

Integrating Tobacco and Nicotine
Treatment into Substance Use

Disorder Recovery

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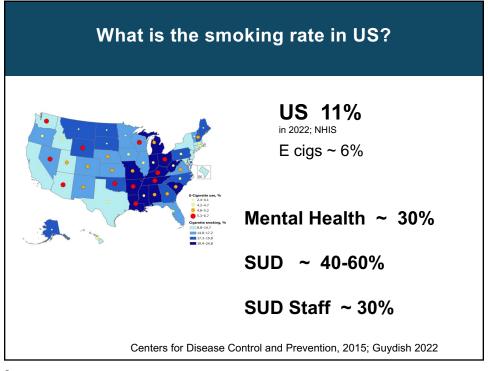
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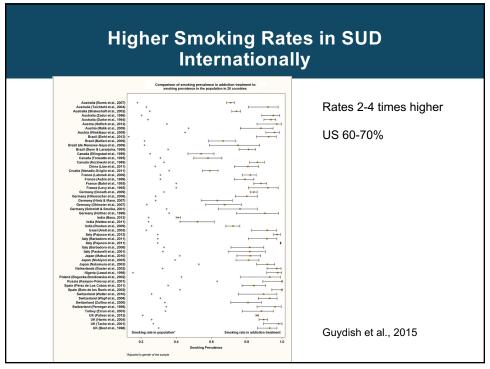
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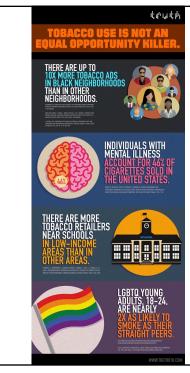
Learning Objectives

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- Discuss how individuals with a Substance Use Disorder are a key disparity group for addressing tobacco and suffer many consequences from this addiction
- To understand changing patterns of tobaccouse including vaping and co-use with cannabis
- Summarize the benefit of integrated approaches for addressing tobacco in SUD clinics and recovery homes
- To review brief updates in tobacco treatment with an emphasis on individuals with SUD







Smoking is a Social Justice Issue

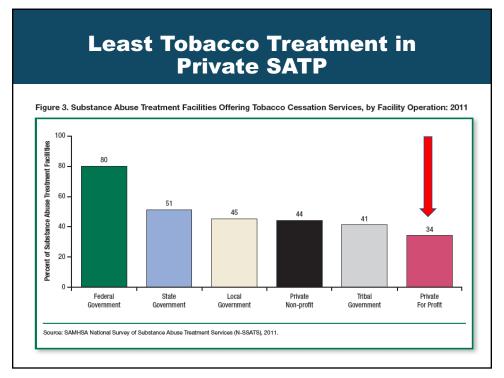
www.thetruth.com

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Less Than Half of US Mental Health Treatment Facilities Screen for Tobacco Use

Tobacco Related Policies and Practices (2016 data)

Mental health treatment facilities (%)	Substance abuse treatment facilities (%)	Marynak et al., MMWR, 2018
48.9	64.0	Reported screening patients for tobacco use
37.6	47.4	Offered tobacco cessation counseling
25.2	26.2	Offered nicotine replacement therapy
21.5	20.3	Offered non-nicotine cessation medications
48.6	34.5	Had a smoke free campus policy

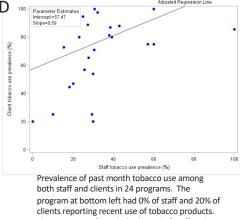




Staff Smoking

Higher staff smoking in SUD **Programs**

- More client smoking
- Lower client receipt of tobacco counseling
- Worse staff beliefs about having clients quit while in SUD treatment
- Lower staff self-efficacy to assist clients with quitting.



The program at far right had 100% of staff and 86% of clients reporting use of tobacco products.

