

Are changes in cigarette smokers' frequency of cannabis use associated with attempts to quit smoking?

Findings from the ITC Four Country Smoking and Vaping Survey 2016 – 2018

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Disclosures

- MC has received payment as a consultant to Pfizer Inc., for services on an external advisory panel to assess ways to improve smoking cessation delivery in health care settings. MC has also served as a paid expert witness in litigation filed against the tobacco industry
- GF and DH have served as expert witnesses on behalf of governments in litigation involving the tobacco industry.
- AM is a UK National Institute for Health Research (NIHR) Senior Investigator
- All other authors have no conflicts of interest to declare. No authors have any relationships with the tobacco industry

Co-use of Tobacco and Cannabis

- Co-use: concurrent use on separate occasions or simultaneous use of both at the same time (e.g., blunts, mixing/mulling, chasing)
- Cannabis use more common among cigarette smokers than non-smokers. In the United States in 2014 (data from the PATH study, Strong et al 2018):
 - 16% of cigarette smokers used cannabis in past month
 - 28% of cigar smokers
 - 4% of non-smokers
- Both commonly smoked (use of one cues use of the other)
- Nicotine enhances effect of cannabis (THC)
- Endocannabinoid system may influence nicotine addiction (Agrawal et al 2012, Rabin et al 2015)

Co-use and Smoking Cessation

- Co-use: may make it more difficult for cigarette smokers to quit
- Evidence is equivocal:
 - Population surveys: cigarette smokers who use cannabis are less likely to quit smoking
 - Secondary analysis of RCTs: no difference in smoking cessation rates between smokers who use cannabis and those who do not
- Another possibility:
 - Smokers who want to quit may be making simultaneous behavior changes to try to quit both substances at the same time

Study Objectives

- To examine whether **changes** in the frequency of cannabis use over time were associated with cigarette smoking cessation:
 1. Any attempts to quit smoking in the previous year
 2. Point-prevalence abstinence
 3. Six-month abstinence
- Changes in the frequency of cannabis use based on self-reported past-year use in 2016 and 2018. E.g.,
 - Weekly use to daily use (increased use)
 - Weekly use to less than monthly use (decreased use)
 - Weekly use to weekly use (no change in use)

Methods

- Cigarette smokers participating in Waves 1 and 2 of the International Tobacco Control 4 Country Smoking and Vaping Survey
 - Data collection: 2016 (Wave 1) and ~18 months later in 2018 (Wave 2)
 - 9568 adult smokers (aged 18+) who smoked at least monthly
 - Provided valid information about past 12 month cannabis use

	Surveyed in 2016	Followed to 2018	% Retained
Canada	2742	1455	53%
United States	2115	895	42%
England	3436	1416	41%
Australia	1275	717	56%
Total	9568	4480	47%

Measures

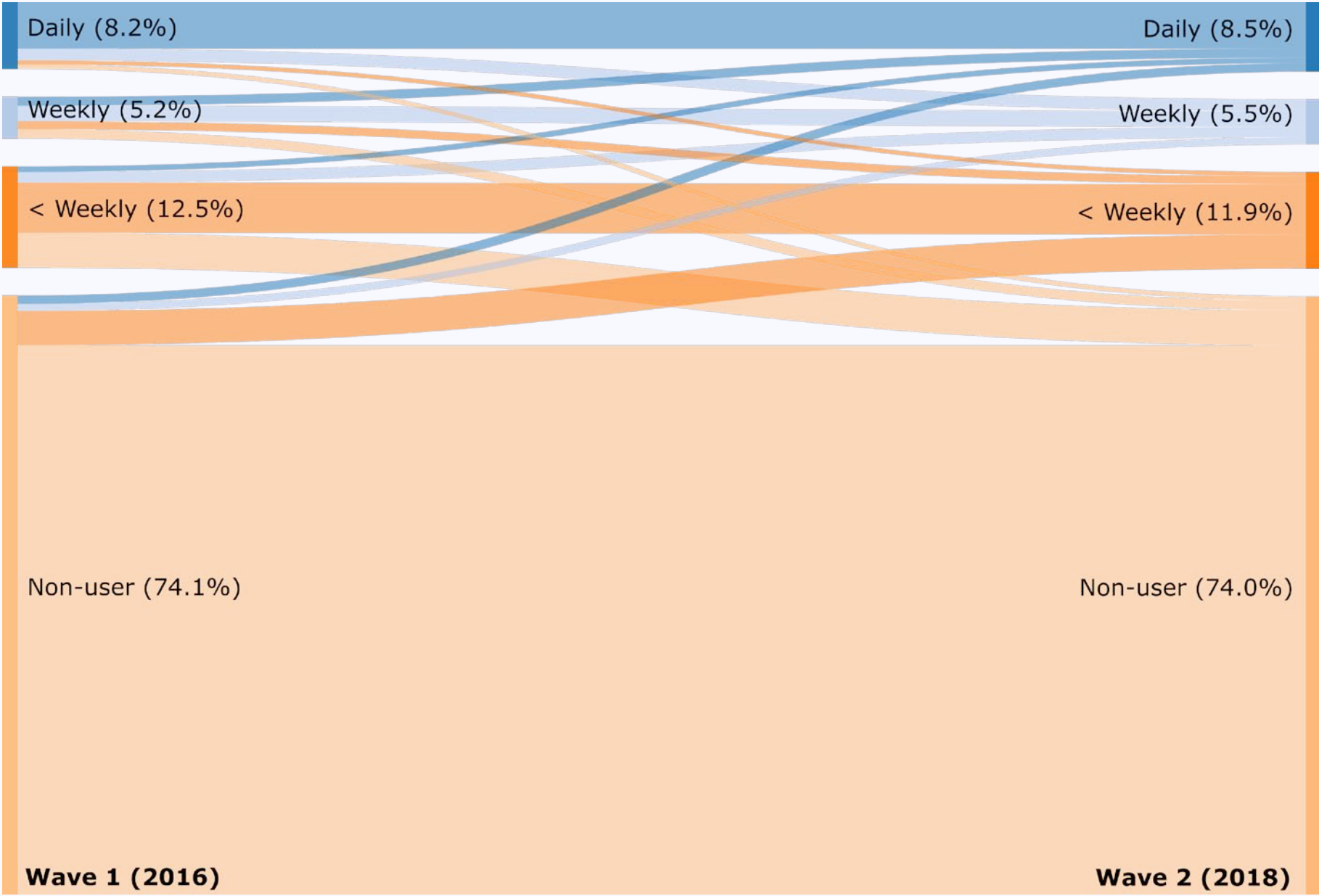
- Cigarette smoking cessation outcomes (assessed in Wave 2)
 - Any self-reported attempt to quit in the past 12 months
 - Having quit smoking at the time of the Wave 2 Survey
 - Having been quit for at least 6 months at the time of the Wave 2 Survey
- Cannabis use (assessed in both waves): *In the past 12 months, how often, if at all, have you used cannabis in any way?*
 - Not at all
 - < Weekly (< once/month, at least once/month)
 - Weekly
 - Daily
- Main predictor: **change** in cannabis use frequency from 2016 to 2018

