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## Outcomes of an Intensive Smoking Cessation Program for Individuals with Substance Use Disorders

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# Outcomes of an intensive smoking cessation program for individuals with substance use disorders



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Health  
Canada

Santé  
Canada

# Declaration of competing interests

*Dr Milan Khara has received unrestricted research funding, speaker's honoraria, consultation fees or product from the following organisations/companies in the previous 12 months:*

*Health Canada, Interior Health Authority, Pfizer, TEACH, QuitNow Services, Ottawa Heart Institute, Johnson and Johnson, Provincial Health Services Authority, College of Physician's and Surgeon's of British Columbia*

*Dr Chizimuzo Okoli has received consultation fees from Pfizer Canada, in the previous 12 months*

*Lindsay Killam has no competing interests to declare*

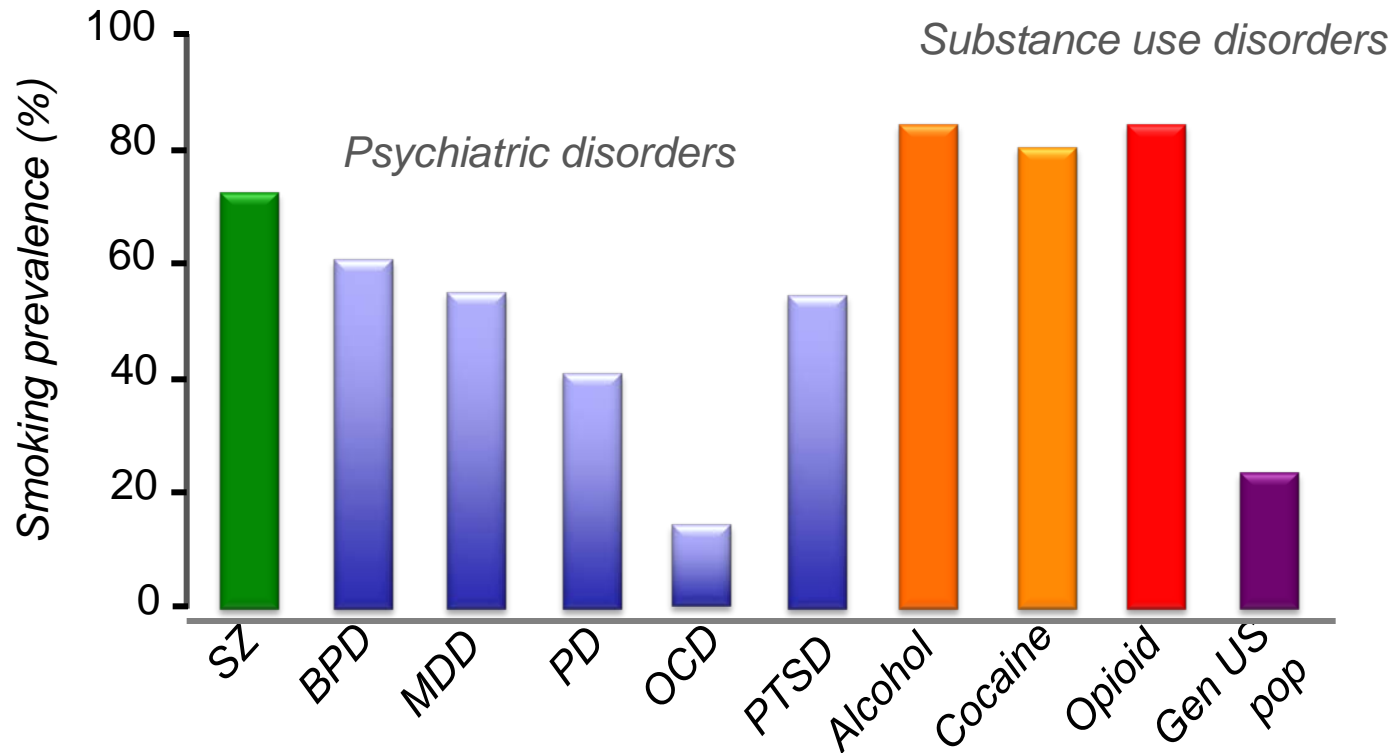
# Disease Burden

- *The number one preventable cause of death in Canada (Health and Welfare, Canada 2000)*
- *47,000 smoking related deaths per year (1998, Health Canada)*
- *1 in 2 smokers die from a smoking related illness*
- **44% of consumption by the mentally ill**

Doll R, Peto R, Boreham J, Sutherland I. Mortality in relation to smoking: 50 years' observations on male British doctors. *BMJ*. 2004

Lasser K, Boyd JW, Woolhandler S et al. (2000), Smoking and mental illness. A population-based prevalence study. *JAMA*

# Prevalence of Smoking in the MH&A Population



*General Population vs Persons with Psychiatric Disorders*

# Program Description

- The Tobacco Dependence Clinic (TDC) is a program that provides behavioural counselling and up to **26 weeks of no-cost pharmacotherapy** for clients through VCH Addiction Services
- Program is run with a team of nurses, counsellors, respiratory therapists, and a physician.
- Currently in 7 Addictions services located in community health centres in Vancouver.

