

# *Addressing Tobacco Treatment in Mental and Behavioral Health Settings*

Chizimuzo (Zim) T.C. Okoli, PhD, MPH, MSN, RN, NCTTP

Associate Professor, University of Kentucky College of Nursing

Executive Director of Mental and Behavioral Health, BH WELL

Co-Director of Tobacco Treatment and Prevention, BREATHE

Director of Behavioral Health Evidence Based Practice and Research, Eastern State Hospital

Nurse Scientist-Behavioral Health, UKHealthcare



*Behavioral Health Wellness  
Environments for Living and Learning*

**Eastern State Hospital**

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# Goals of this presentation

- Describe factors associated with tobacco use dependence among persons living with mental and behavioral health challenges
- Describe evidence-based treatment approaches when providing tobacco dependence services to persons living with mental and behavioral health challenges
- Discuss resources to enhance tobacco treatment for those living with mental and behavioral health challenges

# Mental Disorders are Prevalent



- 18.1% have any mental disorder
- 4.1% suffer from a serious mental illness (SMI)

2015 National Survey on Drug Use and Health: <http://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.pdf>

# Substance use Disorder

**Problematic pattern of use of an intoxicating substance leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:**

- The substance is often taken in **larger amounts** or over a **longer period** than was intended.
- There is a **persistent desire** or **unsuccessful effort to cut down** or control use of the substance.
- A **great deal of time** is spent in activities necessary to obtain the substance, use the substance, or recover from its effects.
- Craving**, or a strong desire or urge to use the substance.
- Recurrent use of the substance resulting in a **failure to fulfill major role obligations** at work, school, or home.
- Continued use of the substance despite having persistent or recurrent **social or interpersonal problems** caused or exacerbated by the effects of its use.
- Important **social, occupational, or recreational activities are given up** or reduced because of use of the substance.
- Recurrent use of the substance in situations in which it is **physically hazardous**.
- Use of the substance is continued despite knowledge of having a persistent or recurrent **physical or psychological problem that is likely to have been caused** or exacerbated by the substance.
- Tolerance**, as defined by either of the following:
  - A need for markedly increased amounts of the substance to achieve intoxication or desired effect.
  - A markedly diminished effect with continued use of the same amount of the substance.
- Withdrawal**, as manifested by either of the following:
  - The characteristic withdrawal syndrome for that substance (as specified in the DSM- 5 for each substance).
  - The substance (or a closely related substance) is taken to relieve or avoid withdrawal symptoms.



# Classes of substances of abuse

## Opioids/Narcotics

- [Fentanyl](#)
- [Heroin](#)
- [Hydromorphone](#)
- [Methadone](#)
- [Morphine](#)
- [Opium](#)
- [Oxycodone](#)



## Depressants

- [Barbiturates](#)
- [Benzodiazepines](#)
- [GHB](#)
- [Rohypnol®](#)
- [Alcohol \(high dose\)](#)
- [Nicotine \(low dose\)](#)



## Hallucinogens

- [Ecstasy/MDMA](#)
- [K2/Spice](#)
- [Ketamine](#)
- [LSD](#)
- [Peyote & Mescaline](#)
- [Psilocybin](#)
- [Marijuana/Cannabis](#)
- [Steroids](#)
- [Inhalants](#)



## Stimulants

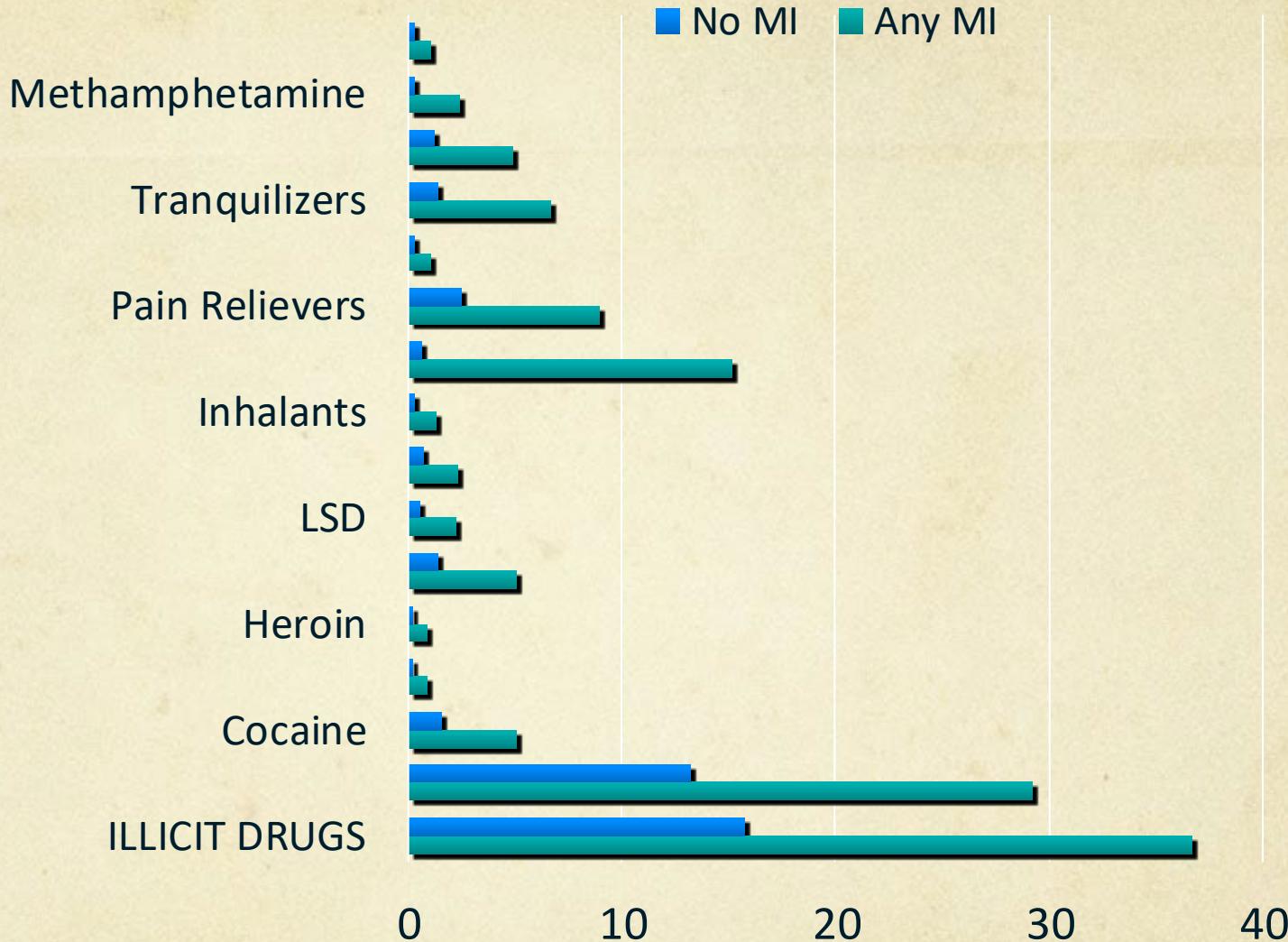
- [Amphetamines](#)
- [Cocaine](#)
- [Khat](#)
- [Methamphetamine](#)
- [Alcohol \(low dose\)](#)
- [Nicotine \(high dose\)](#)



## Drugs of Concern

- [Bath Salts or Designer Cathinones](#)
- [DXM](#)
- [Kratom](#)
- [Salvia Divinorum](#)

# Past year use of illicit drugs by MI status (adults >18 yrs)



2018 National Survey on Drug Use and Health:

[https://www.samhsa.gov/data/sites/default/files/cbhsq-](https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHDetailedTabs2018R2/NSDUHDetTabsSect8pe2018.htm)

[reports/NSDUHDetailedTabs2018R2/NSDUHDetTabsSect8pe2018.htm](https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHDetailedTabs2018R2/NSDUHDetTabsSect8pe2018.htm)