Guydish et al., 2022

Barriers in SUD Programs

Rationale Not to Treat Tobacco Dependence in SUD Patients (Hurt & Slade 2001)

- Not a real drug
- Fewer consequences / Not as disruptive to patients' life
- Disruptive to SUD treatment
- Patients don't want tobacco treatment
- · Patients can't quit smoking successfully
- Jeopardizes recovery from other substances

Barriers in SUD Programs

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BARRIERS

- · SUD recovery culture
- Low stakeholder engagement/ client resistance
- Organizational culture
- Lack of reimbursement for smoking cessation services
- Staff smoking
- Lack of workforce expertise/ lack of resources

BARRIERS

- Beliefs that clients need to smoke to relieve the stress of recovery
- Patients are disinterested in quitting
- Fears that concurrent treatment would jeopardize substance use
- Limited education/ training resources

Hurt & Slade 2001; Williams et al., 2003

Fokuo et al 2022; Pagano et al., 2016

Britton et al., 2023

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Predictors of Quality Tobacco Treatment

National survey of tobacco practices in US Drug Treatment Facilities

- Our facility has a policy that requires staff to offer treatment for clients' tobacco dependence
- · Our staff has dedicated time for treating clients tobacco dependence
- · Our staff has the skills to treat clients tobacco dependence
- Our staff has received training specifically for treating tobacco dependence

Commitment and Resources

Richter KP et al. 2017

Survey of SUD Program Directors

- Several factors that would support tobacco treatment in SUD.
- Financial support
- Enhanced leadership
- **State mandates** against smoking in addiction treatment programs.

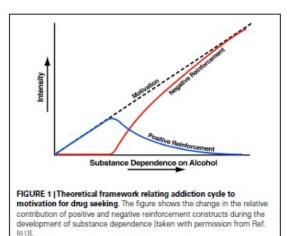
Pagano et al., 2016

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Activation of the reward pathway by addictive drugs Tobacco Use Disorder is in the DSM-5

Addiction

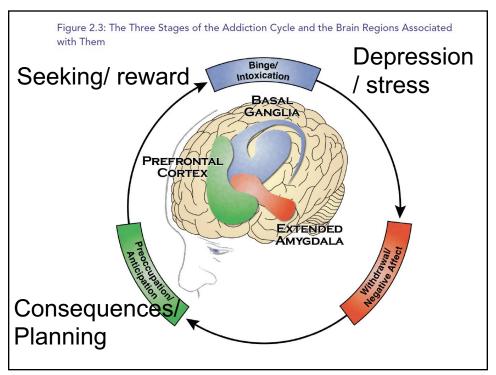
• Reward Deficit + Excess Stress

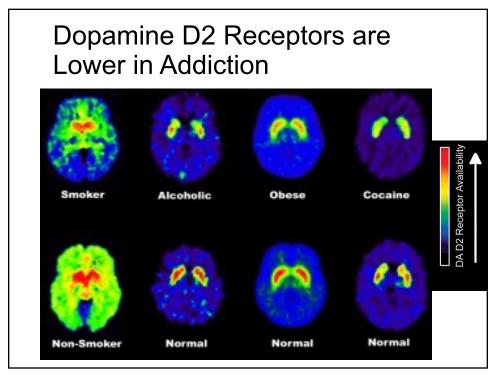


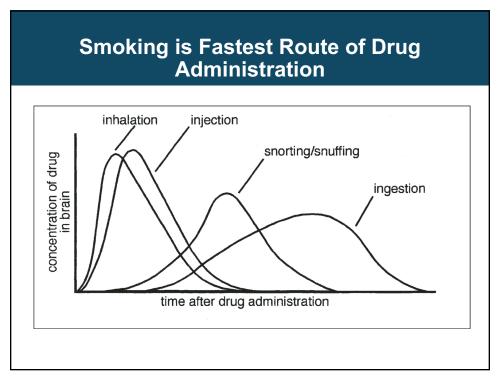
Drug withdrawal Depression Abuse/ Trauma Neglect/Poverty/ Social Deprivation

Koob 2013

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Are Drug Use Behaviors Related?

How does tobacco use behavior pattern *mimic* or *maintain* drug use behaviors?



