

Welcome to today's webinar:

# The Impact of Self-Perceived Health and Professional Advice on Smoking Behaviour

**Dr. Michael Chaiton & Dr. Bo Zhang**

**Start time:** 10:30 – 11:30 A.M.

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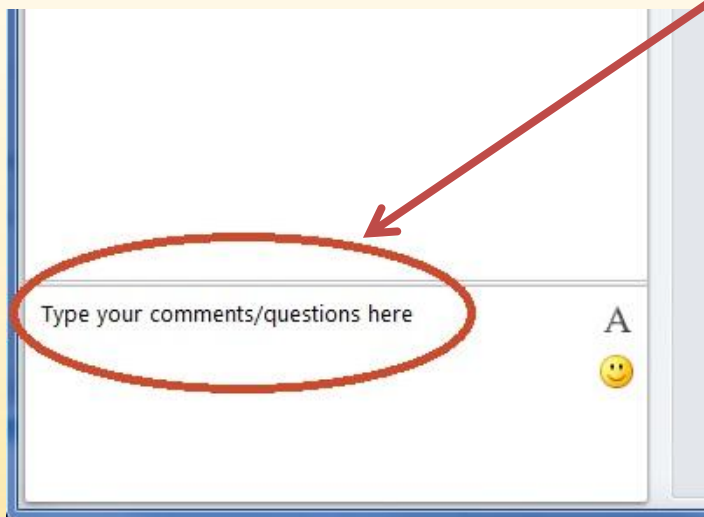
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## Michael Chaiton, PhD

Michael is an Assistant Professor at OTRU in the Dalla Lana School of Public Health at the University of Toronto, and Co-Head of the Population Research Initiative on Mental Health and Addictions (PRIMHA) at OTRU. His work is focused on the social and psychosocial factors influencing tobacco use from a population health perspective. At OTRU, he is the project lead for the Ontario Tobacco Survey and holds a Career Development Award in Prevention from the Canadian Cancer Society.



## Bo Zhang, MPH, PhD

Bo is a Senior Research Officer with OTRU. Bo received her Master's degree in Public Health from Adelaide University, Australia and PhD in Epidemiology from Dalla Lana School of Public Health, University of Toronto. Her research interests include the epidemiology of tobacco use, the impact of tobacco policy on health, the role of tobacco in mortality and morbidity, and nicotine replacement therapy and health professional advice for smoking cessation in the general population.





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# The Impact of Self-Perceived Health and Professional Advice on Smoking Behaviour

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# Disclosure & Acknowledgements

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# A life history of smoking





**1 in 2** smokers used  
**no help** to quit



# Barriers

Many health professionals are hesitant to treat smoking



# Barriers

Poor success rate



# Barriers

Which **moment** to intervene



**PLEASE DON'T  
OVERLOAD  
THE  
BURN PLATFORM**





HEALTH

# Why Health

- Health concerns among **key** reasons for quit attempts

(Godfredsen et al., 2001; West et al., 2001; Borland et al., 2001)

- Possible moment for motivating change

# Why Perceived health

- Important measure of health (WHO, 2012)
- Used in most national surveys
- Measures general health in a 5 point scale
  - In general would you say your health is ...
- Response range from excellent, very good, good, fair and poor.

# Why Perceived health

- Predicts a number of health related outcomes-morbidity and mortality (Spertus et al., 2002; Knight et al., 2003)
- Existing relationship between perceived health and smoking behavior (Sai yun et al., 2003; Ericsson et al., 2005)
- Limited information on perceived health and quitting in longitudinal surveys
  - Perceived risk and quitting (Costello et al., 2012)



# Health: a sentinel event?

- Is perceived health associated with quitting behaviours?
- Does a change in perceived health predict changes in quitting behaviours?