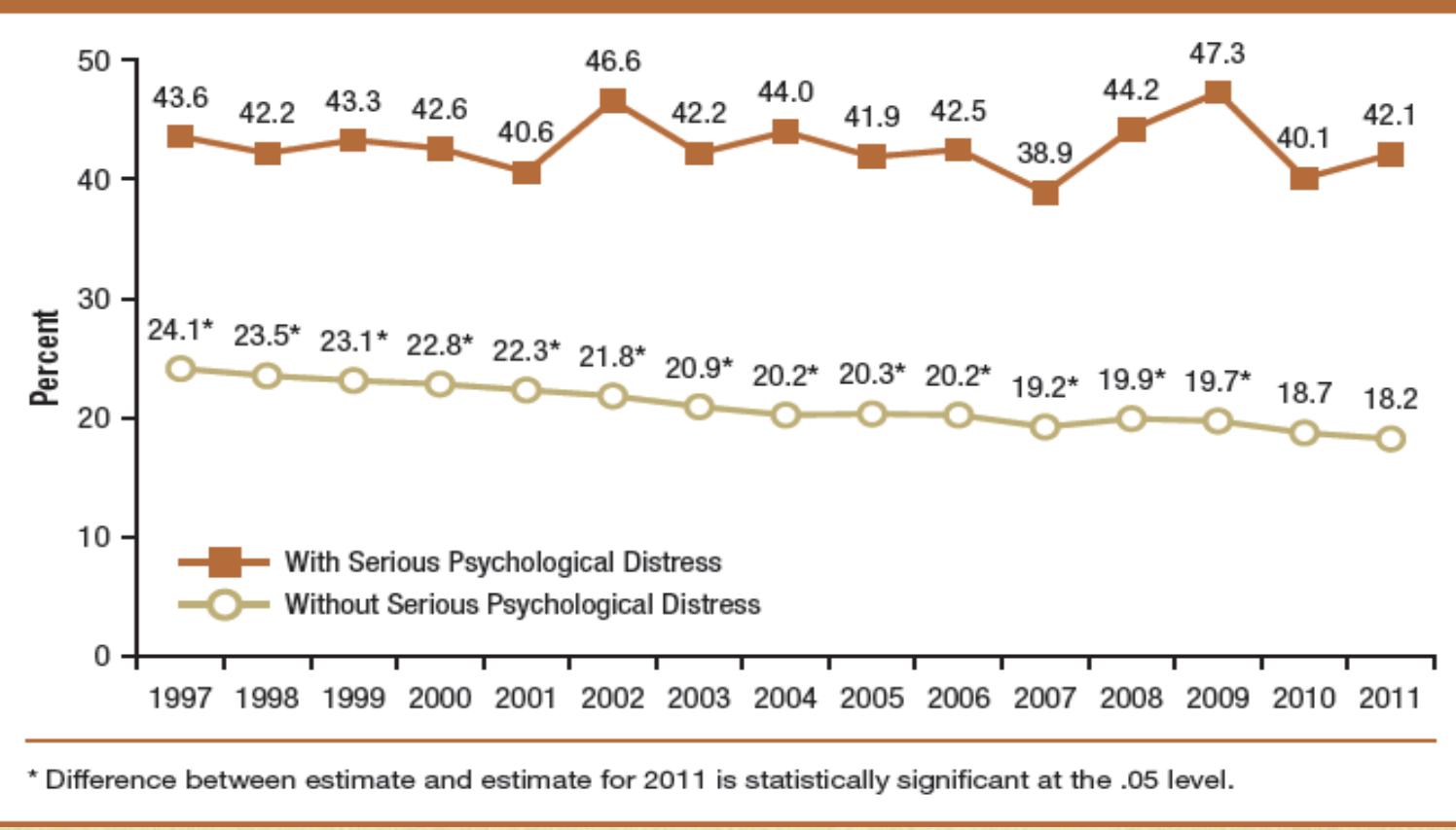
Percent%

# Why Engage Persons with mental and behavioral health challenges in Tobacco Treatment?



# Little decline in smoking prevalence among those with mental illnesses

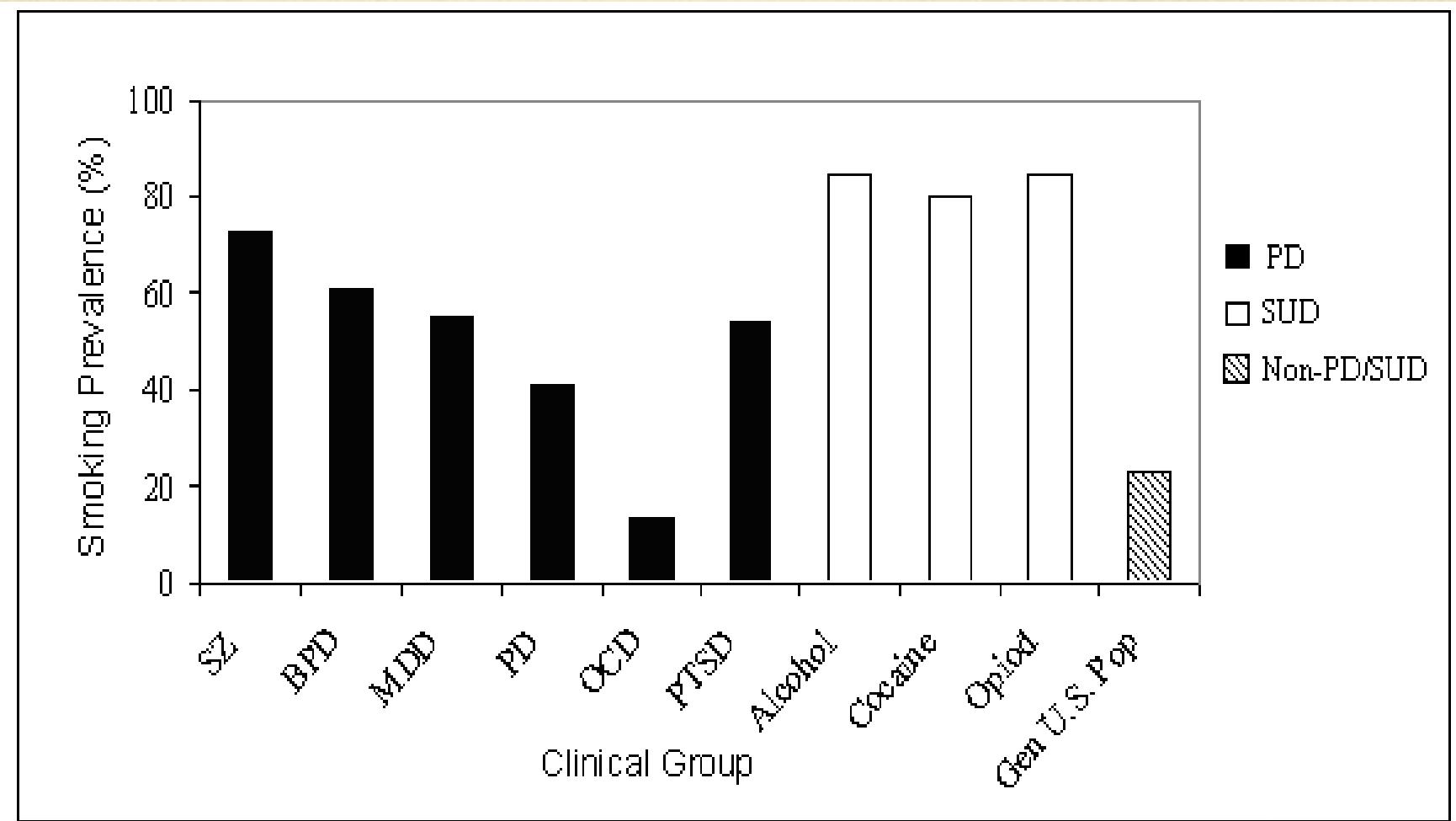
**Current Smoking among Adults Aged 18 or Older, by Past Month Serious Psychological Distress Status: NHIS, 1997 to 2011**



US Department of Health and Human Services. (2014). The health consequences of smoking—50 years of progress: a report of the Surgeon General. Atlanta, GA

Data from the National Health Interview Survey. Current smoking is defined as those who had smoked 100 cigarettes in their lifetime and smoked daily or some days at time of the interview. This illustration was obtained with permission from the SAMHSA CBHSQ Report, July 18 2013:[http://www.samhsa.gov/data/sites/default/files/spot120-smokingspd\\_/spot120-smokingSPD.pdf](http://www.samhsa.gov/data/sites/default/files/spot120-smokingspd_/spot120-smokingSPD.pdf)

# Prevalence of smoking by MI/SUD disorder



Kalman, Morissette, & George. "Co-Morbidity of Smoking in Patients with Psychiatric and Substance Use Disorders." *The American journal on addictions / American Academy of Psychiatrists in Alcoholism and Addictions* 14.2 (2005): 106–123. PMC. Web. 7 Mar. 2016

# Effects of smoking among persons with MI/SUD

## Smokers with MI/SUD:

- Die 10-25 years earlier
- Have more depression and anxiety
- Have more substance use problems
- Have more cardiovascular and cardiopulmonary problems
- Are more likely to commit suicide
- Have sexual problems

## Nonsmokers with MI/SUD:

- Have better health
- Live longer
- Need less medication
- Have less depression
- Save more money

# Smoking is the leading cause of death in individuals with mental illness and substance use disorders!



**Smoking tobacco causes more deaths among clients in substance abuse treatment than the alcohol or drug use that brings them to treatment. A seminal 11-year retrospective cohort study of 845 people who had been in addictions treatment found that 51 percent of deaths were the result of tobacco-related causes.<sup>1</sup> This rate is twice that found in the general population and nearly 1.5 times the rate of death by other addiction-related causes. Despite these statistics, most substance abuse treatment programs do not address smoking cessation.**

**Why do people with MI/SUD  
use tobacco?**

# Reasons for smoking among persons with MI

## Genetic

- Smoking and **major depression**<sup>1,2</sup>
- Nicotine dependence and **PTSD**<sup>3</sup>
- Smoking behaviors and **schizophrenia**<sup>4</sup>

## Bio-behavioral

- Nicotine reduces **sensorimotor gating** in schizophrenia<sup>5</sup>
- Smoking reduces brain levels of **MAO-A** (an enzyme linked to depression)<sup>6</sup>
- Nicotine may be an **anxiolytic**<sup>7</sup>

## Psychosocial

- Smoking used as a '**token economy**' in mental health facilities<sup>8</sup>
- Smoking encouraged as a means of **enhancing 'socialization'** among patients<sup>9</sup>

1. Kendler, et al. Smoking and Major Depression: A Causal Analysis. Archives of General Psychiatry 1993; 50:36-43

2. Lyons, et al. A twin study of smoking, nicotine dependence, and major depression in men. Nicotine & Tobacco Research 2008; 10:97 – 108

3. Koenen, et al. A Twin Registry Study of the Relationship Between Posttraumatic Stress Disorder and Nicotine Dependence in Men. Arch Gen Psych 2005; 62:1258-1265

4. Faraone, et al. (2004). A novel permutation testing method implicates sixteen nicotinic acetylcholine receptor genes as risk factors for smoking in Schizophrenia families

5. Postma, et al. (2006). Psychopharmacology, 184: 589–599

6. Fowler, et al. (1996). Proceedings of the National Academy of Sciences of the United States of America, 93:14065-14069

7. McCabe, et al. (2004). Journal of Anxiety Disorders, 18:7-18

8. Lawn S. Cigarette smoking in psychiatric settings: occupational health, safety, welfare and legal concerns. Australian and New Zealand J Psych 2005; 39:886-891

9. Kawachi I, Berkman L. Social ties and mental health. Journal of Urban Health 2001; 78:458-467

# Reasons to treat tobacco use in persons with MI

They <b>WANT</b> to quit!	Siru et al., 2009	Review study (9 studies)	<ul style="list-style-type: none"> <li>• 50% contemplating cessation</li> </ul>
	Stockings et al., 2013	Australia (97 inpatients)	<ul style="list-style-type: none"> <li>• 47% made quit attempt in previous year</li> </ul>
	Du Plooy, et al., 2016	South Africa (116 male inpatients)	<ul style="list-style-type: none"> <li>• 59.4% attempted to quit in the previous year</li> </ul>
They <b>ARE</b> <b>ABLE</b> to quit!	Anthenelli et al., 2016	RCT (8144 with & without MI)	<ul style="list-style-type: none"> <li>• Pharmacotherapy (VAR, BUP, NRT) superior to placebo in both groups</li> </ul>
	Prochaska et al., 2013	RCT (224 inpatient smokers)	<ul style="list-style-type: none"> <li>• Motivational counseling + NRT initiated in hospital increased quitting success</li> </ul>
Cessation <b>IMPROVES</b> Psychiatric symptoms	Taylor et al., 2014	Meta-analysis (26 studies)	<ul style="list-style-type: none"> <li>• Cessation associated with improvements in depression, anxiety, stress, mood and quality of life</li> </ul>

1. Siru, R.; Hulse, G.K.; Tait, R.J. Assessing motivation to quit smoking in people with mental illness: A review. *Addiction* **2009**, *104*, 719–733.

