

Impacts of Drug-Use Patterns and Dental Care Access on Caries Severity amongst Patients with Methamphetamine-Use Disorder

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Presentation Overview

- Background
- Methamphetamine
- Methamphetamine Use Data
- Pharmacologic Effects of Methamphetamine
- Impact of Drug Use Patterns and Dental Care Access on Caries Severity
- Dentistry's Response to the Methamphetamine Epidemic
 - Public Health Professional to the Community
 - Dental Professional to the Patient

1997...



Observations:



Methamphetamine

Methamphetamine

- Central Nervous System Stimulant
- Chemical Composition

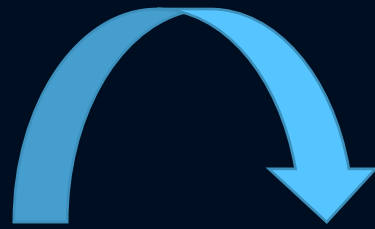


Ammonia, Red Phosphorous, Lithium, Pseudoephedrine, Phenyl-2-propanone (P₂P)

Methamphetamine

- “High” described as:

Produces 9-12 hour
“High”



“Euphoric”
“Invincible”
“Energetic”
“Rush”
“Focus”

Methamphetamine Use Data

GLOBAL
NATIONAL
IMPACTS

Global Use

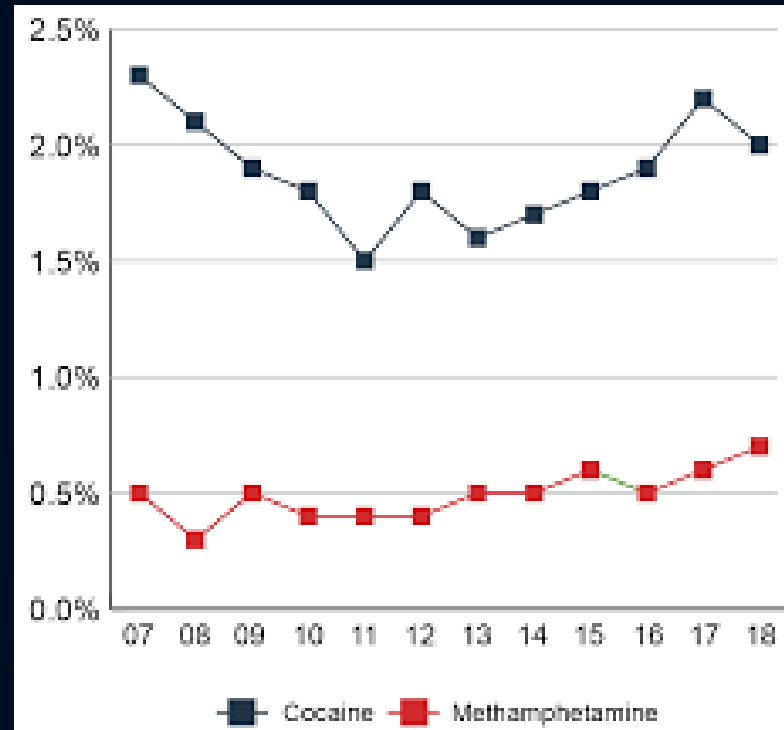
**34 million people
worldwide**



**#2 illicit drug
worldwide**

**United Nations Office on Drugs and Crime. World drug report
2019.** <https://wdr.unodc.org/wdr2019/>. Updated 2019-06-26. Accessed 2020-04-30.

Stimulant Use in Past Year, 2007-2018



Substance Abuse and Mental Health Services Administration.
Treatment of Stimulant Use Disorders. (2020). Retrieved from [Treatment of Stimulant Use Disorders \(samhsa.gov\)](https://www.samhsa.gov/treatment-of-stimulant-use-disorders). Accessed 2021-03-12.

National Use

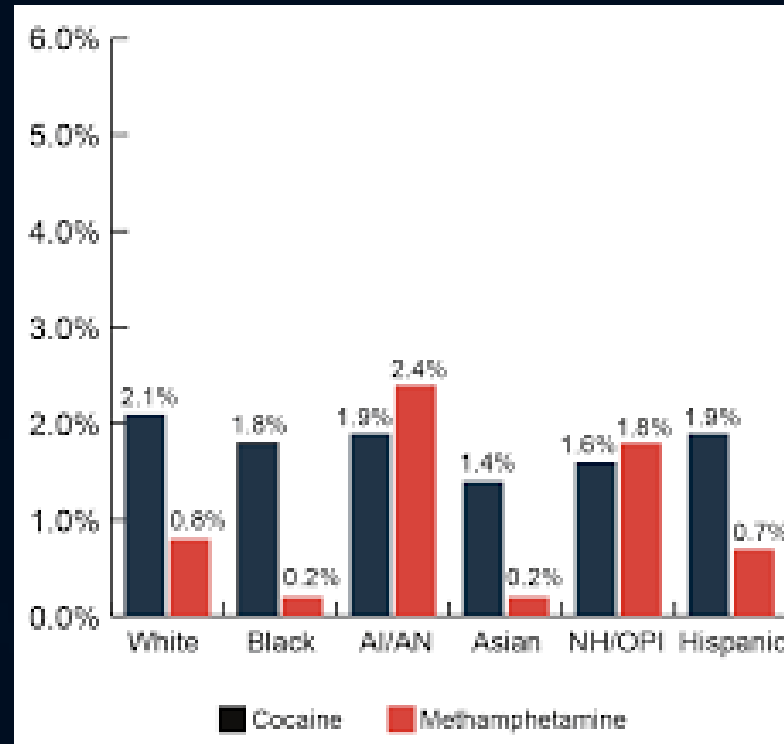
TABLE 1. Methamphetamine use among adults aged ≥18 years by demographic, substance use, and mental health characteristics — United States, 2015–2018

Characteristic	Past-year methamphetamine use	
	Annual average no. of adults aged ≥18 years (weighted)	Annual average rate per 1,000 adults aged ≥18 years (95% CI)
Overall lifetime use	14,686,900	59.7 (58.1–61.4)
Overall past-year use	1,626,200	6.6 (6.1–7.1)
Past-year use by demographic characteristic		
Sex		
Women	598,300	4.7 (4.2–5.2)
Men	1,027,900	8.7 (7.9–9.5)
Age group (yrs)		
18–25	320,000	9.3 (8.3–10.4)
26–34	431,200	11.0 (9.7–12.5)
35–49	507,900	8.3 (7.3–9.5)
≥50	367,100	3.2 (2.8–3.9)
Race/Ethnicity		
White, non-Hispanic	1,180,200	7.5 (6.9–8.2)
Black, non-Hispanic	72,000	2.5 (1.8–3.4)
Other, non-Hispanic	113,000	5.6 (4.4–7.2)
Hispanic	260,900	6.7 (5.5–8.1)
Education level		
Less than high school diploma	394,600	12.4 (10.8–14.3)
High school graduate	563,300	9.2 (8.1–10.4)
Some college or associate's degree	527,300	6.9 (6.1–7.9)
Bachelor's degree or higher	141,000	1.8 (1.3–2.5)
Annual household income		
<\$20,000	640,700	15.6 (13.8–17.7)
\$20,000–49,999	552,000	7.6 (6.6–8.6)
\$50,000–74,999	169,100	4.3 (3.4–5.5)
≥\$75,000	264,300	2.9 (2.4–3.4)

2018: 1.6 Million Americans aged 18 years-older reported past year use of MA

Source: National Surveys on Drug Use and Health, 2015–2018, using 2010 U.S. Census based population estimates.

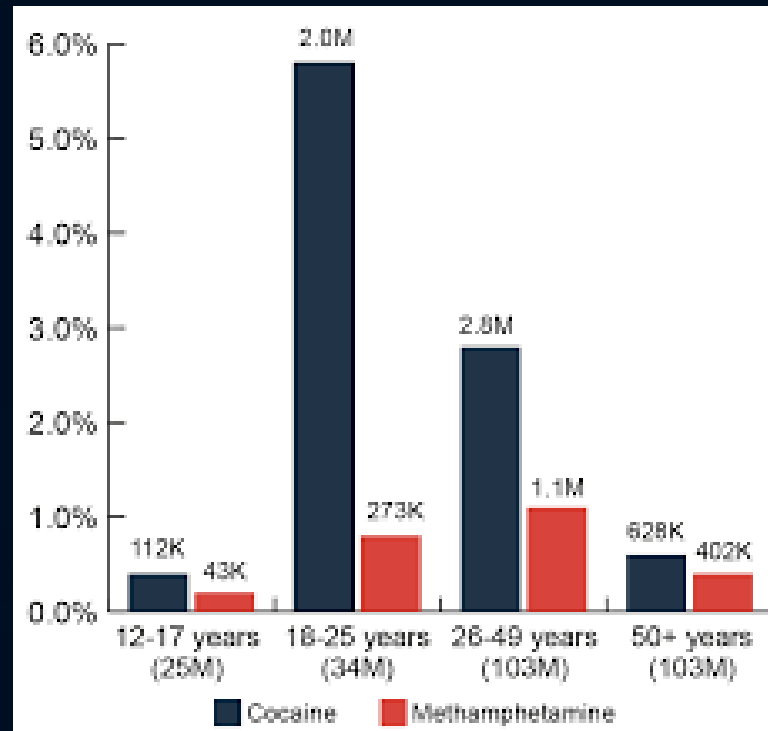
Stimulant Use in Past Year, 2018, Within Specific Races



Misuse rates highest amongst American Indian Alaska Native (AI/AN)

Source: National Surveys on Drug Use and Health, 2015–2018, using 2010 U.S. Census based population estimates.