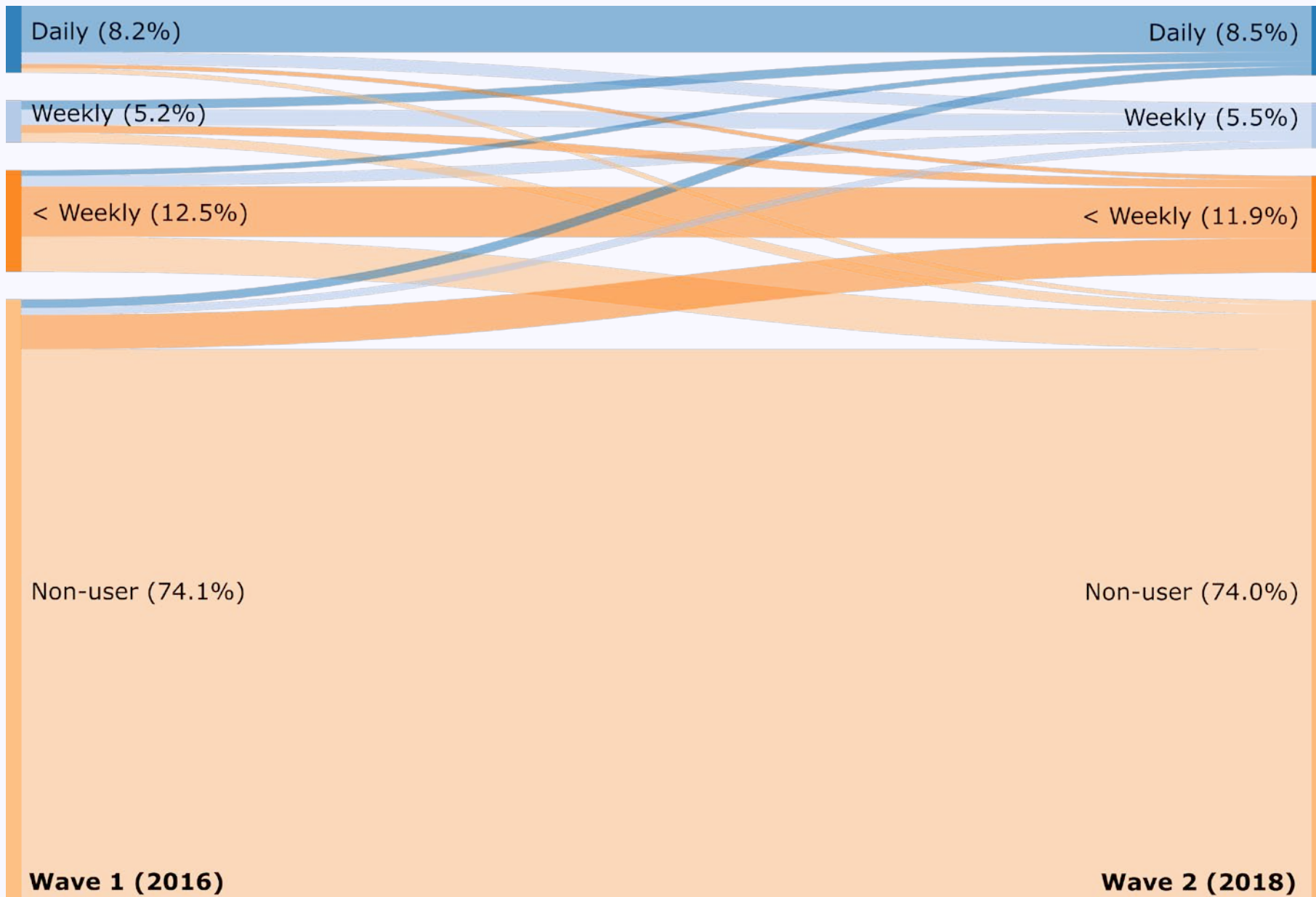
Statistical Analysis

- Weighted bivariate analysis:
 - Baseline (2016) use of cannabis and smoking cessation by 2018
 - Change in cannabis use and smoking cessation
- Weighted logistic regression: change in cannabis use and:
 - Odds of being quit in 2018
 - Odds have having been quit for at least 6 months in 2018
- Covariates:
 - Sociodemographic measures (country, sex, age, income, education)
 - Behaviors (cig smoked/day, intentions to quit, vaping status, alcohol use)
 - Depression, anxiety, chronic pain

Results

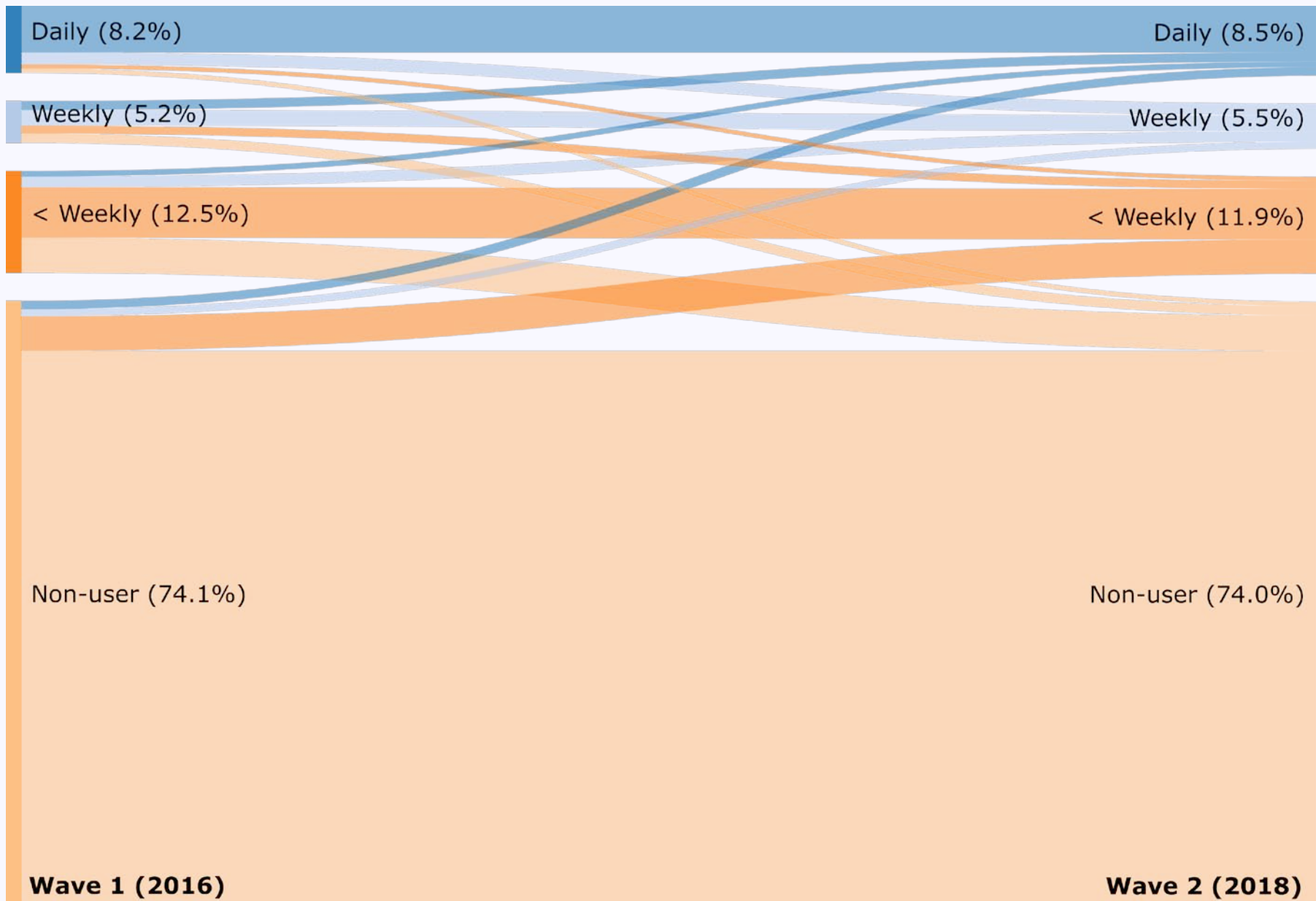
- The majority of cigarette smokers (74%) followed to Wave 2 (n=4480) did not use cannabis in the past 12 months at Wave 1
- About 12% reported using cannabis less than weekly, 5% reported weekly use and 8% reported daily use
- Daily cannabis users tended to be:
 - Younger than non-users (41% vs 21%, respectively)
 - From low-income households (42% vs 219%, respectively)
 - High-risk drinkers (44% vs 31%, respectively)
 - Reported diagnoses of anxiety or depression (30% vs 16%, respectively)