# Ontario Tobacco Survey

- Smokers, followed every 6 months for up to 3 years (2005-2011)
- Subsample of 3598 with longitudinal data
- Examined males and females separately

# Predictors of Poor health

- Older, widowed or separated, less than high school education
- Used pharmacotherapy, received advice from a health professional, more quit attempts, lack confidence in quitting, very addicted

# Self rated health

	Quit attempt	
	Odds Ratio	Adjusted Odd Ratio
Excellent	1.00	1.00
Good	0.92 (0.74, 1.15)	0.97 (0.76, 1.23)
Average	0.97 (0.77, 1.23)	0.97 (0.75, 1.25)
Fair	1.03 (0.79, 1.34)	1.18 (0.89, 1.57)
Poor	1.24 (0.90, 1.70)	1.35 (0.95, 1.94)

# Self rated health

	Relapse (n=1201)	
	Hazard Ratio	Adjusted Hazard Ratio
Excellent	1.00	1.00
Good	1.12 (0.89, 1.42)	0.97 (0.76, 1.24)
Average	1.17 (0.91, 1.49)	0.96 (0.74, 1.24)
Fair	1.49 (1.11, 1.97)	1.07 (0.79, 1.59)
Poor	1.49 (1.06, 2.08)	1.12 (0.79, 1.23)

# Change in health status

	Cigarettes per day	Intention to quit	Quit attempt
<b>Male</b>			
<b>Current health</b>	-. 3338**	1.125*	0.0513**
<b>Previous health</b>	- .3853**	1.048	0.4477**
<b>Female</b>			
<b>Current health</b>	-.2417**	1.206*	0.0583**
<b>Previous health</b>	-.0758*	1.027	0.0548**

# Change in health status

- Change in status associated with changes in smoking behaviour
- Opportunity to make a quit attempt
- Time window may be limited
- Those with lower levels of health may need more resources to quit successfully

# Questions?



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# Brief Advice and Cessation in Clinical Trials

- Brief advice from health professionals on cessation: well studied in clinical trials  
(Stead et al. Physician advice for smoking cessation. Cochrane Review 2013)
- Brief advice: efficacious (RR 1.66, 95% CI 1.42-1.94)
- Intensive advice: even better (RR 1.84, 95% CI 1.60-2.13)

# Population Studies

- Only a few population studies, with inconsistent results
- Most population-based studies: brief advice increases quitting attempts but is not associated with cessation
- A few population-based studies: brief advice is associated with cessation

# Research Gap

- Cessation medication: increases quit rates
- Health professionals: can directly contribute to smokers' interest in using cessation medication
- No general population studies: have examined the role of cessation medication as a mediating variable between advice from health professionals and subsequent quitting behaviour

# Objective

To examine whether  
cessation medication  
mediated the association  
between advice from health  
professionals and quitting in  
the general population

# Sample in Analysis

- Those who were current smokers at baseline; and
- Those who were seen by a health practitioner (physician, dentist, pharmacist, or nurse) at least once during the six follow-up interviews (n=3,437)

# Brief Advice

- Derived from participants' responses to the survey questions at each follow-up
- “In the past 6 months, have you seen a doctor (dentist, pharmacist, or nurse)?” and if “Yes”,
- “Did the doctor (dentist, pharmacist, or nurse) advise you to reduce or quit smoking?”