2. Stockings, *et al.* Readiness to quit smoking and quit attempts among australian mental health inpatients. *Nicotine & Tobacco Research* **2013**, *15*, 942–949.

3. Du Plooy, *et al.* (2016). Cigarette smoking, nicotine dependence, and motivation to quit smoking in South African male psychiatric inpatients. *BMC psychiatry*, *16*(1), 403.

4. Anthenelli, *et al.* (2016). Neuropsychiatric safety and efficacy of varenicline, bupropion, and nicotine patch in smokers with and without psychiatric disorders (EAGLES): a double-blind, randomised, placebo-controlled clinical trial. *The Lancet*, *387*(10037), 2507–2520. doi:10.1016/S0140-6736(16)30272-0

5. Prochaska, *et al.* Efficacy of initiating tobacco dependence treatment in inpatient psychiatry: A randomized controlled trial. *Am J Public Health* **2013**, *104*, 1557–1565

6. Taylor, *et al.* (2014). Change in mental health after smoking cessation: systematic review and meta-analysis. *Bmj*, *348*, g1151

# Our responsibility

“All smokers with psychiatric disorders, including substance use disorders, should be offered tobacco dependence treatment, and clinicians must overcome their reluctance to treat this population....

Treating tobacco dependence in individuals with psychiatric disorder is made more complex by the potential for multiple psychiatric disorders and multiple psychiatric medications.”

*(Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline)*



# CDC Recommendations for behavioral health settings



Stopping practices that encourage tobacco use (such as not providing cigarettes to patients and not allowing staff to smoke with patients)

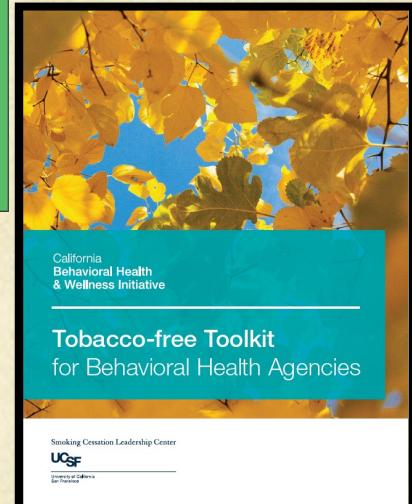
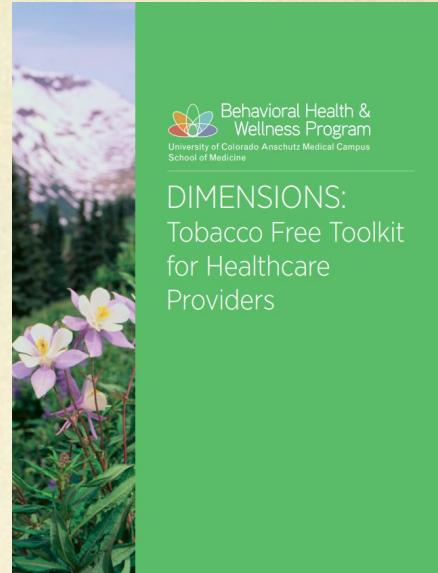
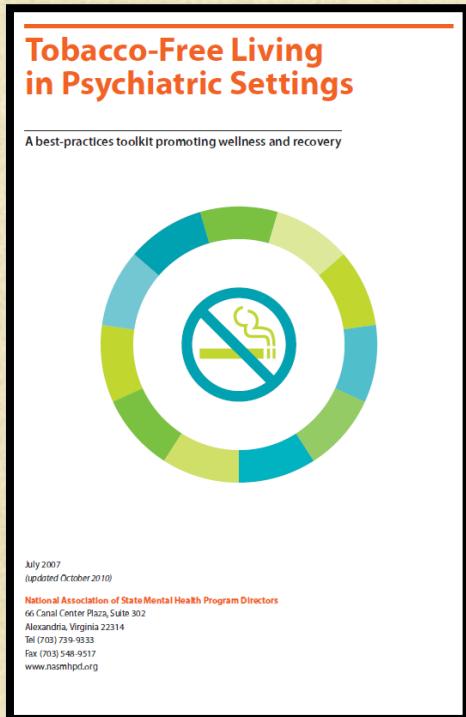


Making entire campus 100% tobacco-free



Including tobacco treatment as part of mental health treatment and wellness

# Tool-kits tailored to Behavioral Health Settings



[https://www.samhsa.gov/sites/default/files/programs\\_campaigns/samhsa\\_hrsa/tobacco-free-psychiatric-settings.pdf](https://www.samhsa.gov/sites/default/files/programs_campaigns/samhsa_hrsa/tobacco-free-psychiatric-settings.pdf)

[https://smokingcessationleadership.ucsf.edu/sites/smokingcessationleadership.ucsf.edu/files/Downloads/Toolkits/nasmhpdc\\_toolkit\\_updated\\_april\\_2011.pdf](https://smokingcessationleadership.ucsf.edu/sites/smokingcessationleadership.ucsf.edu/files/Downloads/Toolkits/nasmhpdc_toolkit_updated_april_2011.pdf)

<https://smokingcessationleadership.ucsf.edu/sites/smokingcessationleadership.ucsf.edu/files/Downloads/Toolkits/TF-Toolkit-Supp-Behavioral-Health.pdf>

<https://www.publichealthlawcenter.org/sites/default/files/resources/Kansas-Tobacco-Guideline-Behavioral-Health-Care-Toolkit-Dec2018.pdf>

# Going Tobacco Free: Key Considerations

## Policy Development

- TF work group
- Baseline survey
- TF policy review
- Educate community partners
- Draft Policy
  - Language
  - Clear definitions
  - Enforcement
  - Realistic timeline

## Organization Preparation

- Disseminate reason for policy
- Tobacco Treatment process for Clients & Staff
- Staff buy-in procedures
- Educate clients and staff
- Solicit feedback
- Create signage
- Promotional material
- Remove cigarette receptacles/ashtrays

## Policy Implementation

- Post signage in facility/grounds
- Ensure compliance with policy
- Celebrate implementation day

## Monitoring and Assessment

- Conduct follow-up surveys
- Compare pre-post policy health costs
- Determine changes in tobacco use

# Take Away

- Tobacco use is a leading cause of morbidity and mortality for those with MI & SUD
- Tobacco users with MI & SUD **WANT** to and **CAN** stop using tobacco—they need evidence-based assistance
- It is a matter of **professional practice** and a **moral imperative** to address tobacco use among those living with MI & SUD
- **Best practices approaches** should be applied in mental and behavioral health settings to enhance tobacco treatment provision and engagement.

# Research Addressing Tobacco Treatment among people with MI



# Cooper-Clayton Stop Smoking Program ©

## Participation Station, Lexington, KY

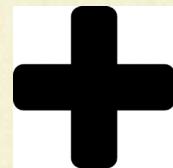


1. Okoli, C. T., Mason, D. A., Brumley-Shelton, A., & Robertson, H. (2017). Providing Tobacco Treatment in a Community Mental Health Setting: A Pilot Study. *Journal of addictions nursing*, 28(1), 34-41.

# Intervention-Cooper Clayton Program ©

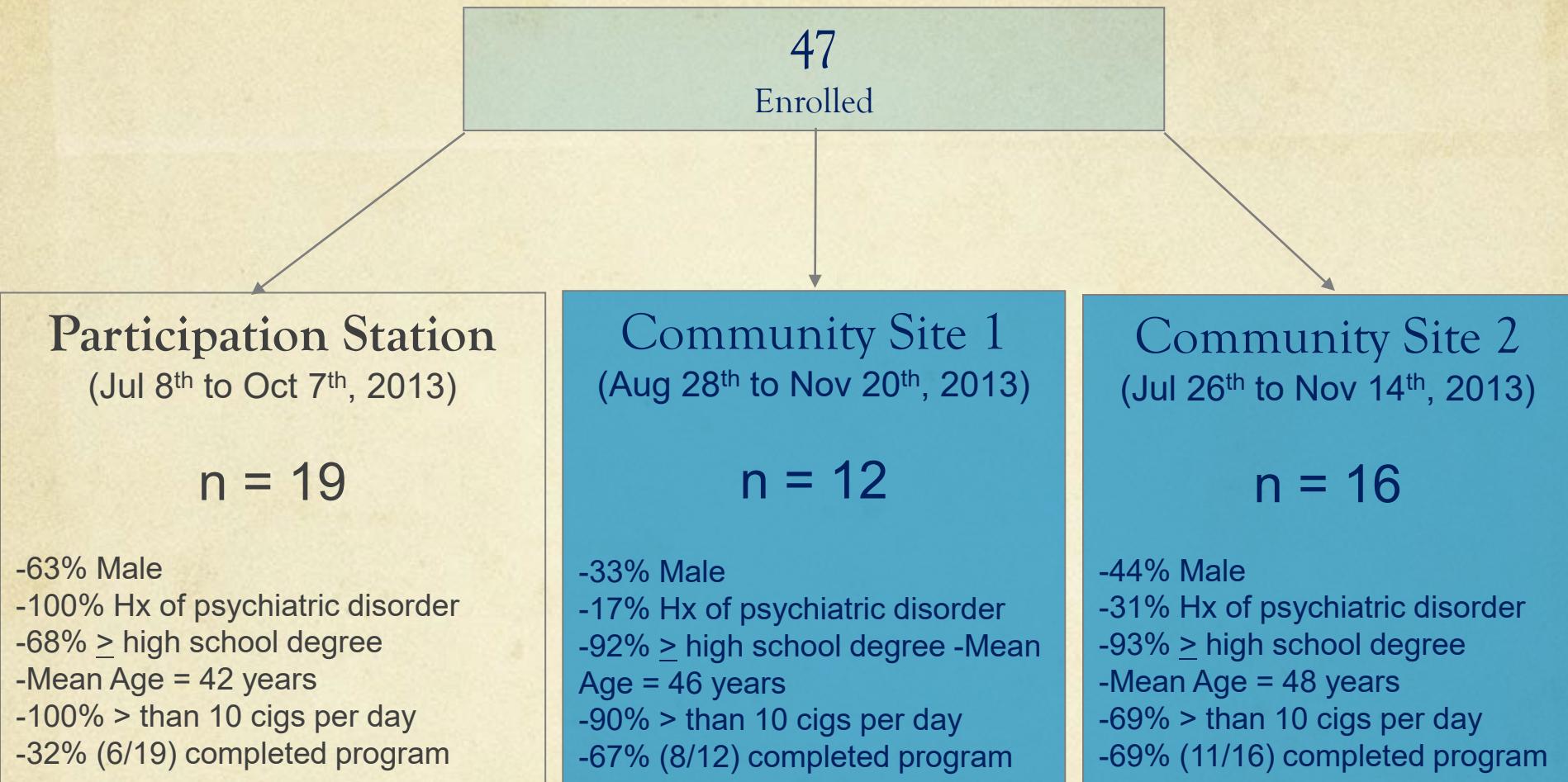
## Behavioral Counseling (13 Wks)