# Intake

## Eligibility:

- 19 years or older
- Tobacco dependent
- Have a history of substance use disorder and/or mental illness
- Financially disadvantaged



# 8 Week Structured Group

**Quitting smoking is a process and not  
an event**

# Stages of Change

- Using harm reduction, skill development, and confidence building we move people to action
- Precontemplation – no desire for change
- Contemplation – aware of a need to make change but still ambivalent
- Preparation – ready to take small steps and to plan
- Action – making change, building capacity for change, improved self-efficacy
- Maintenance – sustaining change
- Lapse/relapse

(Miller, W., Rollnick, S., 1991)

# Phases of Treatment

- **Phase 1:** engagement in the process – weeks 1-2
- **Phase 2:** planning for change – weeks 3-4
- **Phase 3:** sustaining change – weeks 5-8

# Engaging in Change, Weeks 1-2

Get individuals to buy in, make small steps

## What do we do:

- Decisional balance – acknowledge the past role of smoking, address concerns about quitting, emphasize the plusses of being smoke free
- Tally daily smoking patterns
- Identify situational, emotional, and cognitive triggers
- Identify basic coping strategies for triggers (ie. Distraction, deep breathing, etc)

# Making the Plan, Weeks 3-4

Outlining what change will look like

## What do we do:

- Use a 2-month calendar to outline weekly smoking reduction, optional quit date, weekly rewards and self-care
- Discuss signs and symptoms of withdrawal

# Sustaining Change, Weeks 5-8

Filling in the void left by quitting smoking

## What do we do:

- Discuss emotions with an emphasis on stress management
- Physical health and wellness (ie. Weight gain)
- Reinforce positive thinking and positive change
- Identifying risk, tools for dealing with slips, relapse prevention