Stimulant Use in Past Year, 2018, Within Age Groups



Age group with highest MA misuse 26-49 years

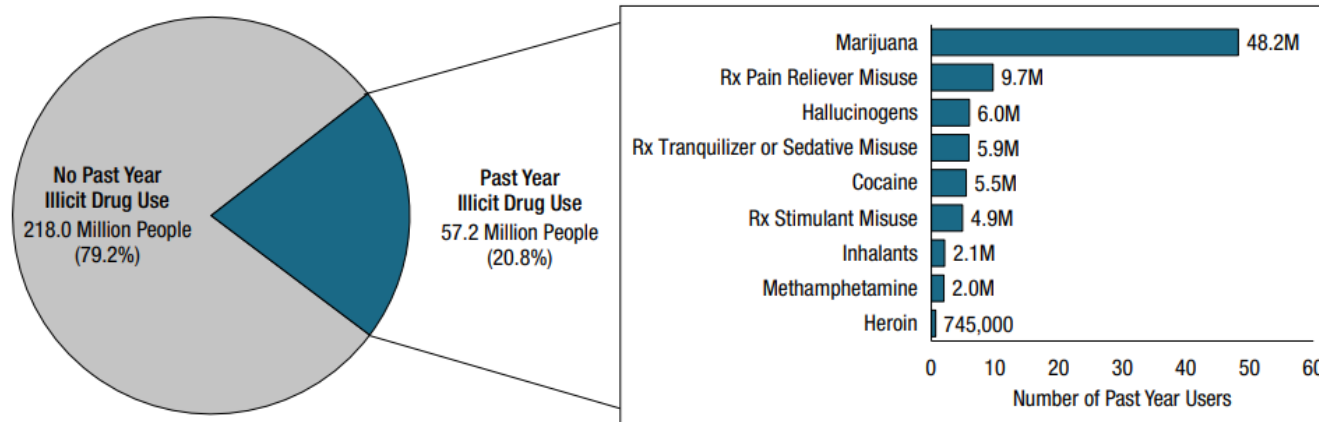
Source: National Surveys on Drug Use and Health, 2015–2018, using 2010 U.S. Census based population estimates.

2019...2.0 Million used Meth

Key Substance Use and Mental Health Indicators in the United States:
Results from the 2019 National Survey on Drug Use and Health

September 2020 | 15

Figure 10. Past Year Illicit Drug Use among People Aged 12 or Older: 2019



Key Substance Use and Mental Health Indicators in the United States:
Results from the 2019 National Survey on Drug Use and Health

Impact of MA Use

Short Term:

- Increased HR
- Hyperthermia
- Anxiety
- Hypersexuality
- Sepsis



Long Term:

- CV Disease
- Traumatic Lung Injury
- Psychosis
- Dental Caries

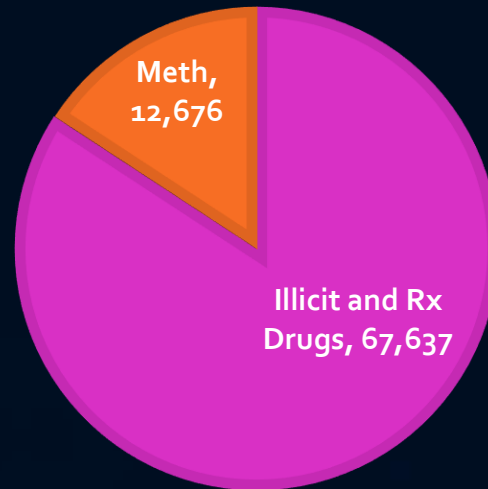
Methamphetamine Abuse: A Perfect Storm of Complications.

Lineberry TW, Bostwick JM. Concise Review for Clinicians. 2006. 81(1): 77-84.

DOI:<https://doi.org/10.4065/81.1.77>

MA Related Overdose Deaths, 2018

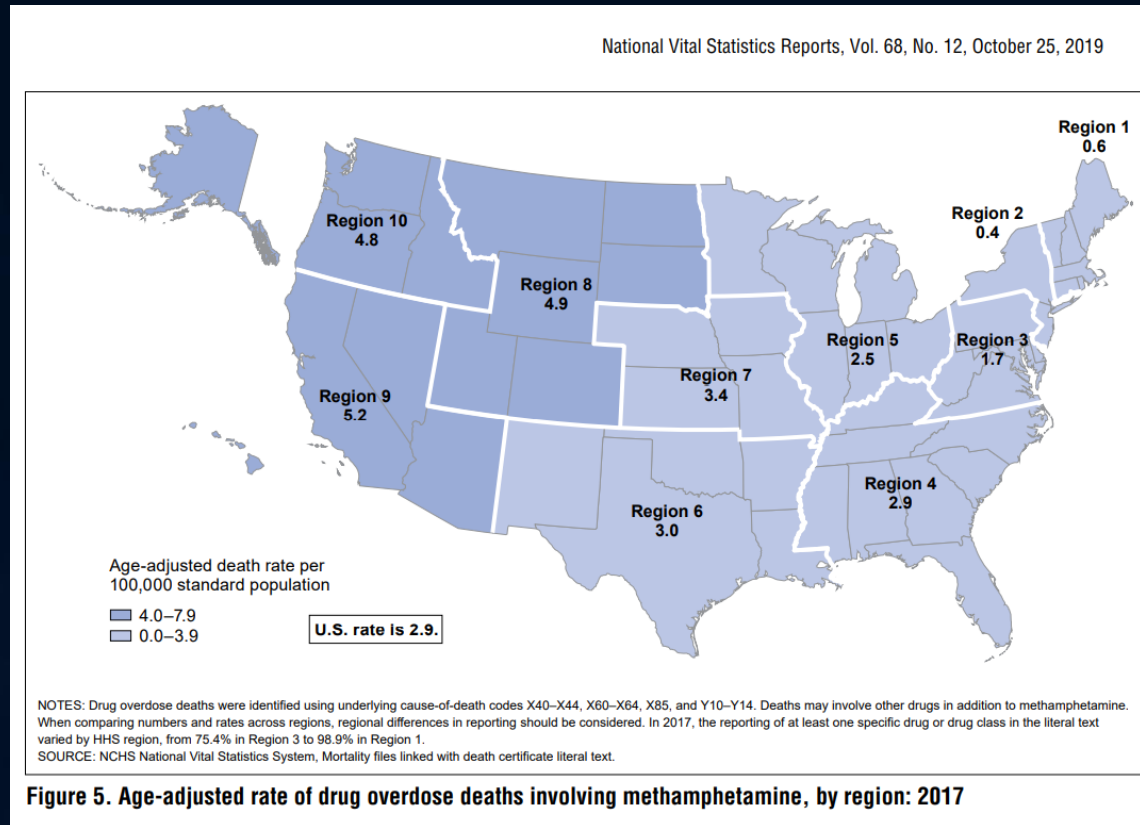
NUMBER OF OVERDOSE DEATHS, 2018



Multiple Cause of Death 1999-2017 on CDC WONDER Online Database. Centers for Disease Control and Prevention, National Center for Health Statistics. <https://www.cdc.gov/drugoverdose/data/statedeaths.html>. Updated March 2020. Accessed 2020-09-23.

MA Related Overdose Deaths, Regional Differences, 2019

As of 2019,
methamphetamine
has surpassed opioids
as the leading cause of
overdose deaths in
many western U.S.
states.



Region 8—CO, MT,
ND, SD, UT, and WY

Region 9 —AZ, CA, HI,
and NV

Region 10 —AK, ID,
OR, and WA

Regional differences in the drugs most frequently involved in drug overdose deaths:
United States, 2017. Hedegaard, H. Bastian, BA, Trinidad JP, Spencer M, Warner, M. (2019). National Vital Statistics Report, 68(12), 1-15.

Economic Cost of Meth Use

What Factors Contribute to the Cost of Meth Use?

The table documents the key meth-use cost contributors, providing a best estimate (shaded cells) and upper and lower bounds to account for the uncertainties. As shown, the best estimate of meth-use cost in 2005 is about \$23.4 billion, with the true economic burden somewhere in the range of \$16.2 billion to \$48.3 billion.

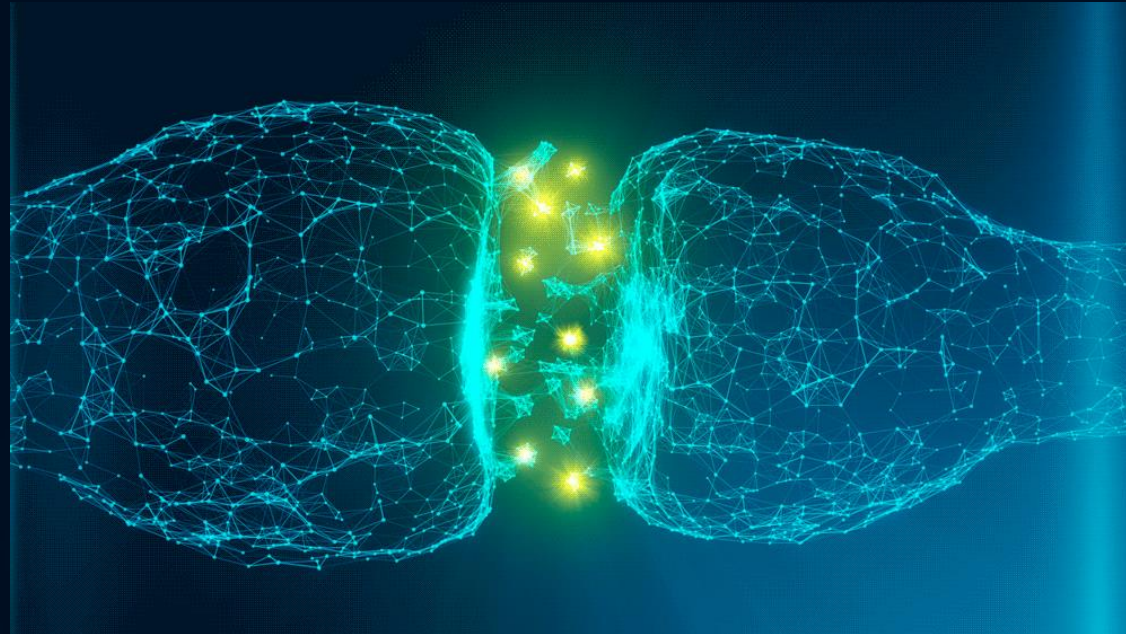
Cost Contributors	Cost of Meth Use in the United States in 2005 (millions of dollars)			
	Lower Bound	Best Estimate		Upper Bound
	n	n	%	n
Intangibles/premature death	12,514	16,625	71	28,549
Crime and criminal justice	2,578	4,210	18	15,741
Child endangerment	312	905	4	1,166
Lost productivity	379	687	3	1,055
Drug treatment	299	546	2	1,071
Health care	116	351	2	611
Meth production/hazards	39	61	< 1	89
Total	16,237	23,384	100	48,281

NOTE: Because of rounding, numbers may not sum precisely.

The Economic Cost of Methamphetamine Use in the United States, 2005. Nicosia, Nancy, Rosalie Liccardo Pacula, Beau Kilmer, Russell Lundberg, and James Chiesa.