70% of smokers using cannabis daily in 2016 also reported daily use in 2018

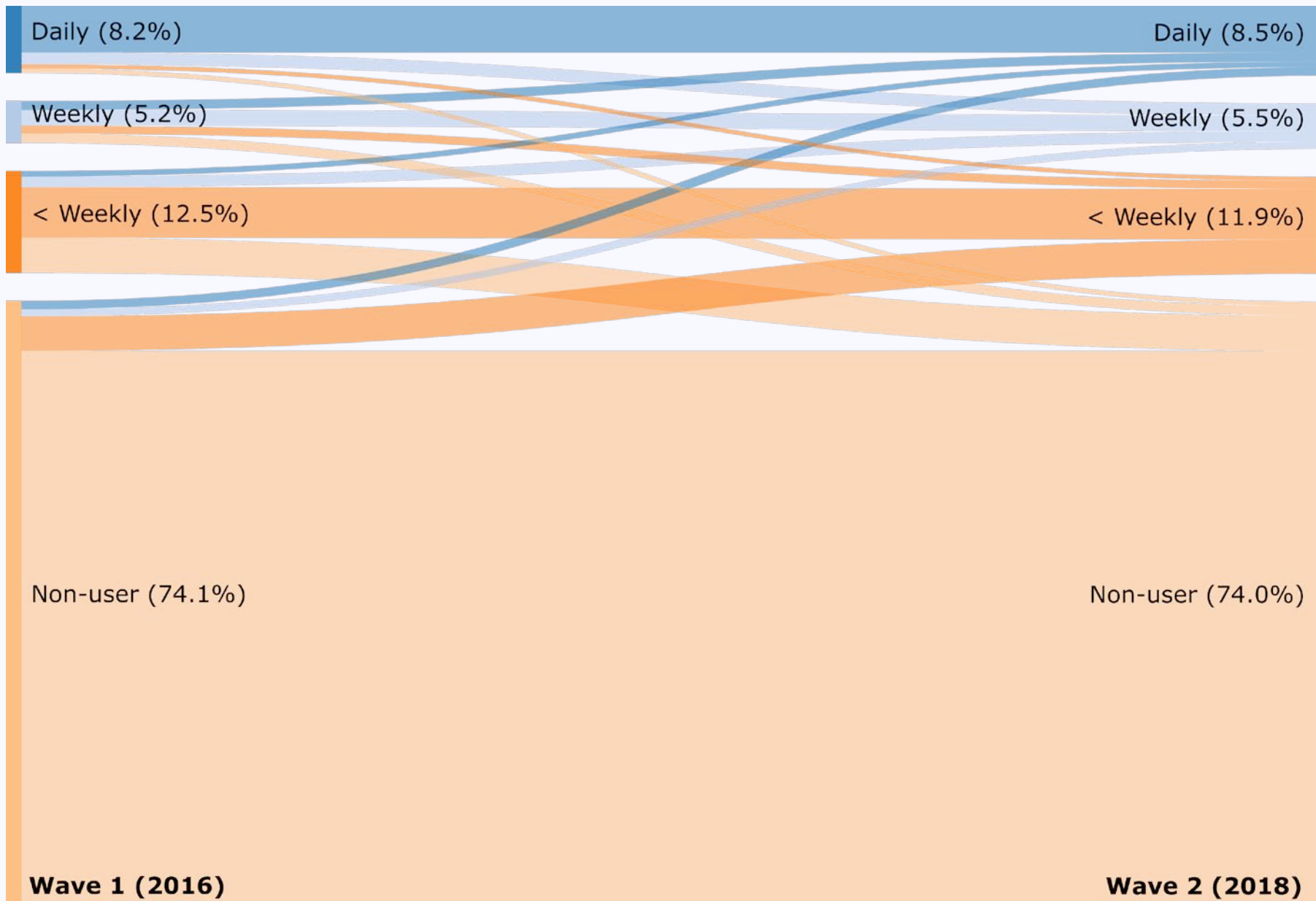




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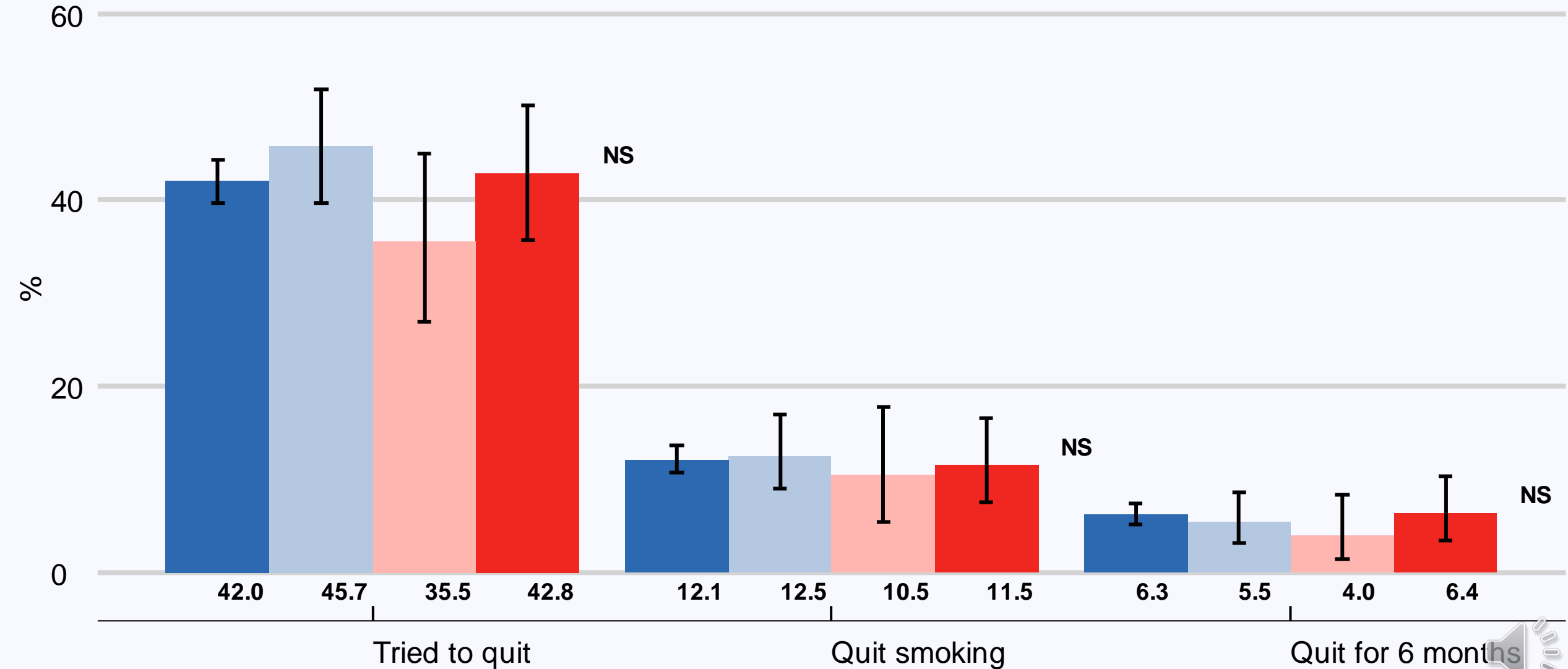
Smokers using cannabis weekly or < weekly in 2016 were more likely to transition to other levels of use by 2018

