

# TOBACCO USE DISORDER: THE NEGLECTED ADDICTION

- Today's presentation is part of a NRI series focused on improving access to tobacco cessation recovery for persons in psychiatric hospitals.
- Complete the **Pre-test** to establish your baseline knowledge now:  
<https://wh1.snapsurveys.com/s.asp?k=160045158872>



Funding support for this project was provided  
by the Smoking Cessation Leadership Center

# TOBACCO USE DISORDER: THE NEGLECTED ADDICTION



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# LEARNING OBJECTIVES

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1. Understand the unique features of tobacco use disorder which have contributed to undertreatment in behavioral health settings
2. Define the high tobacco use prevalence rates and low cessation rates among individuals with behavioral health conditions using a health disparities framework
3. Improve referrals at point of discharge for continued tobacco cessation recovery efforts through use of a guideline-based brief counseling intervention

# LEARNING OBJECTIVE #1

Understand the unique features of tobacco use disorder which have contributed to undertreatment in behavioral health settings



[https://www.toonpool.com/cartoons/smoke\\_18349#img9](https://www.toonpool.com/cartoons/smoke_18349#img9)

“An important characteristic of SUD is an **underlying change in brain circuits that may persist beyond detoxification**, particularly in individuals with severe disorders. The behavioral effects of these brain changes may be exhibited in the repeated relapses and intense drug craving when the individuals are exposed to drug-related stimuli.”

The Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM–5; American Psychiatric Association, 2013)

# NICOTINE PHARMACOLOGY

- When inhaled, nicotine enters the lungs where there is a large surface area of small airways and alveoli
  - dissolves in pulmonary fluid
  - transported to the heart
  - passes to the brain within 10 seconds
- The resultant intensity of dopamine release in the brain is considered the “reward” of addictive substances
- The rapid rate of nicotine absorption and high amounts of nicotine attained in the brain from smoking are crucial factors that promote and sustain nicotine addiction. Approximately 2 hours after entering the body, half of the nicotine has gone.

Potts LA and Garwood CL. Am J of Health-System Pharmacy (2007); 64:1381-1384

# NICOTINE: A SEDATIVE AND A STIMULANT

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- Nicotine stimulates the release of dopamine in the pleasure and motivation areas of the brain – producing a feeling of pleasure and contentment
- Nicotine stimulates the adrenal glands, which results in the release of adrenaline. This surge of adrenaline stimulates the body.
- Nicotine appears to improve memory and concentration. This is likely due to an increase in acetylcholine and norepinephrine. Norepinephrine also increases the sensation of wakefulness, or arousal.
- Tobacco products that are chewed, placed inside the mouth, or snorted tend to release considerably larger amounts of nicotine into the body than smoking.
- Nicotine has less of an effect as the day progresses because of the buildup of tolerance.

# NICOTINE THE PHYSIOLOGIC MECHANISM OF TOBACCO DEPENDENCE



<https://www.youtube.com/watch?v=xzq160XvAK8>



- **Receptor:** Site at which a chemical binds to cell to illicit an effect.
- **Neurotransmitter:** Chemicals that transmit signals between neurons.
- **Ligand-gated ion channel:** Protein which forms or is a component of a ligand-gated channel. Ligand-gated channels are transmembrane ion channels whose permeability is increased by the binding of a specific ligand, such as neurotransmitters.
- **Antagonist:** Compounds that block a receptor, preventing chemicals from binding and producing a response.
- **Full Agonists:** Compounds that are able to elicit the maximal response following receptor occupation and activation.
- **Partial Agonists:** Compounds that produce an agonist action, but are unable to elicit the full response.

# TOBACCO USE DISORDER:

A CHRONIC, RELAPSING CONDITION REQUIRING MULTIPLE EPISODES OF TREATMENT

1. Use in larger amounts or longer than intended
2. Desire or unsuccessful effort to cut down
3. Great deal of time obtaining, using (chain-smoking) or recovering
4. **Craving or strong urge to use tobacco**
5. Role obligation failure at work, home, or school (interferes w/ work)
6. Continued use despite social/interpersonal problems
7. Sacrificing activities to use or because of use
8. Use in situations where impairment is physically hazardous
9. **Continued use despite knowledge of having a physical or psychological problem caused or exacerbated by use**
10. Tolerance: need increased amount or diminished effect
11. Withdrawal

**The most effective treatment for TUD is a combination of behavioral counseling and use of medication(s)**

DSM-5

# Guideline: PRACTICAL COUNSELING

- **Provide Info:**

- Tobacco Dependency
- Treatment Options
- Successful Quit Strategies

**STEP 1**

- **Recognize “dangerous situations”**

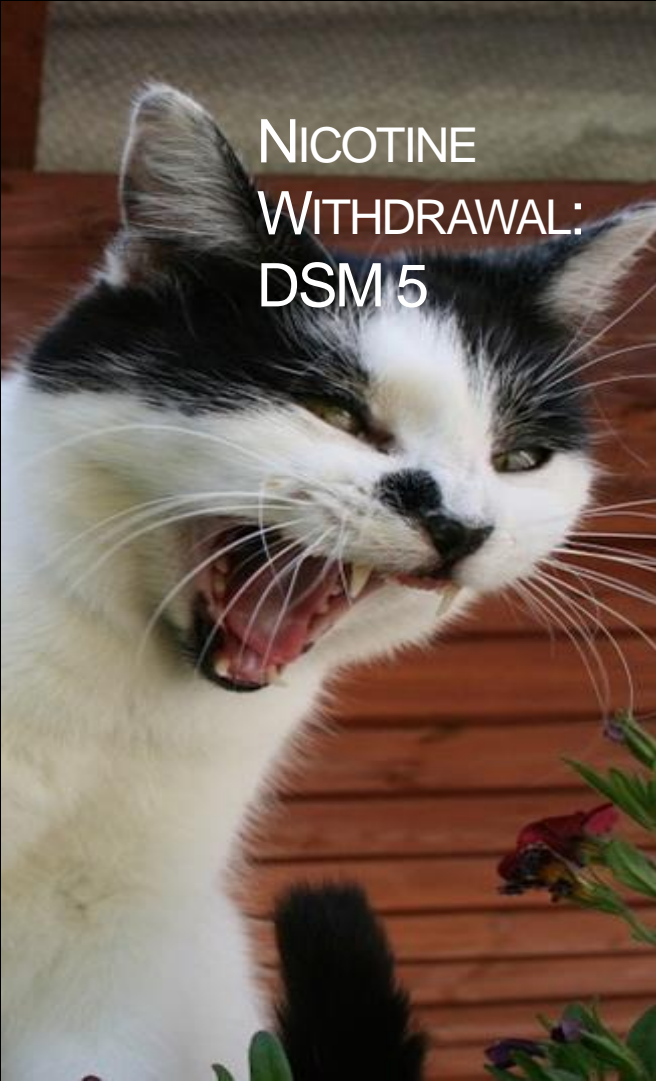
- Cues and triggers to smoke

**STEP 2**

- **Develop and strengthen coping skills**

- Cognitive
- Behavioral
- Psychological
- Social
- Spiritual

**STEP 3**



NICOTINE  
WITHDRAWAL:  
DSM 5

### Symptoms:

- Irritability, frustration, or anger
- Anxiety
- Difficulty concentrating
- Increased appetite or weight gain (4-7 lbs)
- Restlessness
- Depressed mood
- Insomnia
- Decreased heart rate