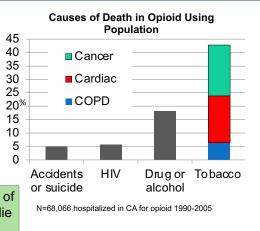




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It Causes Real Consequences: Tobacco is Number One Cause of Death

- Schizophrenia
- Depression
- Bipolar Disorder
- Accountable for 50% of all deaths



More with alcohol use disorder die of smoking (caused diseases) than die of alcohol (caused disease)

Callaghan 2013; Hurt et al., 1996; Veldhuizen et al., 2014

Consequences of Tobacco

Major Health Consequences

- Premature Death
- Heart Disease
- Lung Disease
- Cancer
- Others
- Severe COVID illness

Others/ Barrier to Recovery

- Financial Hardships
- More Employment Difficulties
- More Housing Difficulties
- · Poorer Mental Health
- More Suicidal Ideation, Attempts
- More Relapse to Drugs and Alcohol
- · Social Stigma
- Poorer Appearance
- More Fires in Home

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Tobacco Consequences in Alcohol Use Disorder (AUD)

- More die from smoking related diseases than from alcohol related diseases¹
- Synergistic effects of alcohol and tobacco ↑ risk pancreatitis and oral cancers²
- Smoking | recovery from cognitive deficits during alcohol abstinence³

¹Hurt et al, 1996; ²USDHHS 2007; ³Durazzo et al, 2007

It is Not Disruptive to SUD Treatment and Improves Other Abstinence Outcomes

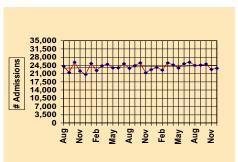
- vs TAU (Winhusen et al., JCP 2016) in stimulant use disorder
 - Increased abstinence from stimulants at 6 months
 - · More quitting smoking
 - · Does not contribute to patient drop outs
- Does not negatively effect drinking or drug outcomes (Romano 2021; Apollonio 2016)
- Associated with 25% increased likelihood of long term abstinence from alcohol or drugs (Prochaska 2004)
- No increase in irregular discharges when residential SUD settings went TF(NJ; Williams 2005)

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- All 1419 substance abuse treatment sites tobacco-free since 2008
- No reduction in admissions
- More than 80% in compliance (2010)
- Positive behavior change
- Negative behaviors
 - addict behaviors (lying, selling)
 - enforcement problems

No Reduction in SUD Program Admissions



Total For All Major Program Types OASAS NY Tobacco-Free Implementation - July 2008

Smoking and SUD Relapse

 NESARC (2 surveys, 3 years; n>5000); SUD remission >1 year

Controlled for sociodemographic and psychiatric covariates

- 82 % still smoking at Wave 2
- Wave 1 NS who started smoking,
 \(\gamma\) Wave 2 substance use and SUD relapse (vs stayed nonsmokers W2)
- Wave 1 S, ↑ Wave 2 substance use and SUD relapse (vs quit smoking W2)
- Both continued smoking and new-onset smoking—is associated with an increase the likelihood of relapse to SUD

Weinberger et al., JCP, 2017

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Quitting Smoking Reduces Anxiety and Depression

Meta-analysis 26 studies (14 gen pop, 4 psychiatric, 3 physical conditions, 2 psychiatric or physical, 2 pregnant, 1 post-op)

Table 1| Effect of smoking cessation on mental health. Sensitivity analysis after removal of studies of low quality (medium Newcastle-Ottawa scale)

			Standardised mean difference (95% CI)	
Outcome	No of studies included	No of studies excluded	Effect estimate	Original effect estimate
Anxiety	4	0	-0.37 (-0.70 to -0.03)	-0.37 (-0.70 to -0.03)
Depression	9	1	-0.29 (-0.42 to -0.15)	-0.25 (-0.37 to -0.12)
Mixed anxiety and depression	4	1	-0.36 (-0.58 to -0.14)	-0.31 (-0.47 to -0.14)
Psychological quality of life	4	4	0.17 (-0.02 to 0.35)	0.22 (0.09 to 0.36)
Positive affect	1	2	0.68 (0.24 to 1.12)	0.40 (0.09 to 0.71)
Stress	2	1	-0.23 (-0.39 to -0.07)	-0.27 (-0.40 to -0.13)

Taylor G, McNeill A, Girling A, Farley A, Lindson-Hawley N, Aveyard P. Change in mental health after smoking cessation: systematic review and meta-analysis. Bmj 2014 Feb 13;348.