# Outcome Evaluation



Rainier



Pender Clinic



DCHC



Three Bridges



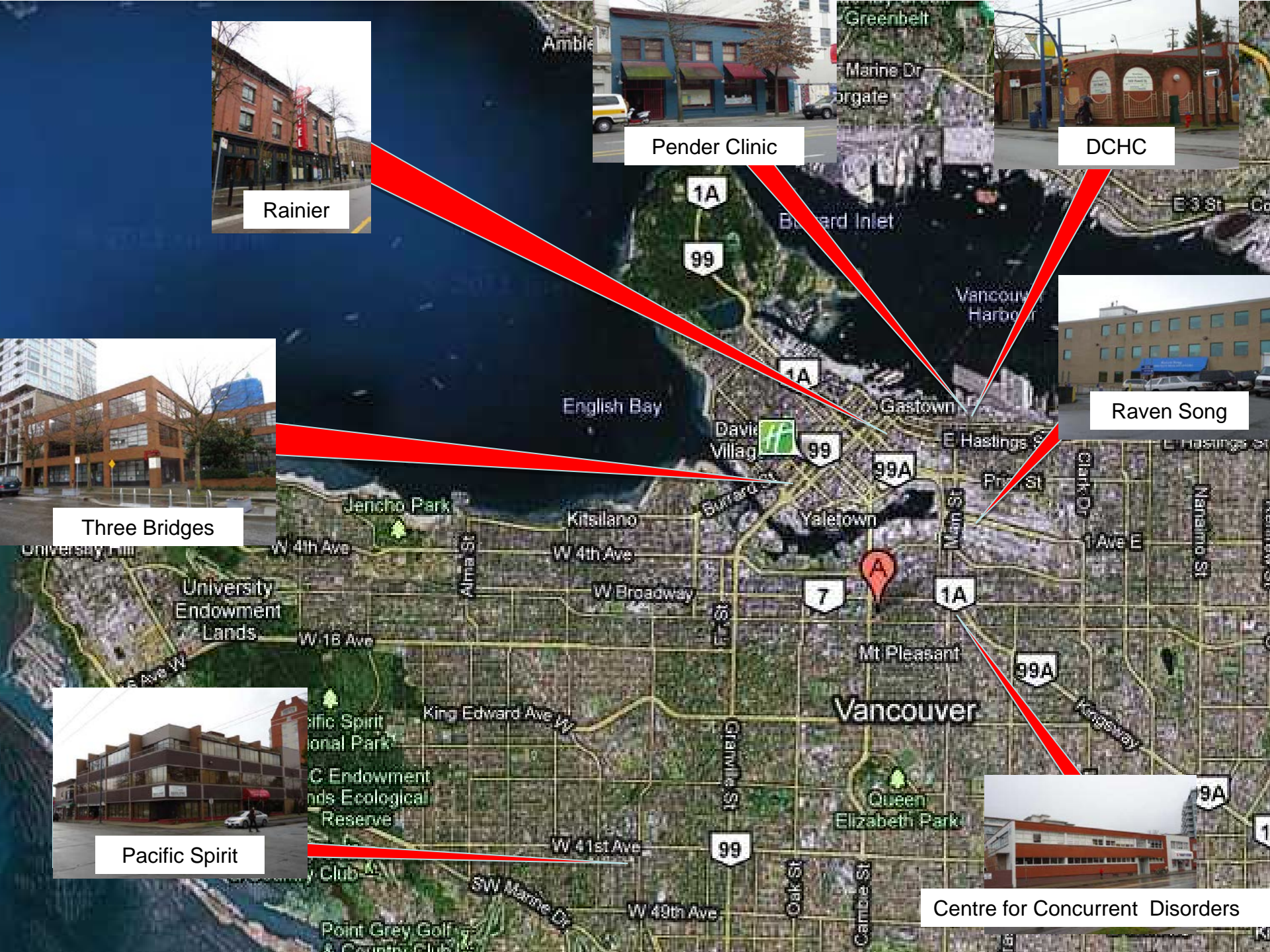
Raven Song



Pacific Spirit