### Associated Features:

- Craving sweet or sugary foods
- Impaired performance on tasks requiring vigilance
- Increased constipation
- Coughing
- Dizziness
- Dreaming /nightmares
- Nausea
- Sore throat

# UNIQUE FEATURES OF TOBACCO USE DISORDER

- Highly addictive but not intoxicating so use gets completely integrated in one's lifestyle
- Rapid rate of absorption and high amount of nicotine delivered directly to the brain
- Releases dopamine to deliver a feeling of calm and pleasure
- Nicotine withdrawal starts within 60 – 90 minutes of last use
- Users experience withdrawal symptoms as “stress”, use nicotine, and conclude smoking helps to deal w/ stress

The immediate psychoactive effects of nicotine are regarded as positive by users, while devastating physical effects seem more distant.

# REFRAMING THE EXPERIENCE OF “STRESS RELIEF”

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- One of the most impactful clinical interventions we can make
- Help tobacco users think about their experience differently
- Tobacco use is not relieving stress, it is interrupting nicotine withdrawal
- Withdrawal symptoms may be treated with NRT or other medications to provide relief
- Withdrawal symptoms may be relieved with behavioral interventions such as the 4D's (delay, distract, drink water, deep breaths), mindfulness and other CBT strategies
- Cravings and triggers will pass, and lessen over time

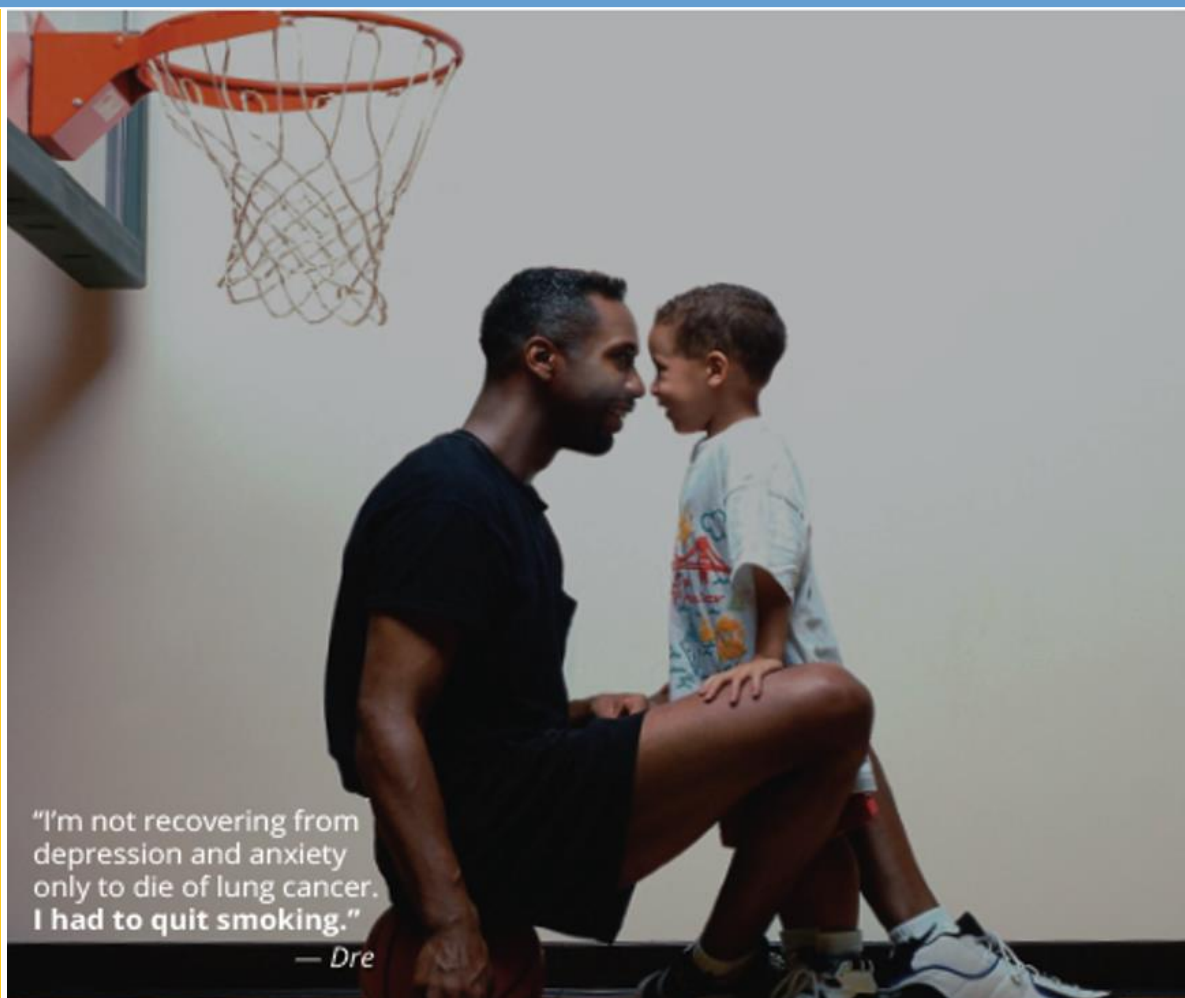
# NICOTINE CRAVINGS

- Thoughts about smoking, behavioral urges, physical discomfort, subjective sense of deprivation
- Intense, emotional, obsessional experience
- Frequency and persistence varies from person to person
- The only symptom that can be present regardless of tobacco use, and remain present even w/ years of abstinence
- More negative beliefs about cravings may exacerbate suffering and contribute to cessation difficulty
- Euphoric recall may persist for years after cessation

(Nosen & Woody 2014)