Smoking and Anxiety

Smoking



Panic

- Smokers 3X panic attacks/ disorder
- Anxiety D/o reduced success quitting and more withdrawal symptoms
- More negative affect (smoking to improve mood), anxiety sensitivity, more withdrawal symptom sensitivity

Tobacco Withdrawal

Depressed mood Insomnia Irritability, frustration or anger

Anxiety

Difficulty concentrating
Restlessness
Increased appetite or weight gain
Craving



Piper 2010; Bakhshaie 2016; Johnson et al., 2000; Isensee et al., 2003

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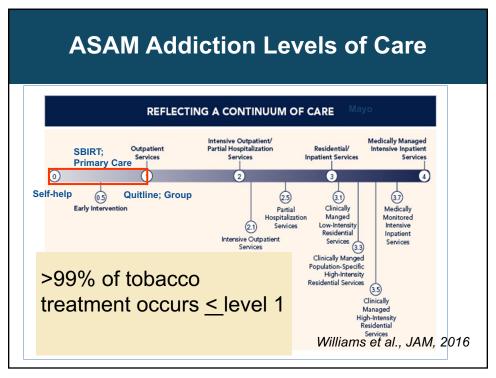
Why So Hard to Quit?

- · Smoking a drug is highly addicting
- · Easy access to drug
- Normalization in behavioral health settings
- Treatment options

Limited (brief) counseling support No levels of care

Utilization of treatment is poor

Most don't use counseling Medications-too low dose, not enough time



Multidimensional Assessment

Biopsychosocial Severity and Level of Function

ASAM identifies 6 dimensions

- √ 1. Acute intoxication and/or withdrawal potential
- 2. Biomedical conditions and complications
- 3. Emotional, behavioral, or cognitive conditions or complications
- √ 4. Readiness to change
- √ 5. Relapse, continued use, or continued problem potential
- √ 6. Recovery/living environment

Each scored 0=none to 4=severe

$E = N \times S$

Exsmokers =(number trying to quit) x (success of attempts)

R West, 2013

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Treatment for Tobacco Use Disorder Works

Call it Treatment, Not Cessation

- Brief Assessment
- Work with all Motivational Levels

Tobacco Use is a Co-Occurring Disorder

- Engagement/ Motivational Approaches
- Counseling + Medications

Smokers with mental illness

Compared with smokers without mental illness (US, UK, Australia, Germany)

- More likely to try to quit
- · Same or higher motivation
 - 50% considering quitting in next 1-6 months
- Higher rate of health professional's advice to quit, use of counseling and/or medication
- More quit attempts/ more <u>unsuccessful</u> attempts

Brose et al, BMJ, 2020; Siru 2009; Babb MMWR, 2017

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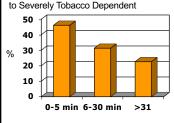
Heaviness of Smoking Index Best Measure of Dependence

AM Time to first cigarette (TTFC)

≤ 30 minutes = moderate

≤ 5 minutes = severe

Heatherton 1991



Smokers in SUD Treatment are Moderately

N=1882 smokers in addiction treatment, Williams et al., 2005

Implications for Treatment Outcome Need for Medications Implications for Dose

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Tobacco Withdrawal

Emerge hours after last cigarette Can last up to (4) weeks

Depressed mood

Insomnia

Irritability, frustration or anger

Anxiety

Difficulty concentrating

Restlessness

Increased appetite or weight gain

Cravings

DSM5 2013

FDA Approved Pharmacological Treatments

Nicotine Replacement (NRT)

Patch Gum Lozenge Available OTC but are often covered with prescription with state Medicaid

Nasal Spray

Bupropion (Wellbutrin)

Varenicline (Chantix)

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Effectiveness of First Line Medications

Results from meta-analyses comparing to placebo (6 month F/U)

Medication	No. Studies	OR	95% CI
Nic. Patch (6-14 wks)	32	1.9	1.7-2.2
Nic. Gum (6-14 wks)	15	1.5	1.2-1.7
Nic. Inhaler	6	2.1	1.5-2.9
Nic. Spray	4	2.3	1.7-3.0
Bupropion	26	2.0	1.8-2.2
Varenicline (2mg/day)	5	3.1	2.5-3.8

