

Program Training and Consultation Centre

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Smoking Cessation in Ontario: What the Ontario Tobacco Survey Tells Us

This webinar will begin at 10:30 AM

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Smoking Cessation in Ontario: What the Ontario Tobacco Survey Tells Us

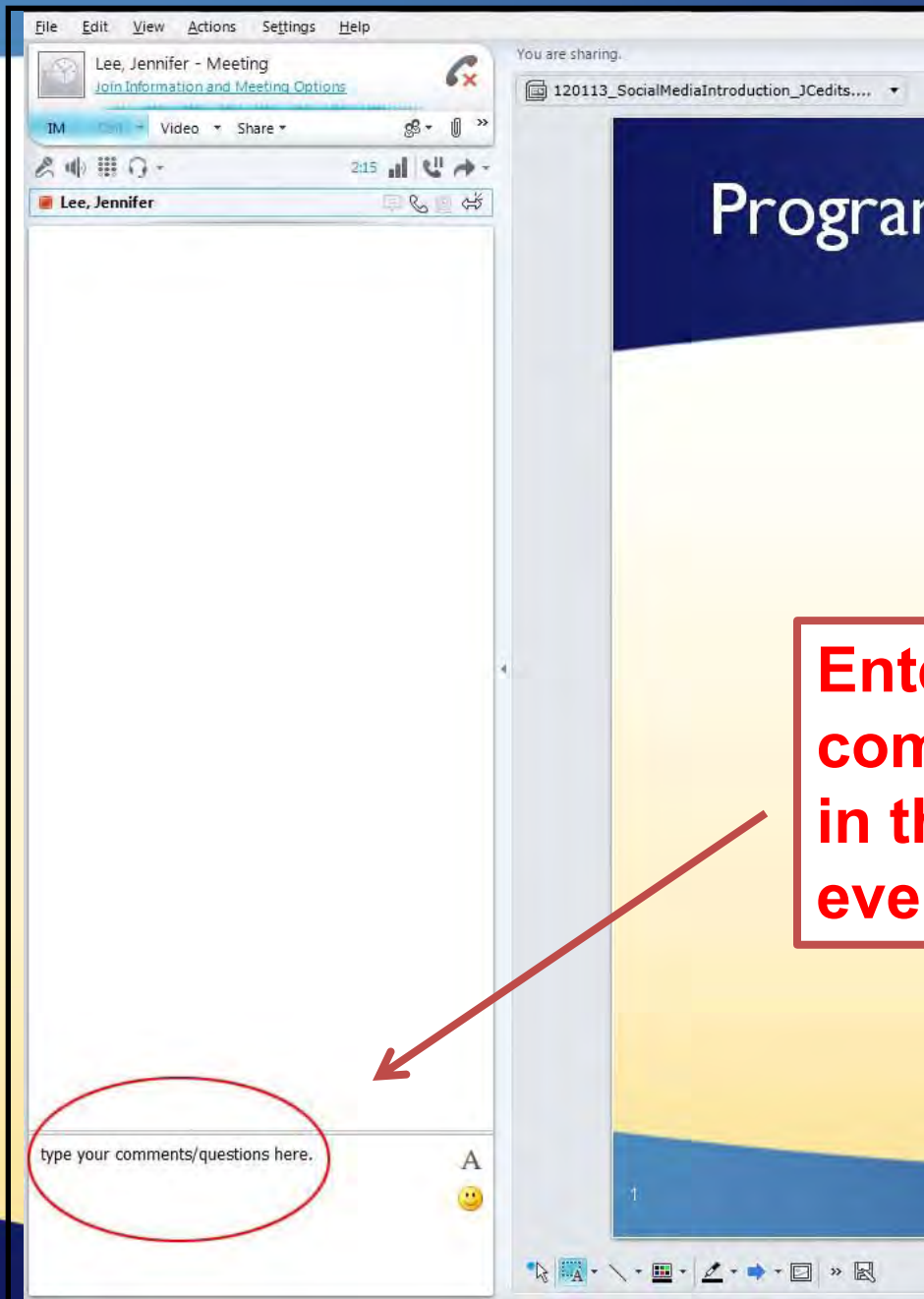
Michael Chaiton, Lori Diemert,
Graham Mcreddy & Bo Zhang

June 27, 2012



Program Training and
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Smoke Free Ontario Strategy
Centre de formation
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comments/questions
in this chatbox to share with
everyone in the webinar**

Today's Speakers

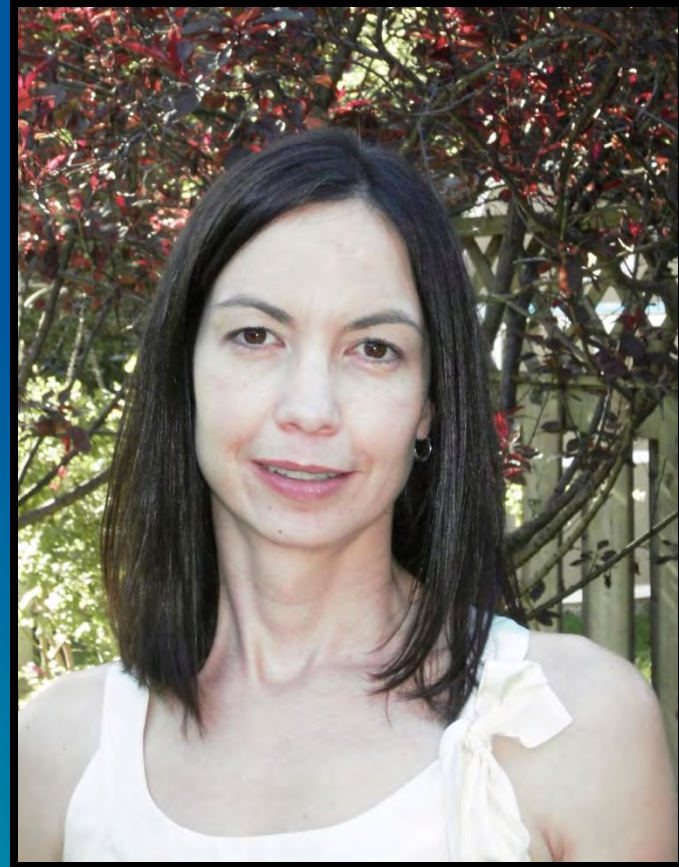
Michael Chaiton, PhD

Dr. Michael Chaiton is a Scientist at the Ontario Tobacco Research Unit and Assistant Professor at the Dalla Lana School of Public Health at the University of Toronto.



Lori Diemert, MSc

Principal Project Coordinator for
the Ontario Tobacco Survey



Graham Mecredy, MSc

Graham is a Research Officer at
OTRU.



Bo Zhang, MPH

Senior Research Officer at
OTRU.



Michael Chaiton, PhD

Dr. Michael Chaiton is a Scientist at the Ontario Tobacco Research Unit and Assistant Professor at the Dalla Lana School of Public Health at the University of Toronto. 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 is the principal investigator of a CIHR funded study on policy option for addressing tobacco retail availability.





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Smoking Cessation in Ontario: What the Ontario Tobacco Survey Tells Us

Michael Chaiton, PhD.

Lori Diemert, MSc.

Ontario Tobacco Research Unit, Dalla Lana School
of Public Health, University of Toronto

Problem:

Smoking is a dynamic,
chronic condition

Problem:

Change happens at a
population level



1.2% cessation rate

3/5 smokers made no
attempt to quit

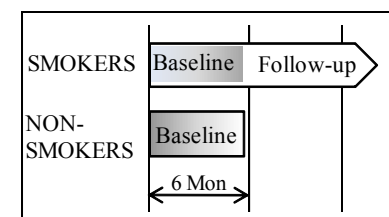
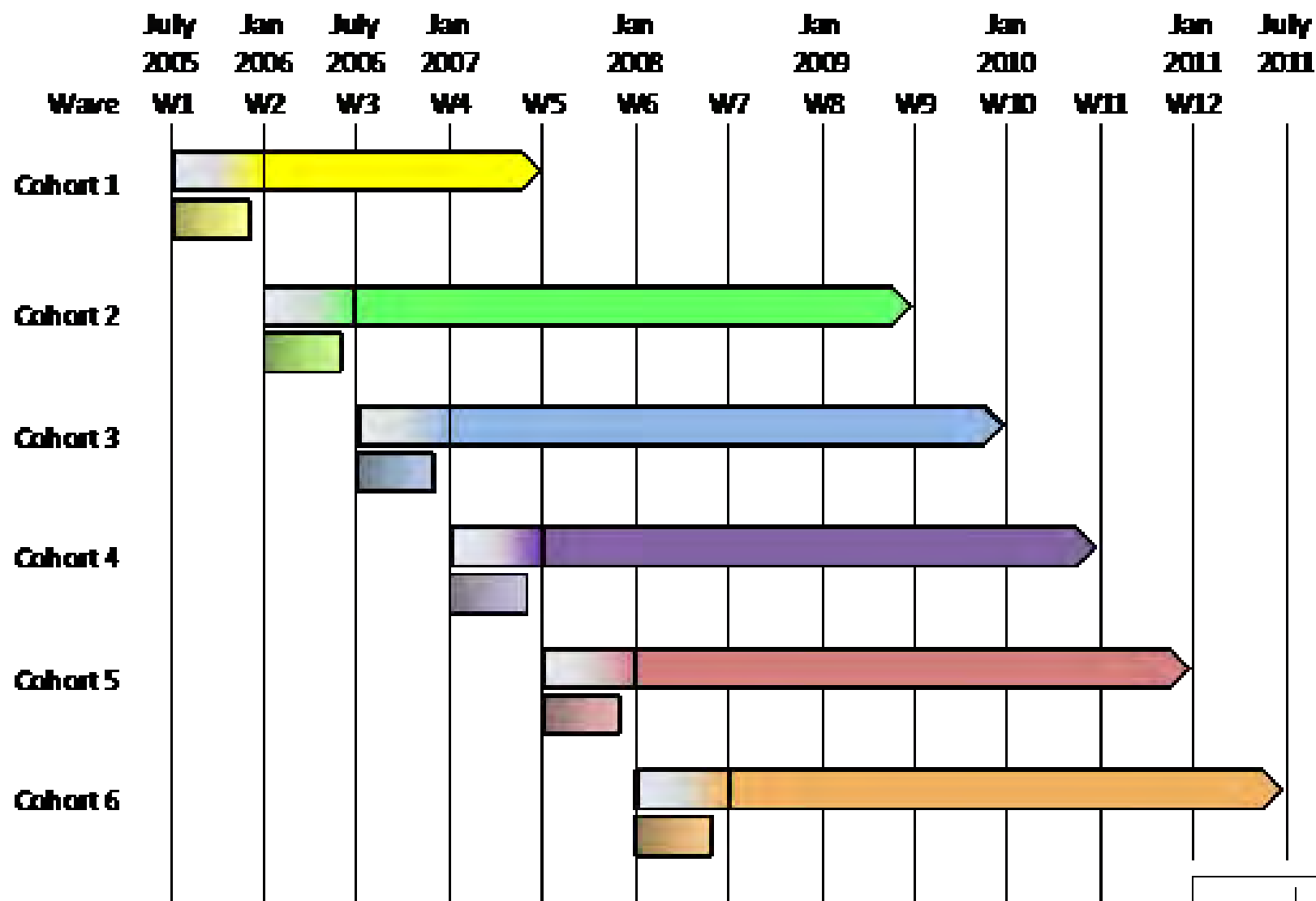