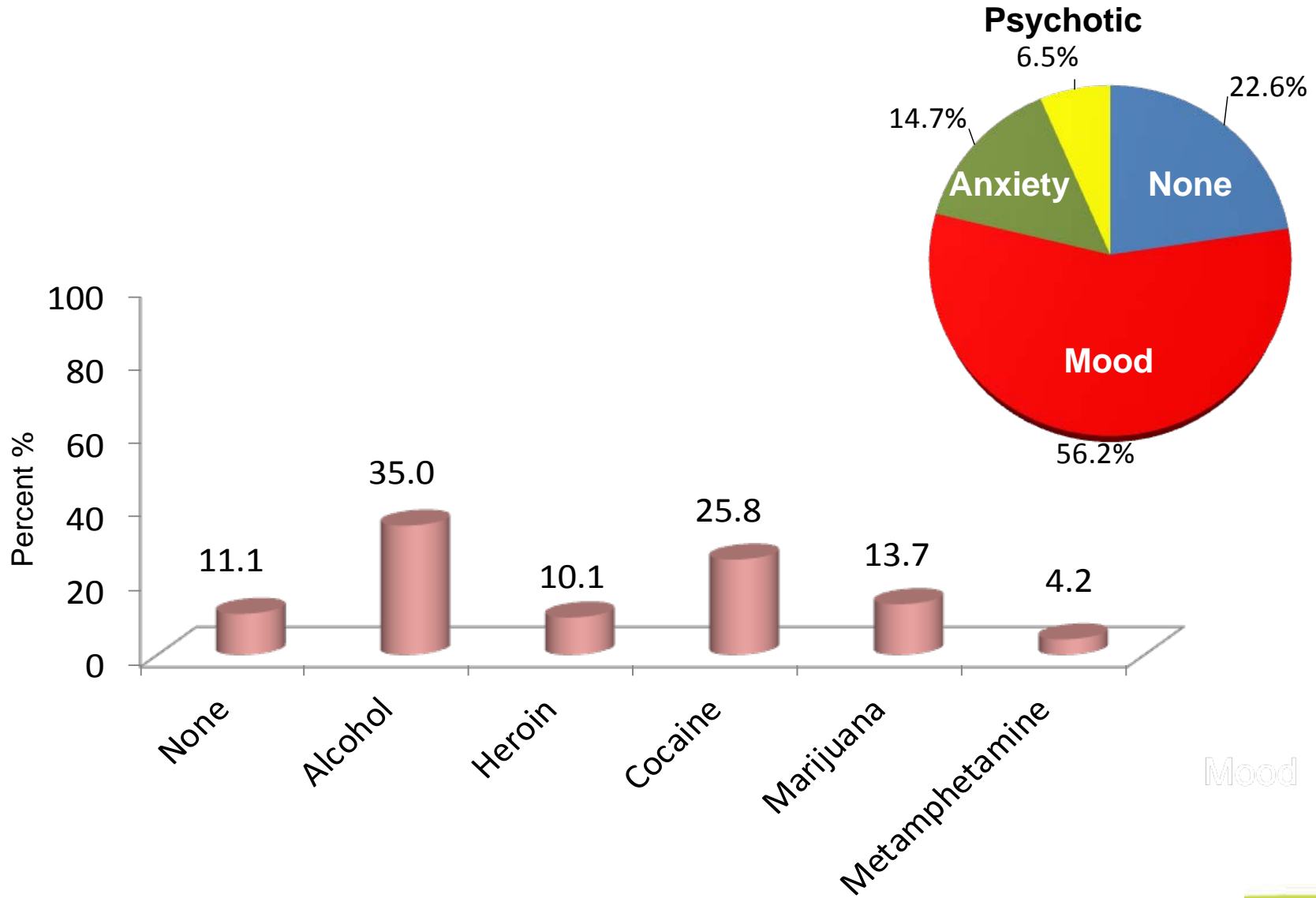


Centre for Concurrent Disorders





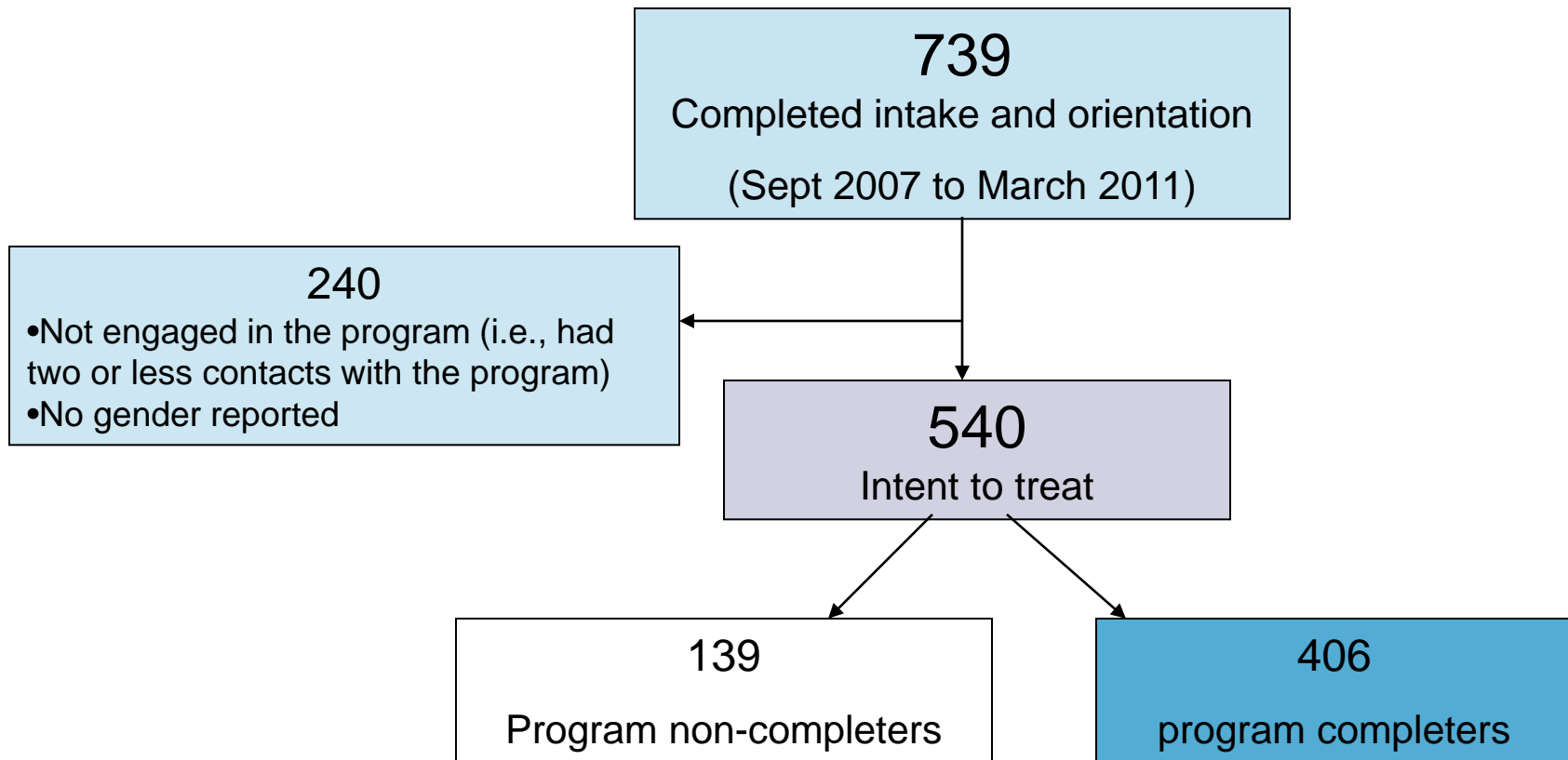
# Substance Use Disorder & Psychiatric Disorder History (N = 739)