Pharmacology

The Pharmacologic Effect



“Meth increases extracellular dopamine levels by competing with dopamine uptake and increasing reverse transport of dopamine via the transporter”

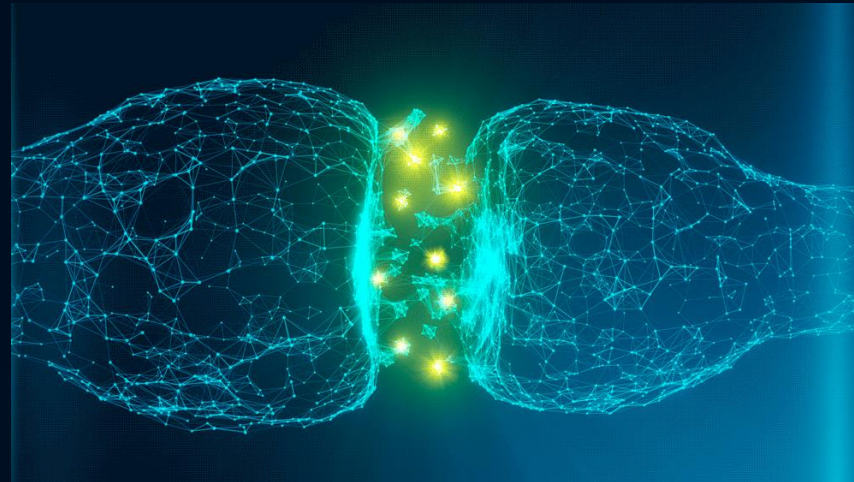
Methamphetamine Regulation of Firing Activity of Dopamine Neurons.

Lin M, Sambo D, Khoshbouei H. J Neurosci 2016 Oct 5;36(40):10376-10391.

The Dopamine Effect

Positive Effects:

- Pleasure
- Self-Esteem
- Sociability



Negative Effects:

- Bruxism
- Sugar consumption
- Hyposalivation

Amphetamine-sensitized rats show sugar-induced hyperactivity (cross-sensitization) and sugar hyperphagia. Avena NM, Hoebel BG. *Pharmacol Biochem Behav.* 2003 Feb;74(3):635-9. doi: 10.1016/s0091-3057(02)01050-x. PMID: 12543229.

Pharmacologic-Oral Link

“Total quantity and buffer capacity of saliva significantly less in MA group than control group”



“Salivary pH decreased by 0.6 units after MDMA administration”

Sympathomimetic Effects of Chronic Methamphetamine Abuse on Oral Health: A Cross-Sectional Study.

Rommel N, Rohleder NH, Koerdt S, et al. *BMC Oral Health*. 2016;16(1):59. Published 2016 May 26. doi:10.1186/s12903-016-0218-8

Usefulness of saliva for measurement of 3,4-methylenedioxymethamphetamine and its metabolites: correlation with plasma drug concentrations and effect of salivary pH.

Navarro M, Pichini S, Farré M, Ortuño J, Roset PN, Segura J, de la Torre R.. *Clin Chem*. 2001 Oct;47(10):1788-95. PMID: 11568088.

The background is a dark blue gradient with a complex pattern of curved lines and a grid of small, light blue squares. The grid is most prominent in the upper left and center, while the right side features more fluid, curved lines. The overall effect is a sense of depth and movement.

Research

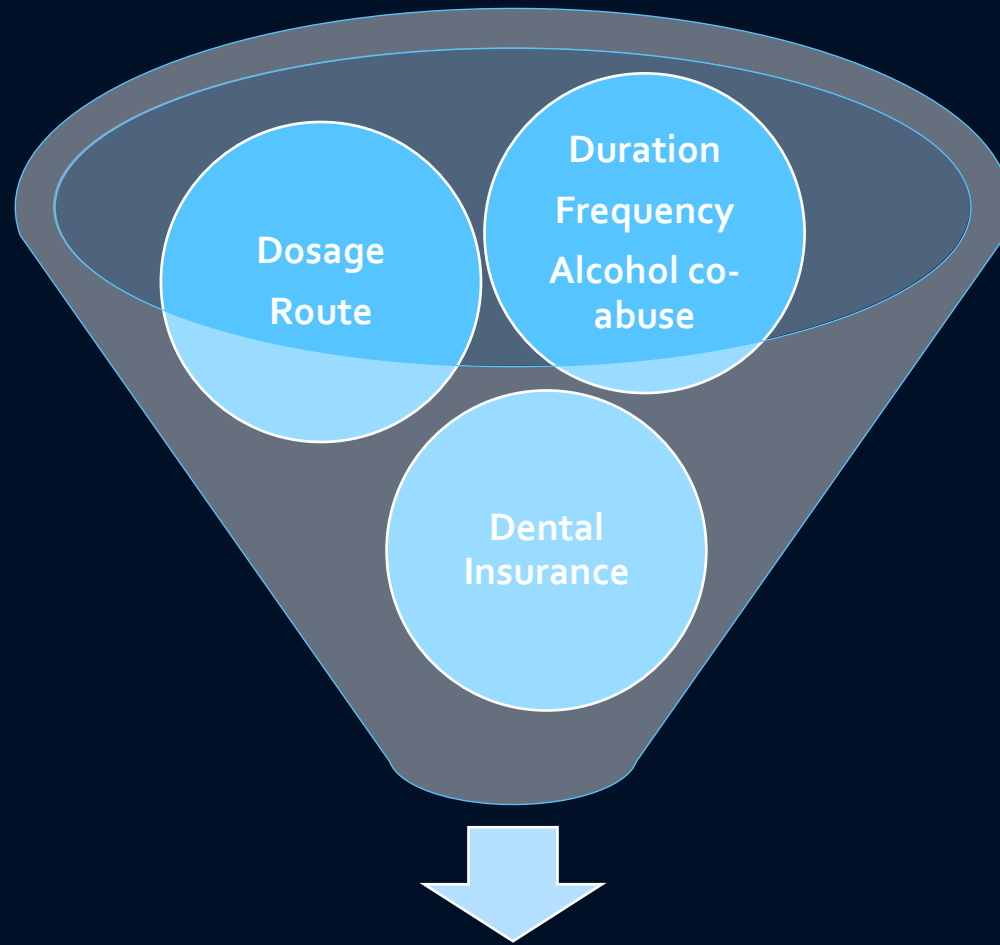
Observations



Varying degrees of caries severity

Varying drug-use patterns

Varying access to dental care



Research Question:

What impact does drug-use patterns have on caries severity in patients using MA?

Research Question:

What impact does access to dental care have on caries severity in patients using MA?

Caries Severity?

Research Methodology

- Recruitment:

- 99 inmate/dental patients
 - Meth-use status by self-report (59 users/40 non-users)
 - Excluded inmate/patients reporting heroin abuse
-

- Data Collection:

- Questionnaire (demographic, drug-use patterns, dental access)
- Clinical exam of caries experience/severity (DMFT)

Research Measures

- Caries Severity ----- DMFT Scores
- Dental Care Access ----- Insurance status

Research Methodology

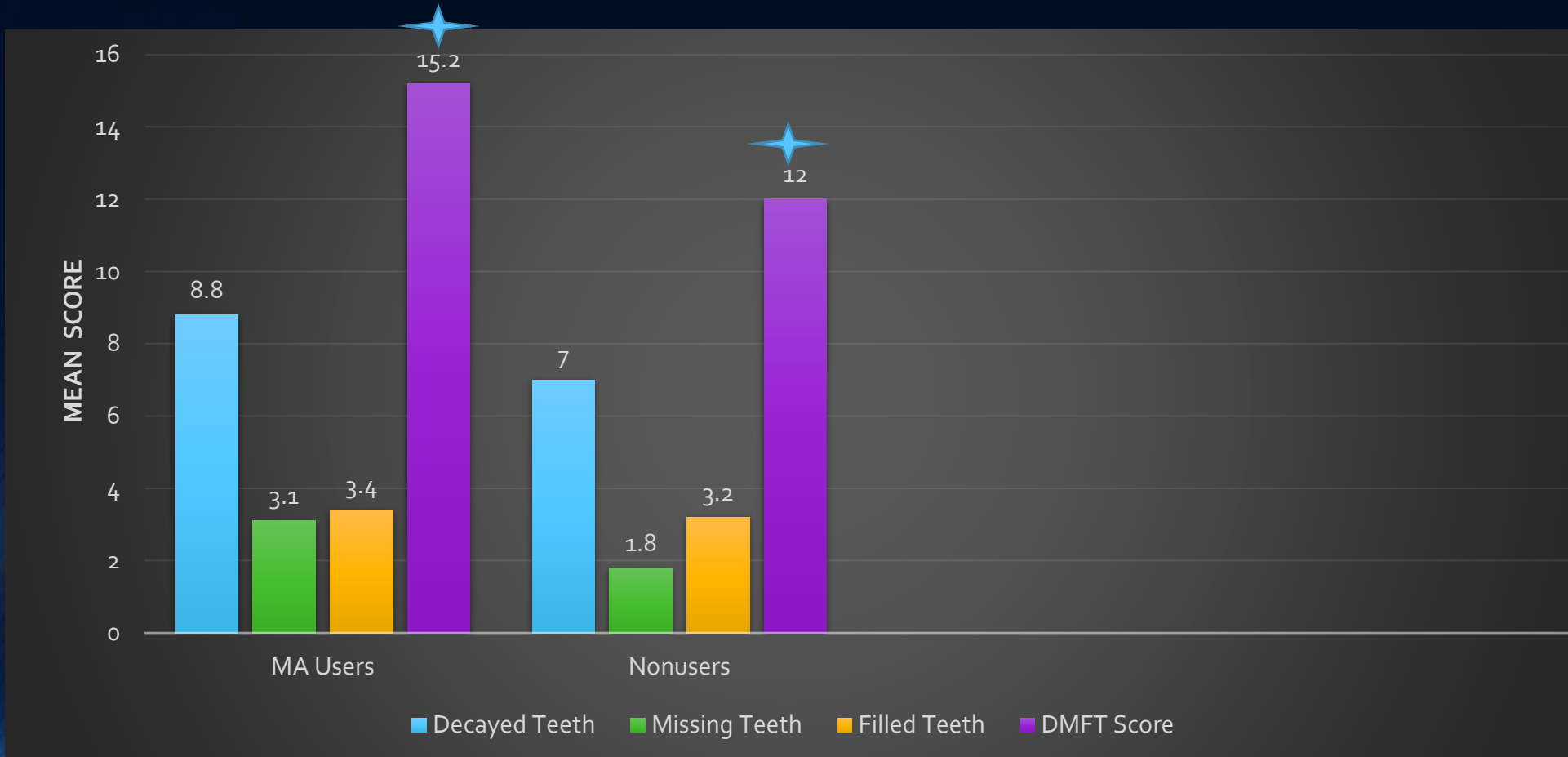
- Statistical Analysis:
 - χ^2 descriptive statistics
 - Independent t-tests
 - Multiple linear regression