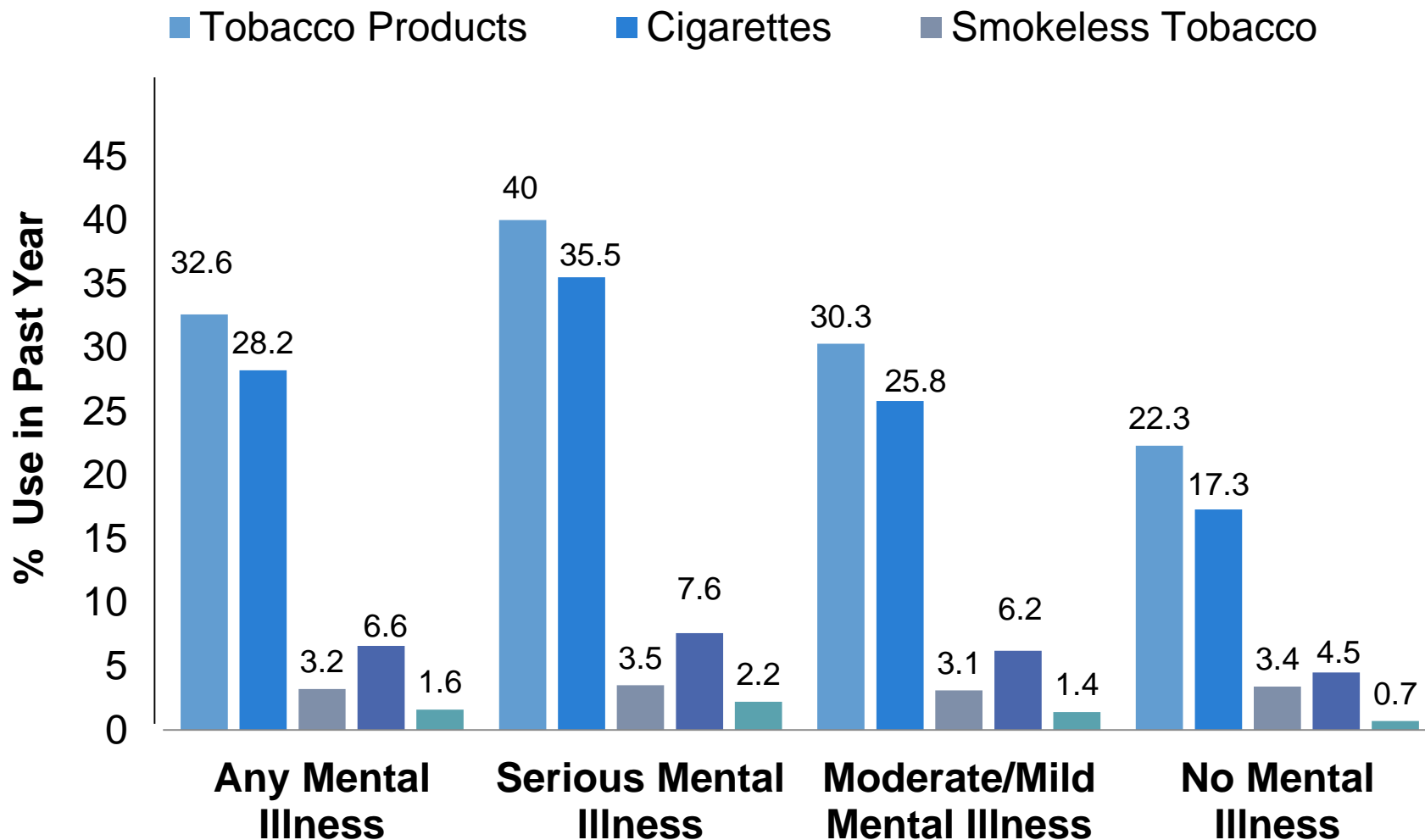
# LEARNING OBJECTIVE #2

- Define high tobacco use prevalence rates & low cessation rates among individuals with behavioral health conditions using a health disparities framework

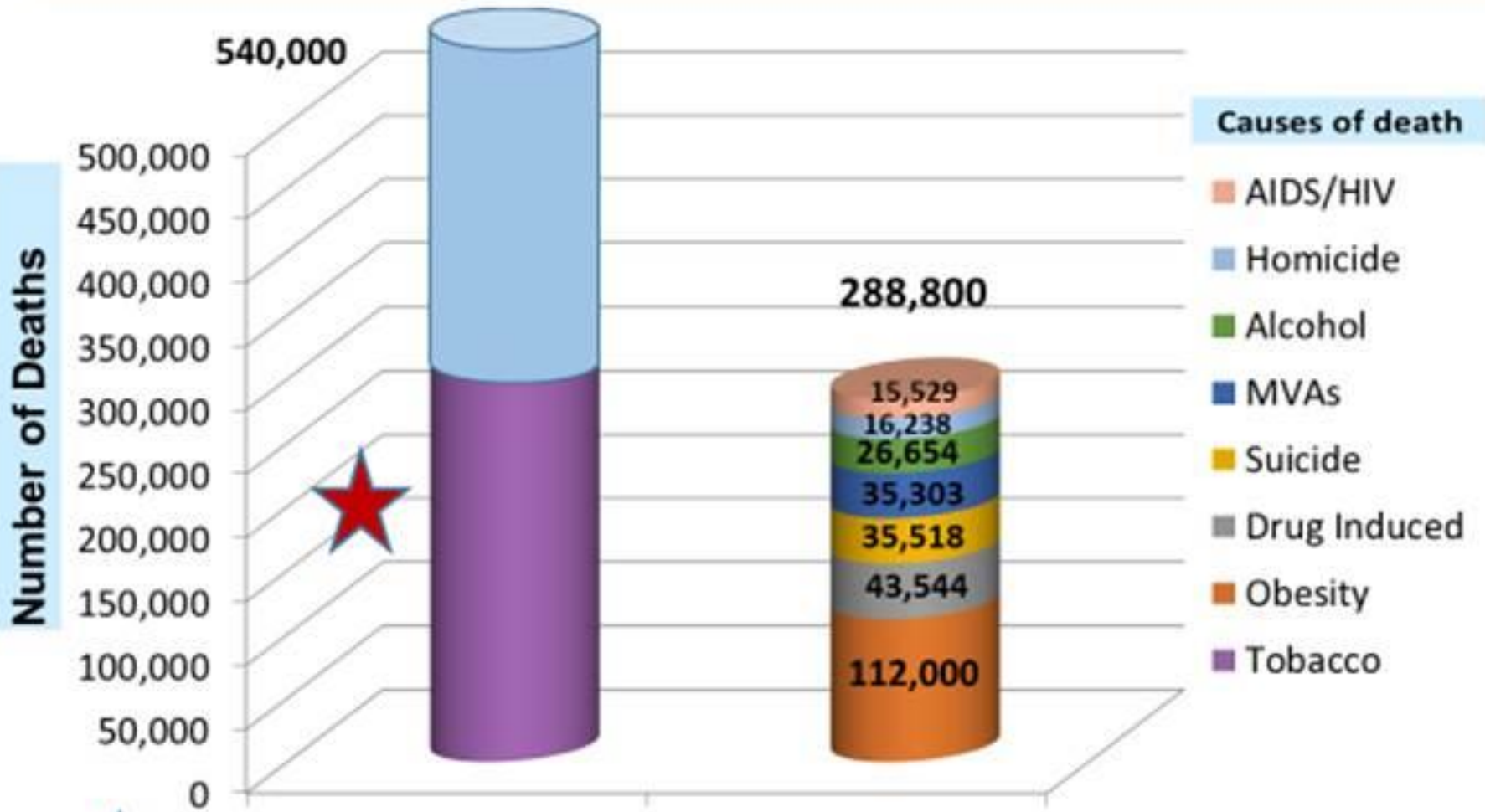


[www.helpusquit.org](http://www.helpusquit.org)