2008 PHS Guideline Update; Hartmann-Boyce et al., 2013

Recommendations for Increasing Smoking Cessation in US

 Varenicline or combination NRT + behavioral support should be considered first line

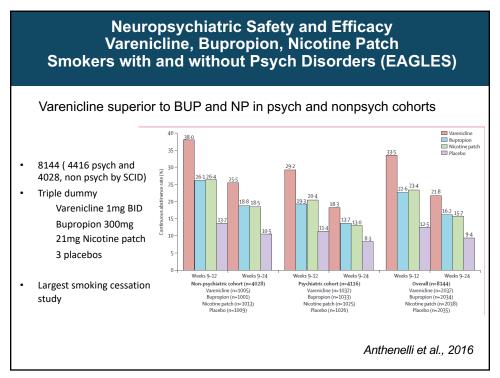
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Combination NRT

- Long acting (patch) + short acting (gum/lozenge/inhaler)
- Delivers higher dose
- Immediate withdrawal and craving relief

	OR
Patch + gum or spray	1.9 (1.3-2.7)
Patch + bupropion	1.3 (1.0-1.85)

2008 PHS Guideline Update; Carpenter et al., 2013



Neuropsychiatric Safety Varenicline

- Meta analysis 39 RCT (10,761 participants)
 - No increased risk of suicide, suicidal ideation, depression, irritability, aggression
- RCT. MDE, Schizophrenia, Bipolar
 - No worsening illness (MADRS, PANSS)
- EAGLES study: N= 8144 (4416 stable, psych outpatients)
 - No increased risk of moderate/ severe adverse effects vs NP or Bup or Placebo (Anxiety/ Panic, Depression, Feeling abnormal, Hostility, Agitation, Aggression, Delusions, Hallucinations/ Paranoia/ Psychosis, Homicidal ideation, Mania, Suicidal ideation or behavior
- VAR ↓ mortality, serious CV events and neuropsych events (vs NRT) US Health insurance claim database (> 600k) VAR (20%) or BUP (25%) less likely hospitalized CV problem in last 12 mos (vs NRT) VAR: 35% ↓hospitalized psychiatric illness in last 12 mos (vs NRT; BUP ↑)

Carney et al., NTR, 2021; Anthenelli et al, 2016, Thomas et al., 2015

Mental Health Populations

- Treatments work and well tolerated
- Overall cessation on a given attempt can be less than populations without mental illness
- Many studies- no worsening of depression, psychosis in guit attempt
- No worsening of neuropsychiatric: varenicline
- Modified counseling approaches with pharmacotherapy

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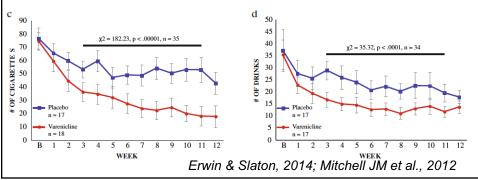
Tobacco Treatment in SUD

- 35 studies , 5796 participants
- Pharmacotherapy appeared to increase tobacco abstinence (RR 1.60, 95% Cl 1.22 to 2.12, 11 studies, 1808 participants)
- Combined counselling and pharmacotherapy increased abstinence (RR 1.74, 95% CI 1.39 to 2.18, 12 studies, 2229 participants,) at follow-up, 6 weeks to 18 months.
- Counselling interventions did not significantly increase tobacco abstinence (RR 1.33, 95% CI 0.90 to 1.95)
- Interventions worked for both people in treatment (RR 1.99, 95% CI 1.59 to 2.50) and people in recovery (RR 1.33, 95% CI 1.06 to 1.67), and for alcohol (RR 1.47, 95% CI 1.20 to 1.81) and other drug dependencies (RR 1.85, 95% CI 1.43 to 2.40).
- Offering tobacco cessation therapy to people in treatment or recovery for other drug dependence was not associated with a difference in abstinence rates from alcohol and other drugs (RR 0.97, 95% CI 0.91 to 1.03, 11 studies, 2231 participants). Does not reduce other abstinence.