Gaps in Smoking Cessation

- General health surveys mainly cross-sectional
- Limited sample size for smokers
 - ◆ Content overly general
 - ◆ E.g., cessation behaviour over lifetime
- Longitudinal studies mainly clinical
- Insufficient follow up
- Limited information on interventions

Ontario Tobacco Survey

- Telephone-based, regionally stratified, random sample of Ontario adults (18+)
- Longitudinal survey of recent smokers and cross-sectional survey of non-smokers
 - 750 recent smokers recruited every 6 months to the baseline plus longitudinal panel
 - ◆ Up to 6 follow-up interviews every 6 months
 - 500 non-smokers recruited to the cross-sectional survey every 6 months



OTS Research Studies

- 17 peer-reviewed publications
 - several now under review and/or ready for submission
- 10 Research Updates in addition to our Monitoring & Evaluation Annual Reports
- ~ 65 oral and poster presentations at scientific conferences

Outline

- Who's quitting?
- What's preventing smokers from quitting?
- What's helping smokers quit

Acknowledgements

The Ontario Tobacco Survey is an initiative of the Ontario Tobacco Research Unit, which receives funding from the Ontario Ministry of Health and Long-Term Care

- OTRU PI Team: Bondy S, Brown KS, Cohen JE, Ferrence R, Garcia J, McDonald P, Schwartz R, Selby P, Stephens T
- Data Management: Victor JC, Chaiton M
- SRC Management and Staff



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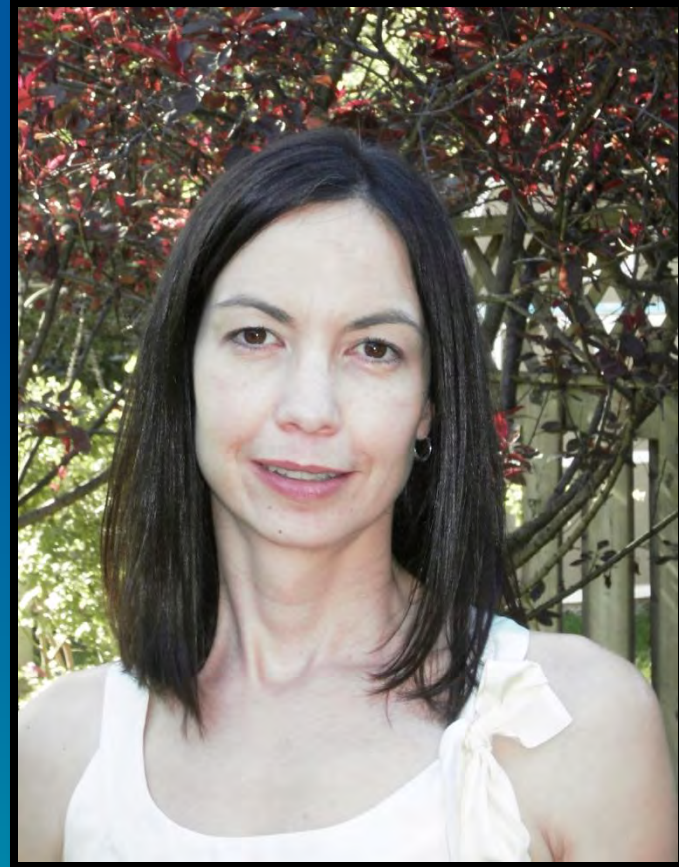
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Poll Question 1

Lori Diemert, MSc

Lori has a Master's degree in Health Studies from the University of Waterloo and has been a Research Officer at the Ontario Tobacco Research Unit for over nine years. For the last seven years, Lori has been the principal Project Coordinator for the Ontario Tobacco Survey, a large longitudinal study of smokers and cross-sectional study of non-smokers across Ontario. Lori's primary research interests include both smoking cessation and general survey methodology.





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Young Adult Smoking Cessation: What Predicts Success?

Lori M Diemert, Susan J Bondy,
K Stephen Brown, Steve Manske

Ontario Tobacco Research Unit,
University of Toronto, University of Waterloo

The Importance of Young Adults

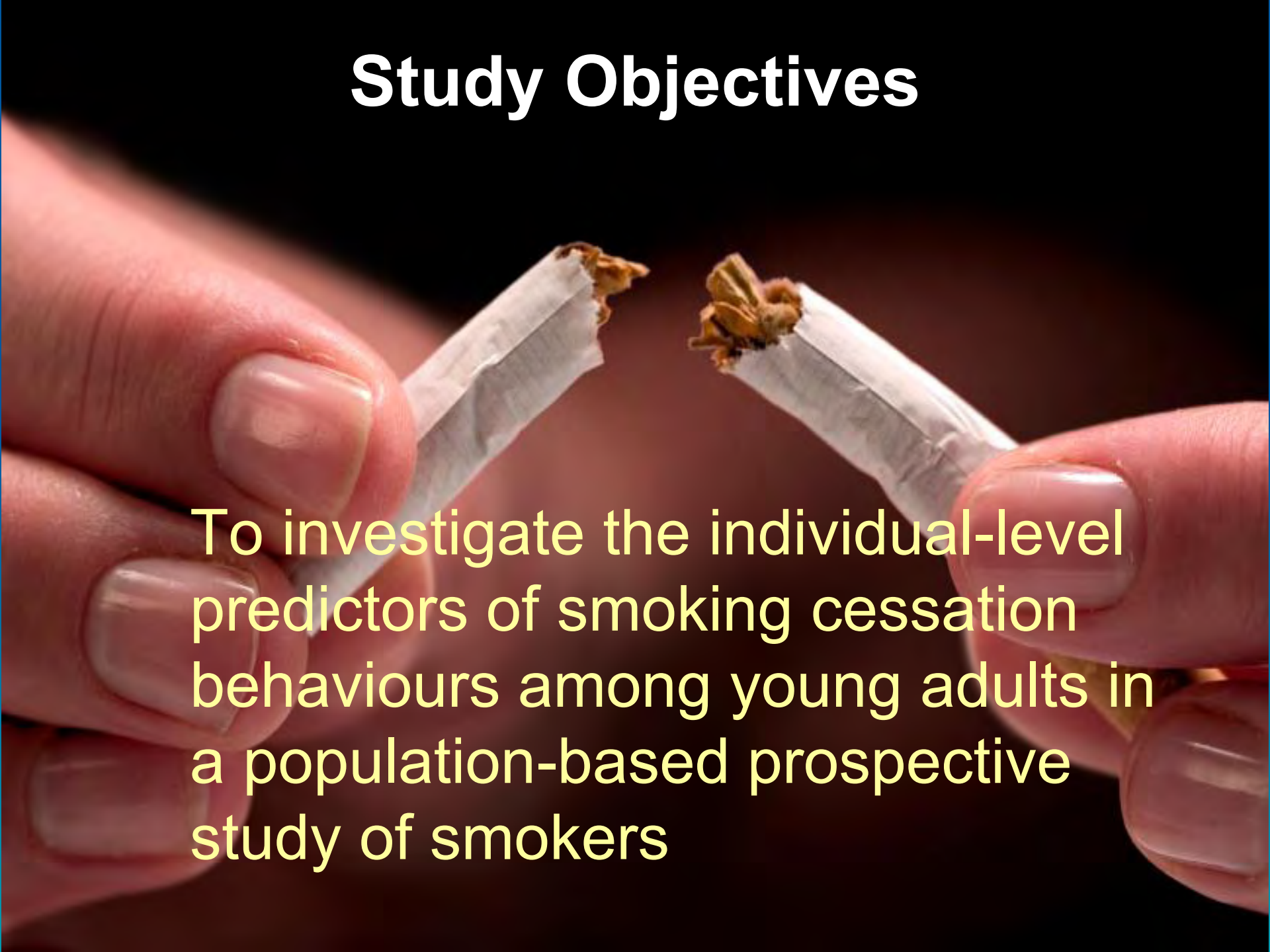
- Higher rates of smoking
- Young adults have different characteristics than older smokers
 - smoke occasionally and fewer cig/day
 - more likely to try to quit
 - less likely to use smoking cessation resources



Background

- Cross-sectional studies:
 - ✓ More recent than the cohort studies
 - ✗ Can only conclude associations with behaviour
- Longitudinal studies:
 - ✓ Addresses predictors of smoking cessation
 - ✗ Long periods between follow-up – characteristics measured 3-7 years before behaviour change

Study Objectives

A close-up photograph of two hands holding broken cigarette pieces. The hands are positioned on the left and right sides of the frame, with the fingers gripping the white, torn paper of the cigarettes. The cigarette pieces are broken in the middle, with the brown, charred ends visible. The background is dark and out of focus. Overlaid on the lower half of the image is the text 'To investigate the individual-level predictors of smoking cessation behaviours among young adults in a population-based prospective study of smokers' in a yellow, sans-serif font.