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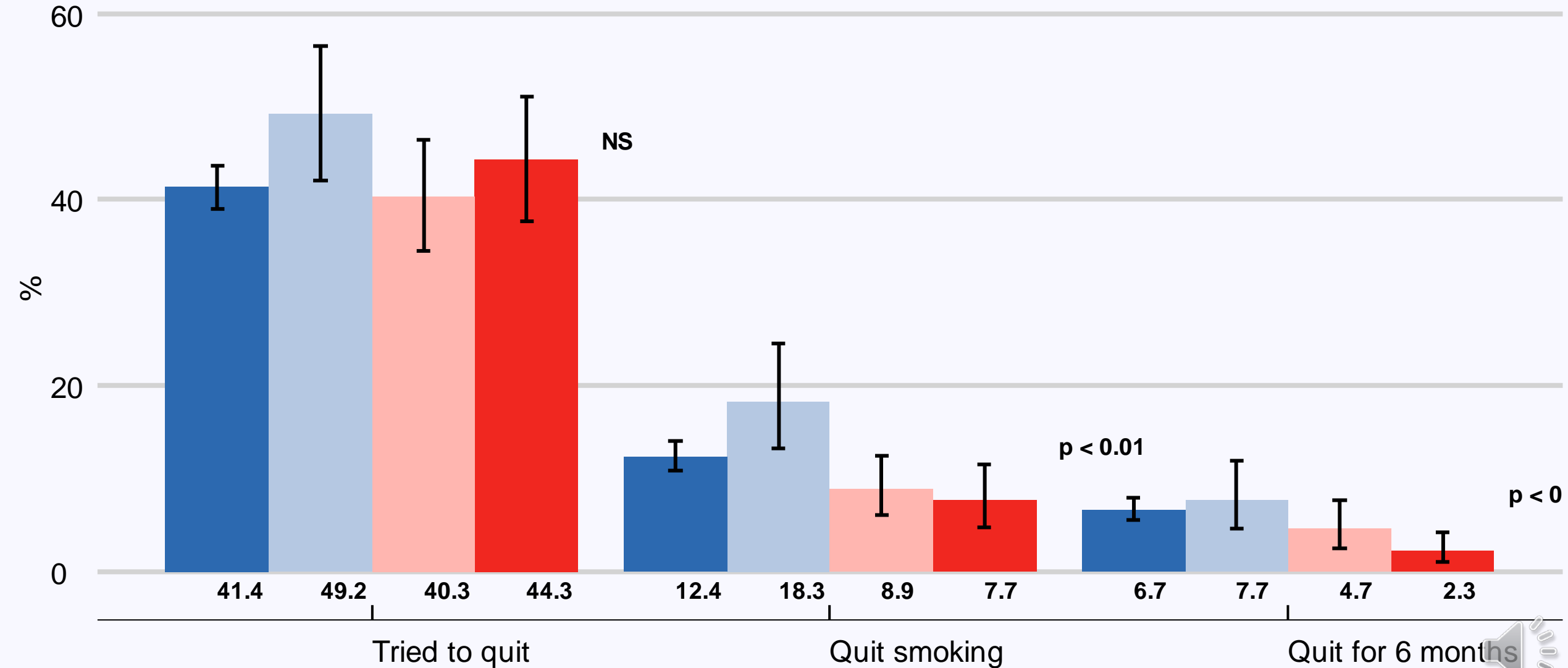
Smoking cessation by baseline cannabis use (2016)

■ Does not use ■ < Weekly ■ Weekly ■ Daily



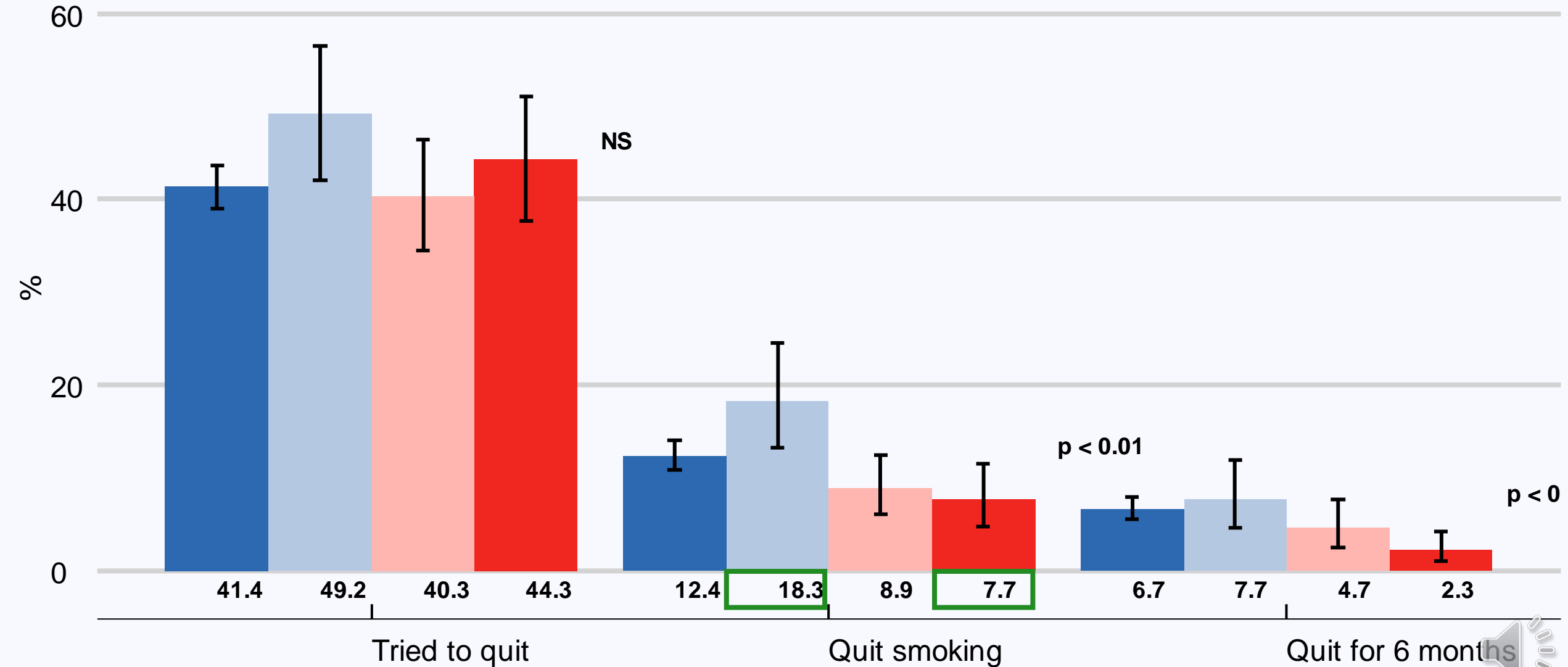
Smoking cessation by cannabis use transitions (2018)

