHS WILL DECREASE IS DEBATABLE
- THESE APPROACHES WILL PERPETUATE OPIOID ADDICTION AND OTHER ASSOCIATED HEALTH/MENTAL HEALTH, FAMILY PROBLEMS

OPIOIDS AND OTHER DRUGS: WHAT'S HAPPENING NOW? LOOK AT OUR SOUTHERN BORDER

DEA Washington Division Issues Warning: "One Pill Can Kill"

June 29, 2021

Increasing drug overdose deaths are tied to counterfeit pills containing the powerful synthetic opioid, fentanyl. Manufactured by **Mexican drug trafficking organizations**, and marketed as a medication such as oxycodone on the illicit drug market, these pills can be deadly. Just one pill often contains enough fentanyl to kill someone.



Fentanyl is a synthetic opioid that is 100 times stronger than morphine. DEA lab analysis has identified pills ranging from .02 milligrams to 5.1 milligrams of fentanyl per tablet, with 26% of the counterfeit pills tested containing a lethal dose of fentanyl. A deadly dose of fentanyl can be as little as 2 milligrams. Counterfeit pills purchased online or through social media websites pose a serious public health and safety hazard.

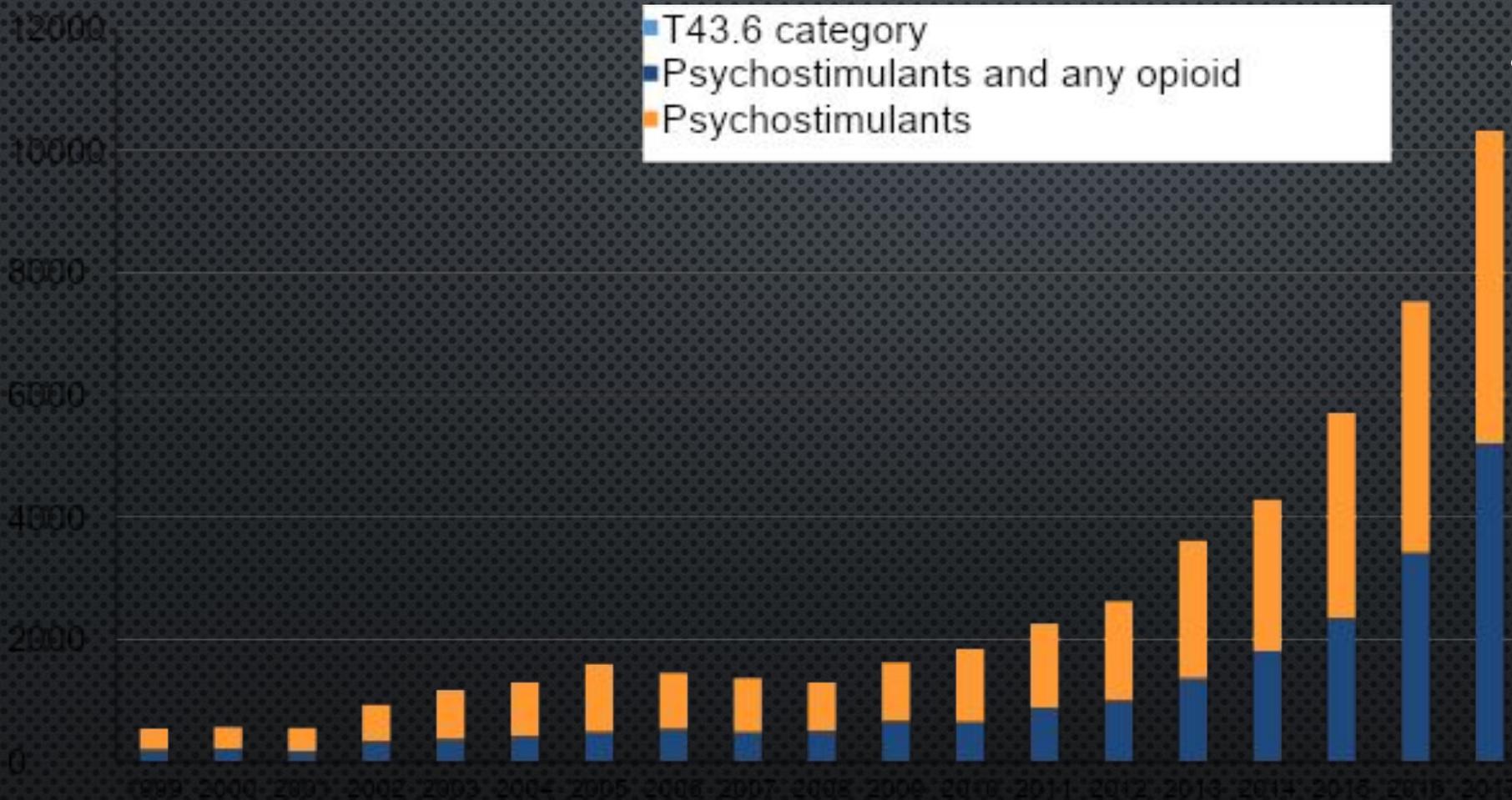
METHAMPHETAMINE: HIGHLY ADDICTIVE, SERIOUS MENTAL ILLNESS, DIFFICULT TO TREAT