To investigate the individual-level predictors of smoking cessation behaviours among young adults in a population-based prospective study of smokers

Methods

- Compiled data on respondents <30 years of age from the Ontario Tobacco Survey
- 592 young adult current smokers at baseline with six-month follow-up data

Dependent Variable

Smoking Cessation Behaviour

- No attempt to quit
- Quit attempt that lasted for < 30 days
- Sustained abstinence for 30+ days

Independent Variables

Personal Characteristics

- Age
- Sex
- Education
- Marital status
- Employment status
- HSI

Self-regulation

- Intention to quit

Observational/Experiential Learning

- Exposure: TI marketing
- Exposure: anti-tobacco mass media
- Previous number of QAs

Self-efficacy

- Confidence in ability to quit (very confident)

Outcome Expectations

- Perceived health
- Perceived health benefits to quitting

Facilitators & Barriers

- Use of smoking cessation resources
- Support to quit
- Smoke-free homes
- Someone to make quitting difficult

Behavioural Capability & Control

- Knowledge: stop smoking medications make quitting easier than trying to quit on own
- Knowledge: counselling makes quitting easier
- Perceived addiction to smoking

Data Analysis

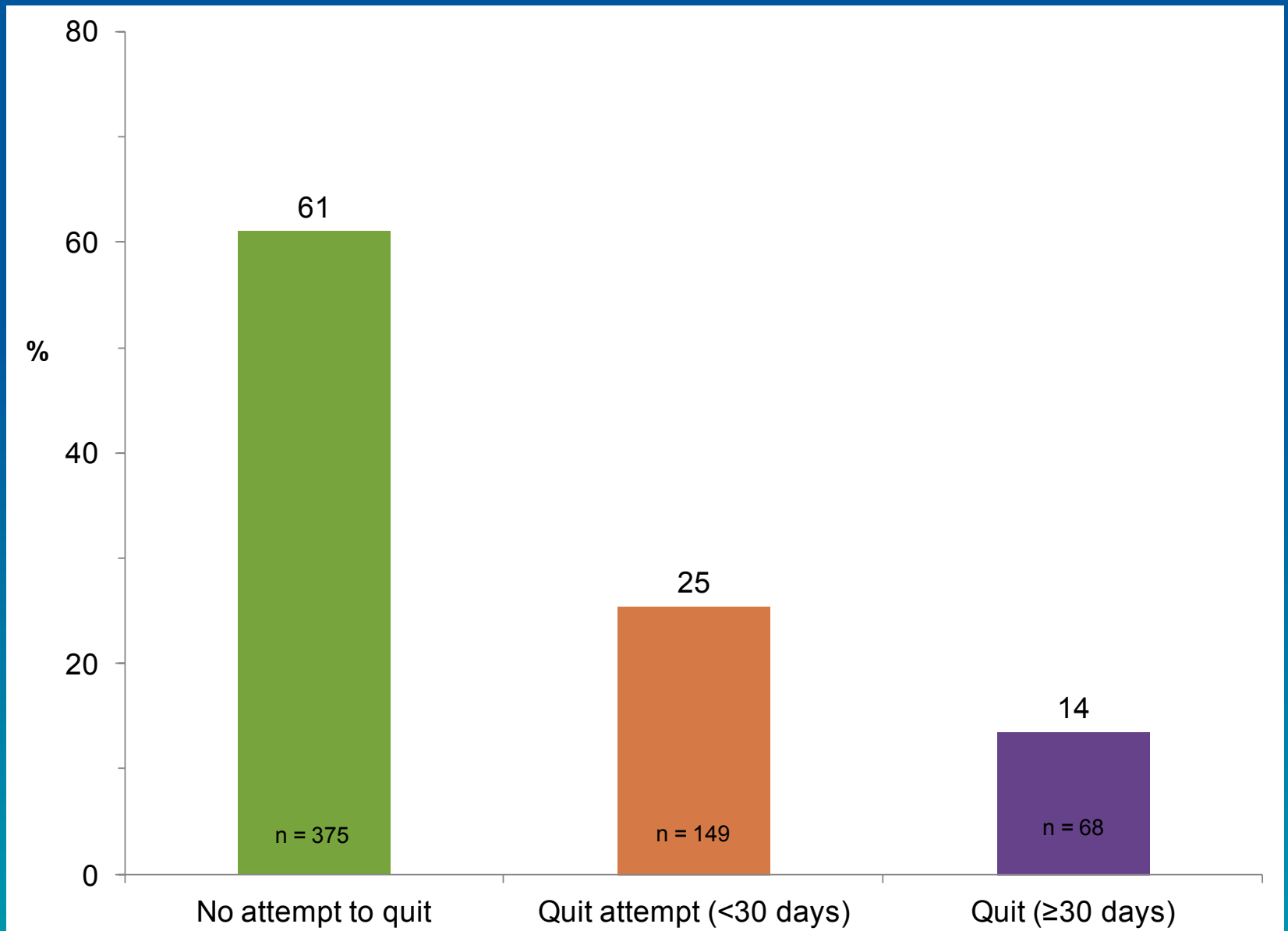
- Chi-square tests for associations
 - Multivariable logistic regression models with factors associated with the outcome, $p < 0.20$:
 - Made a quit attempt (< 30 days) vs. made no attempt to quit
 - Sustained abstinence (≥ 30 days) vs. making an attempt and making no attempt to quit
- * design-based analyses and weighted estimates

Results: Study Sample

- Average age: 23 yrs
- 60% male
- 48% had > high school education
- Low HSI (mean: 2.34)
- 44% had an intention to quit
- 47% used cessation resources



Young Adult Cessation Behaviours



Factors Associated with Smoking Cessation Behaviours

Factors	Chi-square Significance
Age (continuous)	0.564
Sex	0.569
Education	0.045
Employment	0.664
Marital status	0.509
HSI (continuous)	<0.001
Self-efficacy to quit	0.137
Perceived health	0.668
Perceived benefits to quitting	0.644
Use of smoking cessation aids/resources	0.005
Support to quit	0.006
Smoke-free homes	0.108
Someone to make quitting difficult	0.189
Exposure: tobacco industry marketing	0.236
Exposure: anti-tobacco media campaigns	0.506
Lifetime number of quit attempts	0.002
Quit intention	<0.001
Perceived addiction	<0.001
Knowledge: stop smoking medications	0.197
Knowledge: counseling	0.642

Factors in red were entered into the multivariable models

Predictors of Young Adult Cessation

Characteristic	MODEL 1: Attempt vs. no attempt OR (95% CI)	MODEL 2: Sustained abstinence vs. attempt and no attempt OR (95% CI)
Age (years; continuous)	0.97 (0.89 – 1.06)	0.96 (0.85 – 1.09)
Sex (men)	1.53 (0.81 – 2.87)	0.65 (0.32 – 1.34)
Education (More than high school)	0.82 (0.41 – 1.65)	1.54 (0.62 – 3.84)
Heaviness of Smoking Index (continuous)	0.85 (0.69 – 1.05)	0.72 (0.54 – 0.95) **
Self Efficacy (very confident)	0.52 (0.26 – 1.05)	3.18 (1.14 – 8.85) **
Use of cessation resources/supports (yes)	1.86 (1.05 – 3.30)*	3.72 (1.75 – 7.89) **
Support to quit (yes)	0.43 (0.16 – 1.11)	4.61 (1.20 – 17.73) **
Smoke-free home (yes)	1.81 (0.98 – 3.34)	1.36 (0.53 – 3.51)
Someone to make quitting more difficult (yes)	1.15 (0.57 – 2.32)	0.72 (0.34 – 1.53)
Lifetime attempts – None	REFERENT	REFERENT
One	1.52 (0.53 – 4.39)	1.31 (0.43 – 3.97)
Two or more	3.62 (1.31 – 10.01) **	1.37 (0.47 – 4.02)
6 month quit intention (yes)	3.94 (2.22 – 7.01) **	1.44 (0.71 – 2.92)
Perceived addiction (very addicted)	1.22 (0.58 – 2.59)	0.57 (0.25 – 1.33)
Knowledge: smoking medications make quitting a lot easier (yes)	2.28 (1.15 – 4.54)*	1.59 (0.61 – 4.13)

* Characteristics in the parsimonious models

** Significant characteristics in the parsimonious models ($p < 0.05$)

Major Conclusions

- Different factors predict quit attempts and sustained abstinence among young adults
- Young adult smokers must have a wide range of effective and appropriate smoking cessation resources readily available
- Social support is critical for smoking cessation in this high risk population

Limitations

- Lost-to-follow-up among young adults
- Exclusion of psychological factors and major changes in life events
- Telephone survey
 - excluded cell-phone only residences
 - excluded homeless and those institutionalised
 - excluded those who were unable to communicate in English

Future Research

- Young adult smoking cessation sustained for longer periods of time
- Explore the effects of contextual factors
- Gradual vs. abrupt quitting
- Identify effective and appropriate cessation aids and resources for young adults



Acknowledgements

- Dr. Joanna Cohen, Dr. Roberta Ferrence, Dr. John Garcia, Dr. Paul McDonald, Dr. Robert Schwartz, Dr. Peter Selby, Dr. Michael Chaiton, Mr. Charles Victor and the Survey Research Centre at the University of Waterloo for their contributions to the Ontario Tobacco Survey
- The Ontario Tobacco Survey is an initiative of the Ontario Tobacco Research Unit, which receives funding from the Ontario Ministry of Health and Long-Term Care



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Poll Question 2

Questions?