- **Psychoeducation:** On smoking and reaction of body and brain to nicotine replacement therapy
- **Counseling:** On relapse prevention techniques
- **Setting a Quit date\*\*:** Must set quit date by week 5 of program

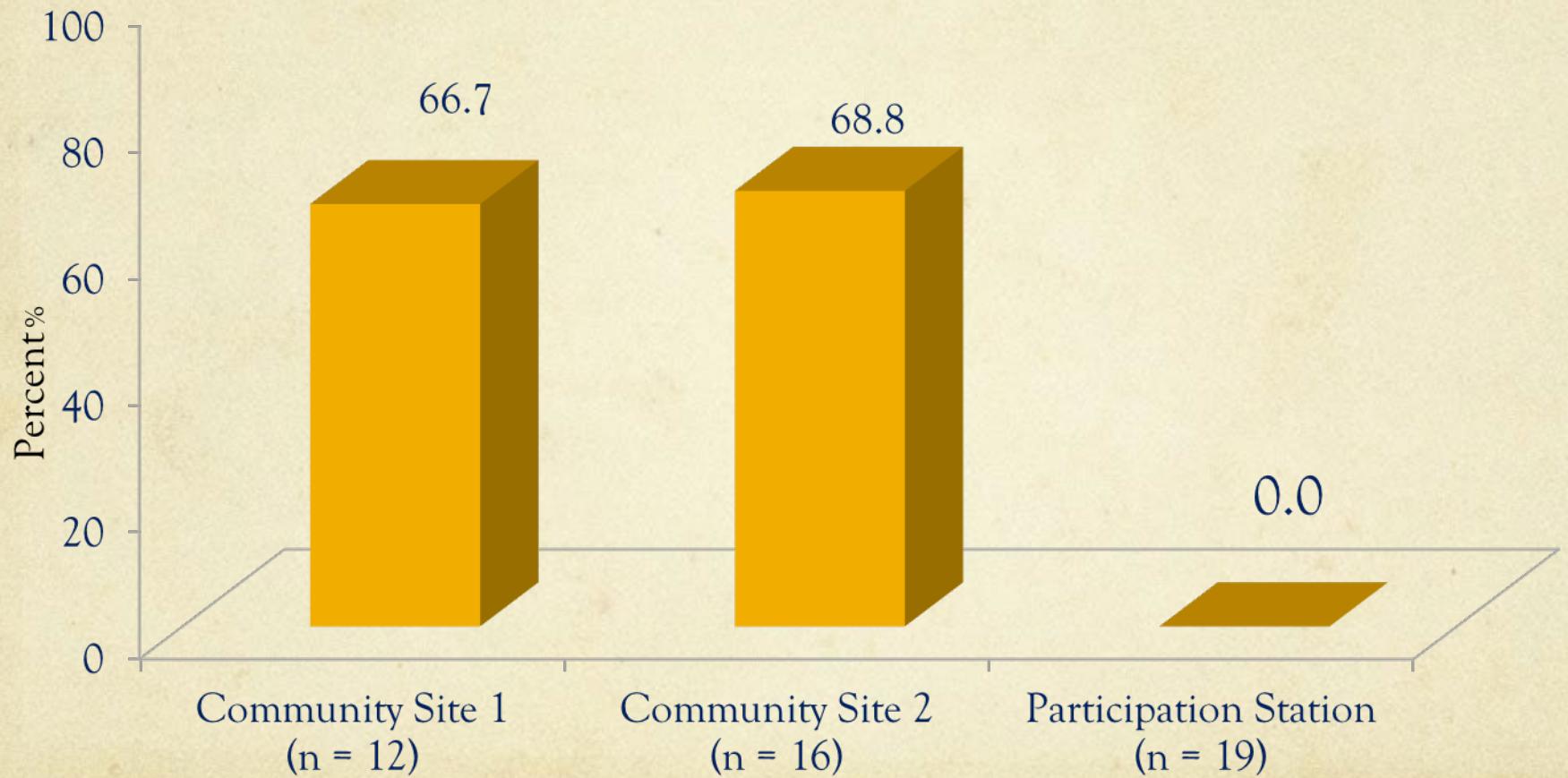


**Nicotine  
Replacement  
Therapy**

# Sample



## Smoking cessation outcomes by treatment site (intent-to-treat)



# Take Away

- Providing ‘non-tailored’ behavioral counseling + pharmacotherapy in community mental health settings may be less effective
  - Existing tobacco treatment programs for the general population may need to be modified for those with chronic mental illnesses
  - More studies are needed to understand components of effective programming for those with chronic mental illnesses

# Eastern State Hospital Tobacco Treatment Services



1. Okoli, C.T., Shelton, C., Khara, M. (in preparation). Predictors of tobacco use among inpatients in a psychiatric hospital
2. Okoli, C.T., Al-Myrazat, Y., Stead, B. (under review). The effect of implementing a tobacco treatment service on adherence to evidence-based practice in an inpatient state-owned psychiatric hospital. *The American Journal on Addictions*
3. Okoli, C. T., Otachi, J. K., Kaewbua, S., Woods, M., & Robertson, H. (2017). Factors Associated With Staff Engagement in Patients' Tobacco Treatment in a State Psychiatric Facility. *Journal of the American Psychiatric Nurses Association*, 1078390317704045.
4. Okoli, C. T., Otachi, J. K., Manuel, A., & Woods, M. (2017). A cross-sectional analysis of factors associated with the intention to engage in tobacco treatment among inpatients in a state psychiatric hospital. *Journal of psychiatric and mental health nursing*.

# ESH Tobacco Treatment Services Approach

Patient identified as a tobacco user at admission



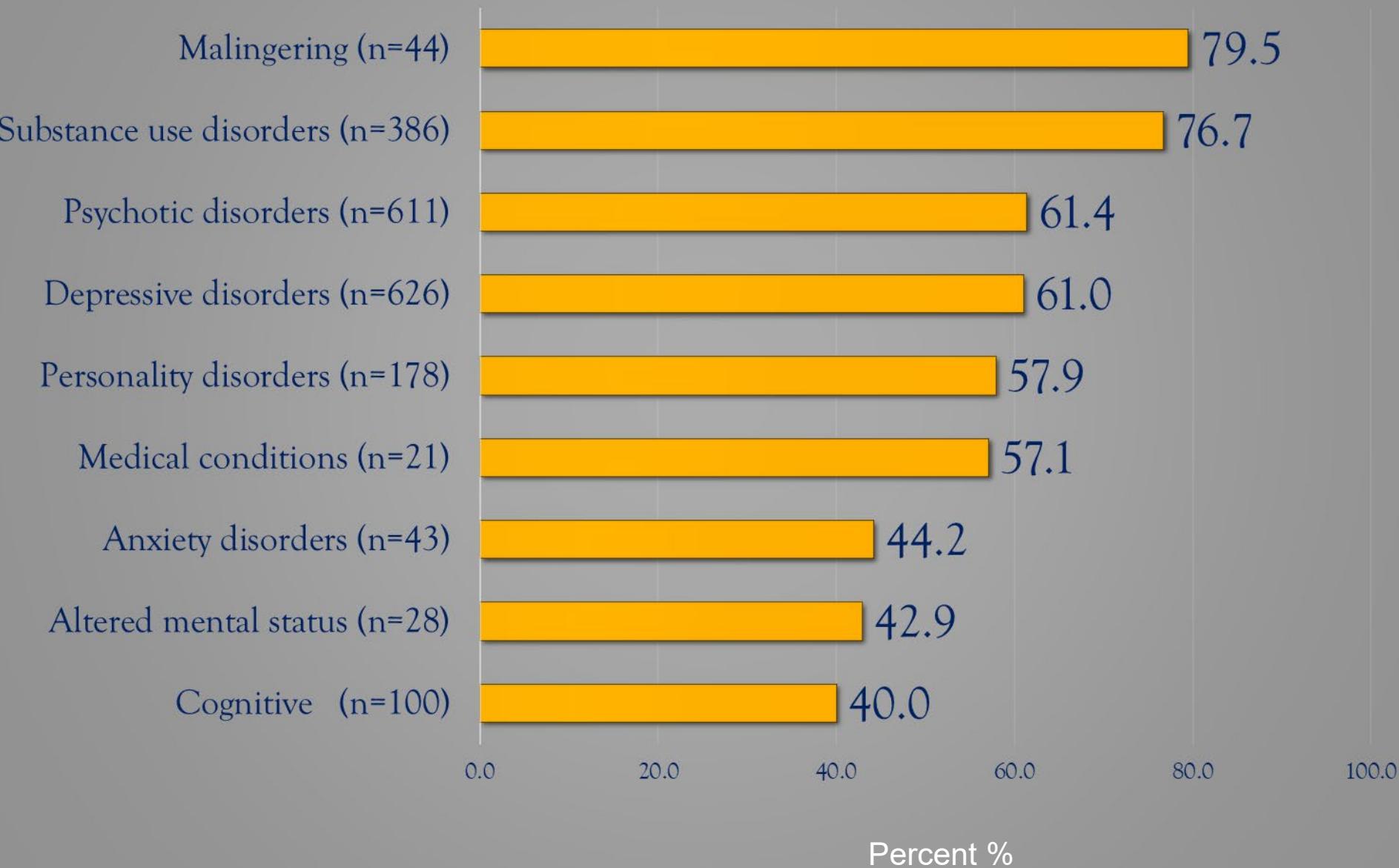
Admitting Physician/APP offers appropriate NRT