■ Non-user both years ■ Reduced ■ No change ■ Increased



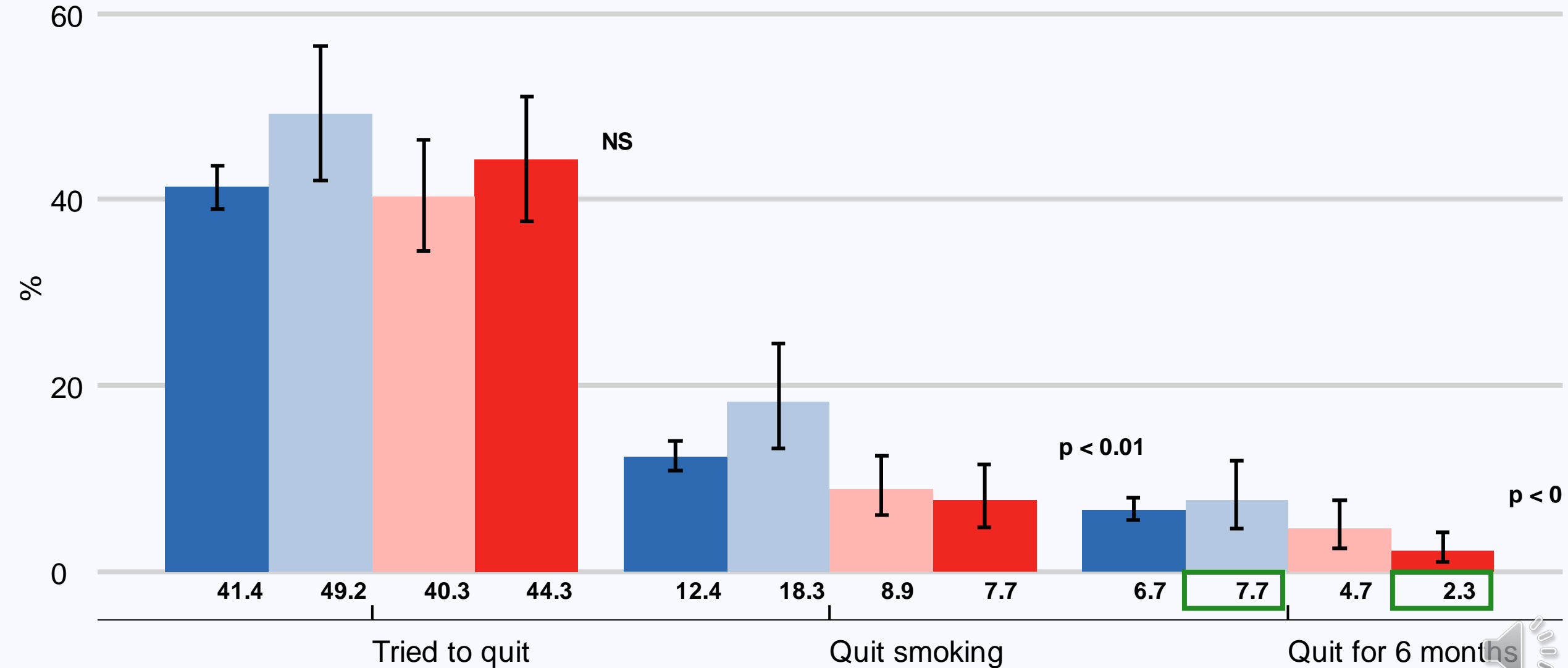
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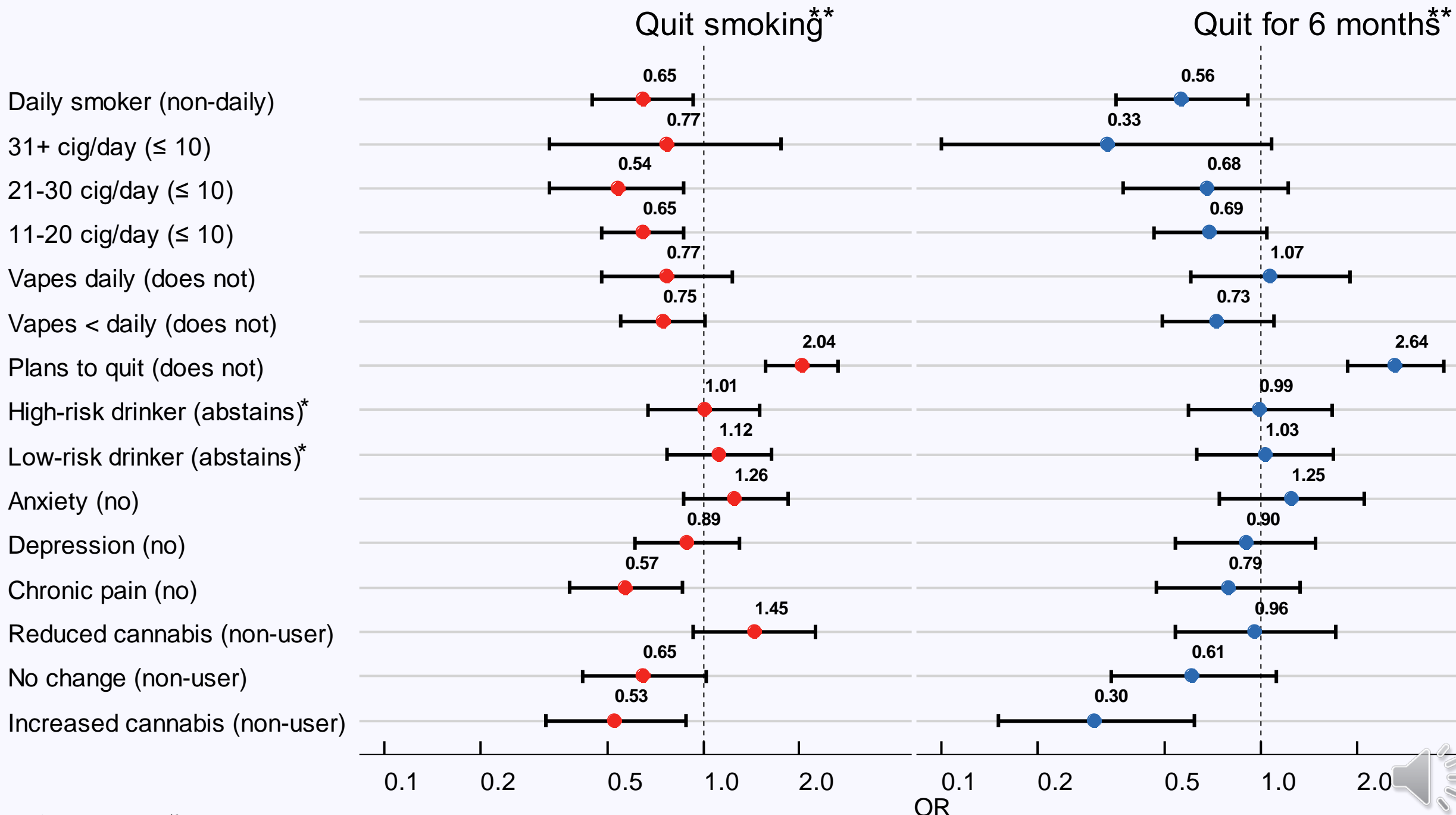
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* Abstains/infrequent drinker. ** Models also controlled for sociodemographic measures.