Graham Mecredy, MSc

Graham is a Research Officer at OTRU. He received his MSc in Community Health and Epidemiology from Queen's University. His thesis work focused on the relationship between neighbourhood street connectivity and both physical activity and injury in Canadian youth. At OTRU, Graham works on a number of projects including the Ontario Tobacco Survey, and a CIHR funded study on policy options to reduce tobacco retail availability. He is also involved with the Population Research Initiative on Mental Health and Addictions (PRIMHA).





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Use of Contraband Tobacco Associated with Poorer Smoking Cessation Outcomes

Graham C. Mcreddy, Lori M. Diemert,
Russell C. Callaghan, Joanna E. Cohen

PTCC Webinar
June 27, 2012

Objectives

- Scope of the contraband problem
- Contraband cigarettes → smoking cessation outcomes



Source: Central St. Lawrence Valley RCMP

Contraband in Canada

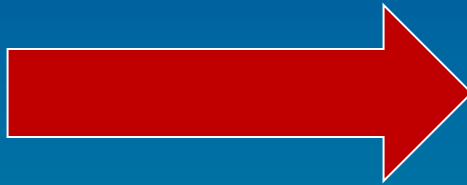
- Estimates vary greatly
- Main sources:
 - First Nations reserves
 - ◆ Illegally manufactured
 - ◆ Legally manufactured, then illegally diverted to general population
 - Stolen or counterfeit smuggled from other countries

Cost

- Cigarettes subject to: Federal excise duty, Federal sales tax, Provincial sales tax
 - Carton priced at \$40 → add \$43.51 in taxes
- Price for 200 cigarettes:
 - Contraband ~\$6
 - Retail ~\$75 to \$90



Contraband smoking



Cessation outcomes



Data Source:

The Ontario Tobacco Survey

- Prospective, population representative cohort of smokers
- Data used:
 - Recruited from July 2005-June 2008
 - 1 baseline and 2 follow-ups (6 & 12-month)
 - 2,786 met eligibility criteria

Key exposure



Contraband cigarette
smoking:

Usually purchase a
known contraband
brand, or buy on
reserve

Key outcomes

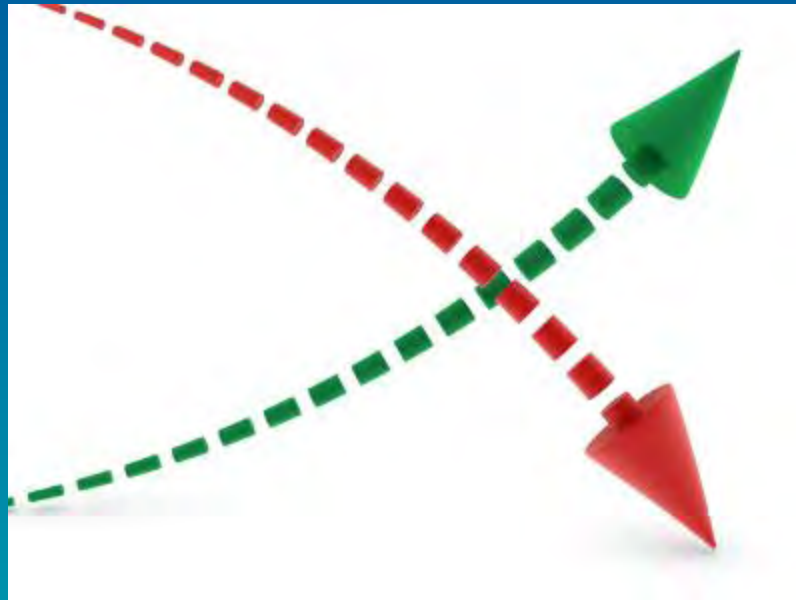
Cessation outcomes:

- Quit attempt
- 30-day cessation

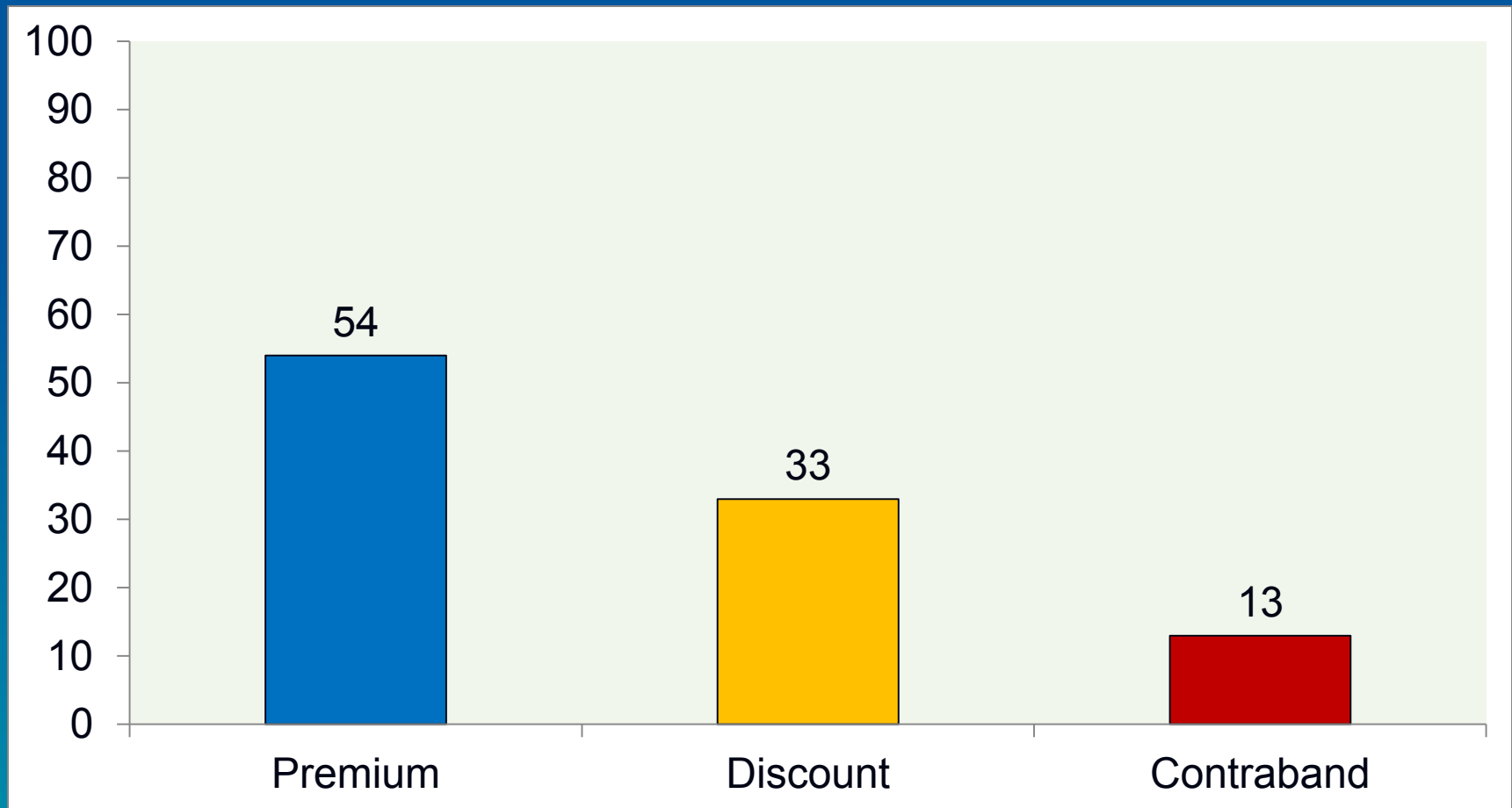


Study Limitations

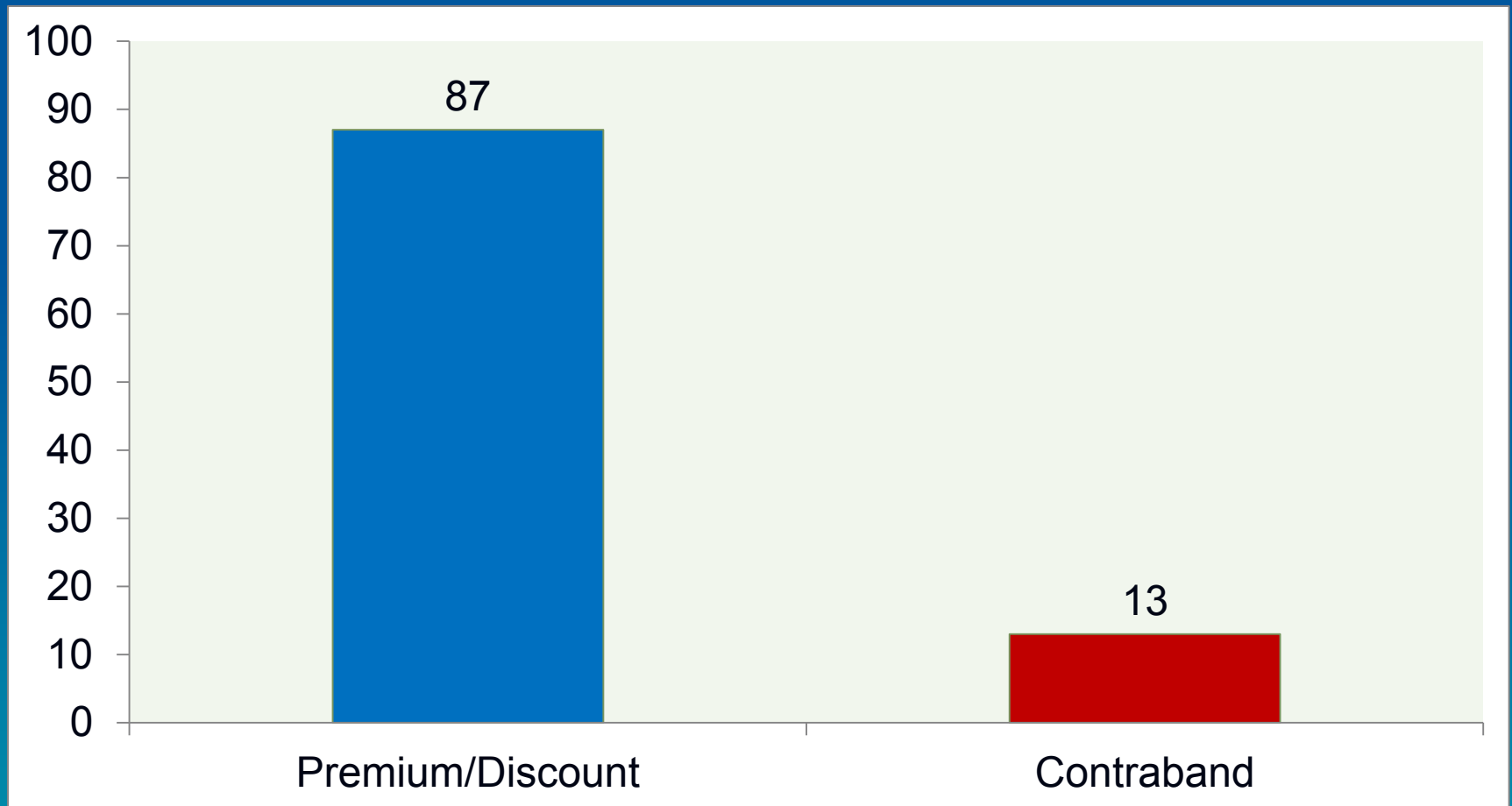
- Potential exposure misclassification
- OTS data (telephone survey data)



Prevalence of contraband



Prevalence of contraband

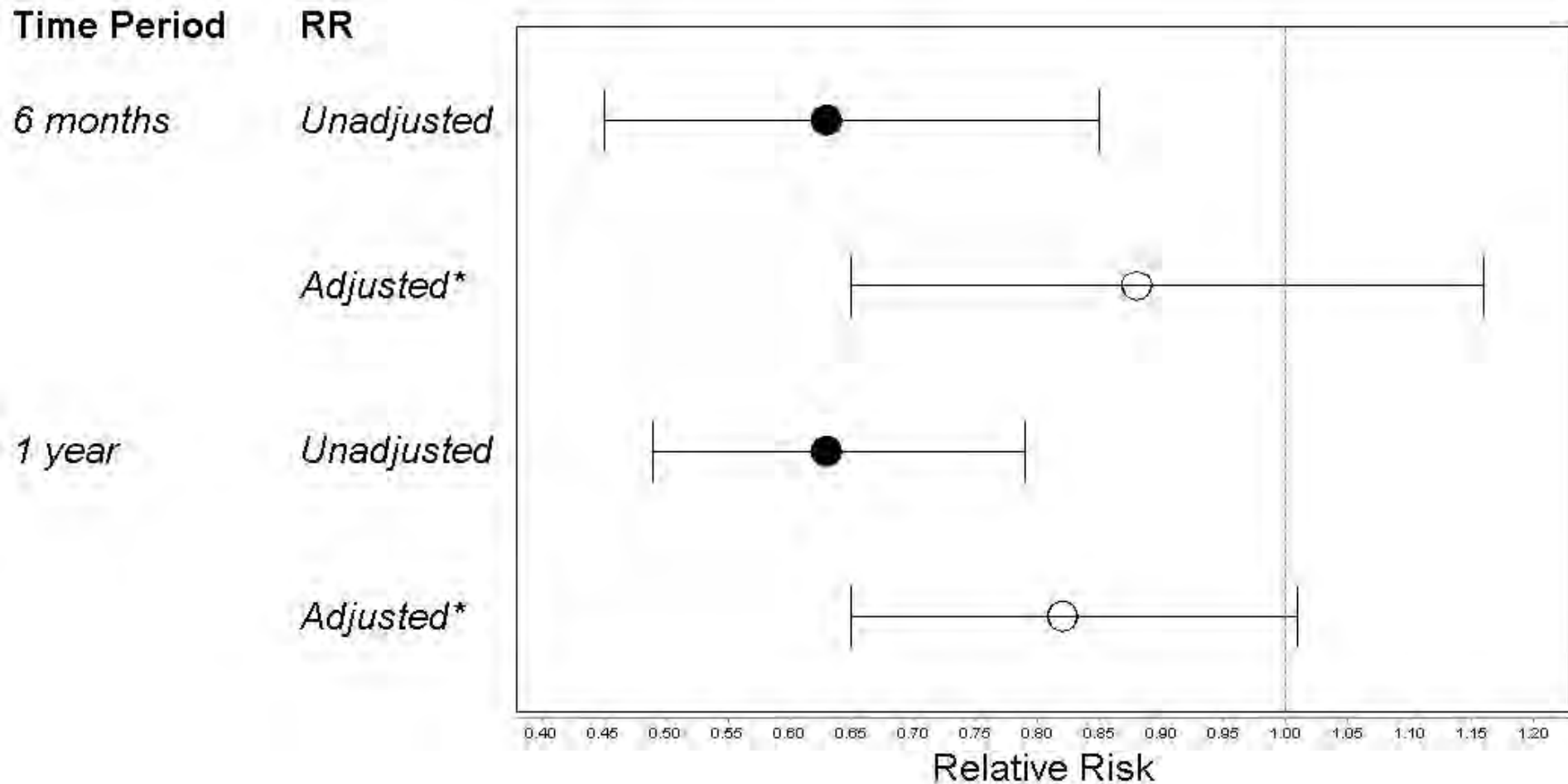


Contraband smokers



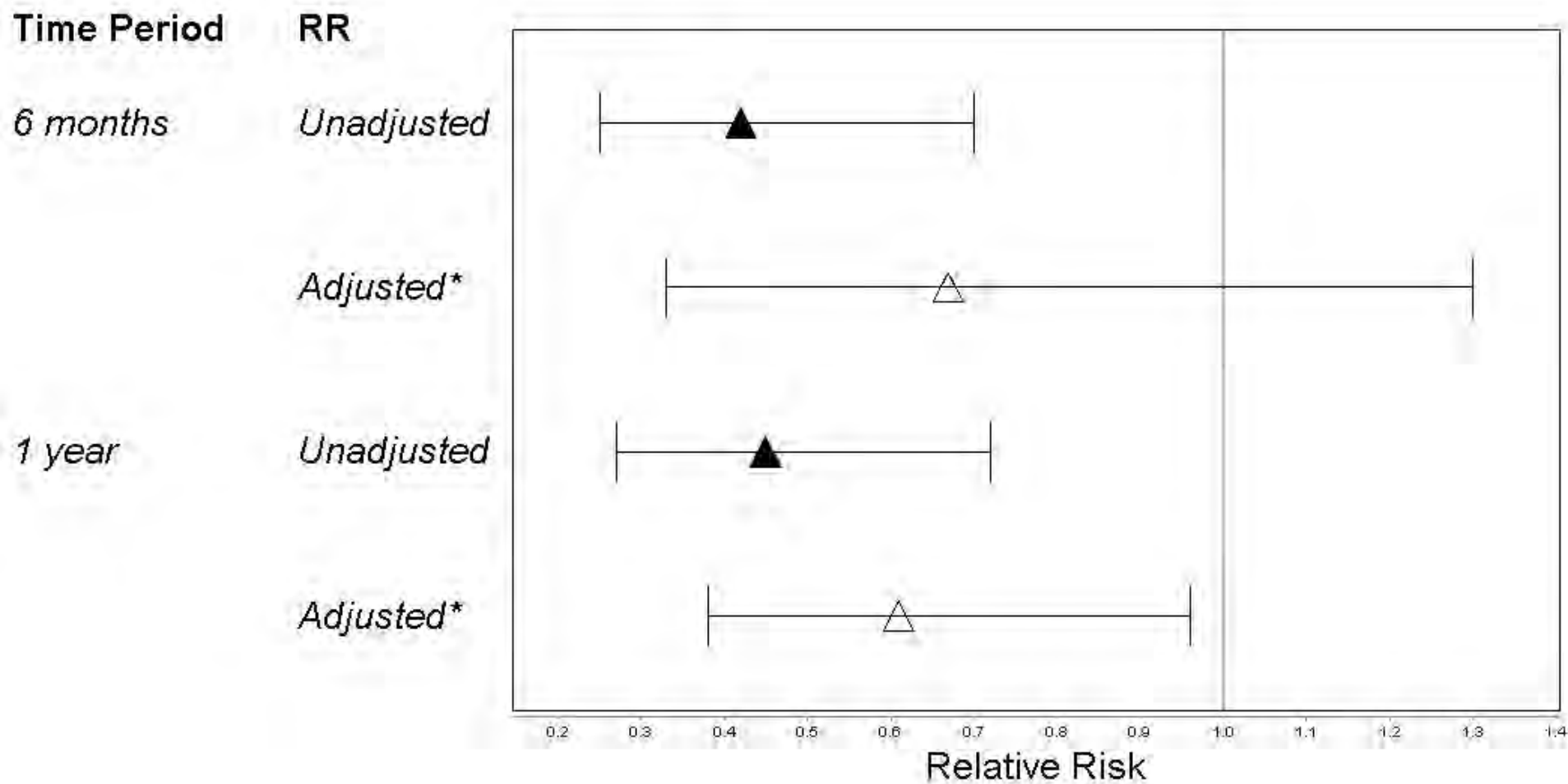
- >45
- female
- rural
- ↓ educational attainment
- ↑ nicotine dependent
- ↑ perceived addiction
- no intention to quit