# Sample Characteristics (N = 739)

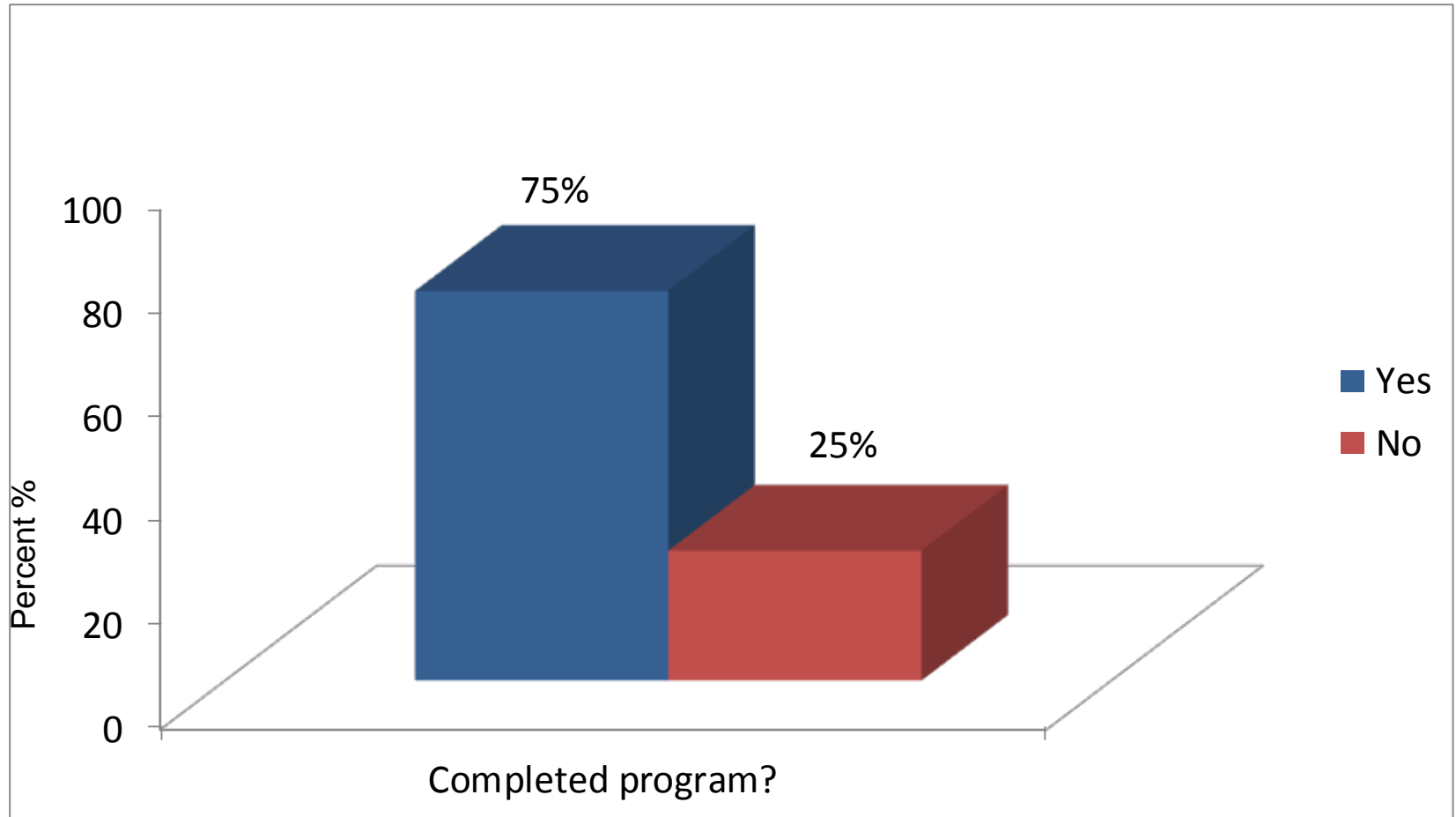
	Mean	Stand. Dev.
Age of participant (years)	47.2	11.4
Age at smoking initiation (years)	14.9	5.2
Importance of quitting (scale of 0 'low' to 10 'high')	9.0	1.3
Confidence in quitting (scale of 0 'low' to 10 'high')	7.3	2.3
Number of cigarettes smoked per day	20.6	10.8
Fagerstrom Test for Nicotine Dependence (scale of 0 'low' to 10 'high')	6.0	2.1
CO level at baseline (ppm)	20.1	12.4