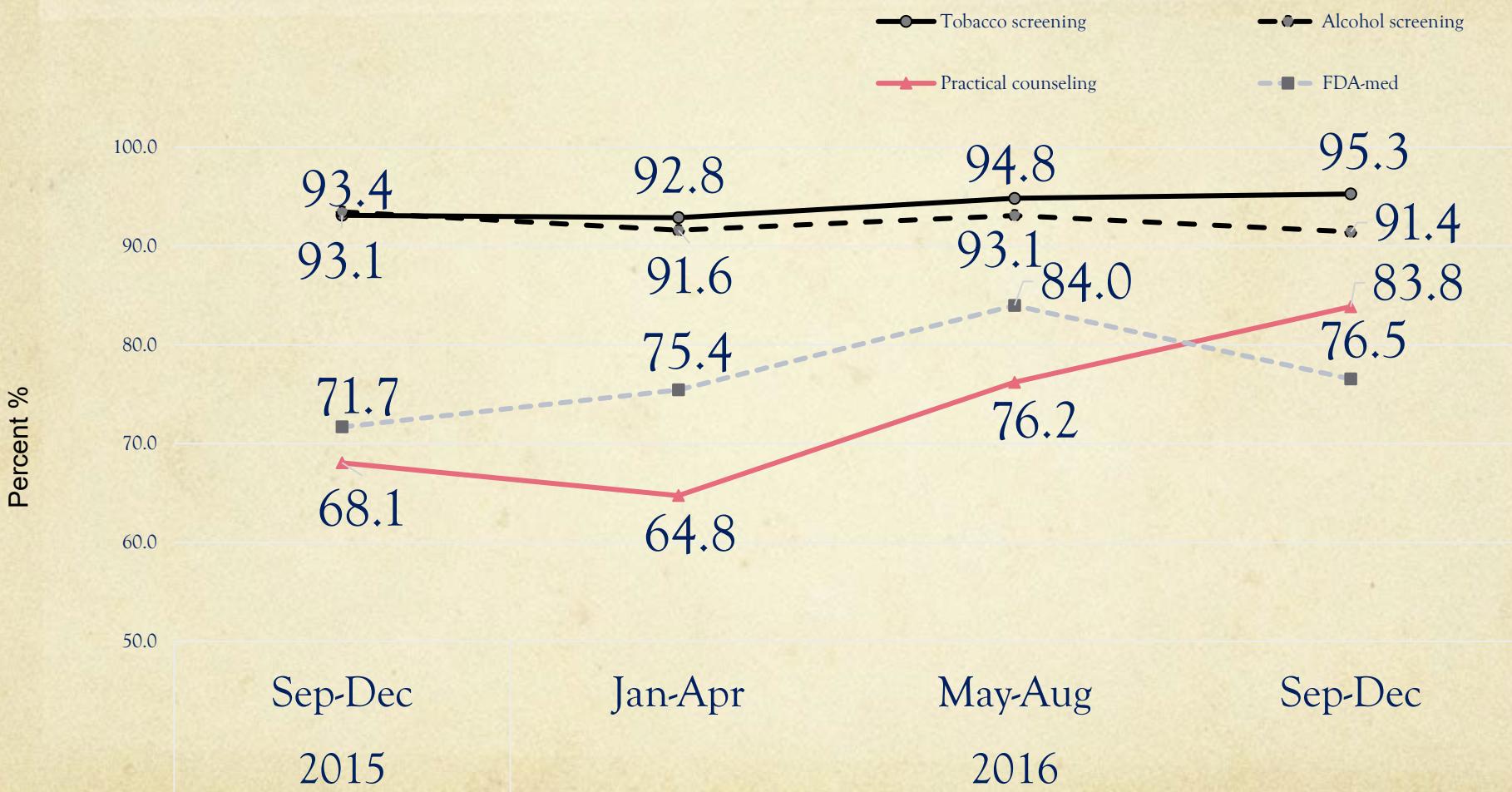
Tobacco Treatment Nurse provides follow-up assessment on unit

1. Assesses nicotine withdrawal, motivation to quit, and stage of change
2. Make recommendations to care team for tobacco treatment plan
  - a) Adjustment of tobacco cessation medication
  - b) Attend tobacco dependence education or cessation group (based on SOC)

## Tobacco use by diagnosis among non-repeat admissions in 2016 (n = 2037)



# Changes in screening for tobacco use and provision of nicotine replacement and practical counseling by 4-month intervals (Sept 2015-Dec 2016)

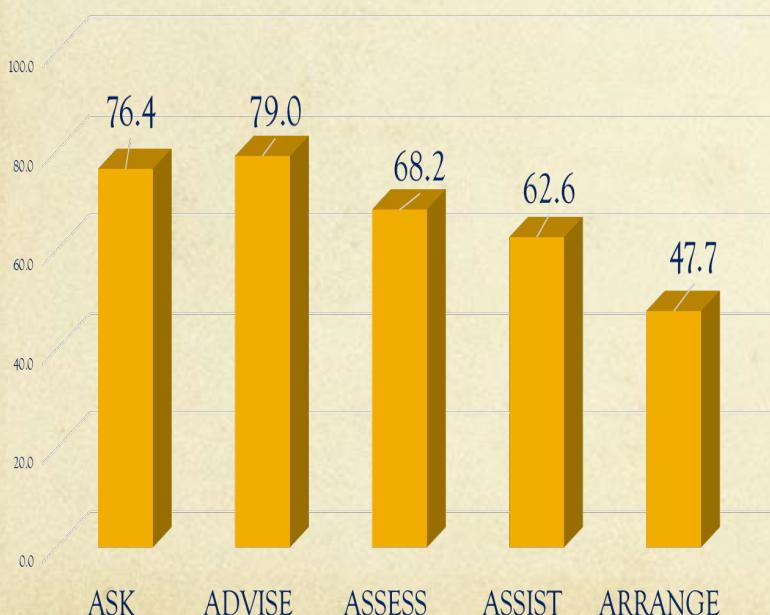


# ESH Needs Assessment Results

## (Survey Patients and Providers, 2016-2017)

### Providers (n=195):

- Intention to treat was related to 'subjective norms'
- Likely to ask, not likely to arrange



### Patients (n=115):

- Intention to engage in treatment related to 'subjective norms'
- Often asked, not often 'assisted'



Okoli, C. T., Otachi, J. K., Manuel, A., & Woods, M. (2018). A cross-sectional analysis of factors associated with the intention to engage in tobacco treatment among inpatients in a state psychiatric hospital. *Journal of psychiatric and mental health nursing*, 25(1), 14-25.

Okoli, C. T., Otachi, J. K., Kaewbua, S., Woods, M., & Robertson, H. (2017). Factors Associated With Staff Engagement in Patients' Tobacco Treatment in a State Psychiatric Facility. *Journal of the American Psychiatric Nurses Association*, 23(4), 268-278.

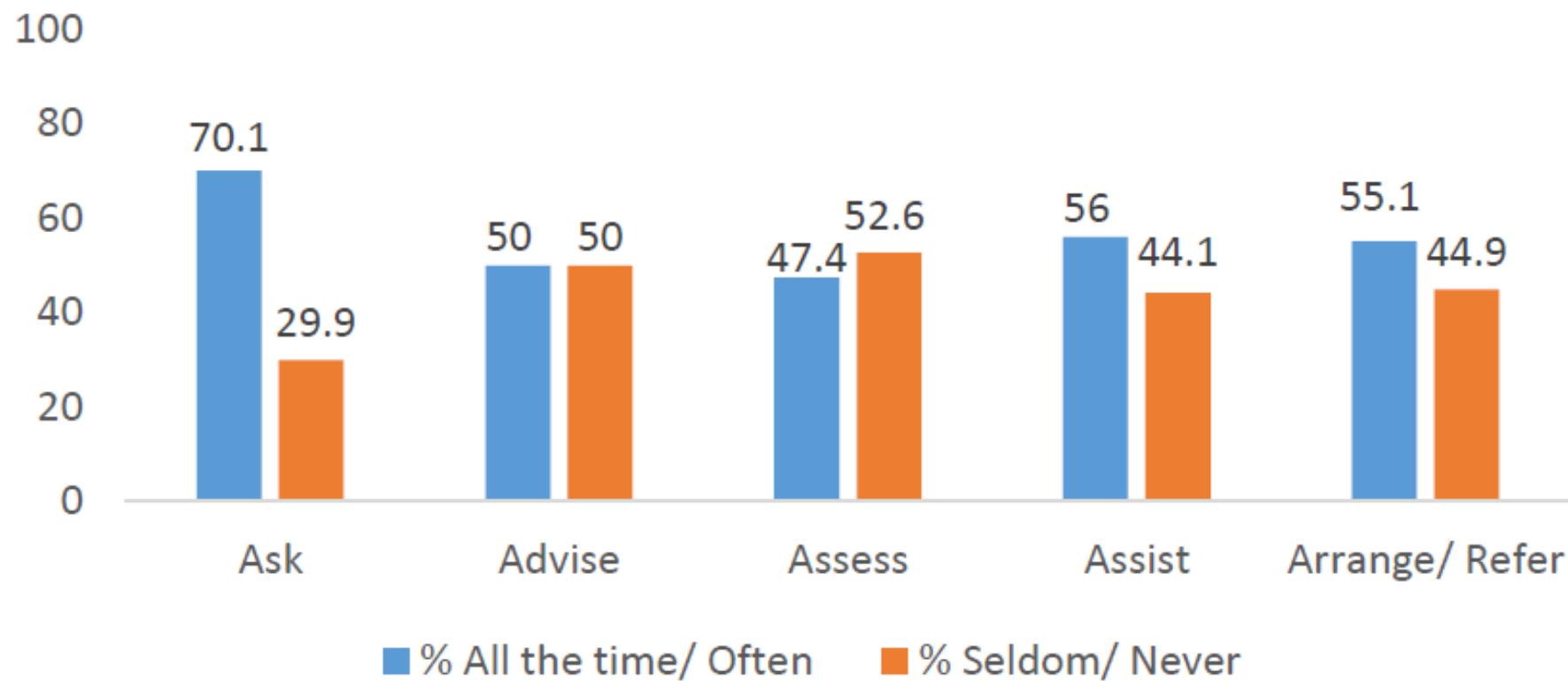
# Community Mental Health Center Tobacco Policy and Treatment Survey 2019-2020