Contraband smoking → Quit Attempt



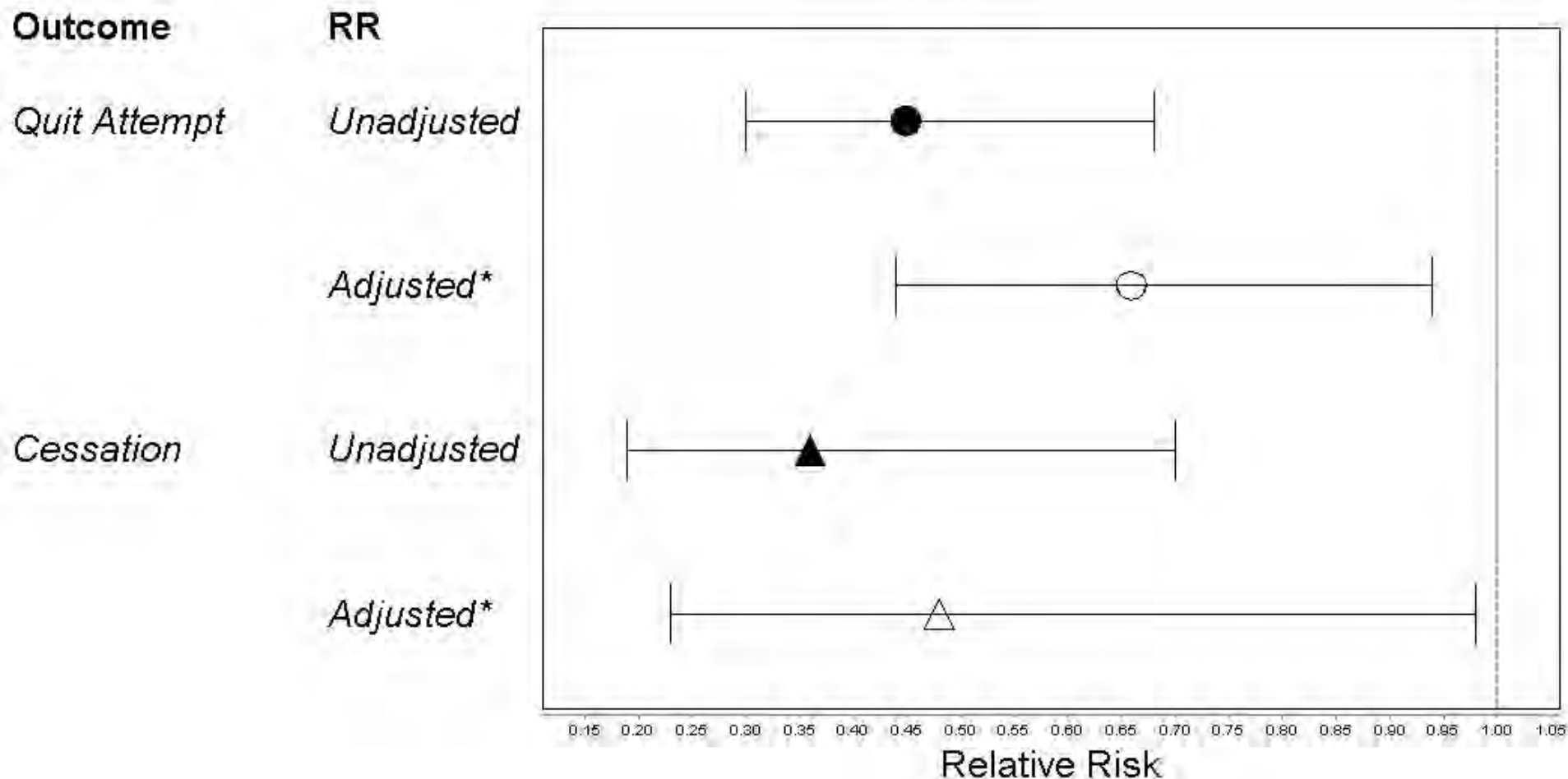
*Adjusted for significant covariates ($p < 0.05$): age, heaviness of smoking index, intention to quit, number of lifetime quit attempts, survey year

Contraband smoking → Cessation



*Adjusted for significant covariates ($p < 0.05$): heaviness of smoking index, intention to quit, perceived addiction

Persistent contraband smokers



*Adjusted for significant covariates ($p < 0.05$): heaviness of smoking index, intention to quit, # lifetime quit attempts, perceived addiction, survey year

So what?

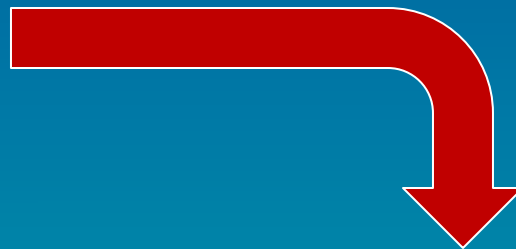


The Bottom Line...

**Contraband
smoking**



**Cessation
outcomes**



Further steps to reduce contraband availability are needed



Thank you!



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Poll Question 3

Bo Zhang, MPH

Bo is a Senior Research Officer with OTRU. Bo received her Master's degree in Public Health from Adelaide University, Australia. Currently, she is a PhD candidate in Epidemiology, 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 for smoking cessation in the general population.





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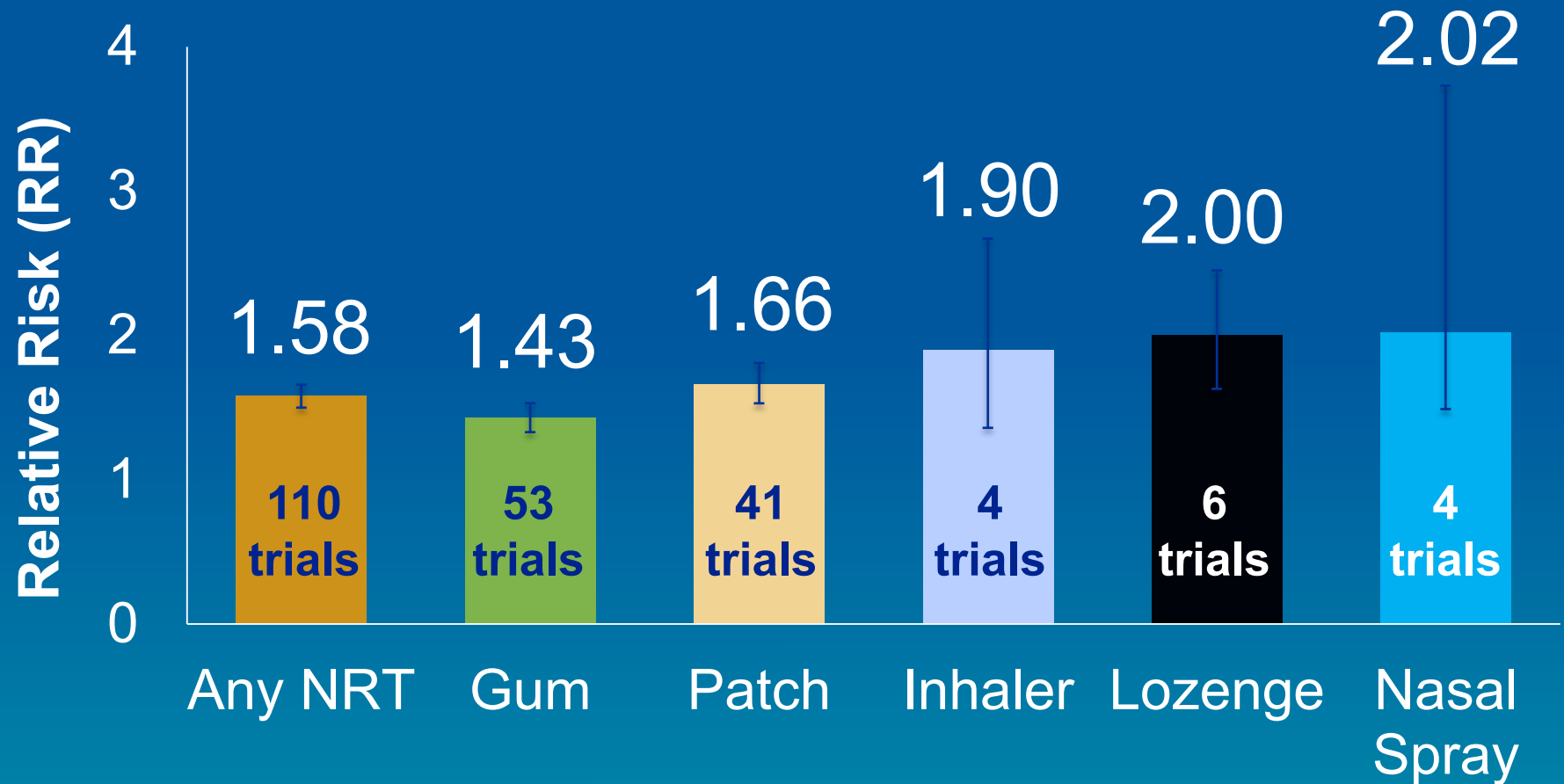
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Nicotine Patches Help Ontario Smokers Quit

Bo Zhang

Ontario Tobacco Research Unit
Dalla Lana School of Public Health
University of Toronto
June 27, 2012

NRT and Cessation in Clinical Trials



2009 Cochrane review:

132 trials; over 40,000 participants; follow-up period: 6-12 months

A Recent Study by Alpert et al.*

- The only population-based study that has assessed the duration of NRT use and cessation
- Using NRT >6 wks had no effect on cessation success
- But, the study did not examine NRT use duration by its type and the sample size was very small

* Alpert HR et al. A prospective cohort study challenging the effectiveness of population-based medical intervention for smoking cessation. Tob Control
Published Online Jan 10, 2012.