# Sample for Outcomes Assessment

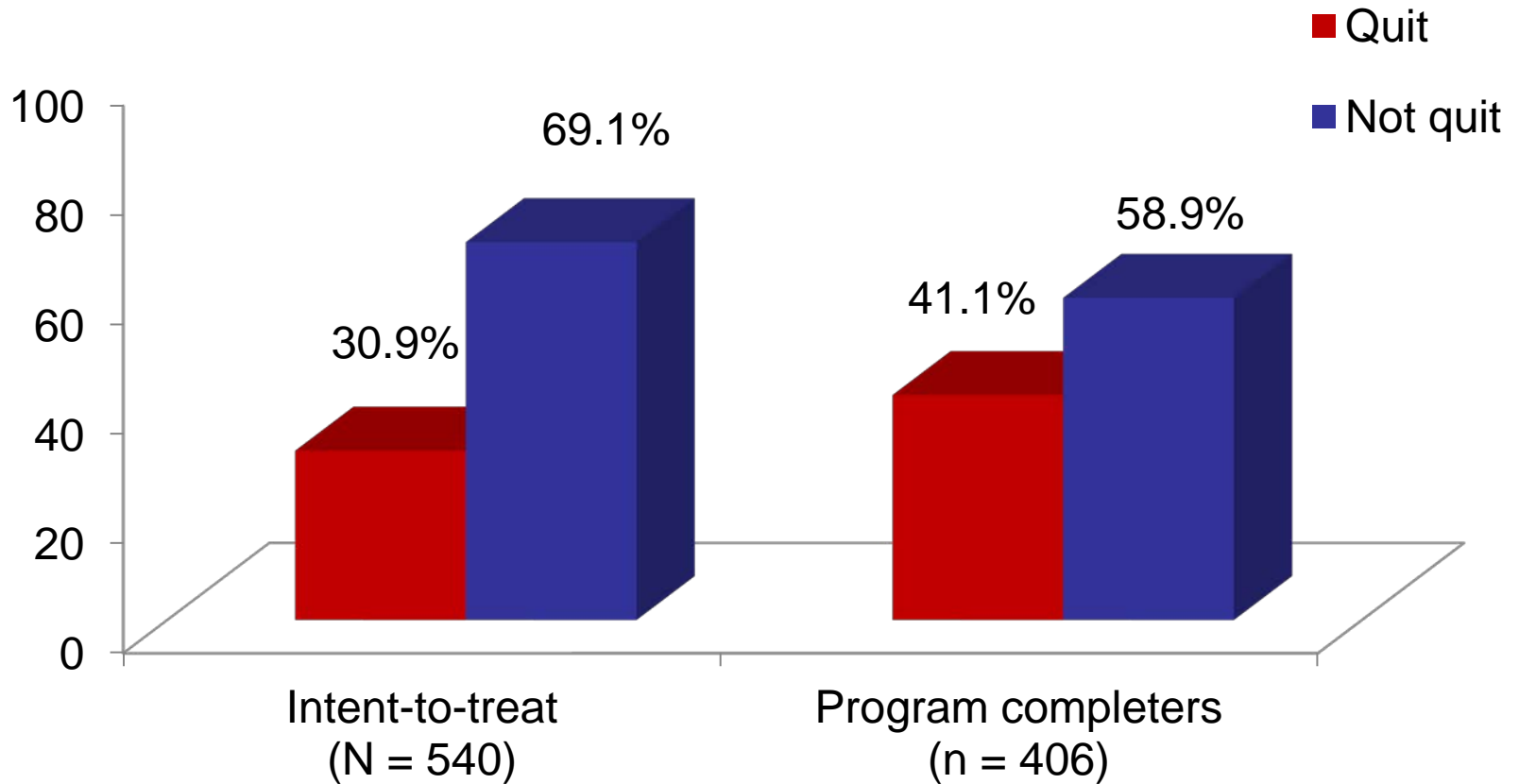


Smoking cessation: 7-day point-prevalence of abstinence at end of treatment (i.e., anytime between 8 weeks to 26 weeks) verified by expired CO levels