OR

Quit smoking**

Quit for 6 months**

Daily smoker (non-daily)

31+ cig/day (≤ 10)

21-30 cig/day (≤ 10)

11-20 cig/day (≤ 10)

Vapes daily (does not)

Vapes < daily (does not)

Plans to quit (does not)

High-risk drinker (abstains)*

Low-risk drinker (abstains)*

Anxiety (no)

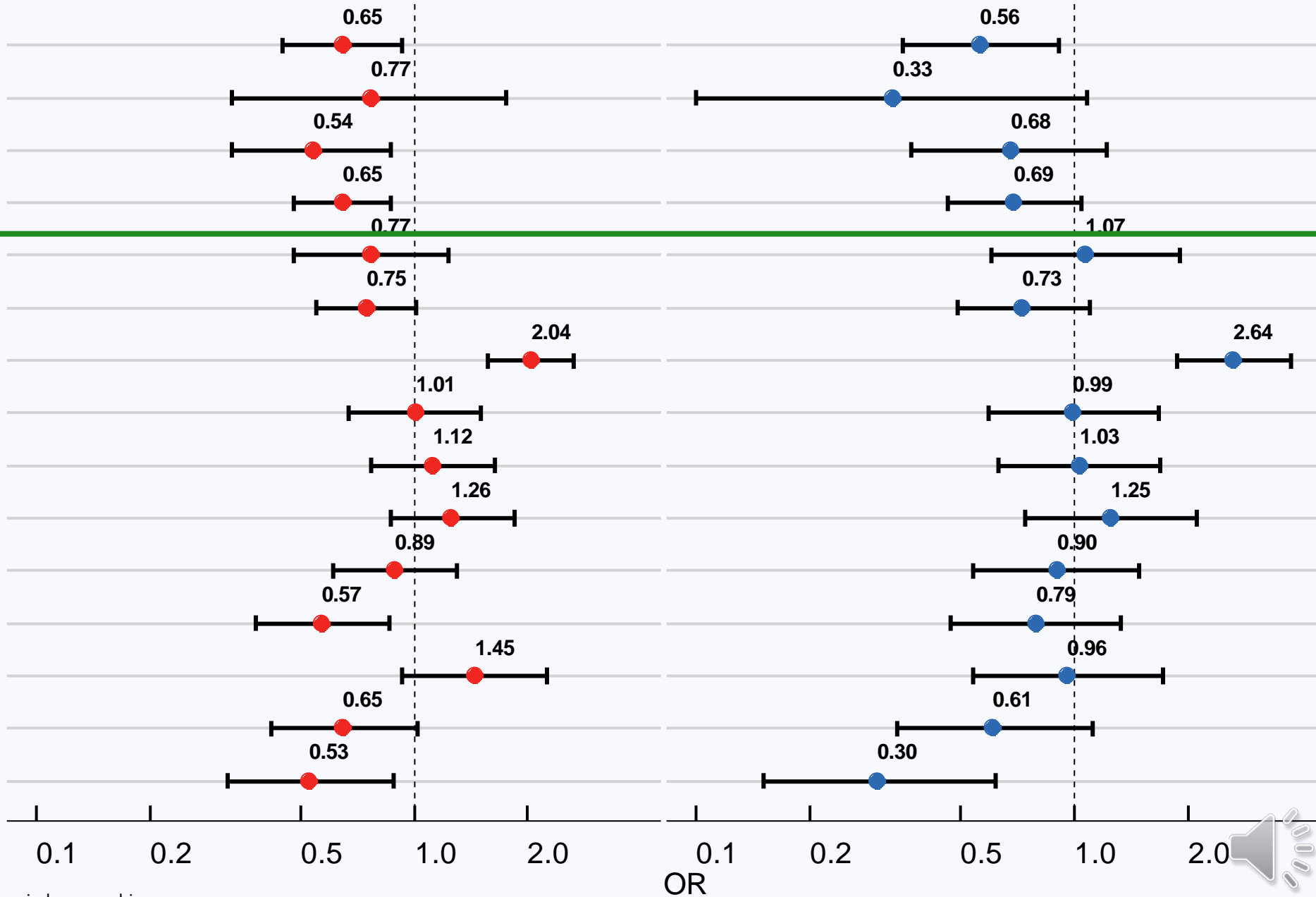
Depression (no)

Chronic pain (no)