Objective

To examine the impact of NRT quit aids on smoking cessation by NRT type (any NRT, patches, and gum) and use duration, by comparing using them for the recommended duration (≥ 8 wks) and suboptimal duration (< 8 wks) to not using them

Study Design and Data Source

- Longitudinal data from the Ontario Tobacco Survey (OTS), 2005 to 2009
- Representative sample of Ontario adult smokers aged 18+ (4,500 smokers at baseline)
- Followed for a minimum of 3 subsequent interviews at 6 month intervals

Sample in Analysis

Sample: baseline current smokers who made serious quit attempts at follow-up

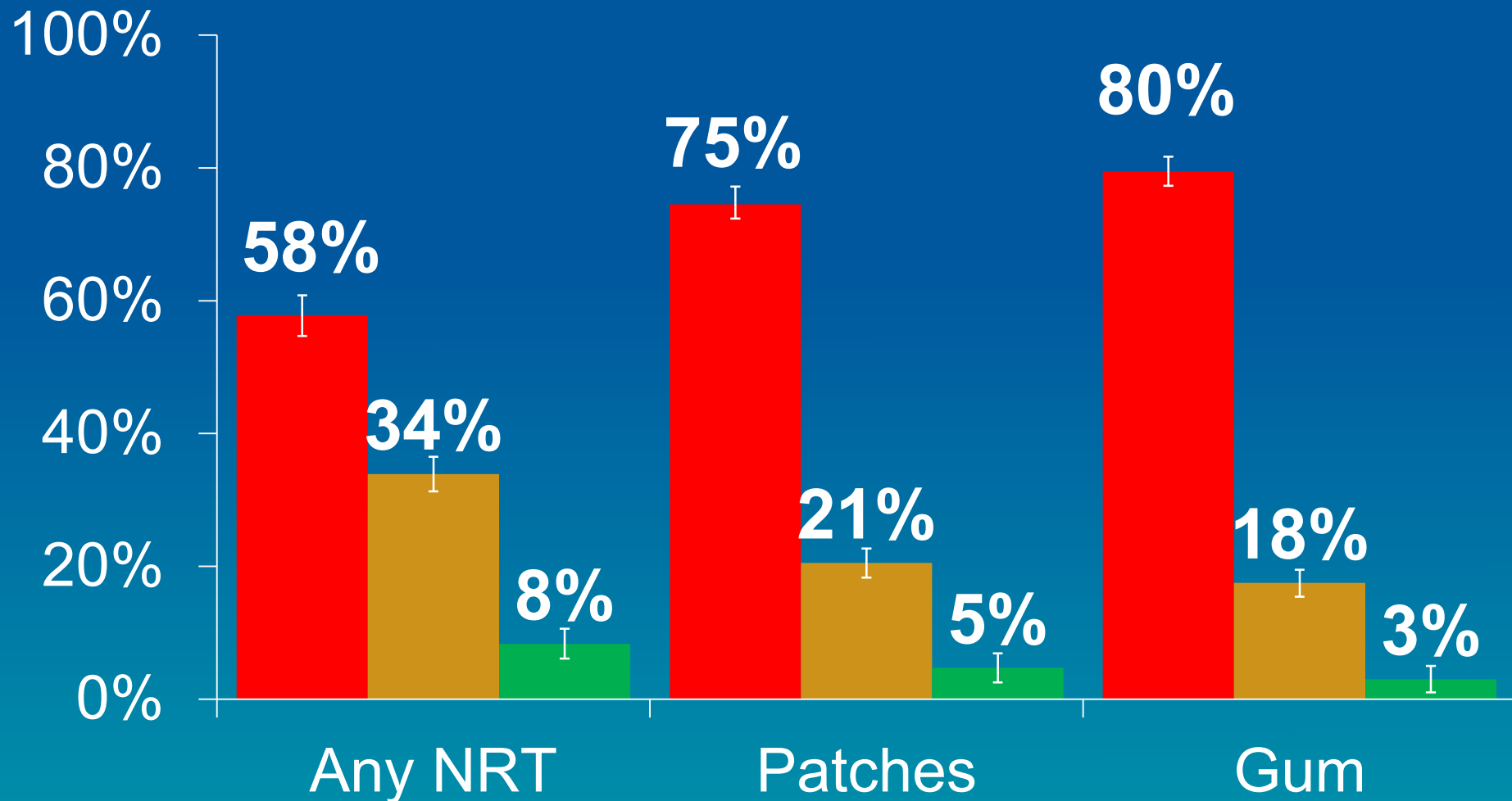
Time of outcome measurement	Short-term abstinence (quit ≥ 1 m)	Long-term abstinence (quit ≥ 12 m)
At 18 m of FU	1,590 made quit attempts with ≥ 6 m of FU & 1,368 re-interviewed (retention rate: 86%)	1,314 made quit attempts with ≥ 12 m of FU & 1,092 re-interviewed (retention rate: 83%)

Analysis

- Poisson regression: examine the associations between the use duration of NRT quit aids and smoking cessation
- Potential confounders considered
 - Social-demographic factors
 - Tobacco dependence
 - Quitting history & intention to quit
 - Social & environmental factors for quitting
 - Use of other quit aids

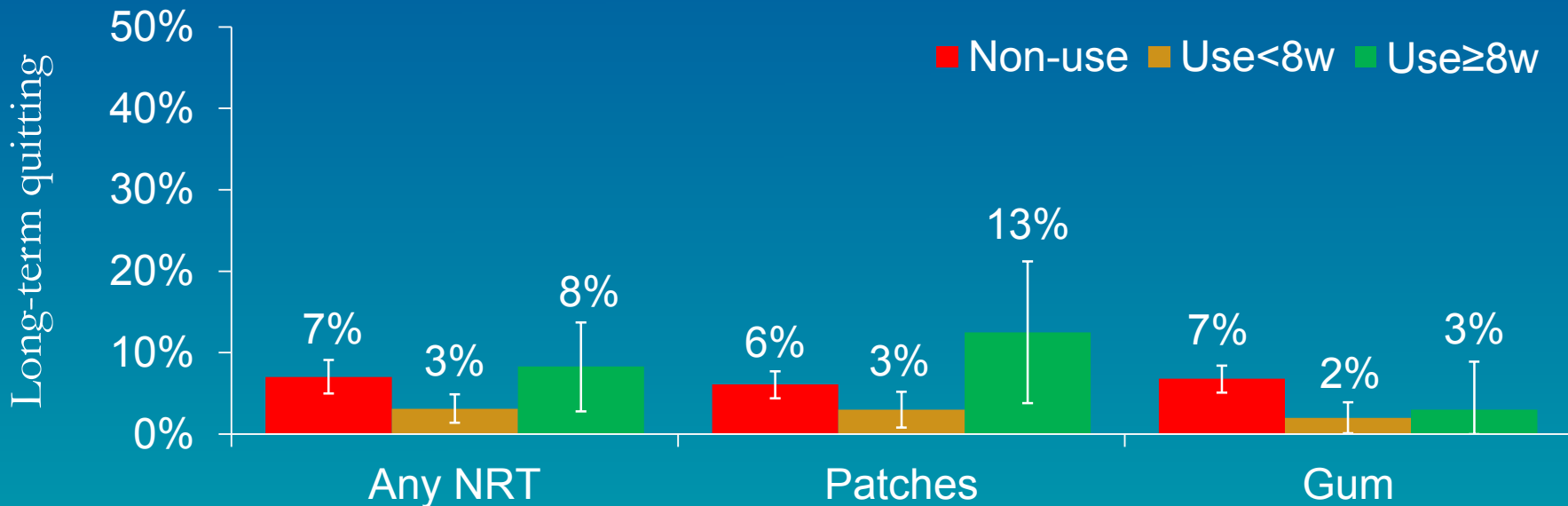
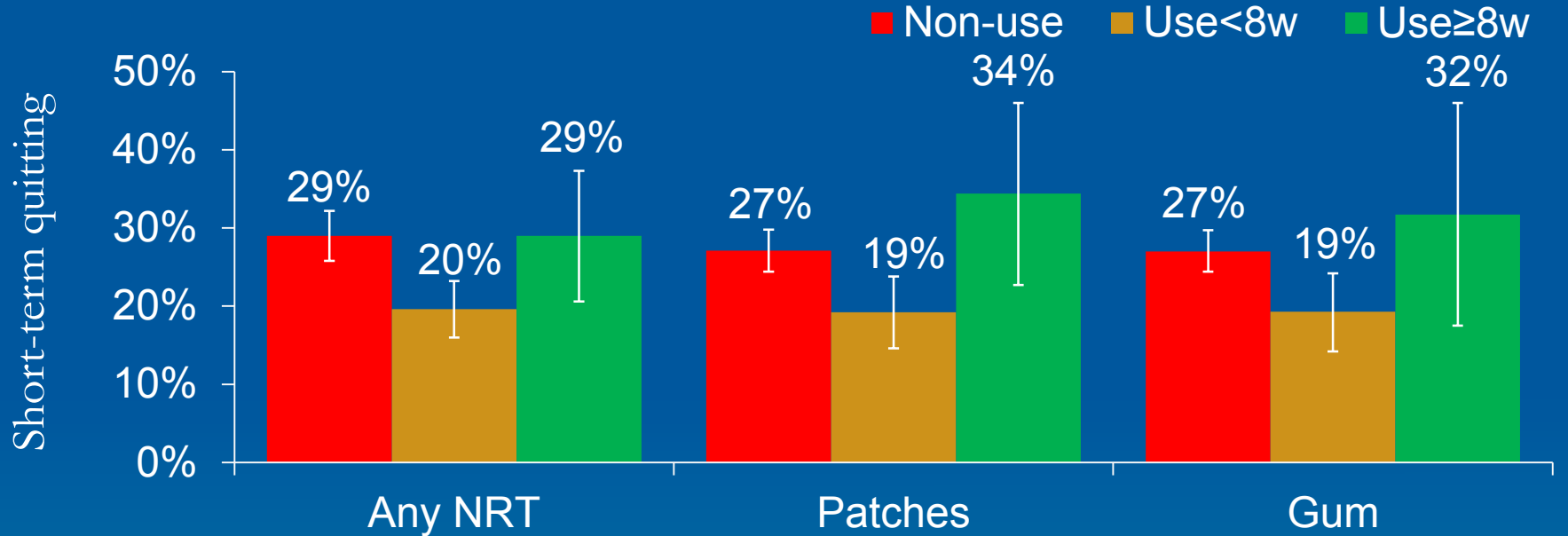
NRT aid use patterns