# Program Completion (n = 406/540)

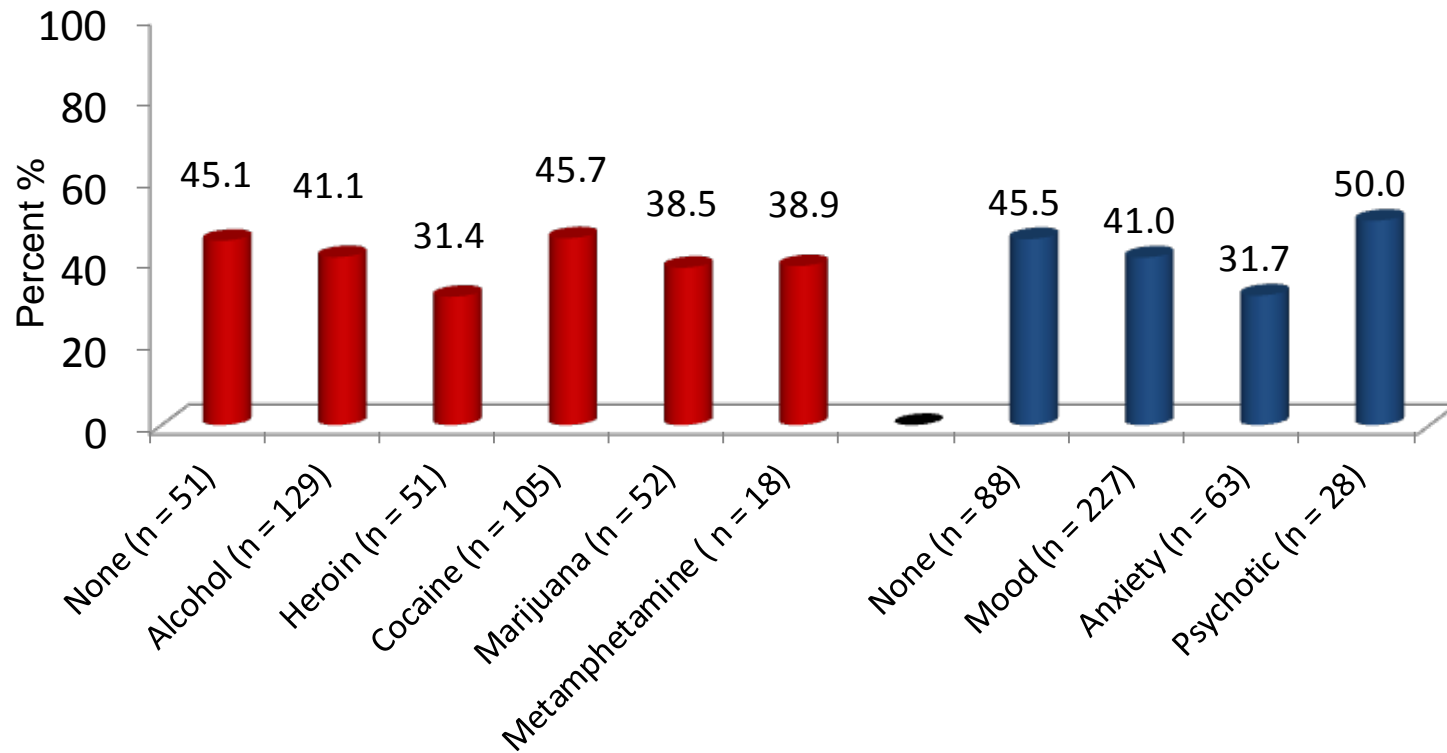


# Smoking Cessation\* Outcomes at end-of-treatment



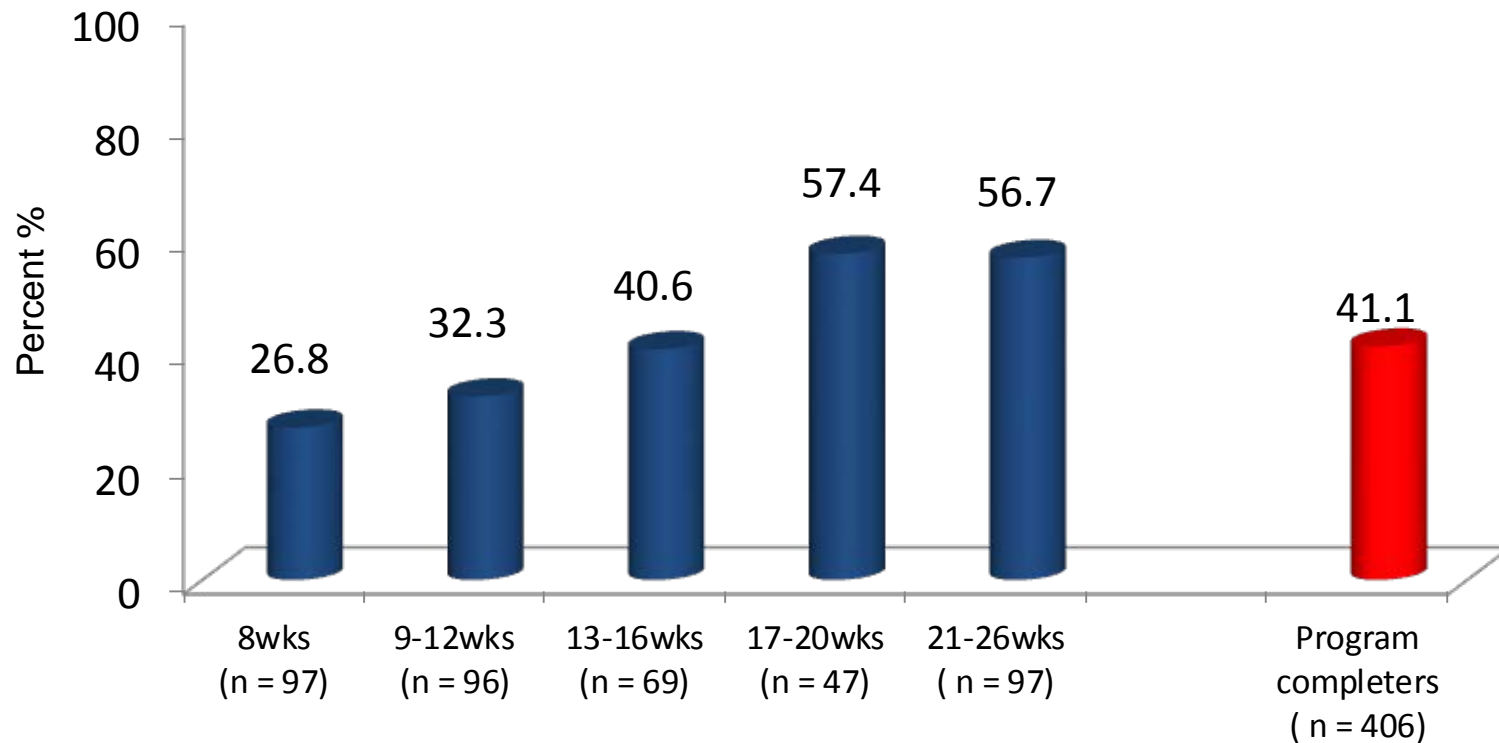
\*Smoking cessation: at end-of-treatment (i.e., anytime between 8 weeks to 26 weeks) verified by expired CO levels