**Table 1. Key findings from the CMHC's provider policy survey (N = 159)**

	n	%
<b>Provider Role</b>		
Manager/ Supervisor	82	51.6
Staff Member	49	30.8
Healthcare Provider	28	17.6
<b>Facility has "No Smoking" signs displayed</b>	92	57.9
<b>Facility has a written policy restricting tobacco product use</b>	131	82.4
• Policy highlights impact of tobacco use on physical health	29	18.2
• Policy highlights impact of tobacco use on mental health	14	8.8
<b>Facility provides tobacco treatment services</b>	45	28.3
<b>Facility interested in training on tobacco free policy</b>	81	50.9
<b>Facility interested in tobacco treatment specialist training</b>	88	55.3
<b>Facility interested in community tobacco treatment referral resources</b>	106	66.7

# Community Mental Health Center Tobacco Policy and Treatment Survey 2019-2020

## Brief Interventions

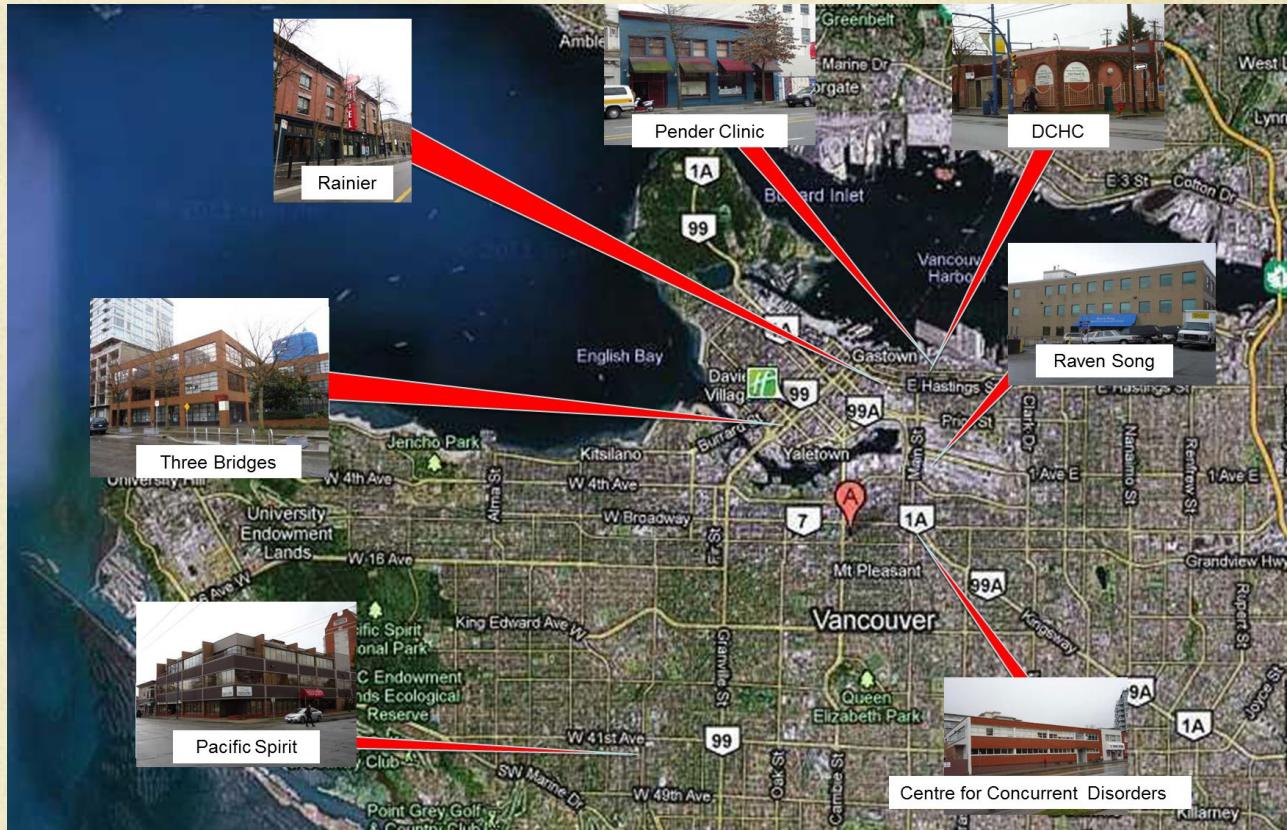


# Take Away

- Efforts should be made to promote tobacco treatment **as a normative behavior** within inpatient psychiatric settings.
- Direct care staff should be **trained** in evidence-based tobacco treatment, particularly assessing, assisting, and following-up (or referring) tobacco using patients
- Providing **a systematic approach** to addressing tobacco treatment within mental and behavioral settings can enhance uptake

# Tobacco Dependence Clinics,

Vancouver Coastal Health Authority, British Columbia, Canada



1. Khara, M., & Okoli, C. T. (2011). The Tobacco-Dependence Clinic: Intensive Tobacco-Dependence Treatment in an Addiction Services Outpatient Setting. *The American journal on addictions*, 20(1), 45-55.
2. Okoli, C. T., Anand, V., & Khara, M. (2017). A Retrospective Analysis of the Outcomes of Smoking Cessation Pharmacotherapy Among Persons With Mental Health and Substance Use Disorders. *Journal of Dual Diagnosis*, 13(1), 21-28.

# Phases of Treatment

## MANUALIZED 'CLOSED GROUP'

- Phase 1: Process engagement – weeks 1-2
- Phase 2: planning for change – weeks 3-4
- Phase 3: sustaining change – weeks 5-8