■ Non-use ■ Use<8w ■ Use≥8w

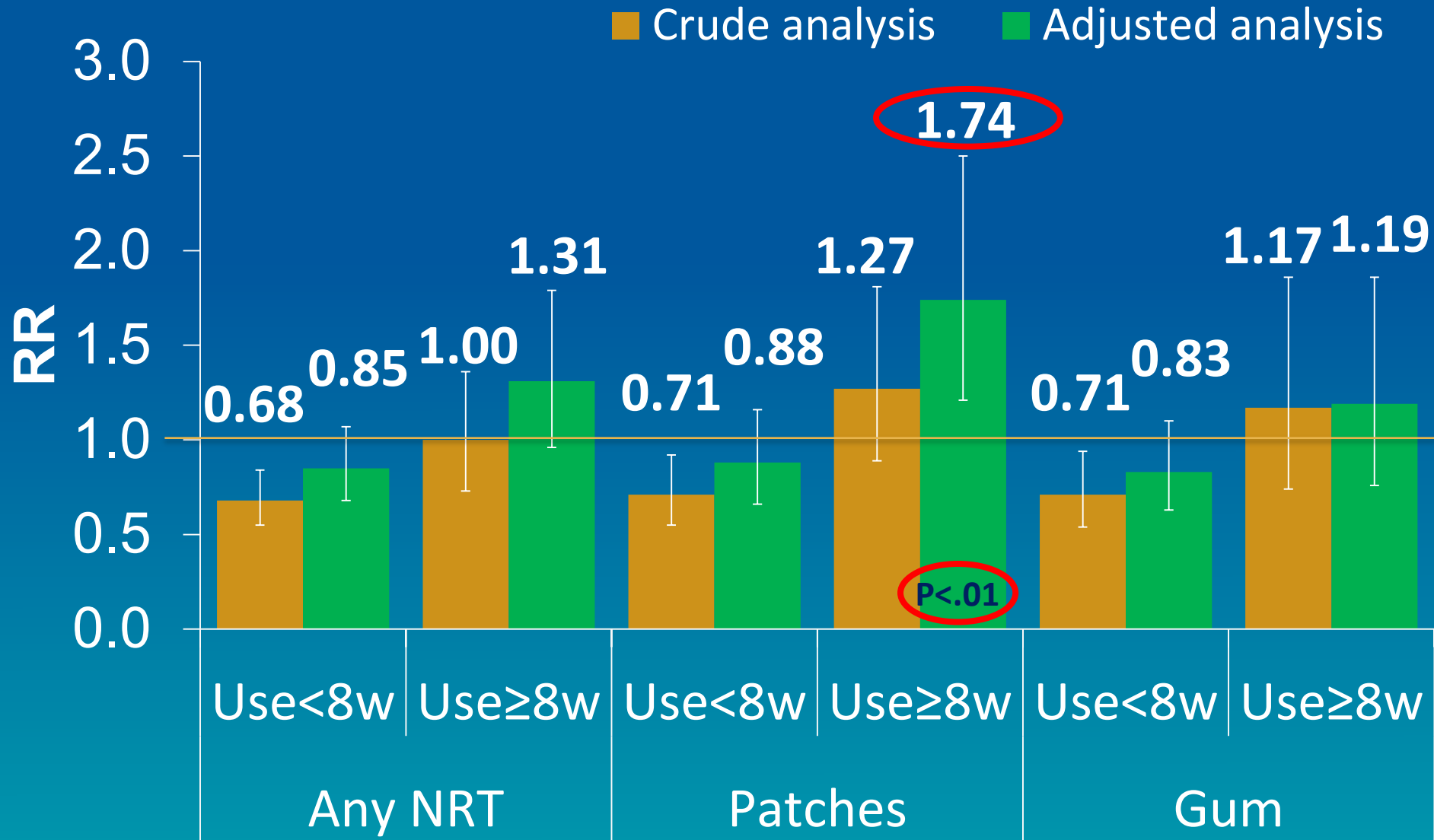


Median use duration: 14 days for any NRT and patch use, 10 days for gum use

Quit rate at 18m

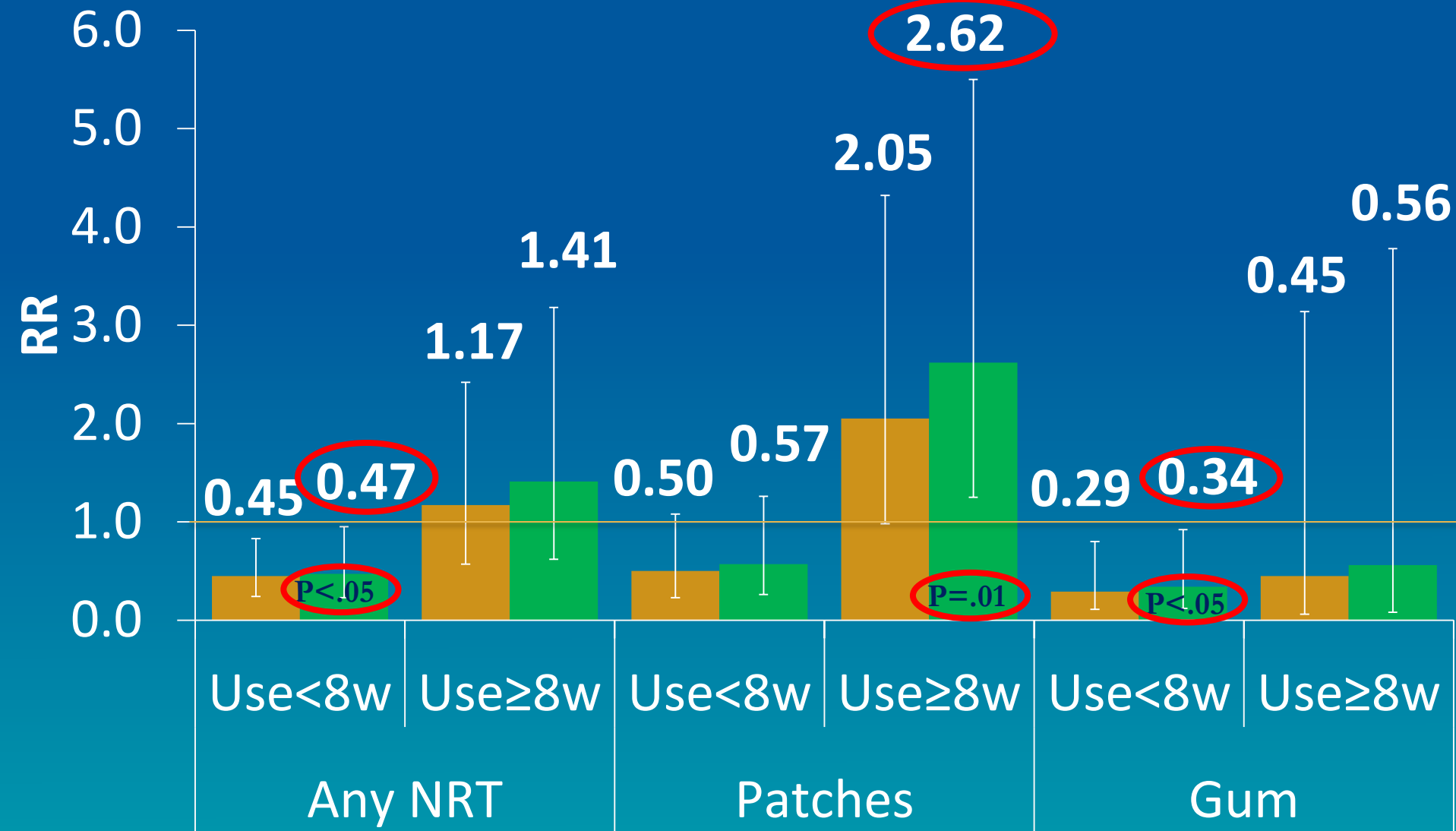


Poisson regression for short-term abstinence by use duration of NRT quit aids



Poisson regression for long-term abstinence by use duration of NRT quit aids

■ Crude analysis ■ Adjusted analysis



Conclusions

- Both type and use duration of NRT quit aids play important roles in smoking cessation in the general population
- Using gum even for the recommended duration is not associated with a higher likelihood of quitting
- Only using nicotine patches for the recommended duration helps smokers quit smoking

Conclusions (con't)

- More efforts needed to promote smokers to use nicotine patches for the recommended duration
- Telephone quitlines, web-based programs, ads about NRT for quitting, labeling on NRT product packages, and health care practitioners can promote the use of nicotine patches for 8 or more wks

Acknowledgements

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