Sample Characteristics

- 79.8% -Males
- 56.6% -Caucasian
- 32.7 years- Age
- 38.4% -12 years of education
- 61.6% -Employed
- 59.2% - No dental insurance

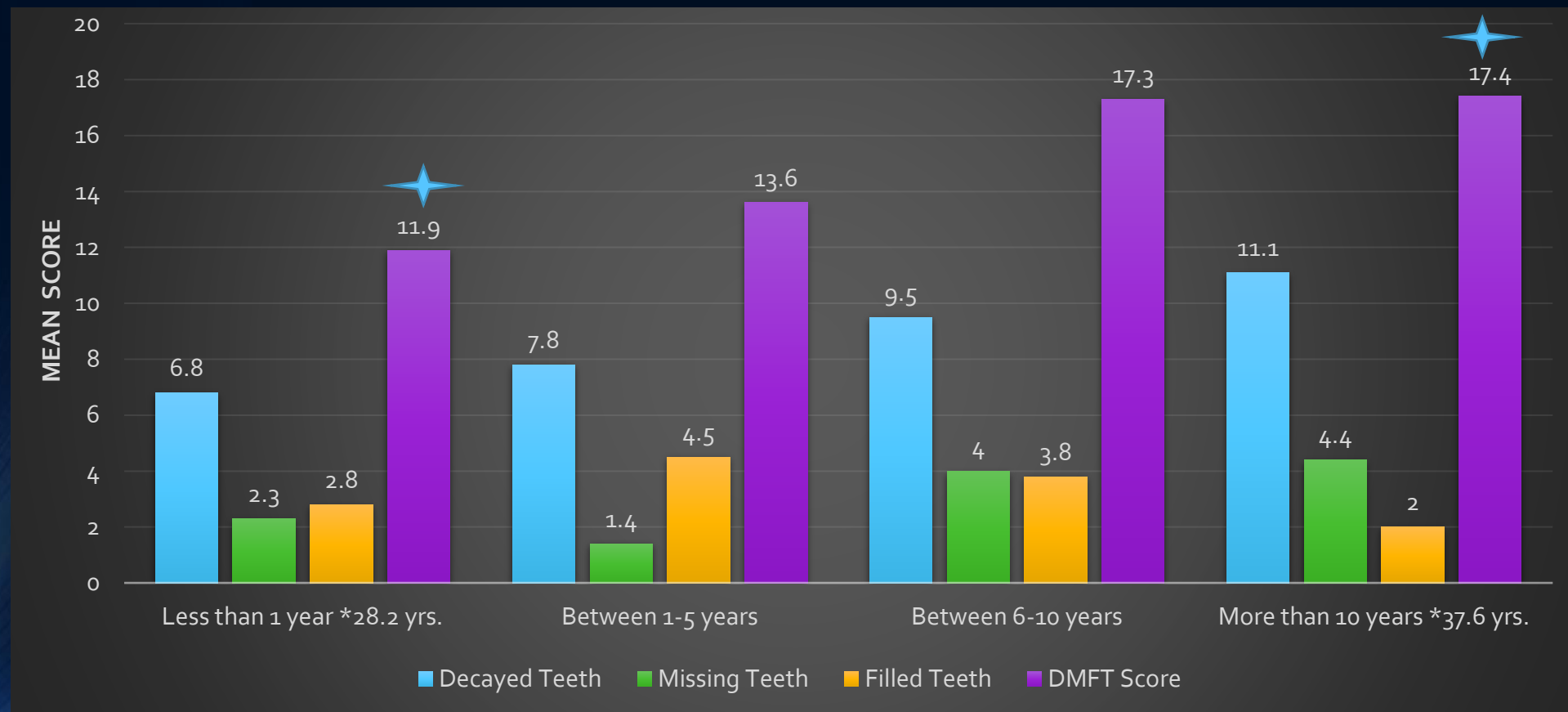
No significant difference between users and nonusers

Caries Experience



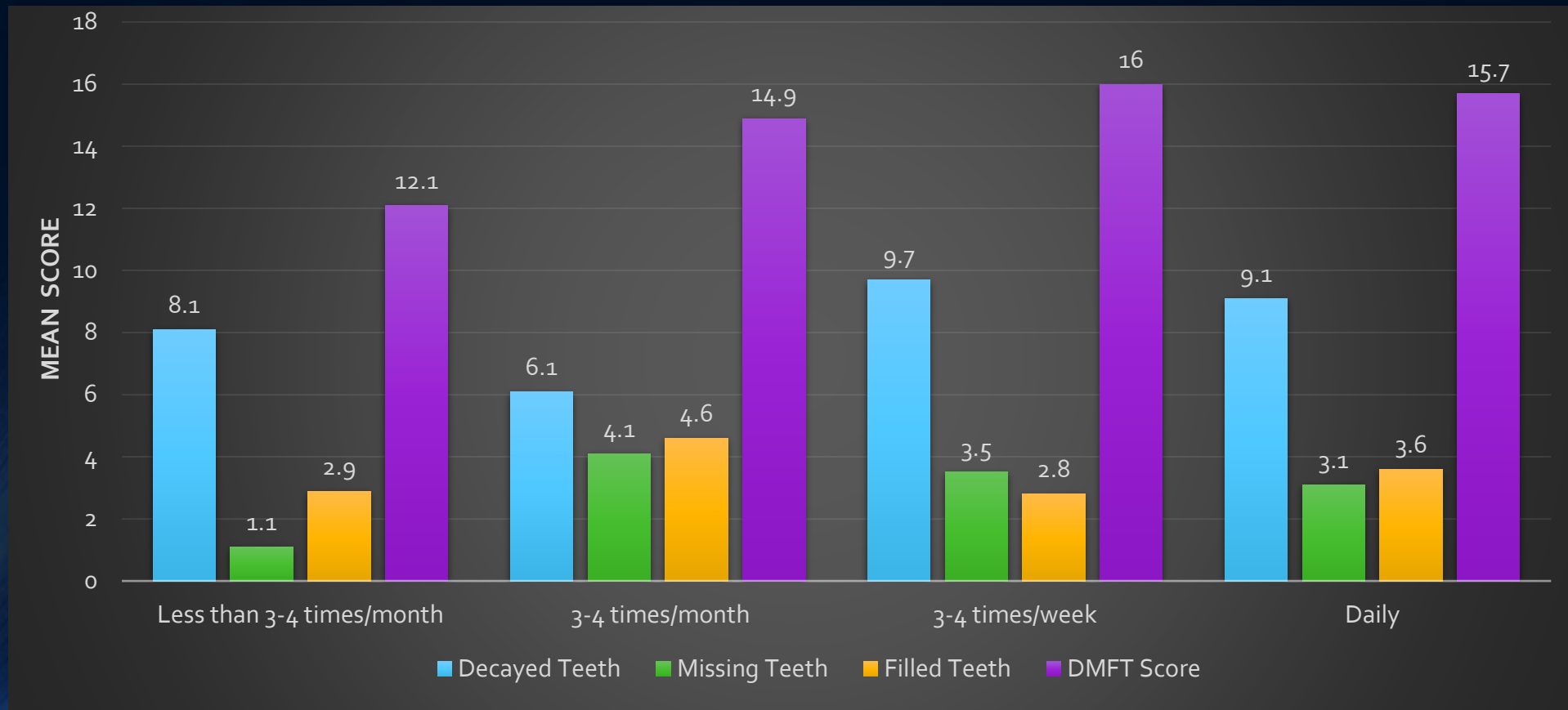
Users had higher mean DMFT score than non-users; [P=0.02]

Drug-Use Pattern-Duration



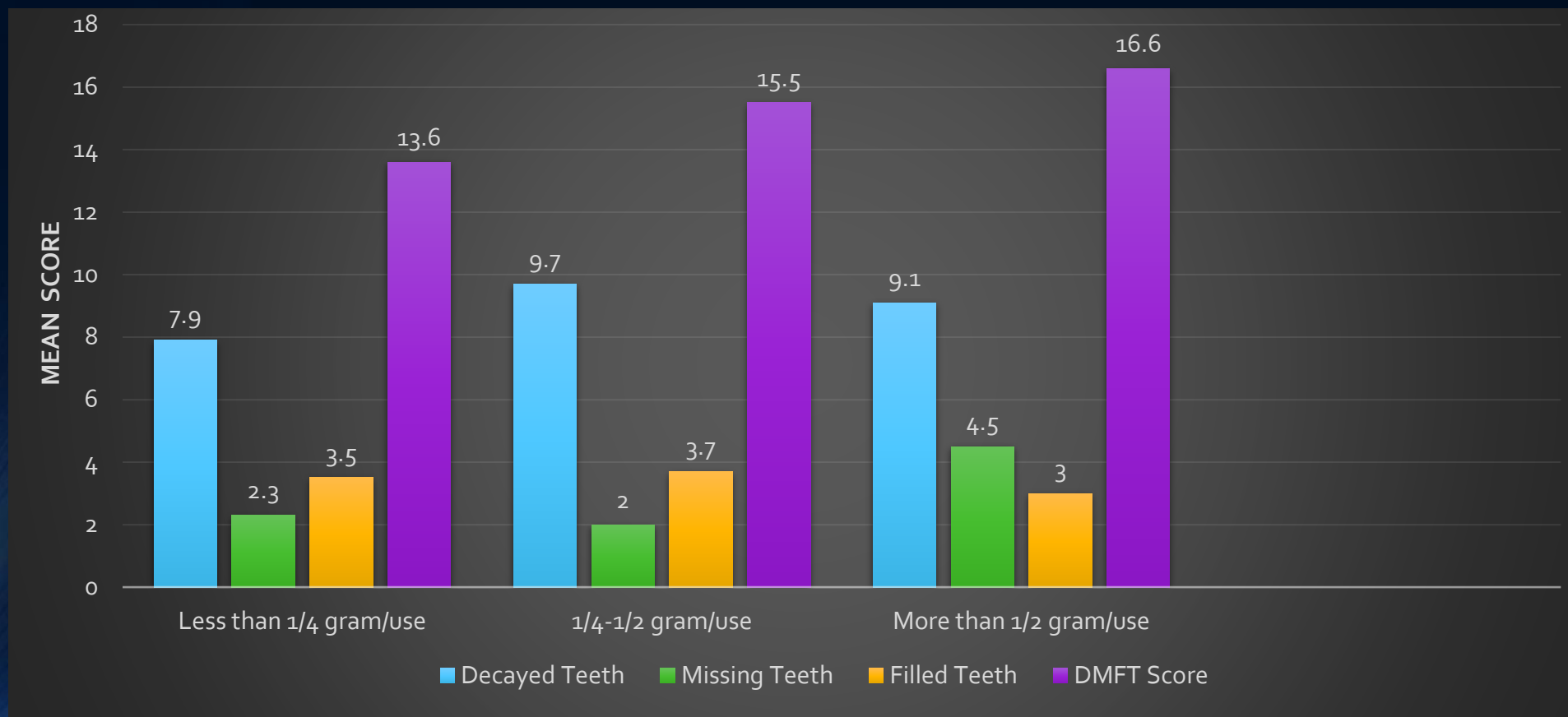
Duration of use was a significant drug –use pattern for than those with use less than one year; [P=0.05]