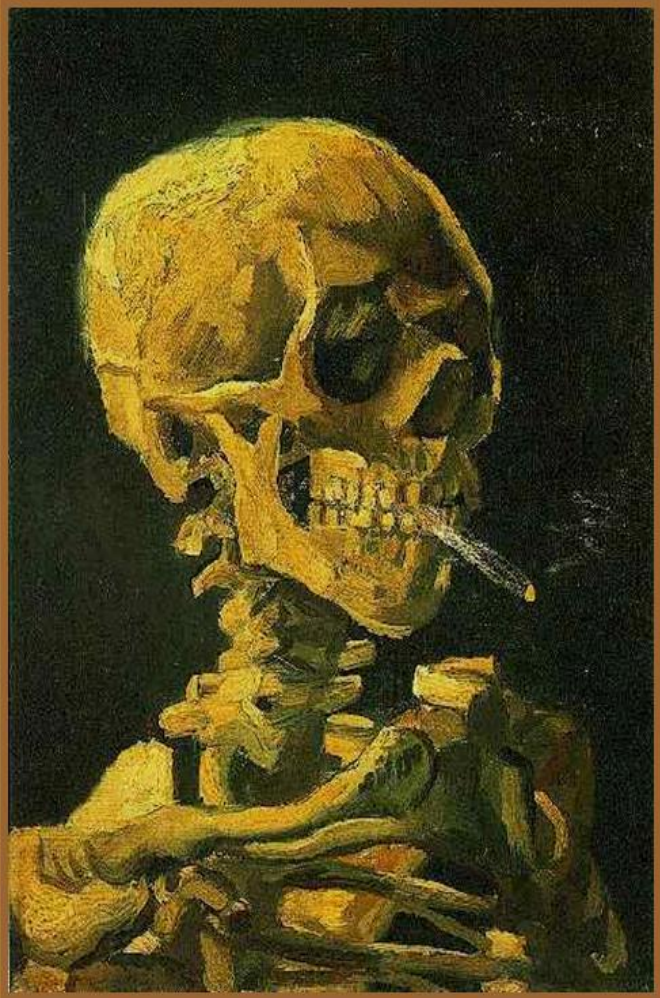


# BEHAVIORAL CAUSES OF DEATH IN U.S



People w/ behavioral health conditions

# “BENEFITS” OF SMOKING?”



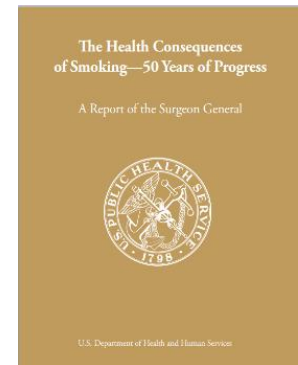
- 50% of all users die from tobacco related illness (WHO)
- Tobacco contributes to more deaths than the primary behavioral health disorder
- Smokers w/ mental illness have a cancer incidence rate that is 2.6 times higher than those w/o a MI
- Tobacco is the problem, not a solution!

# THE HEALTH CONSEQUENCES OF SMOKING-50 YEARS OF PROGRESS: A REPORT OF THE SURGEON GENERAL REPORT 2014

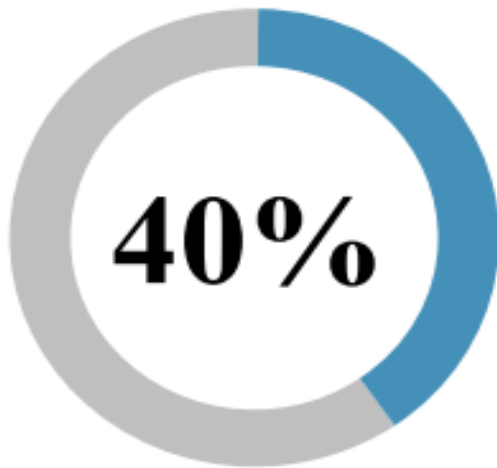
Tobacco industry documents indicate that the industry funded research for the specific purpose of perpetuating the belief that smoking improves symptoms in schizophrenic patients, advocated for exceptions for smoking in hospitalized psychiatric patients, and funded studies of medicinal uses of nicotine analogs to treat mental illness. (Chapter 5, page 124)

... measures should be taken to ensure that nicotine is not perceived by the public as a cognitive-enhancing substance. It also does not have an established role in the management of people with a severe mental illness.

(Chapter 5, page 126)



# QUITTING REMAINS A CHALLENGE



Adults with behavioral health conditions represent 25% of the U.S. population but account for **40% of all cigarettes** smoked in the U.S.

US DHHS 2013

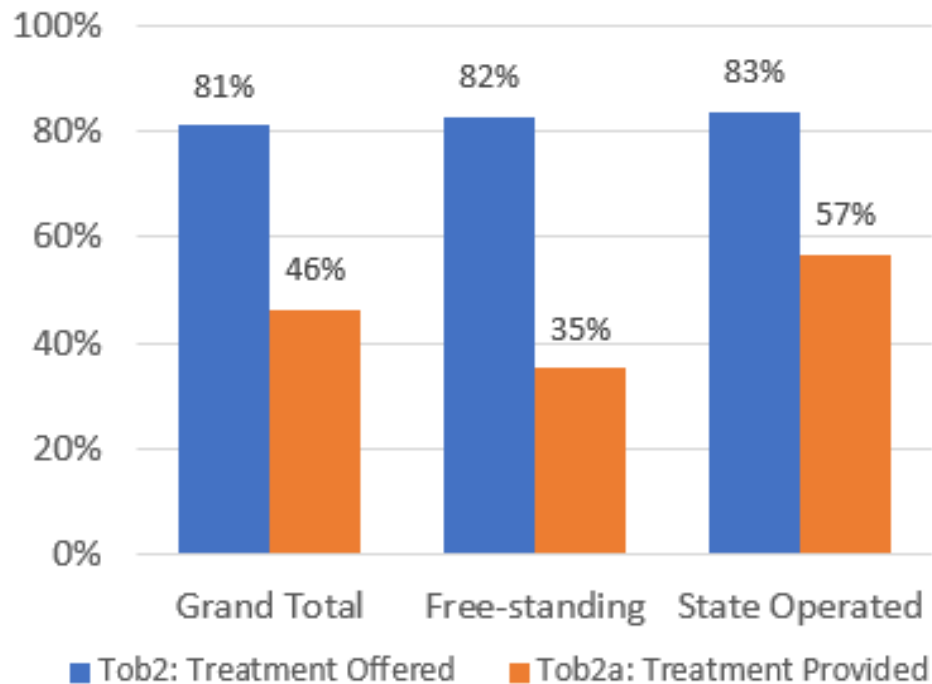
- About 70% of individuals with mental health disorders are interested in quitting – the same as the general population
- Without treatment, only 3-6% of all smokers are able to quit on their own.