Apollonio, Cochrane, 2016

Varenicline and Alcohol

- a4B2 may modulate rewarding effects of alcohol
- Varenicline reduces alcohol consumption & craving
 - In heavy drinkers
 - In smokers trying to quit smoking
 - · In lab studies of animals and humans



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Access to Treatment Still Limited Nicothe replacement therapy Nicothe replacement therapy Agency Service Access to Treatment Still Limited Nicothe replacement therapy April Service Access to Treatment Still Limited The most common barrier to providing smoking cessation treatment noted by general internists (60%) and psychiatrists (80%) was patients' perception of smoking as a coping mechanism for their mental illness. White et al., 2022, Psych Serv Medical Expenditure Panel Survey (MEPS) data (2005–2019)

Should we use medications for people who aren't ready to quit?

- Yes.
- Lessen dependence
- Minimize withdrawal/ Temporary abstinence
- Harm reduction
- Smoke less
- Higher OR for future quitting/ Reduce to Quit

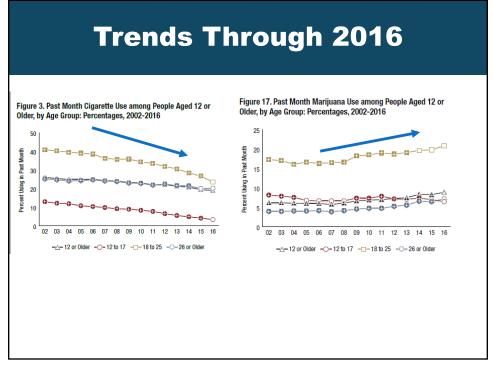
Fiore et al., 2008. PHS Guideline

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Reduce to Quit (Cochrane)

- 51 trials with 22,509 participants
- Low-certainty evidence that reduction-to-quit interventions may be more effective when pharmacotherapy is used as an aid, particularly fast-acting NRT or varenicline (moderatecertainty evidence).
- Reduction-to-quit may be equivalent to abrupt quitting for fast-acting NRT or varenicline but not for nicotine patch, combination NRT or bupropion (abrupt quitting may be better)

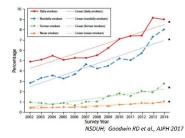
Lindson et al, Cochrane, 2019



Cannabis and Tobacco

- Trends
 - Combustible vs Vaping/Ecigs
 - Co-Use Delivery
 - Legalization vs Medical
- Impact of Co-Use
 - Mental Health
 - · Physical Health
 - · Quitting tobacco
 - · Quitting cannabis
 - Pregnancy
- · Policy and Public Health Implications
 - Indoor Air/ Public Spaces
 - Industry/ Tax

Daily cannabis increased in last decade in smokers



Vaping Cannabis and Tobacco

- 1 in 10 high school students reported ever vaping cannabis (ecigarette device with marijuana, THC or hash oil, or THC wax)
- Higher odds of adolescents ever vaping cannabis, if (all past 30 days)
 - cigars (adjusted OR (aOR) 3.76)
 - waterpipe (aOR 2.32)
 - e-cigarettes (aOR 3.18)
 - None smokeless, comb cigs

Different Methods of Use (Concurrent, sequential or mixed)

- Spliff (tobacco rolled in with marijuana)
- Blunt (cannabis wrapped in tobacco leaf)
- Vaporizer

Kowitt et al., BMJ Open, 2019

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Tobacco and Cannabis Co-Use

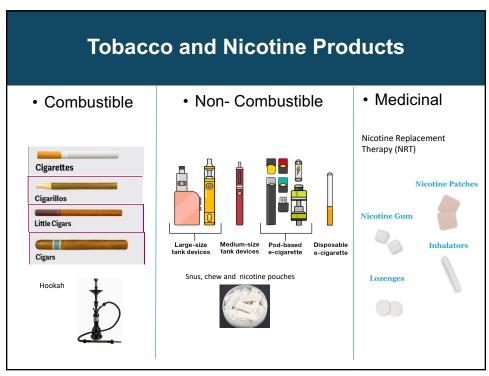
- More psychiatric problems
- More health risks
- Higher risk for SUD of other
- More difficulty quitting (both)
- Desire/importance quit tobacco> cannabis
- ?Drug substitution
- ?Interventions for both

E-Cigarettes and Vaping

- · Concern over youth uptake
 - E-cigarette use is associated with increased risk for cigarette initiation and use, in low-risk youths
- · Controversy older smoker for cessation
- · Non- combustible
 - · Safer than smoking doesn't mean safe?
- Not regulated/ Wide variability
- · Nicotine addiction: ? same treatments
- · Vaping culture- co use with THC/ cannabis
- Most EVALI cases: THC
- Public health support UK, others
 - · Continuum of risk?