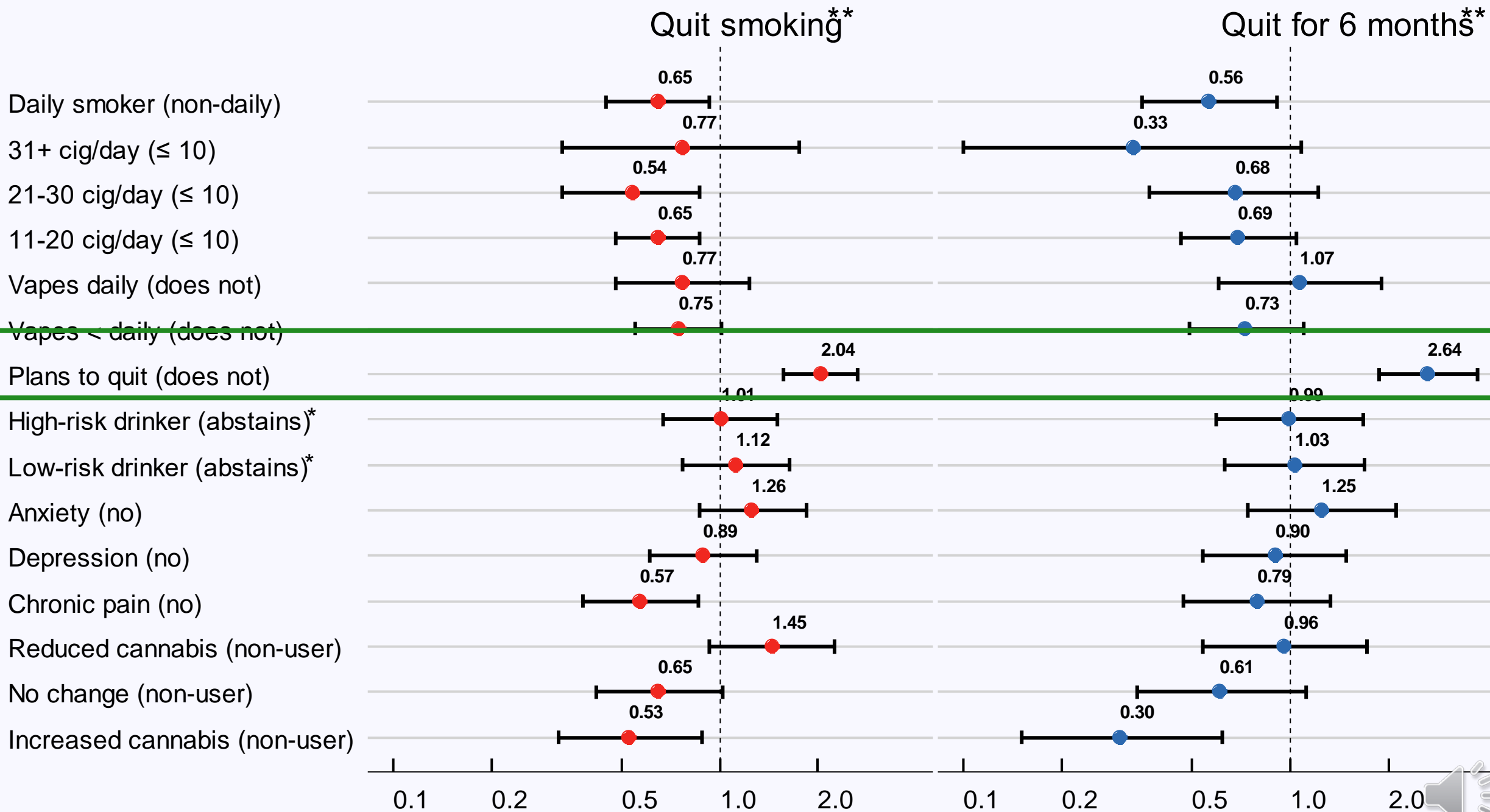
Reduced cannabis (non-user)

No change (non-user)

Increased cannabis (non-user)