(CDC: MMRW Jan 2017)

# CMS TOBACCO MEASURE: TOB 2 AND 2A



## Inpatient Treatment Service



CMS IPFQR data, calendar 2018; State Operated Psychiatric facilities= 152; Other Free-standing psychiatric facilities=420; Grand Total all psychiatric facilities=1604

# Alcohol and Tobacco Use Disorders are Highly Co-morbid Conditions

- Individuals with alcohol use disorders (AUD) and other substance use disorders (SUD) are more likely to smoke and smoke more heavily
- Have lower quit rates than those without AUDs/SUDs
- Epidemiologic evidence to date suggests differences in quit attempts and withdrawal symptoms for persons with AUDs/SUDs compared to people without these conditions
- Smoking-related diseases are a leading cause of deaths among individuals with substance use problems
- “The prevalence and intractability of smoking in this population should be a priority for targeted cessation.”

(Weinberger 2016)

# HEALTH DISPARITIES POPULATIONS

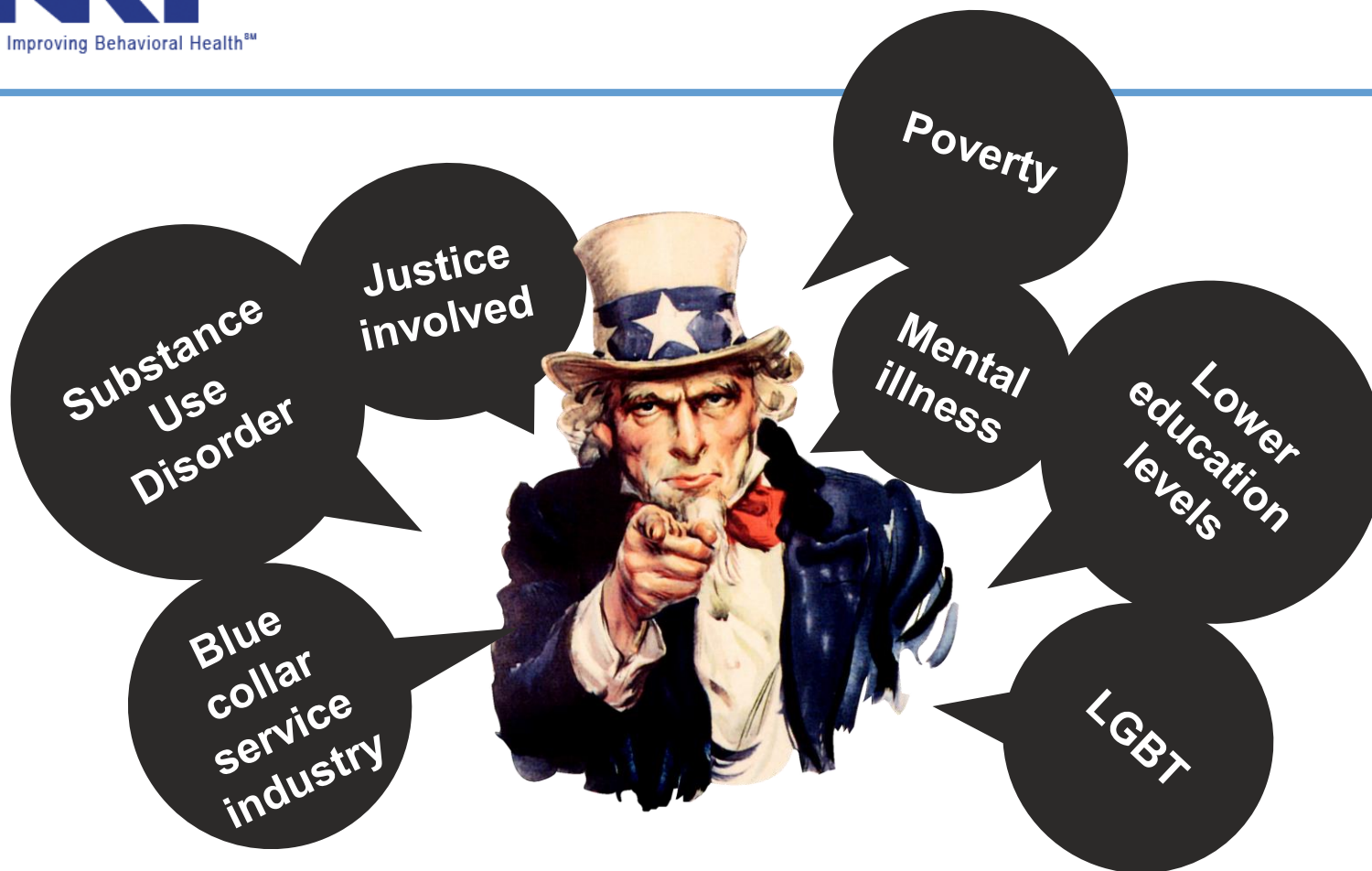
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- The disparity in which smokers with poor mental health and/or substance use disorders are more likely to be current smokers and less likely to be never smokers as compared with those with better mental health has **increased** over time
- Disparities: High smoking prevalence, limited access to treatment, longer durations of use, lower success w/ quitting, heavy health and economic burdens, targeted marketing by the tobacco industry
- Tobacco is NOT an equal opportunity killer!

(Steinberg, Williams, Li 2015)