# Cessation Medication

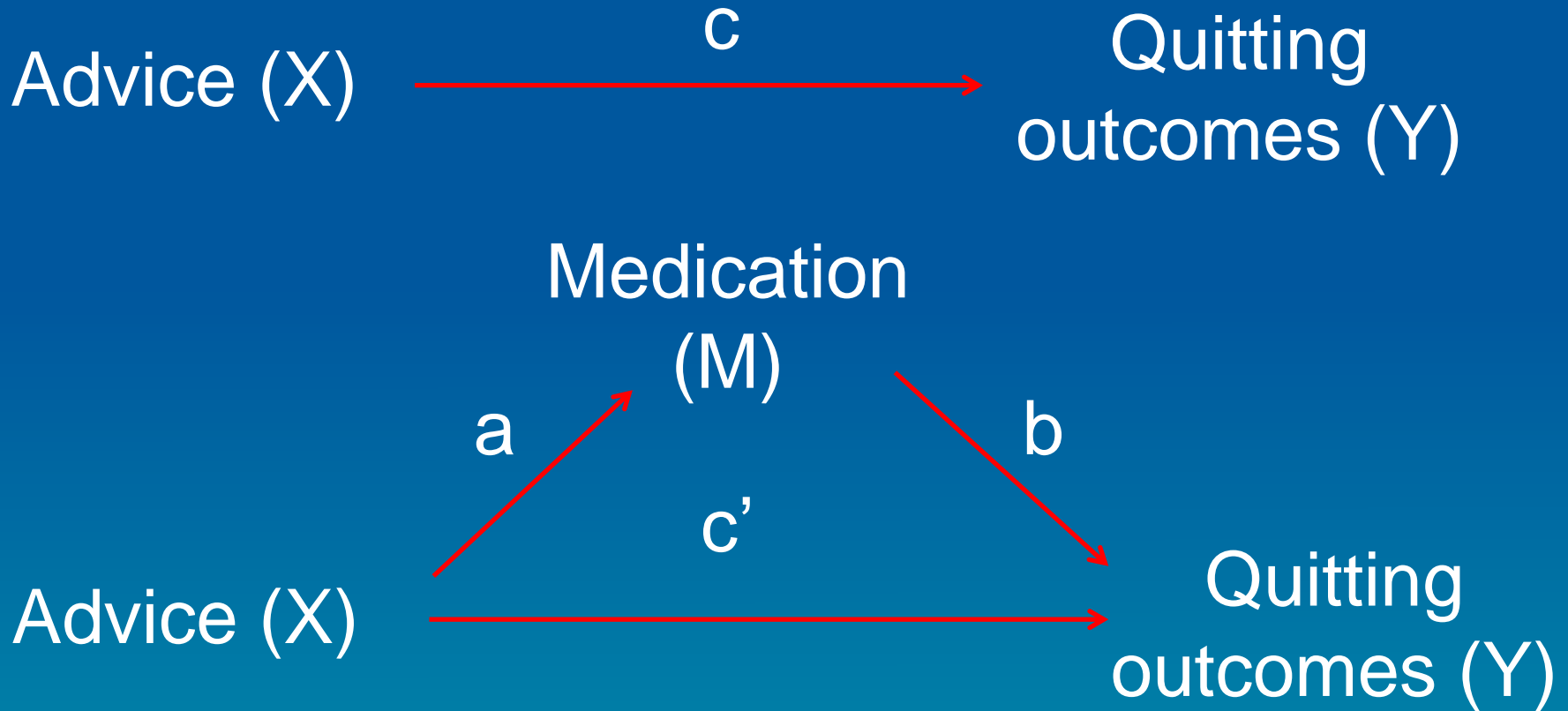
- Any use of the following medication at follow-up to help quit or stay smoke free
- Nicotine replacement therapy (NRT): any form of nicotine gum, patches, lozenges/tablets, spray and inhalers
- Bupropion, Zyban or Wellbutrin
- Champix or Varnicline

# Outcomes

- Making a quit attempt: “In the past 6 months, did you try to quit smoking completely?” (yes)
- Short-term quitting: continuous absent from smoking for at least one month



# Mediation Analysis



Mediation effect size

$$\frac{ab}{ab + c'}$$

# Advice by Health Professionals

- The majority of smoking patients were seen by a physician (80%), and 20% were seen by other health professionals but not a physician
- Provision of advice to smokers:

HP	Advice (%)
Physician	55%
Dentist	38%
Pharmacist	14%
Nurse	33%
All HPs	57%

# Use of Medication by Advice

	Advice	No Advice
Medication	23.1%	13.2%

Smokers who received advice from health professionals almost doubled the use of cessation medication: 23% vs. 13%

# Who Received Advice

Factor	Advice	No advice
Age (mean)	44.9	42.6*
High school or less	50%	43%*
Daily smoking	88%	72%*
# cigarettes/day (mean)	15.6	12.5*
Self-perceived addiction	95.9%	85.1%*
Home smoking restrictions	43.4%	51.8%*
# lifetime quit attempts (mean)	3.4	2.7*