Drug-Use Pattern-Frequency



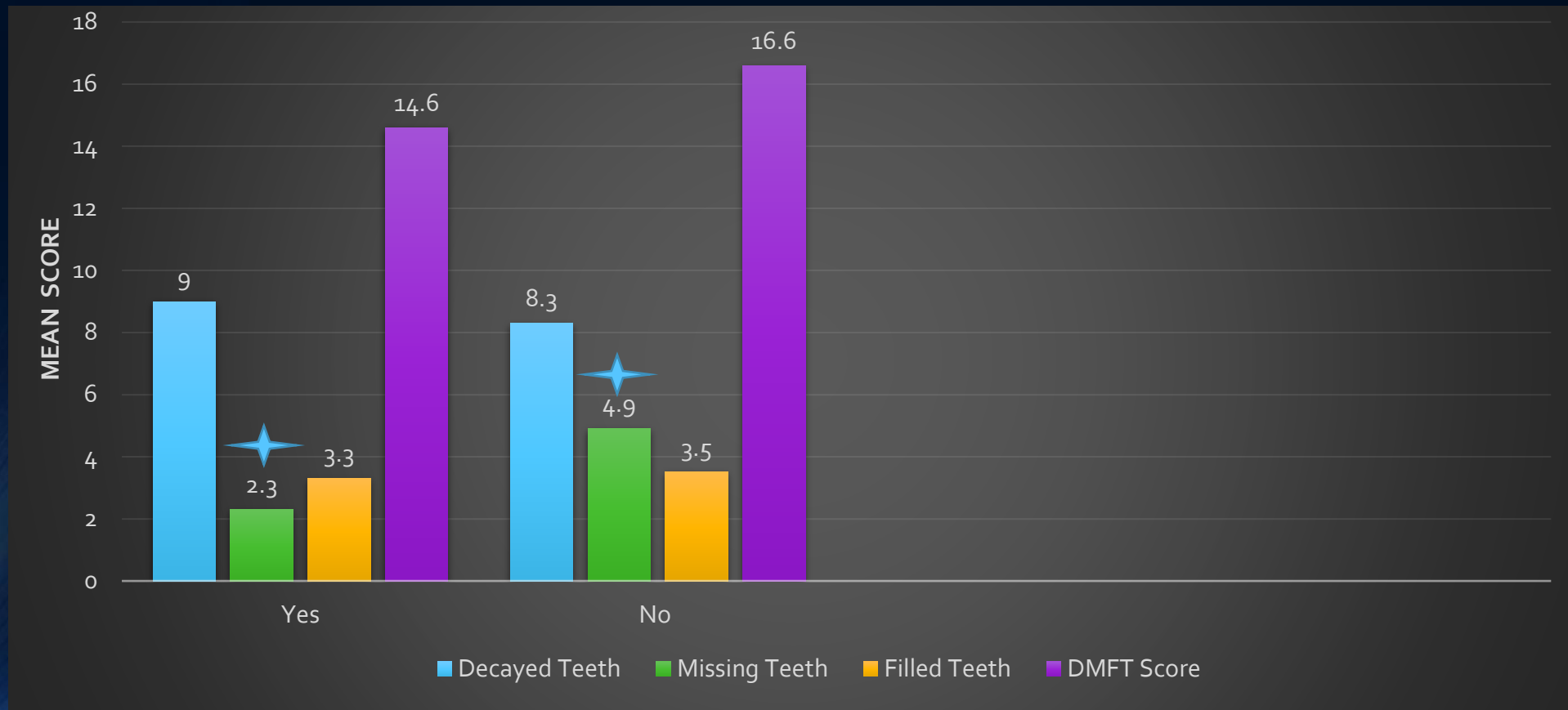
Frequency of use was not a significant drug-use pattern for DMFT scores

Drug-Use Pattern-Dosage



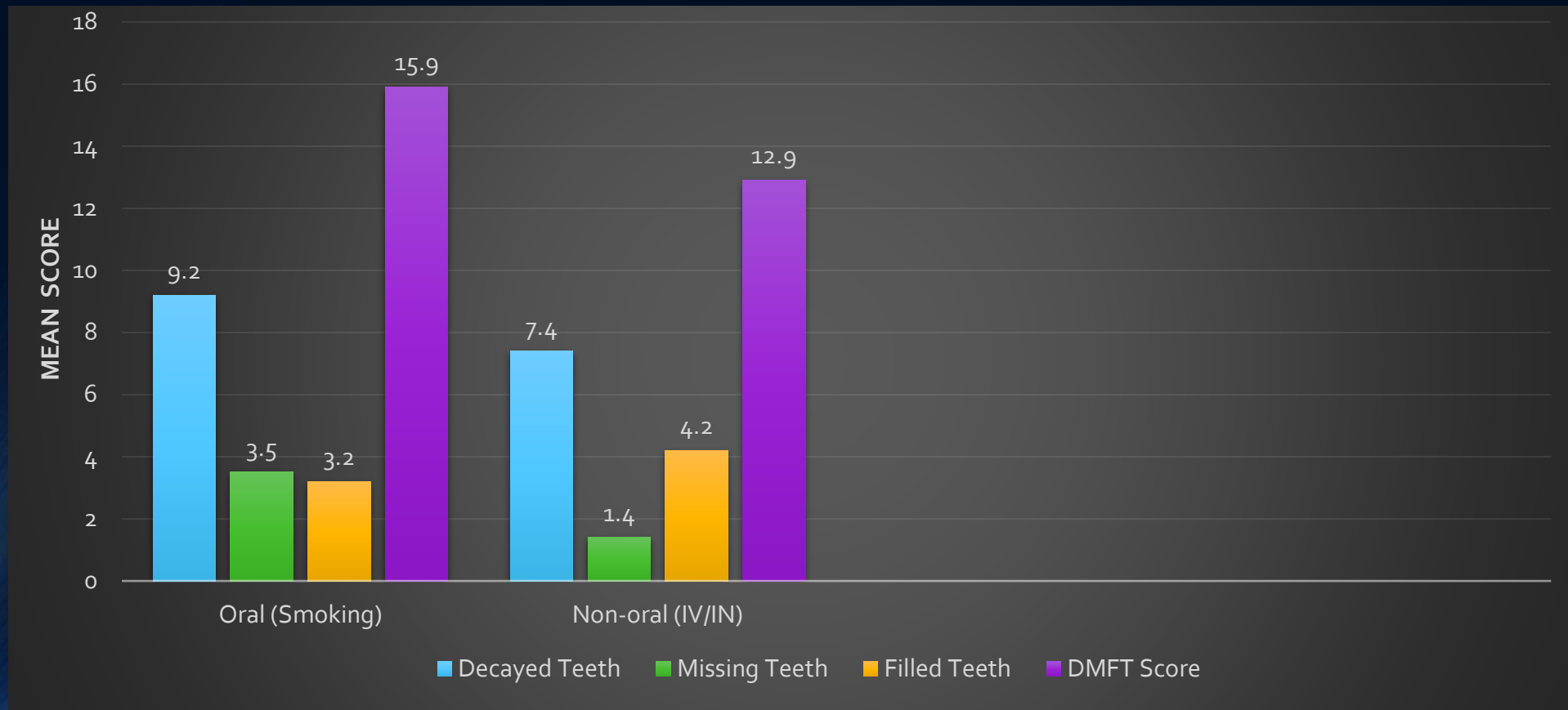
Dosage was not a significant drug-use pattern for DMFT scores

Drug-Use Pattern-With EtOH



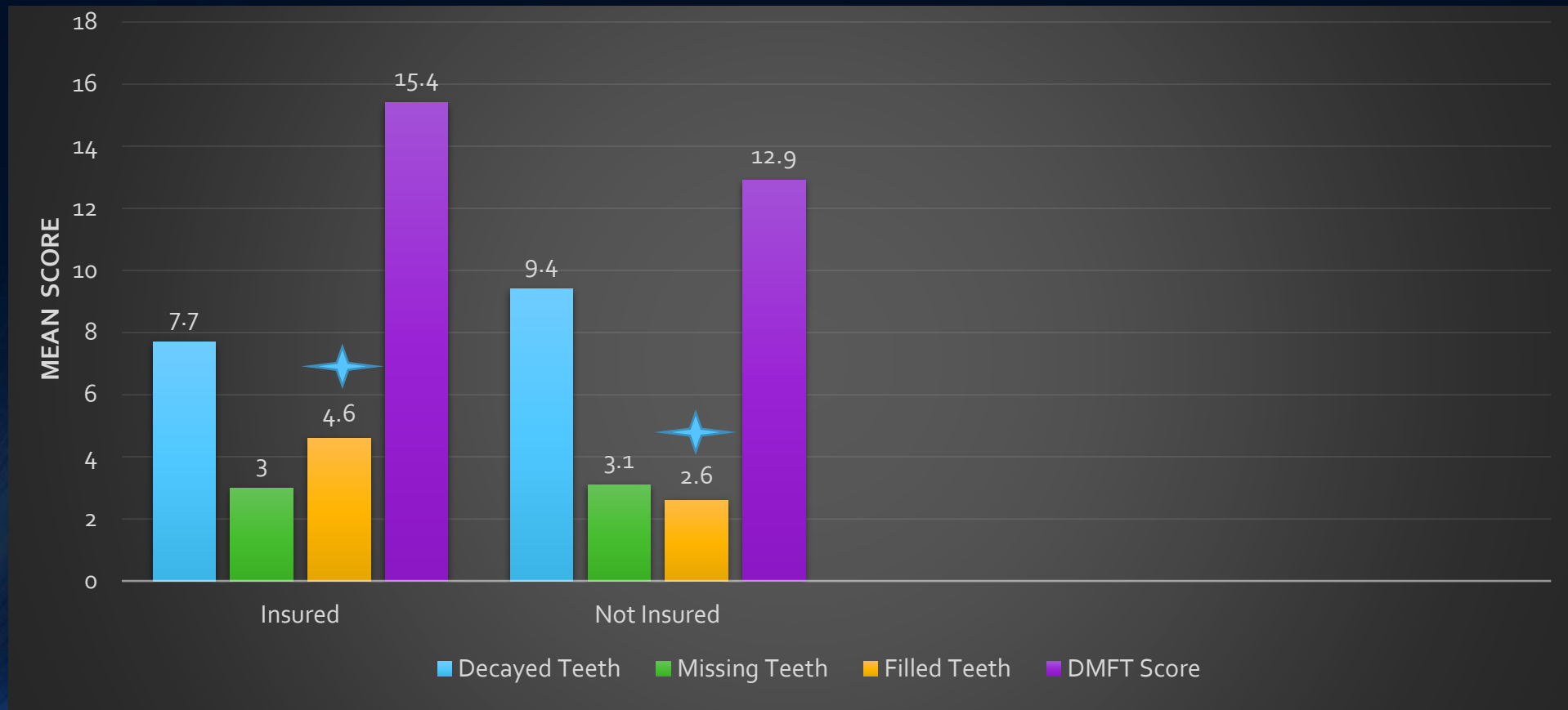
Alcohol co-abuse was not a significant drug-use pattern for DMFT scores, but significant for missing teeth.