# BIG TOBACCO



# WANTS YOU!

**Intersectionality of Disparities Risk Factors**

# LEARNING OBJECTIVE #3

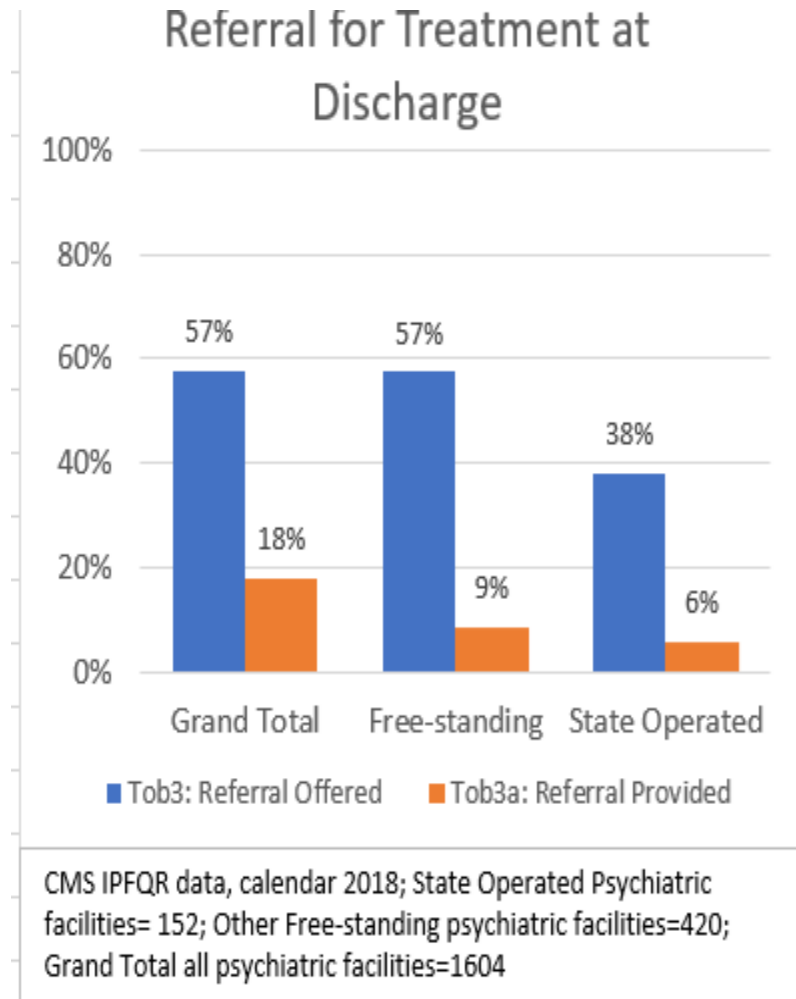
- Improve referrals at point of discharge for continued tobacco recovery efforts through use of a guideline-based brief counseling intervention




**"Since we're not allowed to smoke in the office, I put tobacco in the brownies."**

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phone: (216) 371-8600 / e-mail: ft@funnytimes.com

# CMS TOBACCO MEASURES: TOB 3 AND 3A



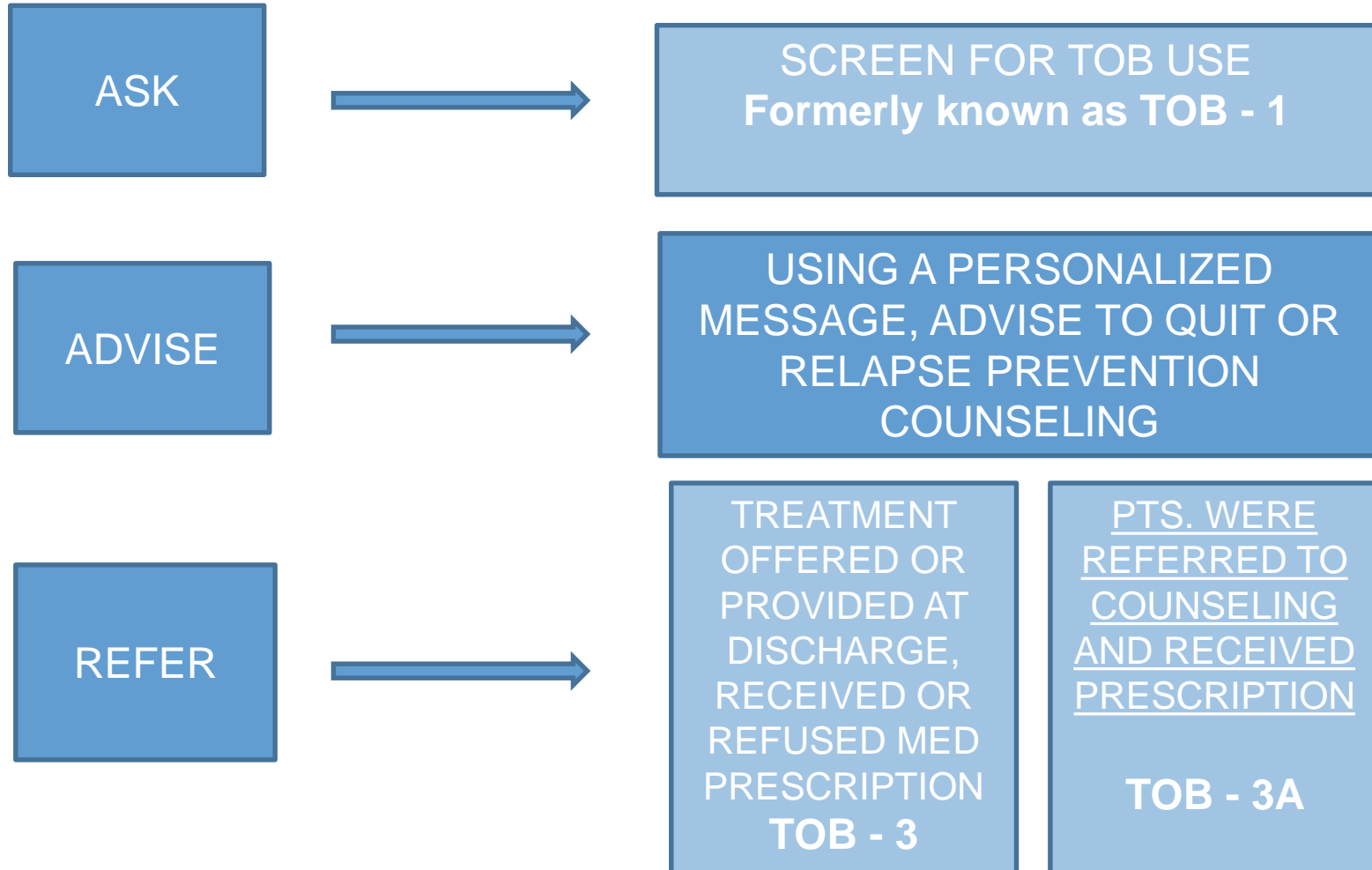


It's not what  
you give up, it's  
what you gain

- Primary reason for relapse is stress
- Shorter time since last use and higher level of tobacco dependence has the strongest association with tobacco relapse
- Multiple stressors such as finances, relationship conflicts, and discrimination are positively related to persistent smoking and inversely associated with cessation
- Continued clinical and public health efforts to provide adults with tools to cope with tobacco dependence symptoms, especially within the first year or two after quitting, could help prevent relapse

(Webb 2019; Edwards 2020)