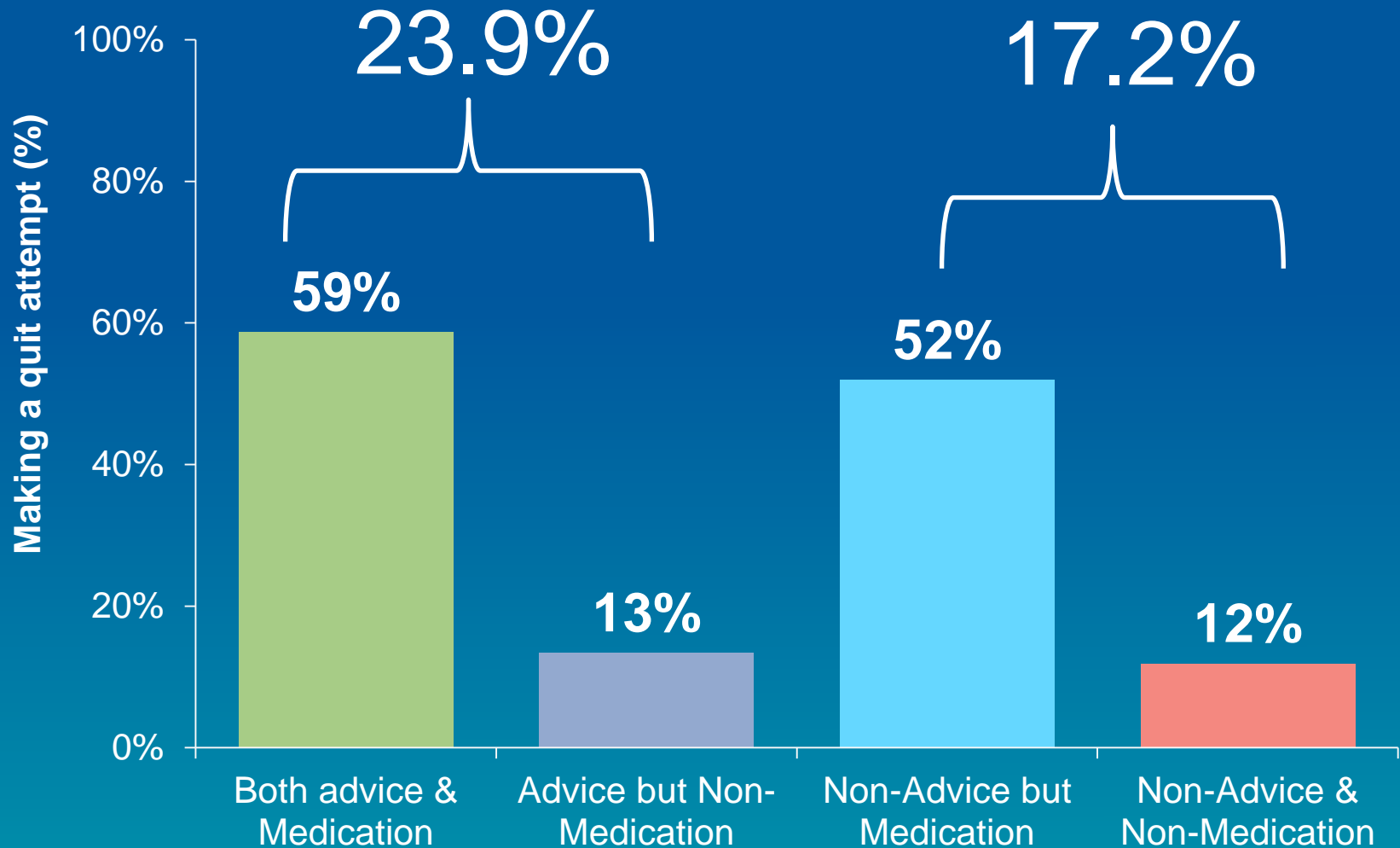
\*  $p < 0.01$

It was more difficult for those who received advice to quit smoking

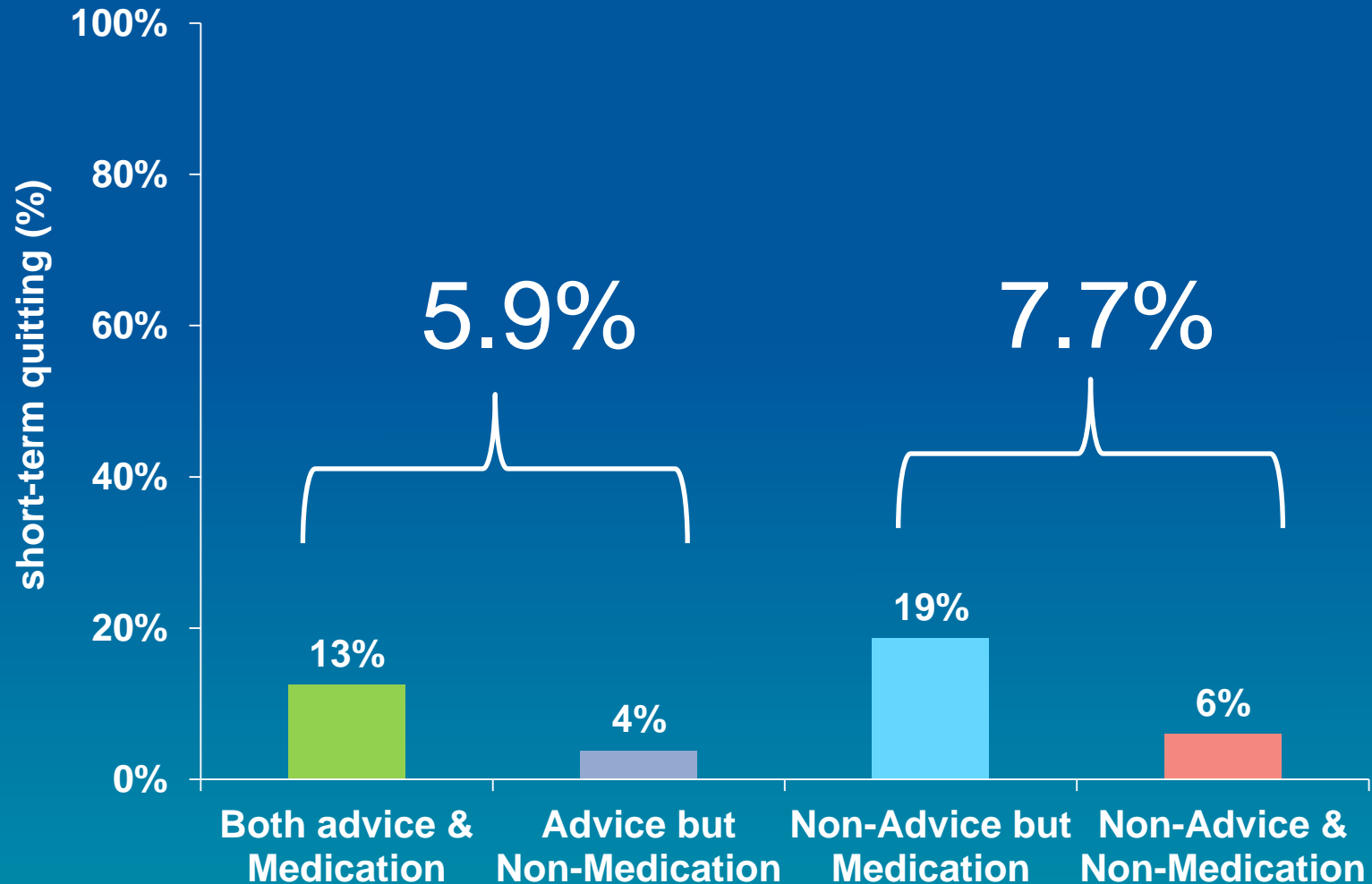
# Advice, Medication & Quitting

Advice	Quit attempt	Short-term quitting	Medication
No advice	17%	8%	13%
Advice by 1 type of HPs	20%	5%	19%
Advice by 2 types of HPs	24%	7%	23%
Advice by 3 types of HPs	27%	4%	28%
Advice by 4 types of HPs	31%	8%	31%