## NON MANUALIZED 'OPEN GROUP'

## Behavioral Counseling

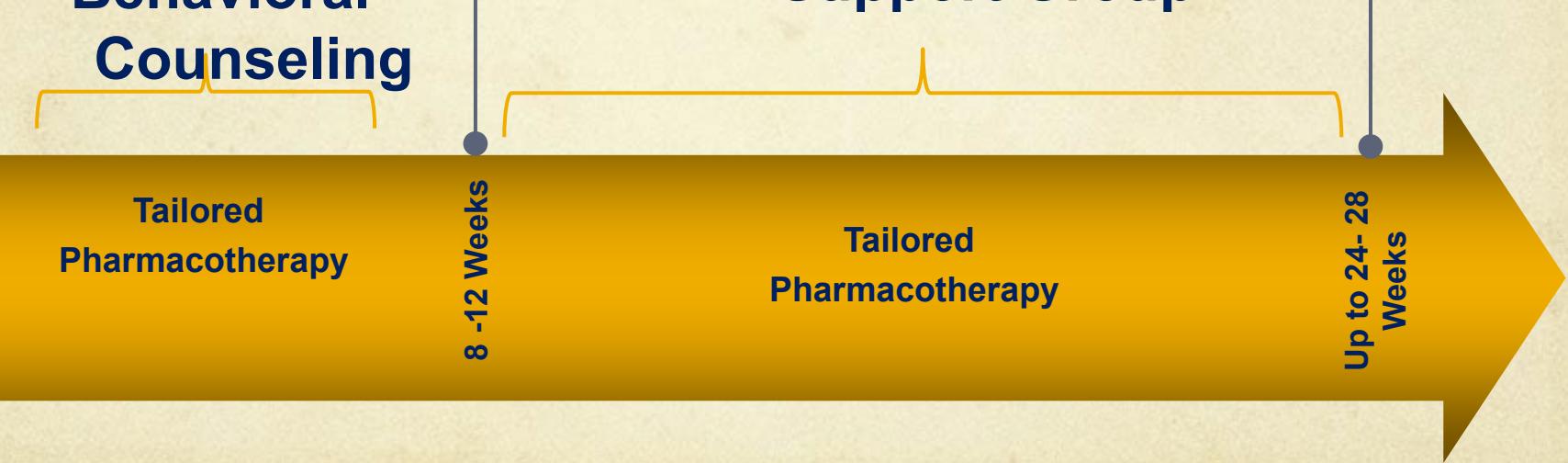
Tailored  
Pharmacotherapy

8 -12 Weeks

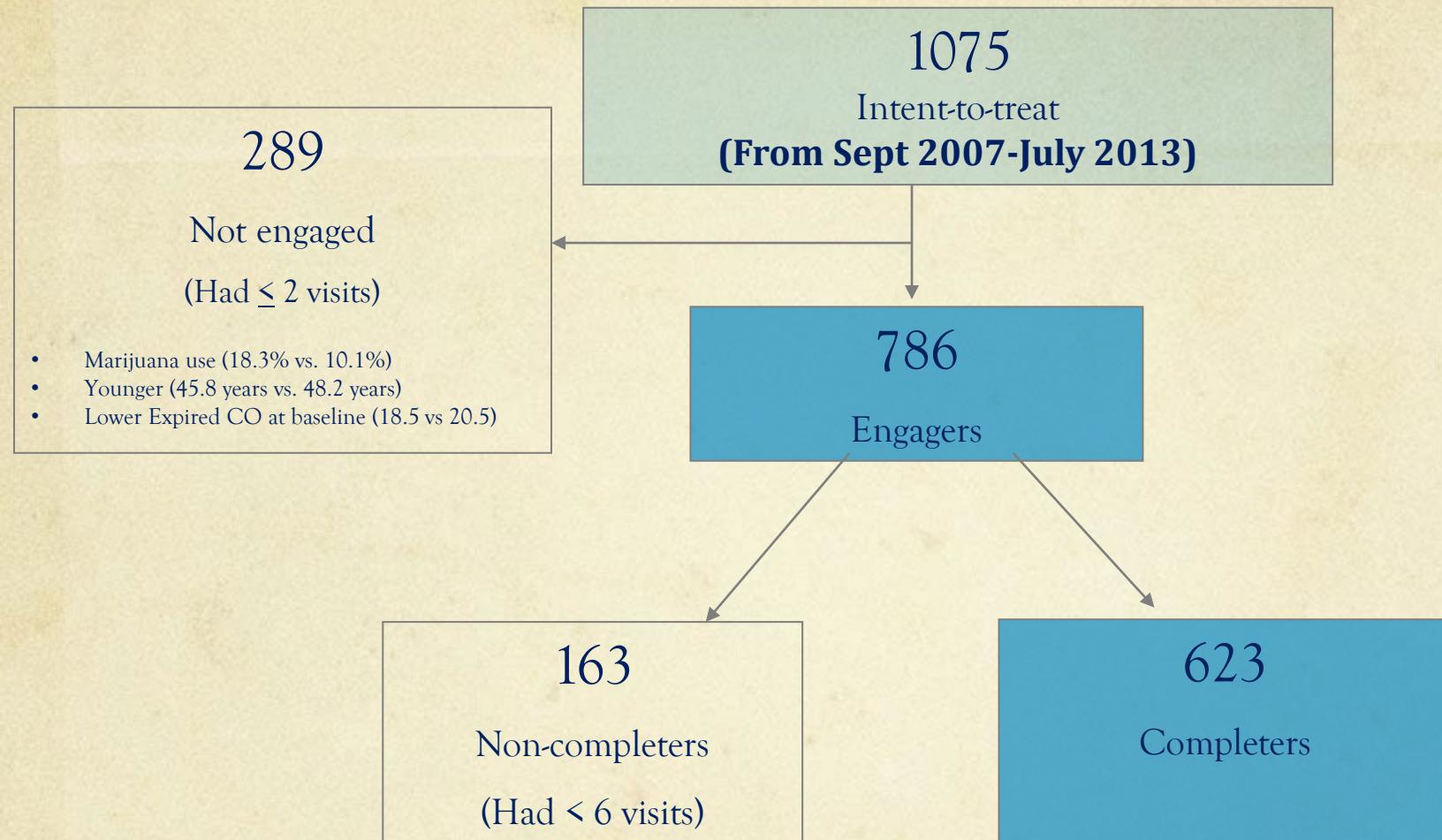
## Support Group

Tailored  
Pharmacotherapy

Up to 24- 28  
Weeks

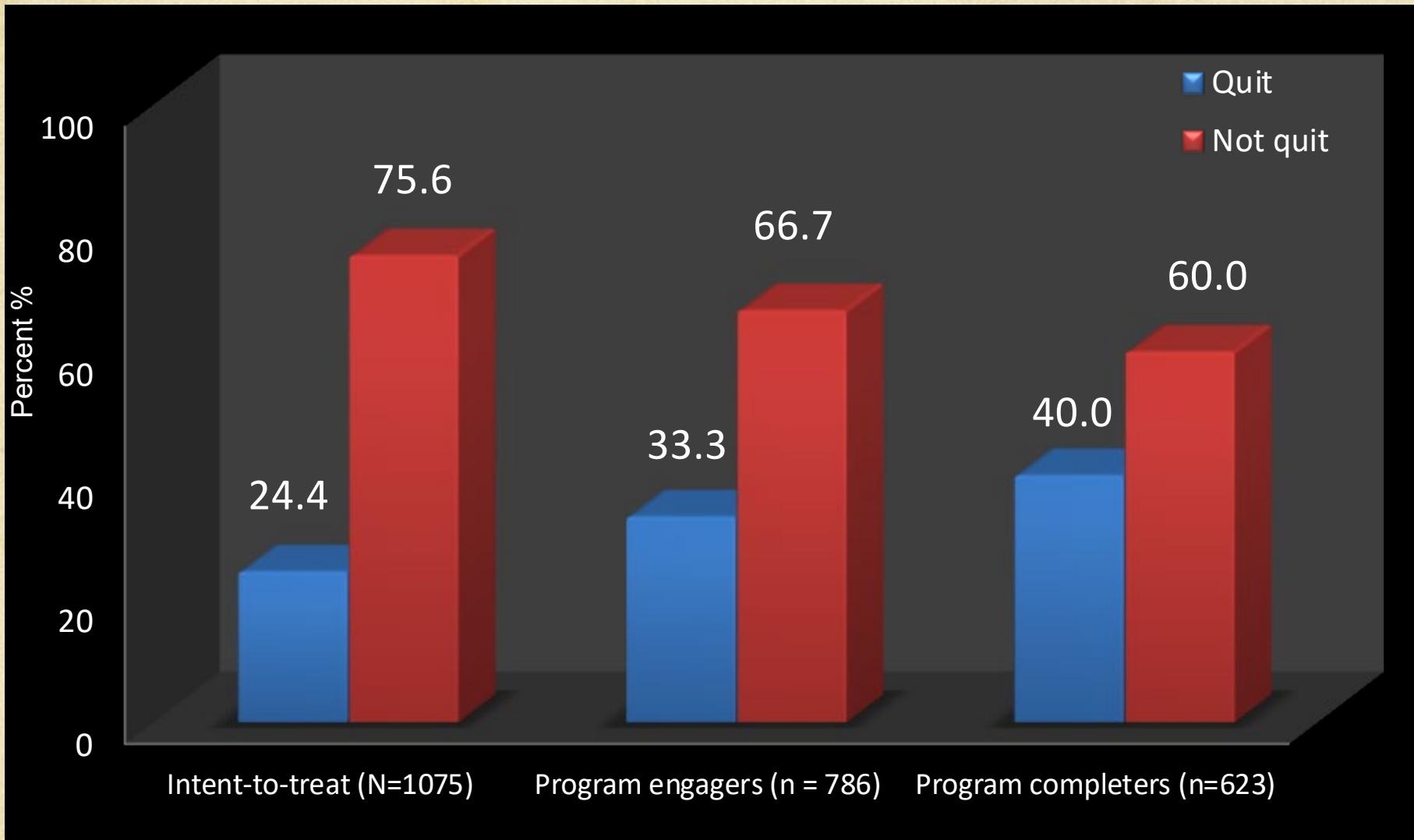


# Sample



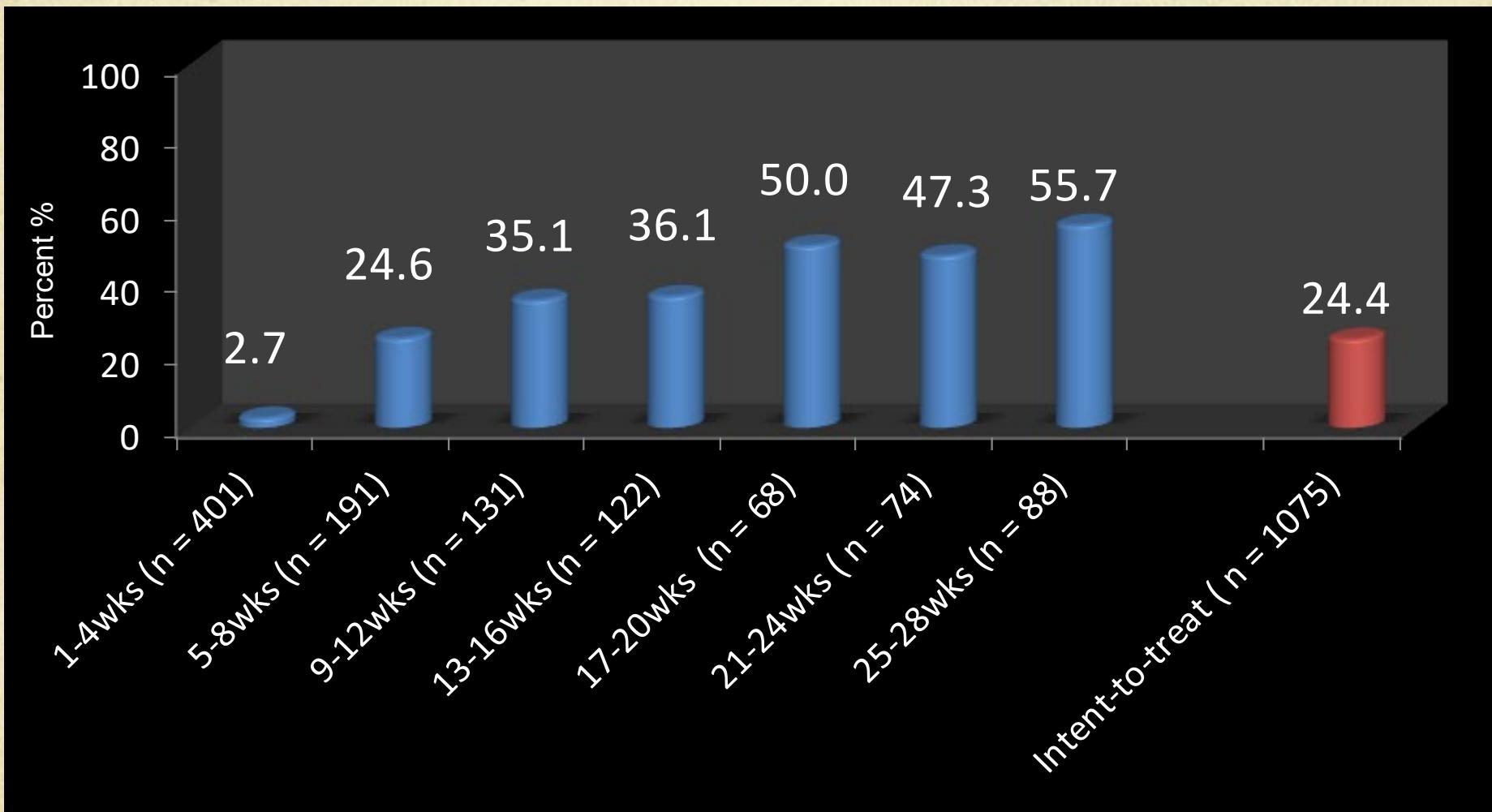
Analysis is based on a retrospective chart review of participants in the Tobacco Dependence Clinic program (between Sept 2007 and Mar, 2012) from 8 clinics, in Vancouver, Canada

# Smoking cessation\* outcomes at end-of-treatment



\*Smoking cessation at end-of-treatment (i.e., anytime between 8 weeks to 26 weeks) based on 7-day point-prevalence of abstinence verified by expired CO levels

# Smoking Cessation by length of stay in the program (n = 1075) Sept 2007-July 2013



Statistically significant linear-by-linear associations  $\chi^2=195.7$  (df = 1), p <.0001

# Take Away

- Providing tobacco treatment behavioral Counseling + tailored Pharmacotherapy in community mental health and addictions settings works
  - Greater intensity of treatment (longer duration) increases success
  - High doses of smoking cessation medications (and in combinations) to achieve success

# Resources



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# BH WELL

Working to promote behavior health and wellness among  
individuals facing behavioral health challenges.