- COMPARED TO AMPHETAMINE, MUCH GREATER AMOUNTS OF METHAMPHETAMINE ENTER THE BRAIN, INTENSELY EUPHORIGENIC AND **HIGHLY ADDICTIVE**; ABUSE USUALLY INVOLVES **IN, IV, OR SMOKED ROUTES**
- **SHORT TERM**: INCREASED ALERTNESS/ENERGY, AGGRESSION/VIOLENCE, PSYCHOSIS, SUICIDALITY/HOMICIDALITY WITH BINGE USE; VASOCONSTRICTOR: **HTN**, CARDIOVASCULAR STIMULANT, SEIZURES, FATAL CARDIAC COMPLICATIONS, AND STROKES; COMMON **ED** PRESENTATIONS: TRAUMA, PSYCHIATRIC DISORDERS
- **CHRONIC USE**: ABUSERS DEVELOP DIFFICULTY FEELING ANY PLEASURE OTHER THAN THAT PROVIDED BY THE DRUG, FUELING FURTHER ABUSE:
 - ANXIETY, CONFUSION, INSOMNIA, MOOD DISTURBANCES, VIOLENT BEHAVIOR; TOOTH DECAY AND LOSS, PSYCHOSIS WITH PARANOIA, VISUAL, AUDITORY, TACTILE HALLUCINATIONS, DELUSIONS; COGNITIVE DEFICITS (EXECUTIVE FUNCTION, MEMORY, PSYCHOMOTOR TASKS); MAY NOT RESOLVE EVEN WITH CESSATION OF USE
- **PSYCHOSIS, VIOLENT BEHAVIORS, DEPRESSION**: CAN PERSIST YEARS AFTER LAST USE OF DRUG
- **No MAT**; TREATMENT COMPRISES BEHAVIORAL THERAPIES IN THE CONTEXT OF SEVERE DRUG CRAVING AND COGNITIVE DEFICITS LEADING TO POOR RETENTION, POOR OUTCOMES, FREQUENT RELAPSE; TRY CONTINGENCY MANAGEMENT