Drug-Use Pattern-Route



Oral (smoking) was not a significant drug-use pattern for DMFT scores

Dental Care Access



Insurance status, measure of dental care access, was not significant for DMFT scores, but significant for filled teeth.

Discrepancy...

- Clinical Findings
 - Smoking (oral exposure) increased caries severity?
- Research Findings
 - Oral exposure not significant drug-use pattern for increased caries severity?



Linear Regression Analysis

- Built models $y_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \dots + \beta_p x_{ip} + \epsilon$
 - DV= DMFT (caries severity)
 - Potential predictor IV's= Route of use (oral, non-oral), Age, Duration
-
- Predictor variables: Oral Route [P < 0.001] and age [P < 0.001]
 - Excluded: Non-oral Route and duration as predictor variables [P = 0.70]

Conclusions

- Drug-use patterns impact caries severity:
 - Duration of use > 10 years
 - Oral route of administration Smoking

Questions

Implications

- How do we respond to the:
 - Increased use of MA in this country?
 - Effects of MA in the oral cavity?
 - Impact of MA drug-use patterns on caries severity?



Population Implications:

PUBLIC HEALTH RESPONSE

Department of Health and Human Services



10 year nationwide objectives (355)

**To improve health/well-being of
Americans**

Office of Disease Prevention and Health Promotion. (n.d.). Social determinants of health. Healthy People 2030. U.S. Department of Health and Human Services. [Leading Health Indicators - Healthy People 2030 | health.gov](https://www.health.gov/leading-health-indicators). Accessed 03-04-2021.

Healthy People 2030



Leading Health Indicators:

Small subset of high-priority HP2030 objectives that address major causes of death and disease in the United States.

Assist in prioritization of resources at national, state, local levels to improve the health and well-being **of all people**

Office of Disease Prevention and Health Promotion. (n.d.). Social determinants of health. Healthy People 2030. U.S. Department of Health and Human Services. [Leading Health Indicators - Healthy People 2030 | health.gov](https://www.health.gov/leading-health-indicators). Accessed 03-04-2021.

Healthy People 2030-LHI

LHI- SU-03 Reduce drug overdose deaths.

- **HP2030 Baseline 2018:**
20.7 drug overdose deaths per 100,000 population
- **HP2030 Target:**
20.7 drug overdose deaths per 100,000 population
(maintain baseline)

Office of Disease Prevention and Health Promotion. (n.d.). Social determinants of health. Healthy People 2030. U.S. Department of Health and Human Services. [Leading Health Indicators - Healthy People 2030 | health.gov](#). Accessed 03-04-2021.

Healthy People 2030



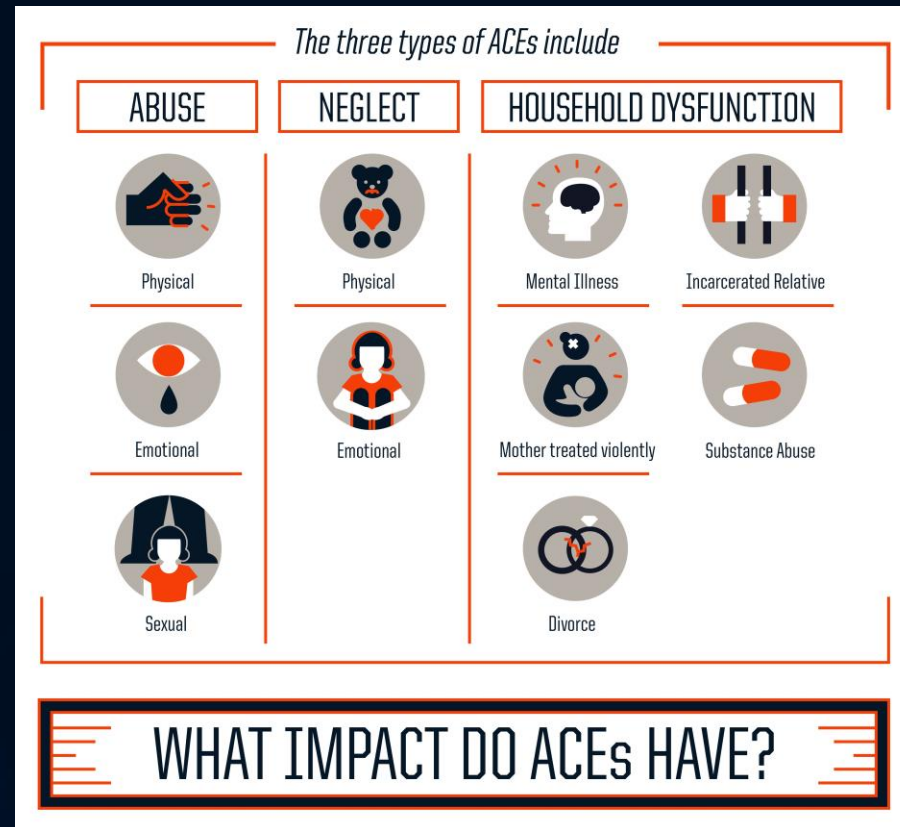
- **Economic stability**
- **Education** access and quality
- **Health care** access and quality
- **Neighborhood** and built environment
- **Social** and community context

Office of Disease Prevention and Health Promotion. (n.d.). Social determinants of health. Healthy People 2030. U.S. Department of Health and Human Services. [Leading Health Indicators - Healthy People 2030 | health.gov](#). Accessed 03-04-2021.

Social Determinants

Adverse Childhood Experiences (ACEs) Preventing early trauma to improve adult health.

Centers for Disease Control and Prevention.
[Adverse Childhood Experiences \(ACEs\) | VitalSigns | CDC](#). Updated 2019-11-05. Accessed 2021-01-28



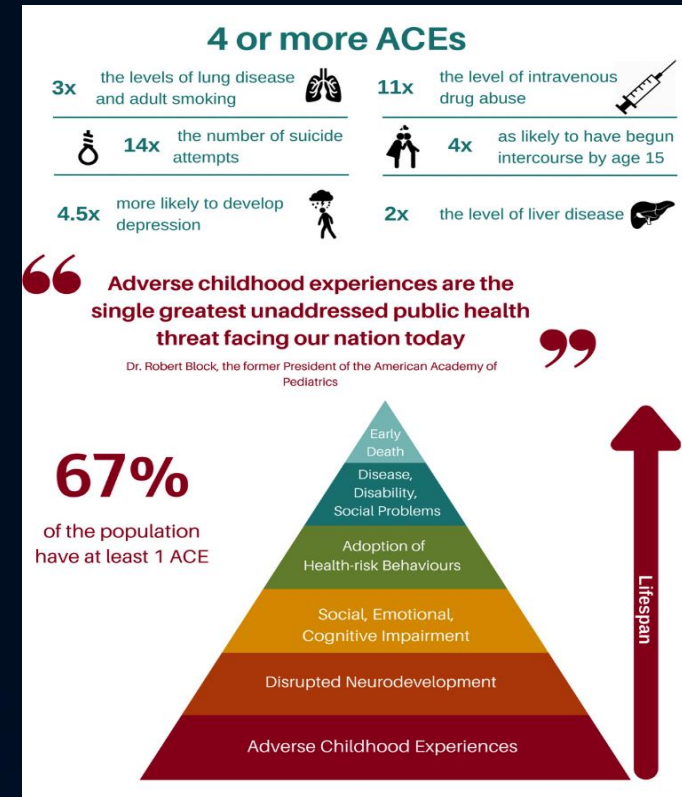
- 61% of adults: 1 or more ACEs
- 16% of adults: 4 or more ACEs

Adverse Childhood Experiences (ACEs)

Social Determinants

Each ACE increases likelihood of early initiation illicit drug use by 2-4 fold by a child.

Childhood abuse, neglect, and household dysfunction and the risk of illicit drug use: the adverse childhood experiences study. Dube SR, Felitti VJ, Dong M, Chapman DP, Giles WH, Anda RF. Pediatrics. 2003 Mar;111(3):564-72. doi: 10.1542/peds.111.3.564. PMID: 12612237



Healthy People 2030

Objective SODH-5 reduce proportion of children with a parent or guardian who has served time in jail

- **HP2030 Baseline 2016-2017:**
7.7% of children aged 17 years and under who experienced a parent or guardian serving time in jail
- **HP2030 Target:**
5.2% of children aged 17 years and under who experienced a parent or guardian serving time in jail (32% improvement)

Office of Disease Prevention and Health Promotion. (n.d.). Social determinants of health. Healthy People 2030. U.S. Department of Health and Human Services. [Leading Health Indicators - Healthy People 2030 | health.gov](#). Accessed 03-04-2021.