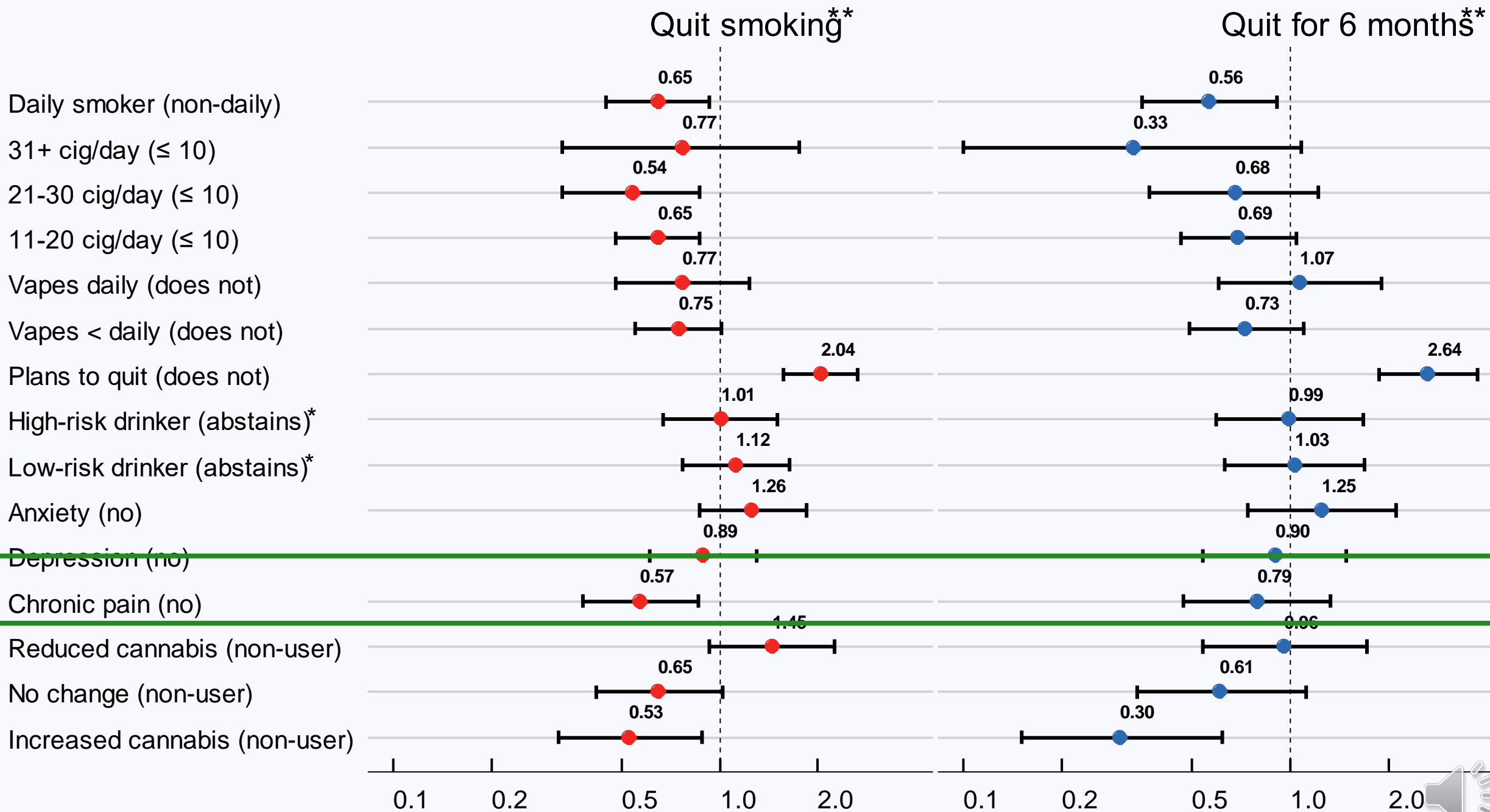


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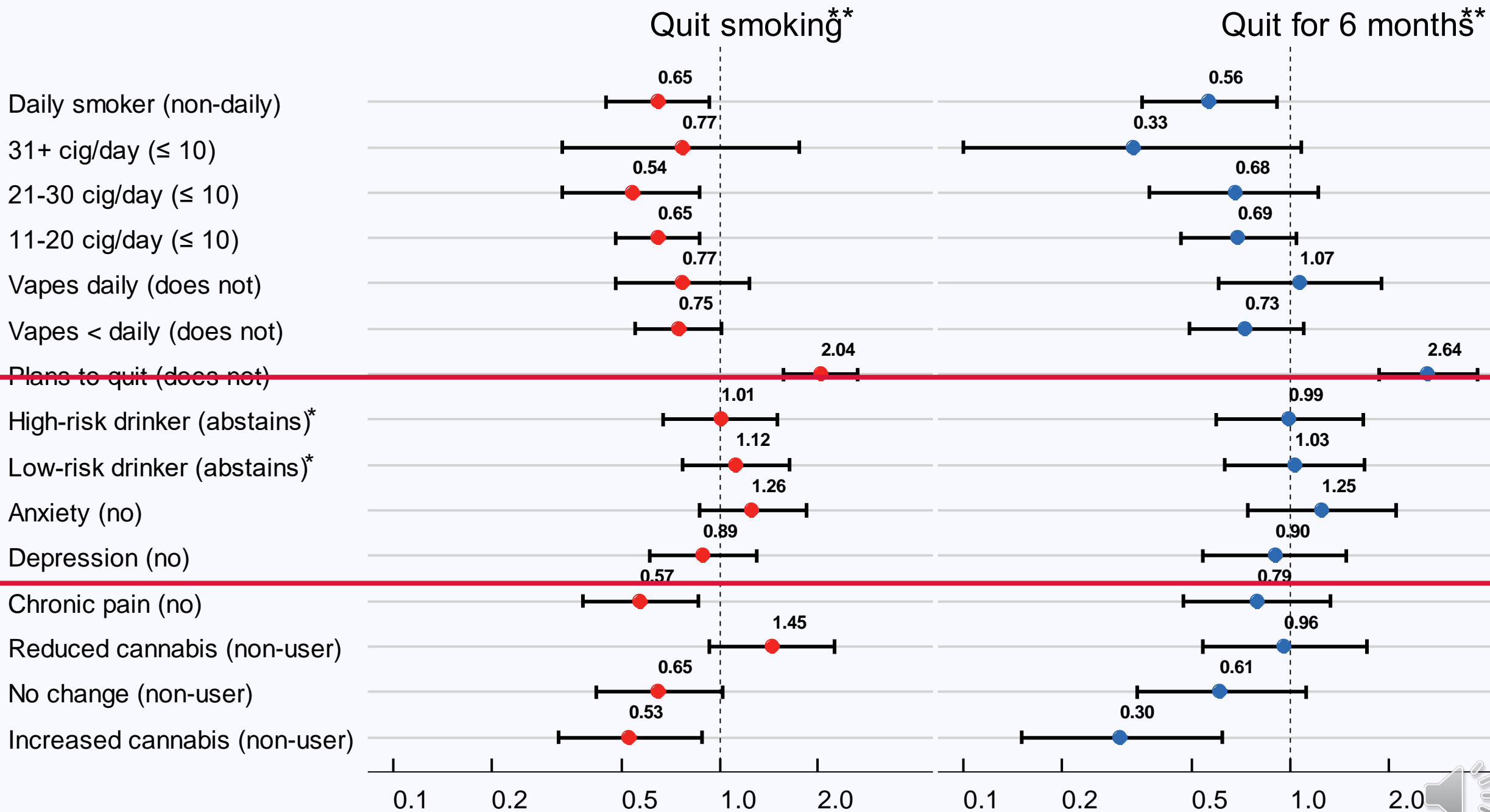
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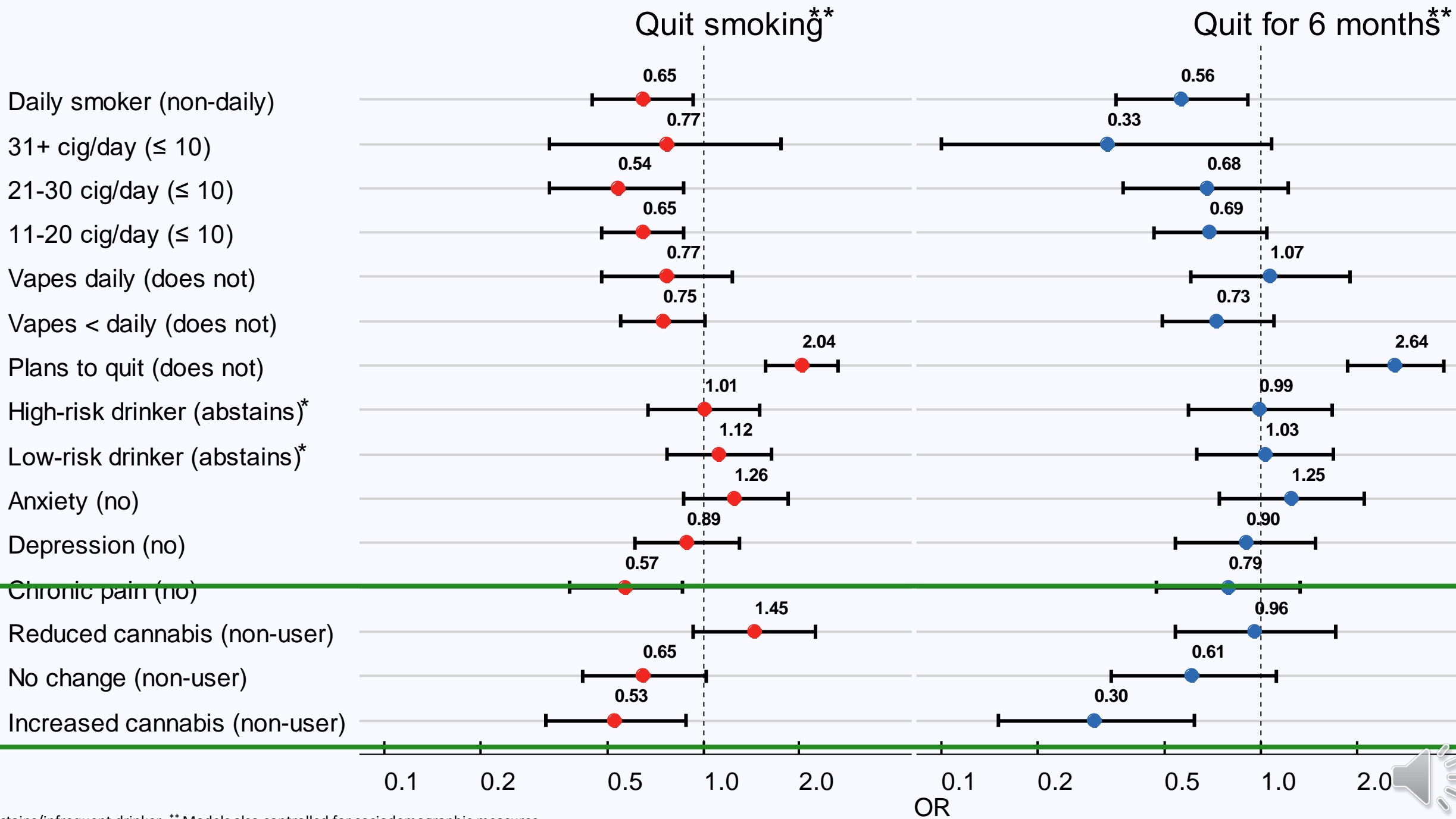
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Summary and Conclusions

- Cigarette smokers who maintained or increased their frequency of cannabis use had lower odds of successful cessation compared to smokers not using cannabis at all in either year
 - Unclear whether co-use impedes smokers' efforts to quit
 - Do changes in cannabis use precede or follow smoking cessation?
- Smokers more motivated to quit cigarette smoking may be more motivated to quit using cannabis
- Findings stress the importance of developing cessation interventions that simultaneously target tobacco and cannabis co-use

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