# CLINICAL PRACTICE GUIDELINE FOR THE TREATMENT OF TOBACCO USE AND DEPENDENCE



# ADVISE – DON'T GIVE ADVICE

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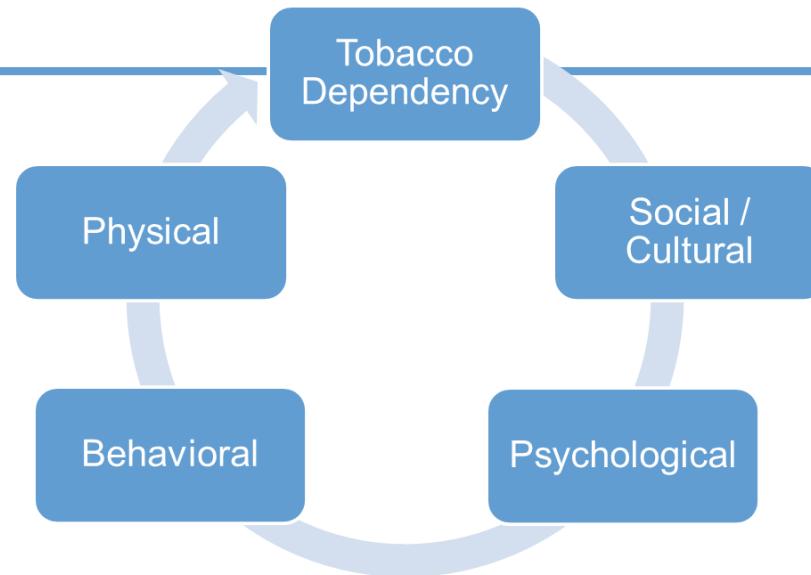
- Take advantage of “Teachable Moments”
- Acknowledge the difficulty of staying quit, but
- Stress the benefits rather than the risks
- Be caring, empathetic and positive
- Offer counseling and medications
- Use your Motivational Interviewing Skills!

# BENEFITS OF QUITTING

- **20 Minutes After Quitting:**
  - Your heart rate drops to a normal level.
- **12 to 24 Hours After Quitting:**
  - The carbon monoxide level in your blood drops to normal.
  - The risk of heart attack is significantly reduced
- **2 Weeks to 3 Months After Quitting:**
  - Your risk of having a heart attack begins to drop.
  - Your lung function begins to improve.
- **1 to 9 Months After Quitting:**
  - Your coughing and shortness of breath decrease.
- **1 Year After Quitting:**
  - Your added risk of coronary heart disease is half that of a smoker's.
- **5 to 15 Years After Quitting:**
  - Your risk of having a stroke is reduced to that of a nonsmoker's.
  - Your risk of getting cancer of the mouth, throat, or esophagus is half that of a smoker's.
- **10 Years After Quitting:**
  - Your risk of dying from lung cancer is about half that of a smoker's.
  - Your risk of getting bladder cancer is half that of a smoker's.
  - Your risk of getting cervical cancer or cancer of the larynx, kidney or pancreas decreases.
- **15 Years After Quitting:**
  - Your risk of coronary heart disease is the same as that of a nonsmoker.

US DHHS 2004

# BENEFITS OF QUITTING



- Whole person perspective: physical health, reduction in complications from other chronic conditions, psychological quality of life, cost savings, improved employability, protect pets and children from consequences of SHS
- Hydrocarbons in cigarette smoke suppresses the impact of psychiatric medication, so doses can generally be reduced when fewer cigarettes are smoked (Fiore 2008)
  - Visit [https://www.aafp.org/dam/AAFP/documents/patient\\_care/tobacco/drug-interactions.pdf](https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/drug-interactions.pdf) for information on drug interactions



## Clear and Strong

“You have worked hard to achieve your treatment goals and you were able to quit all tobacco use during your time with us.

You will be facing many temptations to resume smoking after your hospital discharge. I want to make sure you understand that staying tobacco free is the most important thing you can do to **improve your physical and emotional health”**

## Personalized

- A relapse back to smoking makes depression and anxiety worse and staying tobacco free helps dramatically.”
- “Staying tobacco free will reduce your risk of relapse from alcohol and other drugs.”

# IMPROVED MENTAL HEALTH AFTER QUITTING

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- Meta-analysis of 26 longitudinal studies
- Consistent evidence that stopping smoking is associated with improvements in
  - Depression
  - Anxiety
  - Stress
  - Psychological quality of life and
  - Positive affect

compared to continuing to smoke. **"The effect sizes are equal or larger than those of antidepressant treatment for mood and anxiety disorders."**

(Taylor 2014)

## NATIONAL EPIDEMIOLOGIC SURVEY ON ALCOHOL AND RELATED CONDITIONS (NESARC)

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- Most recent longitudinal study nationally representative survey w/ data on DSM psychiatric diagnosis (dx) and smoking cessation
- Wave 1 (2001-02) n= 43,093
- Wave 2 (2004-2005) n= 34,653
- Lifetime dx included major depression, dysthymia, mania and hypomania, generalized anxiety, social phobia, agoraphobia, panic disorder and specific disorder, alcohol abuse/dependency and drug abuse/dependency, and antisocial personality/conduct disorder.

(Smith 2014)

- Individuals w/ a current mental health diagnosis
  - had 3.23 greater odds of being a smoker compared to those with no mental health disorder
  - were 25% less likely to have quit by follow-up
- Prevalence varied by specific diagnoses (32.4% to 66.7%) as did cessation rates (10.3% to 17.9%)
- Comorbid disorders were associated with higher proportions of heavy smoking (> 24 CPD). Each additional dx associated w/ 67% greater odds of being a heavy smoker.

(Smith 2014)

# SMOKING AND ONSET OF MOOD AND ANXIETY DISORDERS: NESARC DATA

- Regular smoking associated w/ increased risk of new onset of mood and anxiety disorders
- Those who smoked a larger number of CPD showed a greater likelihood of new-onset disorders
- Association stronger in adults aged 18-49 y/o, smaller and mostly non-significant in older adults
- Smokers consistently 2-3 times more likely as non-smokers to meet life-time criteria for mood, anxiety, and non-nicotine substance abuse d/o.
- “The data provide supporting evidence from a large, longitudinal, population based survey on the **link between regular smoking and the on-set of mental disorders.**”

(Mojtabai and Crum 2013)

# IMPROVEMENT IN SUD TREATMENT OUTCOMES

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- Tobacco dependence treatment provided during addictions treatment was associated with a 25% increased likelihood of *long-term abstinence* from alcohol and illicit drugs.
- The preponderance of studies indicate that concurrent tobacco dependence treatment does not jeopardize alcohol and other non-nicotine drug outcomes. (Prochaska 2004)
- People receiving smoking cessation treatment demonstrated better outcomes for drug free days and abstinence. (Winhusen 2014)

# COMPREHENSIVE DISCHARGE PLANNING

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- Ask the person to identify their skills and strategies for stress management
- Make a list of the personalized benefits of quitting and staying quit
- Anticipate and have a plan for dealing with triggers to use tobacco
- Enlist the support of friends, family and other caregivers who will support commitment to staying tobacco free
- Provide prescription(s) for any of the FDA approved medications and information on accessing over the counter Nicotine Replacement Therapy meds (provided by some state quitlines; Medicaid programs)
- Use NRI resources to find apps, workbooks, and other resources for ongoing recovery self-management