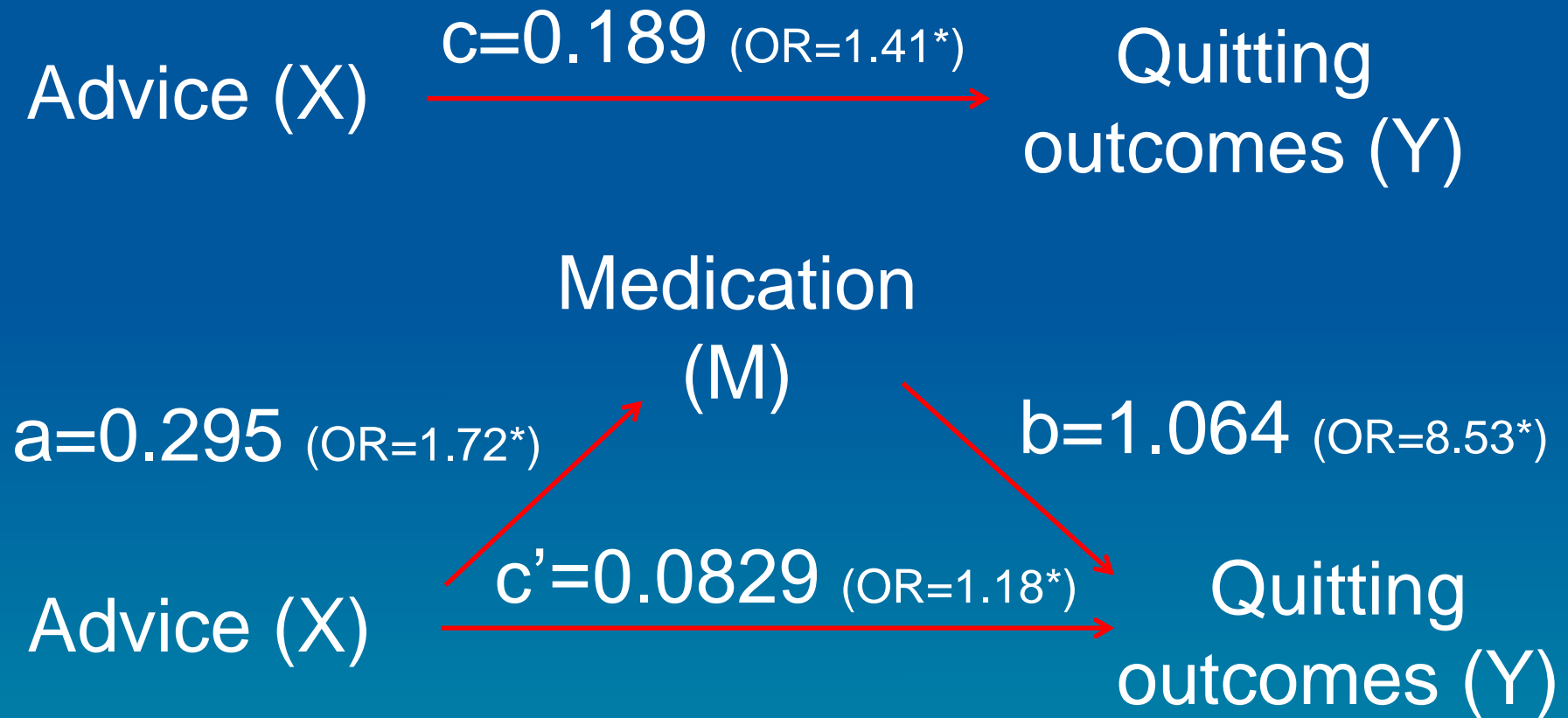
# Making A Quit Attempt



# Short-term Quitting ( $\geq 30$ days)



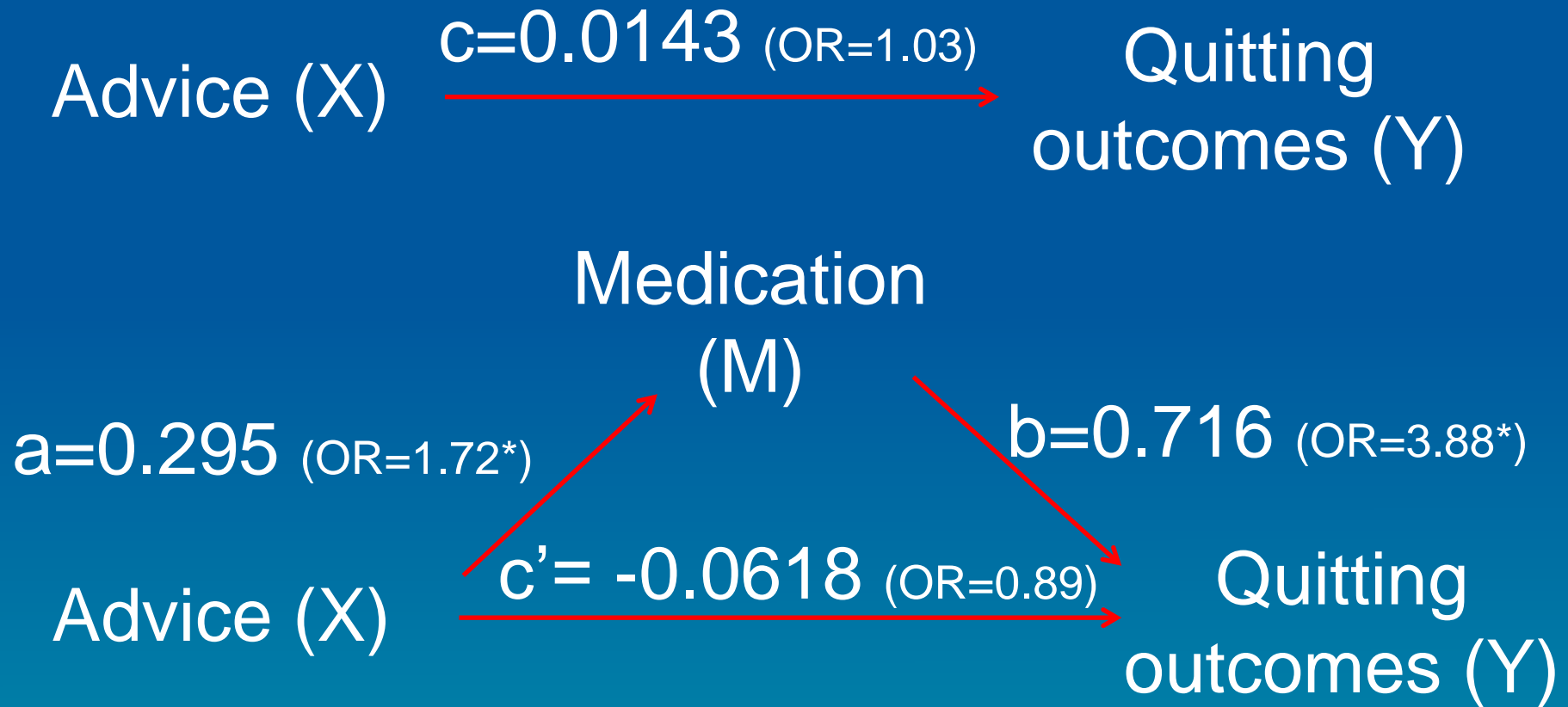
# Medication Effect Size: Quit Attempt



Mediation effect size = 79% (Sobel  $Z = 4.01$ ,  $p < 0.001$ )



# Medication Effect Size: Short-term Quitting



Mediation effect size=77% (Sobel  $Z=3.54$ ,  $p<0.001$ )

# Conclusions

Health professionals should

- Provide advice to their smoking patients
- Encourage smokers to use cessation medication when smokers find it difficult to quit without support

**Thank you!**

# Questions?



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