[www.uky.edu/bhwell](http://www.uky.edu/bhwell)

# Tobacco Treatment-Clinicians

## 5 A's

The Brief Interventions for  
**Smoking Cessation**

An Evidence-Based Practice Tool

The 5 As are a 10-minute decision support tool for clinicians to assist patients to quit smoking.

### 1 Ask about tobacco use

Ask each patient this question on arrival:



"Have you smoked in the last 30 days?"

### 2 Advise all smokers to quit

"As a health professional, the best advice I can give you is to stop smoking."

"Giving up smoking is hard; however, it will help with (healing, finances, medication)."

"In the hospital, we have NRT (patches/gum) that you can try whether you are currently having cravings or not."

### 3 Assess patient readiness to quit

"Do you want to quit smoking?"

How many cigarettes do you smoke a day?

Are you nicotine dependent?  
Are you currently using medicine to help you quit?

When you wake up each day, when do you smoke your first cigarette?

### 4 Assist with medication and practical counseling

#### Smoking Cessation Medications:

- Relieve nicotine withdrawal
- Increase chances of quitting

✓ Offer NRT, Bupropion, and Varenicline

✓ Offer practical counseling (motivational interviewing)

It is always safer to use NRT than to continue smoking.

### 5 Arrange for a follow-up or referral



Schedule a follow-up visit within 2-4 months.

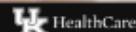
FREEDOM FROM SMOKING  
1-800-LUNG-USA

Toll-free line available in Kentucky  
1-800-QUIT-NOW

Embracing the 5 A's can help you guide patients toward smoking cessation.

For more information, contact Zim Okoli, PhD at 859-323-6606 or [cokoli1@uky.edu](mailto:cokoli1@uky.edu).

Funded by the Kentucky Department of Public Health



## 5 R's

Motivational Intervention for  
**Smoking Cessation Readiness**

An Evidence-Based Practice Tool

The 5 R's are a 10-minute motivational intervention tool for clinicians to increase readiness for smoking cessation.

### 1 Relevance

Tailor advice and discussion for each patient

"Do you think that quitting smoking is important to do for you and those around you?"

### 2 Risks

Outline the risks of continued smoking

What thoughts have you had about your health and smoking?  
What do you fear the most from smoking?  
What concerns you about your smoking?  
What worries do you have for your family because you smoke?

### 3 Rewards

Outline the benefits of quitting

"What do you think the benefits of quitting smoking may be for you personally?"



### 4 Roadblocks

Ask your patient about perceived roadblocks to quitting

Withdrawal symptoms

Depression

Fear of failure

Enjoyment of tobacco

A patient's perceived roadblocks negatively affect their readiness to quit.

Weight gain

Lack of support

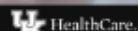
### 5 Repetition

Respectfully repeat the 5 R's with each interaction.

Refer patients to tobacco dependence treatment program: toll-free line available in Kentucky 1-800-QUIT-NOW

The 5 R's can help you guide patients toward increasing desire to quit smoking.

For more information, contact Zim Okoli, PhD at 859-323-6606 or [cokoli1@uky.edu](mailto:cokoli1@uky.edu).  
Funded by the Kentucky Department of Public Health



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# Tailored Tobacco Treatment Options

Quick Reference for Tailored Tobacco Treatment

A practice tool to help clinicians decide on tobacco treatment options

## Tobacco Treatment Pharmacotherapy Options\*

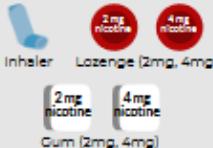
### Monotherapy

#### Long Acting Options



Patch (21mg, 14 mg, 7mg)

#### Short Acting Options



Inhaler      Lozenge (2mg, 4mg)

Gum (2mg, 4mg)

### Combination Therapy\*\* (Long and Short Acting)



Bupropion + Patch (21mg, 14mg, 7mg)



Bupropion + Lozenge (2mg, 4mg)



Bupropion + Inhaler



Patch (21mg, 14mg, 7mg) + Lozenge (2mg, 4mg)



Patch (21mg, 14mg, 7mg) + gum (2mg, 4mg)



Patch (21mg, 14mg, 7mg) + Inhaler

\*The selection of pharmacotherapy is generally based on the number of cigarettes/day with 1 mg of nicotine per cigarette smoked. For example, a 10 cigarette per day smoker would use a 14 mg patch, 2 cans/day of snuff, or 1 mg patch combined with 4 mg gum. Nicotine dose is determined by the time it takes to achieve target levels. If the target is reached within 20 minutes, the 2 mg is used; if it takes longer than 20 minutes, the 1 mg is used. The 2 mg nicotine gum dosage selection applies to use of lozenge or use of gum either as a single agent, or in combination with the patch or inhaler.

Becker, P., McDonald, R., & Selby, P. (2008). An algorithm for tailoring pharmacotherapy for smoking cessation: results from a Delphi panel of international experts. *Tobacco Control*, 19(7), 39-43.

Lindström, K., Chughtai, Z. C., Va, W., Bansilal, T. R., Rollan, C., & Hermann-Goyer, J. (2016). Different doses, durations and modes of delivery of nicotine replacement therapy for smoking cessation. *Cochrane Database of Systematic Reviews*, (4).

Cahill, K., Stevens, R., Perez, R., & Lancaster, T. (2012). Pharmacological interventions for smoking cessation: an overview and network meta-analysis. *Cochrane Database of Systematic Reviews*, (2).

\*\*The first two treatments for snuff/tobaccoless tobacco users is counseling in combination with an oral exam by a dental professional, with medications added afterward or at the time of the oral exam. Among medications, bupropion and lozenge have been found to be the most effective for snuff/tobaccoless tobacco users.

The American Dental Association. *Implementation of evidence-based oral health care for smoking and tobacco cessation*. (Eisen, J. O., Rieske, M. Y., & Reed, L. F. (2012). Interventions for smokeless tobacco use cessation. *Cochrane Database of Systematic Reviews*, (1).

Appropriate pharmacotherapy with proper counseling should be offered to all tobacco users willing to reduce or stop their tobacco use

### Evidence Based Clinician Approach

ASK  
about tobacco use  
"Have you used  
tobacco in the last  
30 days?"

ADVISE  
to quit  
"As a health  
professional, the  
best advice I can  
give you is to stop  
smoking."

ASSESS  
readiness to quit  
"On a scale of 1-10,  
how confident and  
ready are you to  
quit using  
tobacco?"

ASSIST  
to quit  
Use practical  
counseling and offer  
pharmacotherapy  
1-800-LUNG-USA  
(Freedom from smoking)  
1-800-QUIT-NOW  
(QUIT NOW Kentucky)

REFER  
to program  
1-800-LUNG-USA  
(Freedom from smoking)  
1-800-QUIT-NOW  
(QUIT NOW Kentucky)

# Pharmacotherapy Choices

Quick Reference for Pharmacotherapy to Manage Nicotine Withdrawal

A practice tool to help clinicians decide on nicotine withdrawal management pharmacotherapy

## Nicotine Replacement Equivalencies\*

### Cigarettes

2 packs/day → 21 mg nicotine      21 mg nicotine  
two 21mg patches

1.5 packs/day → 21 mg + 14 mg patches  
21 mg nicotine      14 mg nicotine

1 pack/day → one 21mg patch  
21 mg nicotine

0.5 pack/day → one 14mg patch  
14 mg nicotine

5 or less cigarettes/day → 4mg gum OR 4mg lozenge PRN  
4 mg nicotine      4 mg nicotine

### Snuff

3 cans/week → 21 mg nicotine      21 mg nicotine  
two 21mg patches + 4mg gum

2 cans/week → 21 mg nicotine      21 mg nicotine  
two 21mg patches

1 can/week → 21 mg nicotine      21 mg nicotine  
one 21mg patch

### Cigars

1-2 cigars/day → 7 mg nicotine  
one 7mg patch

\*These nicotine replacement equivalencies are based on research studies and clinical experience to provide adequate replacement of nicotine during tobacco free hospitalizations. As such these equivalencies may be off-label prescribing use.

Agaku, I. T., & Albert, H. R. (2014). Trends in annual sales and current use of cigarettes, cigars, roll-your-own tobacco, pipes, and smokeless tobacco among US adults, 2005–2012. *Tobacco Control*, 23(6), 451-457.

Arumugam, D., Chatterjee, J., Gabriele, V., et al. (2014). Genetic variants in nicotine addiction and alcohol metabolism genes, oral cancer risk and the propensity to smoke and drink alcohol: A replication study in India. *PLoS One*, 9(2), e89293.

Using adequate pharmacotherapy can help manage withdrawal and optimize success while stopping tobacco use

### Evidence Based Clinician Approach

ASK  
amount of tobacco use  
"What kind of  
tobacco products do  
you use? How often  
do you use them?"

ASSESS  
nicotine withdrawal  
"Have you experienced any of the  
following symptoms in the past 24  
hours: (cravings, depressive symptoms,  
insomnia, anger, anxiety, poor  
concentration, restlessness, and  
decreased appetite?)"

PROVIDE  
nicotine replacement  
Offer nicotine  
replacement based  
on withdrawal score  
and tobacco product  
use.

BE TOBACCO FREE

**QUIT NOW**  
**KENTUCKY**

Health Care Provider

English **OR** Español

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Hello. [Sign In](#) or [Enroll today](#).

Worried about smoking or vaping and COVID-19? We can help.

Taking your first steps  
toward becoming  
tobacco free.

**Help me decide**

How do you feel about quitting?

Choose

**Get Started**

Skip, I want to explore  
on my own

Quitting tobacco is a process. Whether you are thinking about quitting, are not yet ready to quit, or have already quit, Quit Now Kentucky can help you with each step of the way.

*Free, Convenient, Safe & Secure*

*Are you a...*

**Health Care Provider**  
looking for information?

OR

# THE DIMENSIONS



When Nicotine  
Attacks:  
**FIGHT THE  
CRANE**

STORE ON THE CORNER

TOBACCO WINE-SPIRITS ATM