Healthy People 2030

Objective SU-15 reduce proportion of people who had drug use disorder in the past year

- **HP2030 Baseline 2018:**
3.0% of persons aged 12 years and over had illicit drug use disorder
- **HP2030 Target:**
2.7% of persons aged 12 years and over who have an illicit drug use disorder (minimal statistical significance)

Office of Disease Prevention and Health Promotion. (n.d.). Social determinants of health. Healthy People 2030. U.S. Department of Health and Human Services. [Leading Health Indicators - Healthy People 2030 | health.gov](#). Accessed 03-04-2021.

Healthy People 2030

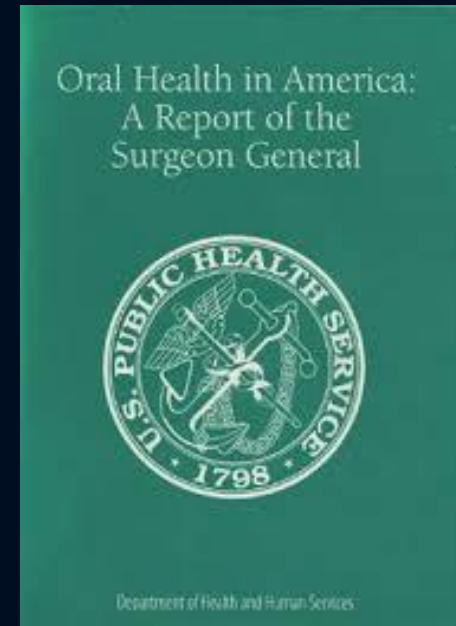
Objective OH-3 reduce proportion of adults with untreated dental decay (OH 3.1-aged 35-44)

- **HP2030 Baseline 1999-2004:**
27.8% of persons aged 35-44 had untreated decay in at least one permanent tooth
- **HP2030 Target:**
25% of persons aged 35-44 with untreated decay in at least one permanent tooth (10% improvement)

Office of Disease Prevention and Health Promotion. (n.d.). Social determinants of health. Healthy People 2030. U.S. Department of Health and Human Services. [Leading Health Indicators - Healthy People 2030 | health.gov](#). Accessed 03-04-2021.

Surgeon General's Report on Oral Health, 2020

- Identifies addiction as one of the top priorities
- Section 5: Substance Use Disorders, the Opioid Epidemic, High-Risk Behaviors, and Mental Health



[New Surgeon General's Report on Oral Health | National Institute of Dental and Craniofacial Research \(nih.gov\)](#). Accessed 03/05/2021.

Clinical Implications- Professional Response

Professional Training

Develop a dental workforce competent in addressing MA-use disorders



Substance use and dependence education in predoctoral dental curricula: results of a survey of U.S. and Canadian dental schools. Huggett KN, Westerman GH, Barone EJ, Lofgreen AS. *J Dent Educ.* 2011 Aug;75(8):1003-9. PMID: 21828293; PMCID: PMC3348623.

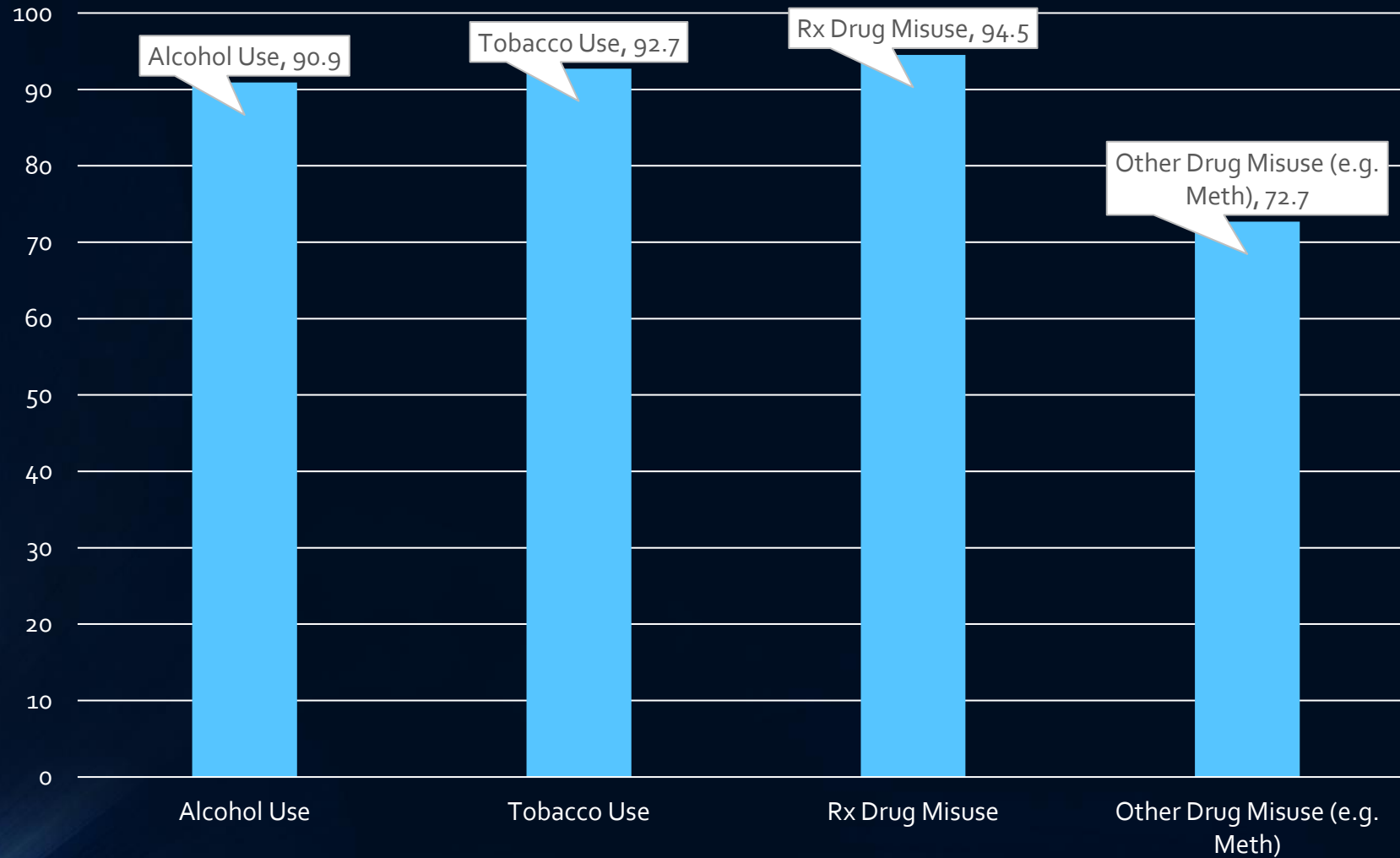
Professional Training

In 2006, the **American Dental Education Association (ADEA)** recommended that, by graduation, dental students be able to demonstrate knowledge of the **clinical presentation** ... of substance abuse, including “alcohol, tobacco, drugs, and related oral conditions, e.g., ‘**meth mouth**’.



Substance use and dependence education in predoctoral dental curricula: results of a survey of U.S. and Canadian dental schools. Huggett KN, Westerman GH, Barone EJ, Lofgreen AS. *J Dent Educ.* 2011 Aug;75(8):1003-9. PMID: 21828293; PMCID: PMC3348623.

% of Schools Reporting Curriculum Coverage



Substance use and dependence education in predoctoral dental curricula: results of a survey of U.S. and Canadian dental schools. Huggett KN, Westerman GH, Barone EJ, Lofgreen AS. *J Dent Educ.* 2011 Aug;75(8):1003-9. PMID: 21828293; PMCID: PMC3348623.

Table 4

Amount of time and instructional methods used for other substance use and dependence (e.g., methamphetamine, marijuana, cocaine, inhalants) education in U.S. and Canadian dental schools across four years of the curriculum, as reported by survey respondents

		First Year	Second Year	Third Year	Fourth Year
Number of Schools Addressing These Topics, by Year		22	18	23	16
Amount of Time, in Contact Hours	Mean	2.03	3.08	2.56	2.45
	Median	1	2	1	2
	SD	2.58	3.75	3.99	1.3
	Minimum	1	1	1	1
	Maximum	10	12	18	4
Instructional Methods					
Lecture	n	18	15	17	10
	%	82%	83%	74%	63%
Small group	n	5	2	3	3
	%	23%	11%	13%	19%
Instruction in school-based clinic	n	2	0	4	3
	%	9%	0	17%	19%
Community-based extramural setting	n	1	2	2	2
	%	5%	11%	9%	13%
Independent study, not online	n	0	0	0	0
	%	0	0	0	0

More schools reported lecture instruction than other methods including small-group instruction, instruction in school-based clinic, and community-based extramural settings.

Total mean contact hours;
 4.33, Year 1, Alcohol
 3.11, Year 1, Tobacco
 1.38, Year 1, Rx Drugs
 2.03, Year 1, Other Drugs

Substance use and dependence education in predoctoral dental curricula: results of a survey of U.S. and Canadian dental schools. Huggett KN, Westerman GH, Barone EJ, Lofgreen AS. *J Dent Educ.* 2011 Aug;75(8):1003-9. PMID: 21828293; PMCID: PMC3348623.

Clinical Implications- Professional Response

DETECT, DISCUSS, SELECT TREATMENT

Detect MA disorders

Health History Form:

“Do you have a history of drug use”?

If so, what type:

- Alcohol
- Marijuana
- Methamphetamine
- Cocaine
- Heroin



Detect MA disorders

Duration of use: "How long have you used meth?"

Route of use: "Do you primarily smoke, snort or inject?"

Clinical Implications

DISCUSS

Motivational Interviewing

Counseling approach developed by clinical psychologists William R Miller, PhD, and Stephen Rollnick, PhD.



Evolved from experience in the treatment of problem drinkers

Discuss MA use

THERAPIST'S BEHAVIORS

- Genuineness
- Warmth
- Empathy

-
- Judgmental
 - Confrontational

CLIENT'S BEHAVIORS

Change in problematic behavior

Failure to change problematic behavior

Discuss MA use

4 Tenets of Motivational Interviewing

1. Express Empathy
2. Develop Discrepancy
3. Roll with Resistance
4. Support Self-Efficacy

Foxcroft DR, Coombes L, Wood S, Allen D, Almeida Santimano NM, Moreira MT. Motivational interviewing for the prevention of alcohol misuse in young adults. *Cochrane Database Syst Rev.* 2016;7(7):CD007025. Published 2016 Jul 18. doi:10.1002/14651858.CD007025.pub4

Discuss MA use

- **Empathy:** “I understand that your meth use began after you got divorced. That must have been a very stressful time in your life ”
- **Develop Discrepancy:**
“I understand your goal of having a beautiful smile. How does your methamphetamine use fit into this goal? ”



Discuss MA use

- **Roll with Resistance:** “It sounds like you have thought a lot about the challenges of stopping your MA use. How can you address some of these challenges? ”
- **Self-Efficacy:** “I have some thoughts about a plan of treatment for you and would like for you to share with me what you can do for maximum treatment success.”