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Controversies



Increasing Adult Cessation

Prevent Youth Uptake

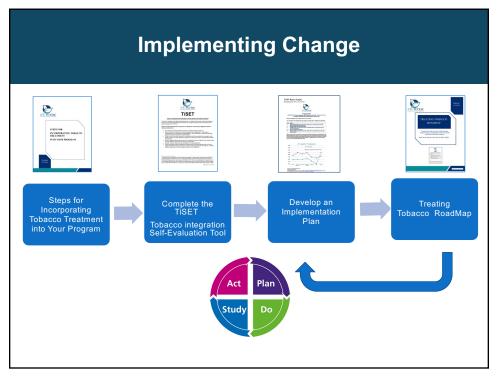
Policy Agenda

- Decreasing the addictiveness of combusted tobacco products while ensuring the availability of reduced-risk nicotine products
- Imposing large taxes on combustible products and smaller taxes on ecigarettes
- · Limiting the sale of all tobacco/nicotine products to adult-only retailers
- Developing communications that accurately portray e-cigarettes' risks to youth and benefits for adult smokers

Warner et al., 2022

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Welcome - We help behavioral health agencies in NYC implement treatment for tobacco use disorder. We're glad you found us! LEARN MORE 167 programs 61 agencies from NYC completed our comprehensive training program since 2017, improving their capacity and expertise to treat tobacco use disorder.



Tobacco Integration Self-Evaluation Tool (TiSET) for Behavioral Health Programs

- This tool is intended to stimulate goal setting as part of a quality improvement process for programs interested in implementing treatment for tobacco use
- Based on the Dual Diagnosis Capability in Mental Health Treatment (DDCMHT) index1
- Twenty items across Six domains:
 - POLICY AND ADMINISTRATIVE
 - **ENVIRONMENT**
 - SCREENING AND ASSESSMENT
 - **TREATMENT**
 - **STAFF**
 - **TRAINING**
- Items rated on a 5-point response, ranging from 1 (no implementation) to 5 (full implementation).



¹Gotham HJ, Brown JL, Comaty JE, McGovern MP, Claus RE. Assessing the co-occurring capability of mental health treatment programs: the Dual Diagnosis Capability in Mental Health Treatment (DDCMHT) Index. The journal of behavioral health services & research. 2013 Apr;40(2):234-41.

Doing an Agency or Program-Level Self-Assessment

- What is our capacity for treating tobacco today?
- How can we increase our capacity for treating tobacco over time?
- How do we develop and implement a plan to increase capacity?
- How do we know our changes have been successful?
- Process explores the organization's policies, clinical practices, and workforce capacities.
- Provides specific feedback/priority areas.

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The Self-Evaluation (TiSET) Report



POLICY AND ADMINISTRATIVE
Overall Average Score: 2
Recommended Resources: NYC TCTTAC offers an archived web
City Treats Tobacco (NYCTT) can help with tobacco use policy, se

Item	Recommendation
Tobacco Use Policy	Your program scored a 2 on this item. Congratulations on having an informal policy; consider developing a written policy prohibiting tobacco use on grounds and in vehicles, with the eventual goal of informing most (at least 80%) staff and people you serve in writing.
2. Tracking Outcomes	Your program scored a 2 on this item. Congrahulations on tracking mental health outcomes; consider ensuring that the program tracks both mental health and tobacco related outcomes data, with the eventual goal of using this data to identify program strengths and challenges and to make program improvements.

- Used to develop an implementation plan
 - · includes goals, objectives, interventions, responsible persons, and projected dates
- Can be repeated to measure progress in targeted areas

Covell et al., CMHJ, 2021

Conclusions

- Approach tobacco use as a co-occurring disorder
- Improve implementation evidence based treatment
- Systems interventions/ policy mandates
- More resources: support for staff, training, time
- Varenicline OR Combination NRT two very good medication options
- More harm reduction

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