# VAPING: REDUCED RISK OR RISKY BUSINESS?

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- FDA Regulations: E-cigarettes and other Electronic Nicotine Delivery Systems (ENDS) are not approved for tobacco cessation, are deemed a tobacco product, are banned for sale of those under 18 y/o, and require warning statements.
- National Academies of Sciences, Engineering, and Medicine published Public Health Consequences of E-Cigarettes (2018), a report based on a comprehensive review of independent scientists.
- Key Findings from the report:
  - Contain and emit numerous potential toxins, increase airborne particulate matter, highly variable in nicotine delivery
  - Completely switching reduces exposure to numerous toxicant and carcinogens and results in reduced short-term adverse health outcomes
  - Youth users are more likely to transition to use of combustibles but e-cigarettes might also increase adult cessation of combustibles



# WHAT WE KNOW ABOUT E-CIGARETTES

## PROS

- Less harmful than cigarettes
- Free of tar, produces only a few chemicals
- Success as a harm reduction strategy
  - Regular users more likely to reduce cigarettes consumed and COPD exacerbation
- Potential cessation aid?
  - RCT found e-cigarettes were effective at helping smokers quit with similar achievement of abstinence as with patches

## CONS

- Inhaled vapor increases airway resistance and decreases fraction of exhaled nitric oxide
- Dose variability in nicotine delivery
- Potential misuse of refill cartridges
- Explosion of devices
- Long-term ill effects of glycerol and propylene glycol
- Potential gateway to cigarette use among youth and nonsmokers
- Threat of dual use
- Undermine efforts to de-normalize smoking

# VAPING RECOMMENDATIONS

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- When speaking with adults: Vaping is not FDA approved for cessation, is not harmless, the long-term impact is unknown, secondhand exposure is a concern and using exclusively is preferable to smoking.
- When speaking with youth: Vaping is not recommended for youth usage under any circumstance, is not safe and contains toxins, contains nicotine and is addicting, and youth nicotine use may cause lasting developmental impairment.

# MAKING EFFECTIVE REFERRALS

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- Make a “warm hand-off” by calling the state or national quit-line together and completing the registration
- Know your community resources and refer accordingly
- **Document** in the medical record the **referral for counseling and if the patient received one of the (7) FDA-approved tobacco cessation medications** during the hospital stay and a prescription at D/C
- Continuity-of-Care Issue: At-risk individuals often fall through the cracks in a complex, fragmented healthcare system and may not receive preventive health interventions in primary care settings
- Quitting tobacco is a journey, not an event

# THE REFERRAL CONVERSATION

Hear the change talk within ambivalence about staying quit and shine a light on it

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- “What would worry you if you did return to using tobacco?”
- “What are some of the good things about maintaining your freedom from tobacco?”
- “What do you think will get in the way of maintaining your freedom from tobacco?”
- “What personal strengths do you have that will help you succeed?”
- What skills have you developed that will help you succeed?
- “Of all the options we talked about today, which one sounds like the best fit for you?”
- “What would you be willing to try?”

- 800-QUIT-NOW (800-784-8669)
- All states have quitlines with counselors who are trained specifically to help tobacco users quit
- Available at no cost to US residents in each state, the District of Columbia, Guam, and Puerto Rico
- Services include individual counseling, practical information on how to quit, referral to other cessation resources, mailed self-help materials, information on FDA-approved cessation medications, and, ***in some cases, free or discounted cessation medications.***

# HELP EMPLOYEES AND COLLEAGUES QUIT

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- Smoking rate among treatment staff is significantly higher than the general population
- 30-35% of the behavioral healthcare workforce smokes vs. 1.7% of primary care physicians (SAMSHA)
- Smoking prevalence among substance abuse treatment staff estimates in the literature ranged from 14% to 40%. (Guydish 2007)
- Refer to national (1-800-QUIT-NOW) or state quitline
- Include cessation counseling and medication benefits in employee health insurance benefit



You have not failed, you have just not finished the process!

# COMPLETE YOUR POST-TEST

- <https://wh1.snapsurveys.com/s.asp?k=160045191060>



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by the Smoking Cessation Leadership Center**



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- <https://www.thenationalcouncil.org/topics/national-behavioral-health-network-for-tobacco-cancer-control/>

National Behavioral Health Network (CDC) American College of Obstetrics and Gynecology [www.acog.org](http://www.acog.org)

- American Lung Association: [www.lungusa.org](http://www.lungusa.org)
- American Cancer Society Cancer Action Network [www.acscan.org](http://www.acscan.org)
- Asian Smokers Quitline [www.asiansmokersquitline.org](http://www.asiansmokersquitline.org)
  - Material available in Chinese, Korean, Vietnamese
  - quitlines available based on language
- Become an EX: [www.becomeanex.org](http://www.becomeanex.org)
  - Free quit smoking program



- Center on Addiction/ E-cigarettes: [www.centeronaddiction.org/e-cigarettes](http://www.centeronaddiction.org/e-cigarettes)
- [www.CDC.gov](http://www.CDC.gov) smoking fact sheets, data and statistical reports
- [www.health.mil/military-health-topics/operation-live-well/](http://www.health.mil/military-health-topics/operation-live-well/) with links to cessation resources, freedom quitline (1-844-I-AM-FREE), TRICARE info
- HelpUsQuit.org: [www.ctri.wisc.edu](http://www.ctri.wisc.edu) help with quitting for people with behavioral health conditions, resources for professionals
- Kill the Can [www.killthecan.org](http://www.killthecan.org) help for people who dip, use smokeless and chewing tobacco. On-line “chats” with other quitters
- National African American Tobacco Prevention Network [www.naatpn.org](http://www.naatpn.org) highlights predatory tobacco industry tactics, “Pathways to Freedom” resource for quitters, 40 days to freedom devotional guide, annual “No menthol Sundays” campaign (CDC)
- National LGBT Tobacco Network [www.lgbttobacco.org](http://www.lgbttobacco.org) (CDC)



- National Partnership for Smoke-free Families [www.tobacco-cessation.org/sf/](http://www.tobacco-cessation.org/sf/) Best practices for helping pregnant women quit
- Nicotine Anonymous [www.nocitine-anonymous.org](http://www.nocitine-anonymous.org) a 12 step fellowship
- Quit Tobacco – YouCanQuit2 [www.ycq2.org](http://www.ycq2.org) (US Dept. of Defense) 24/7 live support groups, cessation resources for the US military
- [www.smokefree.gov](http://www.smokefree.gov) Spanish, veterans, teens, women, people over 60
- Tobacco Free Nurses [www.tobaccofreenurses.org](http://www.tobaccofreenurses.org) help for nurses who want to quit, resources for nurses to help their patients
- Quit for Life (American Cancer Society) [www.play.google.com/store/apps/details?id=com.alerewellbeing.q4](http://www.play.google.com/store/apps/details?id=com.alerewellbeing.q4) Free mobile app to help you quit and stay quit for life

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