Clinical Implications

SELECT TREATMENT

Select Treatment

Successful management of dental caries requires:

Assessment of caries risk for future reoccurrence of dental caries

Risk level used to determine personalized caries management approach for each patient

Featherstone JDB, Alston PA, Chafee BW, Rechmann P. Caries management by risk assessment (CAMBRA)*: an update for use in clinical practice for patients aged 6 through adult. J Calif Dent Assoc. 2019;47(1):15-24. PMID: 29355423.

Select Treatment

**Drug Use
Patterns that
Increase Risk for
Caries:**

- ✓ Use of MA
- ✓ Duration of use
- ✓ Oral Route of Administration

And:

- ✓ Infrequent oral hygiene
- ✓ Sweetened diets
- ✓ Co-abuse with xerostomic drugs

Brown RB, Morisky DE, Silverstein SJ. Meth mouth severity in response to drug-use patterns and dental access in methamphetamine users. J Calif Dent. 2013; 41(6): 421-428.

Select Treatment

- ❑ Treatment based upon **Caries Risk Assessment**
- ❑ Assess **Behavioral** (include *drug-use patterns*) and **Clinical** Risk factors



- ❑ Goal: **Decrease risk** by chemical, behavioral & surgical interventions
- ❑ **Does not replace** clinical judgement

Select Treatment-Behavioral

High Risk Indicators:

- ✓ Current Meth Use
- ✓ 10+ Years of Use
- ✓ Co-abuse with other illicit drugs with hypo-salivatory effects
- ✓ Rx for medications with hypo-salivatory effects
- ✓ Infrequent brushing
- ✓ Frequent in-between meal snacking
- ✓ Infrequent dental visits

Select Treatment-Clinical

High Risk Indicators:

- ✓ Heavy visible plaque
- ✓ White spot lesions
- ✓ Teeth with pulpal involvement

Select Treatment

Home Strategies:	Low	Medium	High
Recovery/Sobriety Referrals	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Fluoride Toothpaste	<input type="checkbox"/> 1,000-1,500 ppm	<input type="checkbox"/> 5,000 ppm	<input type="checkbox"/> 5,000 ppm
Oral Rinses	<input type="checkbox"/> Alcohol Free	<input type="checkbox"/> Alcohol Free <input type="checkbox"/> 0.05% NaF rinse <input type="checkbox"/> Bicarbonate rinse	<input type="checkbox"/> Alcohol Free <input type="checkbox"/> 0.05% NaF rinse <input type="checkbox"/> Bicarbonate rinse
Fluoride Trays	<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> Yes
Dietary Instructions	<input type="checkbox"/> Reduce snacking	<input type="checkbox"/> Reduce snacking <input type="checkbox"/> Xylitol mints/gum	<input type="checkbox"/> Reduce snacking <input type="checkbox"/> Xylitol mints/gum
Salivary Substitutes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes

For High Risk Patients:

At Home Interventions

- ✓ High [F] Dentifrices and Rinses
 - ✓ Bicarbonate mouth rinse
 - ✓ Dietary counseling
 - ✓ Use of xylitol mints/gum
 - ✓ Salivary substitutes
 - ✓ Recovery/Sobriety Support
- 800-662-HELP**

Select Treatment

Office Strategies:	Low	Medium	High
OHI and Plaque Monitoring	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Topical Fluoride	<input type="checkbox"/> Every 6 months	<input type="checkbox"/> Every 3-4 months <input type="checkbox"/> SDF every 6-12 months	<input type="checkbox"/> Every 3-4 months <input type="checkbox"/> SDF every 6-12 months
Pre-procedural Rinses	<input type="checkbox"/> Chlorhexidine	<input type="checkbox"/> Chlorhexidine	<input type="checkbox"/> Chlorhexidine
Recall Visits Hygiene Visits	<input type="checkbox"/> 1/year <input type="checkbox"/> 2-4/year	<input type="checkbox"/> 2/year <input type="checkbox"/> 2-4/year	<input type="checkbox"/> 2/year <input type="checkbox"/> 2-4/year
Treatment of Advanced Caries	<input type="checkbox"/> N/A	<input type="checkbox"/> Extract non-restorable teeth <input type="checkbox"/> RCT if favorable	<input type="checkbox"/> Extract non-restorable teeth <input type="checkbox"/> Extract teeth with pulpal involvement
Restorations	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect	<input type="checkbox"/> Direct (GI)	<input type="checkbox"/> Direct (GI)
Tooth Replacement	<input type="checkbox"/> Simple and Complex Prosthesis	<input type="checkbox"/> Simple Prosthesis	<input type="checkbox"/> Simple Prosthesis

For High Risk Patients:

In-Office Strategies

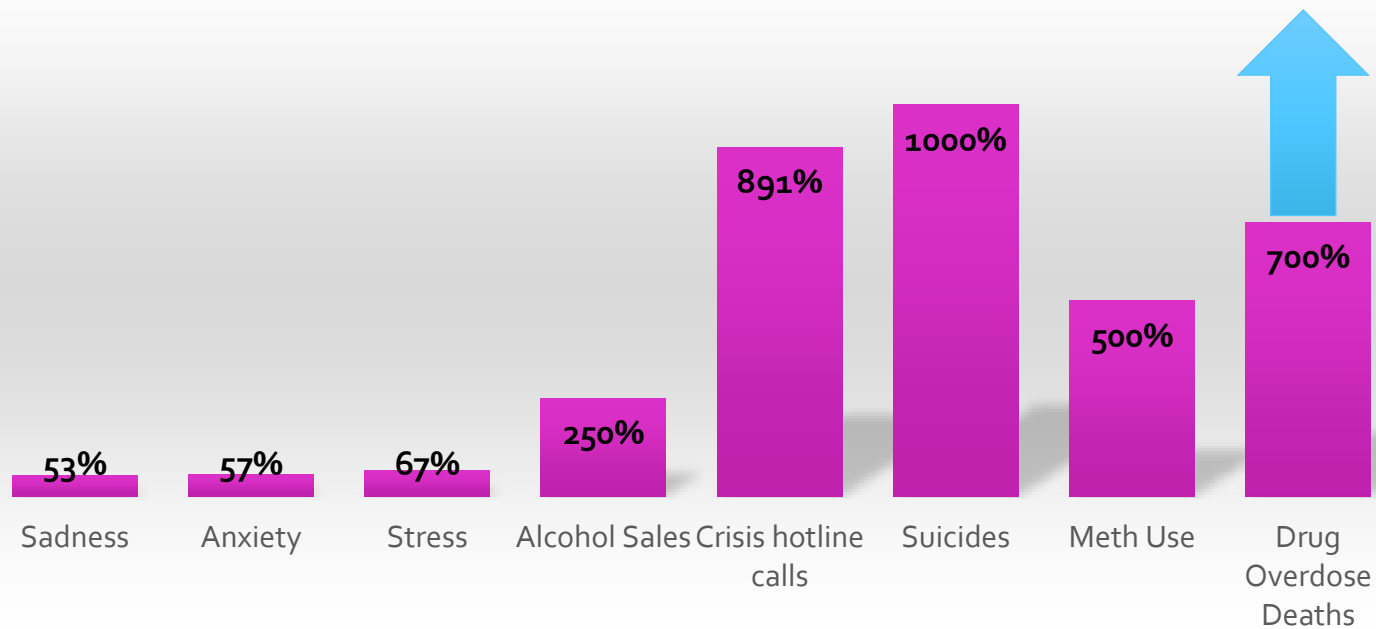
- ✓ Topical Fluoride Varnish
- ✓ Increased recall/hygiene visits
- ✓ Re-mineralizing restorative materials
- ✓ Direct Restorations

Since 2020...



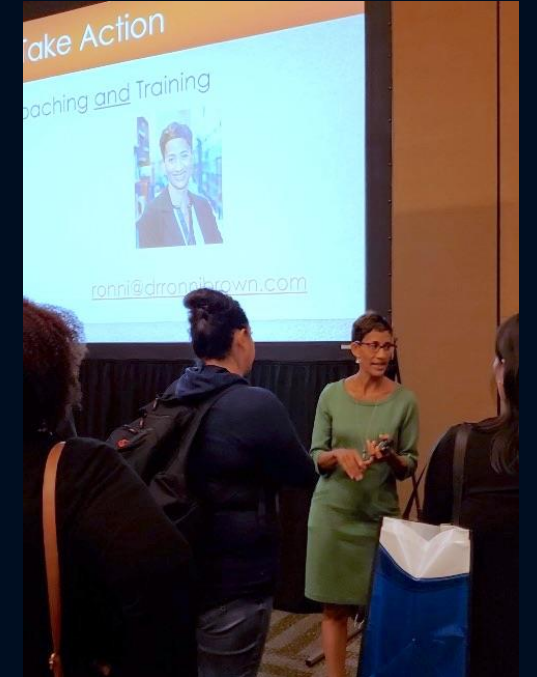
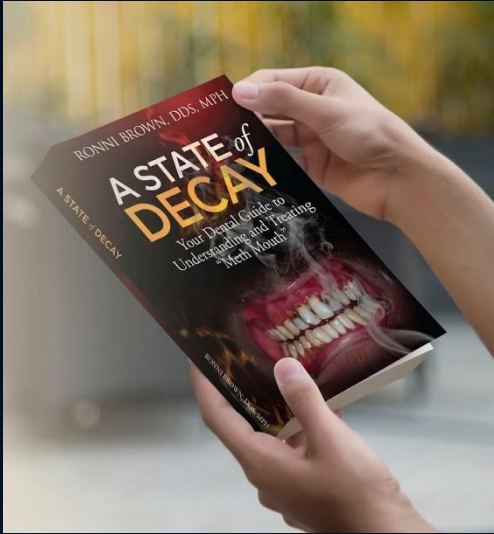
Since 2020...

Percentage Increase Since COVID



Experts estimate significant increases in drug use & overdoses.
National Institute on Drug Abuse

Thank You!



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