DRUG OVERDOSE DEATHS WITH PSYCHOSTIMULANTS

+/- OPIOIDS: 1999 - 2017



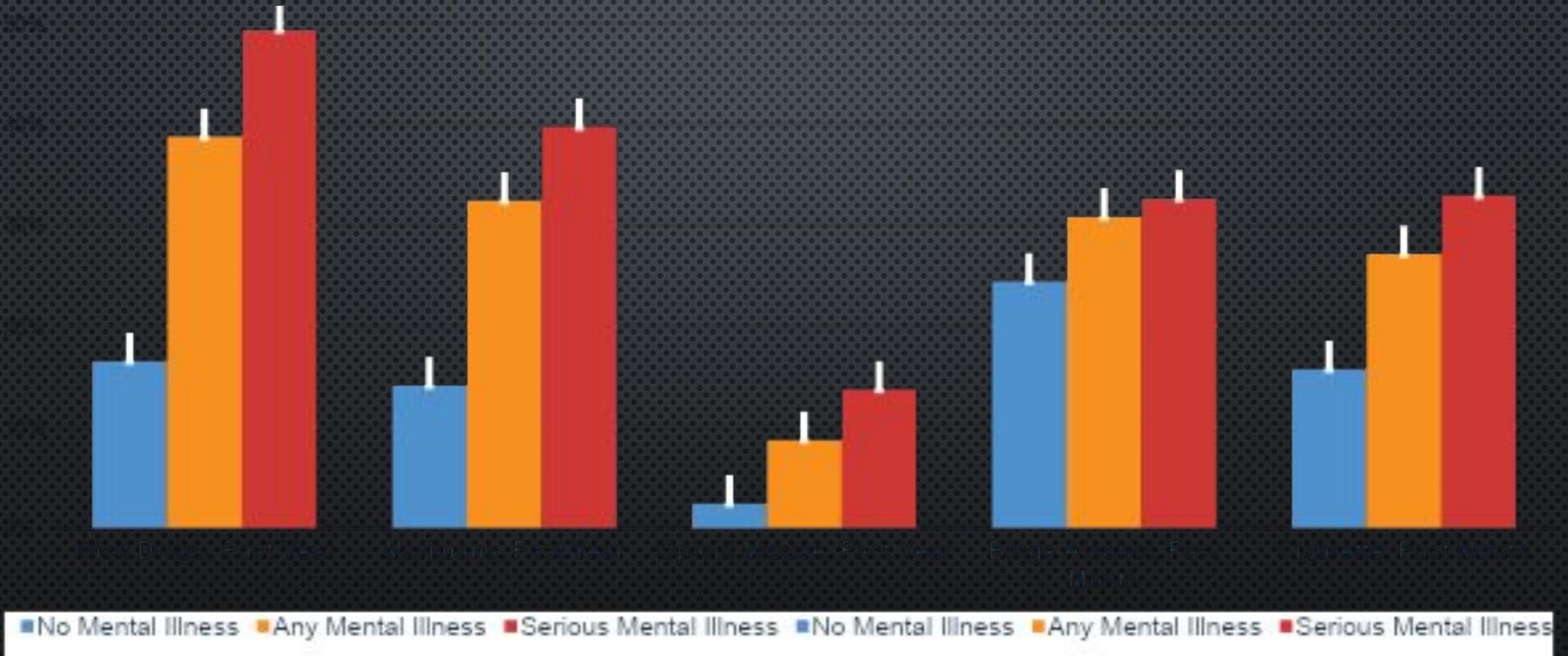
- Meth mixed with fentanyl and fentanyl-related substances
- Possibility that these mixtures resulted from contamination during meth processing packaging for re-sale by poly-drug traffickers
- Combination of meth and fentanyl is increasingly reported on death certificates
- “Sleepy Dope” (mix of meth/fentanyl) in attempt to increase heroin base by addicting meth users to opioids via fentanyl -- significant risk of fatal overdose;
- source: Mexican cartels

Source: CDC WONDER,

<https://www.drugabuse.gov/publications/drugfacts/methamphetamine>

Co-Occurring Issues: Substance Use and Mental Illness among Adults

PAST YEAR/MONTH, 2019 NSDUH, 18+



COST OF UNTREATED MENTAL AND SUBSTANCE USE DISORDERS

- COST OF UNTREATED SMI: 193B/YR (NAMI); COST OF DRUG/ALCOHOL ABUSE: 600B/YR (NIDA)
 - 55% RECEIVE TREATMENT FOR MENTAL DISORDERS
 - PANDEMIC COSTS
 - DRUG OVERDOSE DEATHS IN THE UNITED STATES ROSE 29.4% IN 2020 TO AN ESTIMATED **93,331**
 - **69,710 INVOLVING OPIOIDS**; UP FROM A 5% INCREASE IN 2019
- (CDC, 7/14/21)
- ESTIMATE THAT THERE WILL BE A 1.3% INCREASE IN SUICIDES FOR EACH 1% INCREASE IN UNEMPLOYMENT (PETTERSON, ET AL. 2020)