# Smoking cessation by SUD and PD among program completers (n = 406)\*



\* No statistically significant differences between groups

# Smoking cessation by length of stay in the program among program completers (n = 406)\*



\* Statistically significant differences between groups

## Multivariate predictors<sup>ab</sup> of smoking cessation at end of treatment (i.e., within 26 weeks) (n = 388)

Predictors	Odds Ratio	95% CI
<b>History of Psychiatric Disorder</b>		
None (reference)	1.0	-
Mood disorder	.78	.45-1.35
Anxiety disorder	.45*	.22-.94
Psychotic disorder	.89	.35-2.35
<b>FTND at baseline</b>	.88*	.70-1.00
<b>CO level at baseline</b>	.98*	.96-1.00
<b>Number of Visits to the TDC</b>	1.09***	1.05-1.12

- a. Only variables which were significantly predictive of smoking cessation in the final multivariate model are shown.
- b. Hosmer-Lemeshow goodness-of-fit:  $\chi^2 = 8.02$  (DF=8),  $p = .432$
- \* =  $p < .05$ , \*\* =  $p < .001$ , \*\*\* =  $p < .001$



# Summary of Key Findings

- *Smoking abstinence at end of program:*
  - *Intent to treat analysis: **31%**(167/540)*
  - *Among program completers: **41%**(167/406)*
- *Significant predictors of abstinence:*
  - *Having a history of an anxiety disorder is predictive of being **less** likely to quit smoking when compared to having no history of a psychiatric disorder.*
  - *Having a lower CO level at program enrolment was a significant predictor of being **more** likely to quit*
  - *Attending the TDC program for a longer duration was a significant predictor of being **more** likely to quit.*

# Conclusions

- *The Tobacco Dependence Clinic provides an innovative model of tailored tobacco dependence treatment which combines behavioural counselling with no-cost NRT for individuals with a history of substance use and/or psychiatric disorders.*
- *With intensive tobacco dependence treatment provided within addictions services, individuals with a history of substance use and/or psychiatric disorders are able to achieve smoking abstinence.*

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## The Tobacco-Dependence Clinic: Intensive Tobacco-Dependence Treatment in an Addiction Services Outpatient Setting

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*We present outcomes from an intensive tobacco-dependence treatment program for addiction services clients at three different sites. Data from 202 participants were analyzed. For individuals who completed the program, the abstinence rate was 43%. Not having a primary substance use history and a lower carbon monoxide (CO) level at intake predicted abstinence; whereas being female, the particular site of intervention, receiving both nicotine replacement therapy (NRT) and oral medication, and having a lower CO level at baseline predicted program completion. Drug treatment clients can successfully quit smoking at rates similar to the general population when given access to intensive tobacco-dependence treatment. (Am J Addict 2010;00: 1–11)*

Given that tobacco use remains the number one preventable cause of morbidity and mortality in Canada,<sup>7</sup> [with alcohol, tobacco, and illicit drug use contributing to 3.1%, 16.5%, and .4%, respectively, of total mortality in Canada<sup>8</sup>], the high rates of tobacco use among individuals with substance use disorders suggests an increased risk for tobacco-related mortality and morbidity in these populations.

Moreover, several studies have documented the benefits of smoking cessation among individuals with concurrent substance use disorders<sup>9,10</sup> such as improved quality of life<sup>11</sup> and drug abstinence.<sup>12–14</sup> Recent reviews of the lit-