SOLUTIONS

- EVIDENCE-BASED PRACTICES:
- INTEGRATED CARE
- PRIMARY CARE MODELS: EMBEDDED BH CLINICIANS
- CCBHC: SMI RECEIVE MENTAL HEALTH, SUBSTANCE USE, PHYSICAL HEALTH SERVICES
 - 24/7 CRISIS INTERVENTION SERVICES, FAMILY INVOLVEMENT, COMMUNITY SOCIAL INCLUSION EFFORTS, PEER SERVICES
 - MOBILE UNITS
- SUD SERVICES: OUD REQUIRE MAT/PSYCHOSOCIAL SERVICES, MODIFICATION OF 42CFR REGULATIONS
- CJ PROGRAMS, MHBG USE IN SMI SERVICES IN JAIL/PRISON, OFFENDER RE-ENTRY
- ACT/FACT/AOT, PSYCHIATRIC ADVANCE DIRECTIVES
- SCHOOL-BASED MH SERVICES WITH INFRASTRUCTURE SUPPORT, BH SCHOOL BASED AIDES
- LEVELS OF CARE: INPATIENT, OUTPATIENT, SUPPORTED COMMUNITY LIVING, GROUP HOMES, INTENSIVE OUTPATIENT TREATMENT, PARTIAL HOSPITAL, PEER SUPPORT
- INCREASE PROVIDERS THROUGH EDUCATION, INCREASE TRAINING SLOTS FOR BH PROVIDERS

SOLUTIONS

- COVID FORMED BASIS OF A BIG NATIONAL EXPERIMENT:
 - UTILITY OF TELEHEALTH VISITS, PATIENT ACCEPTANCE OF MODALITY
 - FEDERAL GOVERNMENT TRAINED BH PROVIDERS ON TELEHEALTH
 - FLEXIBILITIES TO OTPs: TAKE HOME DOSES, TELEHEALTH VISITS, MID-LEVEL RESPONSIBILITIES, MEDICATION DELIVERY/PICK UP
 - BUPRENORPHINE TELEPHONE INDUCTION

HOW TO SUCCESSFULLY IMPLEMENT SOLUTIONS

- FUND AN INTEGRATED CARE MODEL: CERTIFIED COMMUNITY BEHAVIORAL HEALTH CLINICS
- REQUIRE EVIDENCE BASED PRACTICES: E.G.; MAT, LAI, CO-OCCURRING SERVICES
- THESE PROVIDE REQUIRED SERVICES: MH/SUD/MEDICAL CARE IN ONE SETTING
- PROVIDE ASSERTIVE COMMUNITY TREATMENT (ACT)/ASSISTED OUTPATIENT TREATMENT (AOT)/24/7 CRISIS INTERVENTION SERVICES; PROVIDE TREATMENT FOR SMI IN JAIL/PRISON AND OFFENDER RE-ENTRY SERVICES
- PAYMENT: USE FQHC MODEL AND REQUIRE MANAGED MEDICAID TO PAY
- REQUIRE MANAGED CARE PLANS TO PAY A RATE TO THE CCBHCs THAT OTHER PROVIDERS WOULD RECEIVE FOR SIMILAR SERVICES AND THEN USE A SUPPLEMENTAL PAYMENT (WRAPAROUND) TO ENSURE PAYMENT TO CCBHCs IS EQUAL TO THE PROSPECTIVE PAYMENT SYSTEM (PPS).
- FULLY INCORPORATE THE PPS PAYMENT INTO THE MANAGED CARE CAPITATION RATE AND REQUIRE THE MANAGED CARE PLANS TO PAY THE FULL PPS OR ITS ACTUARIAL EQUIVALENT.
- USE MHBG FUNDS TO SUPPORT PARTS OF INTEGRATED CARE SERVICES; E.G.: JAIL BASED SERVICES
- SEEK OTHER FEDERAL FUNDS TO ESTABLISH E.G. NALOXONE GRANT, SERVICES TO HOMELESS TO ESTABLISH PROGRAMS
- MAKE USE OF CONGRESSIONAL DELEGATION FOR INCREASED FEDERAL FUNDING; EDUCATE YOUR STATE AND LOCAL LEGISLATORS
- INCORPORATE INTO MEDICAID PERMANENTLY

DISCUSSION

THANK YOU!

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