

Cigarette Smoking Relapse among Recent Former Smokers who Switched to E-Cigarettes or Other Tobacco Products

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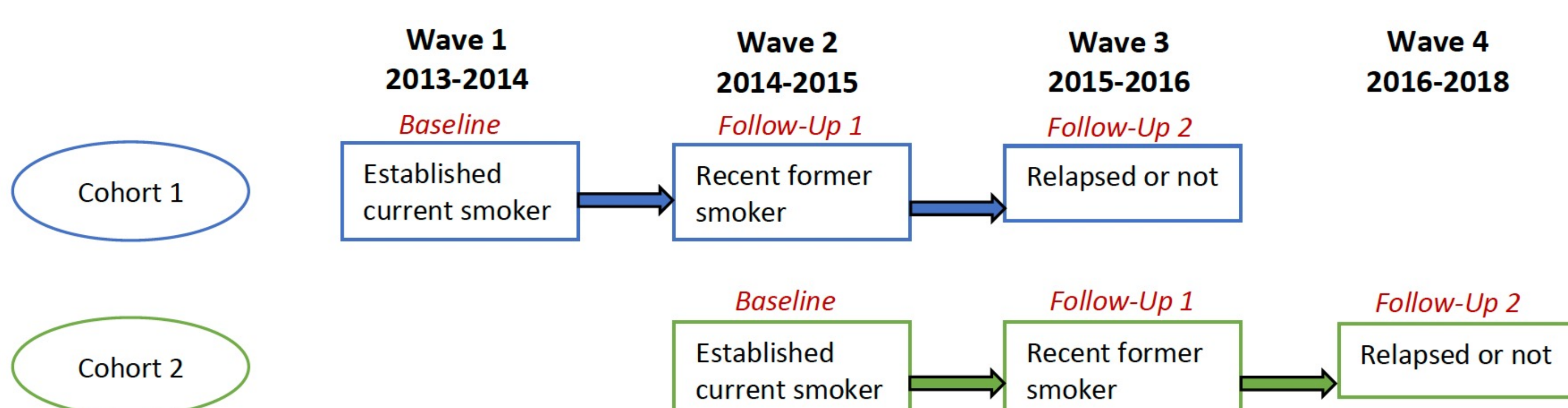
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Background

- E-cigarettes have been studied as a cessation tool.
- It is not clear how e-cigarette use among former cigarette smokers affects smoking relapse.
- The concept of smoking relapse is not clearly defined.

Objectives

- To examine if recent former smokers, who switched to non-cigarette tobacco products, have a higher or lower likelihood of smoking relapse.
 - Any tobacco product
 - Any combustible tobacco product
 - Exclusive non-combustible tobacco product
 - Any e-cigarettes
- To examine if the definition of smoking relapse affects findings
 - Any cigarette smoking in the past year
 - Any cigarette smoking in the past month
 - Having smoked on ≥ 3 days in the past month



Methods

Data: The Population Assessment of Tobacco and Health (PATH) Study, waves 1-4

Sample Size: N = 1686 (cohort 1 + cohort 2)

Outcome (follow-up 2)

Relapse (Yes/No):

- Measure I: any p12m cigarette smoking
- Measure II: any p30d cigarette smoking
- Measure III: ≥ 3 day cigarette smoking in p30d

Covariates (baseline)

- Socio-demographics: age, sex, education, race and ethnicity, household income.
- Mental health status: internalizing and externalizing problems.
- Cigarette consumption history: tobacco dependence, cigarette consumption, duration of cigarette abstinence at follow up 1.
- Perception: perceived harmfulness of cigarettes, relative perceived harmfulness of e-cigarettes.

Results

Figure 1. Weighted prevalence of smoking relapse measures at follow-up 2.

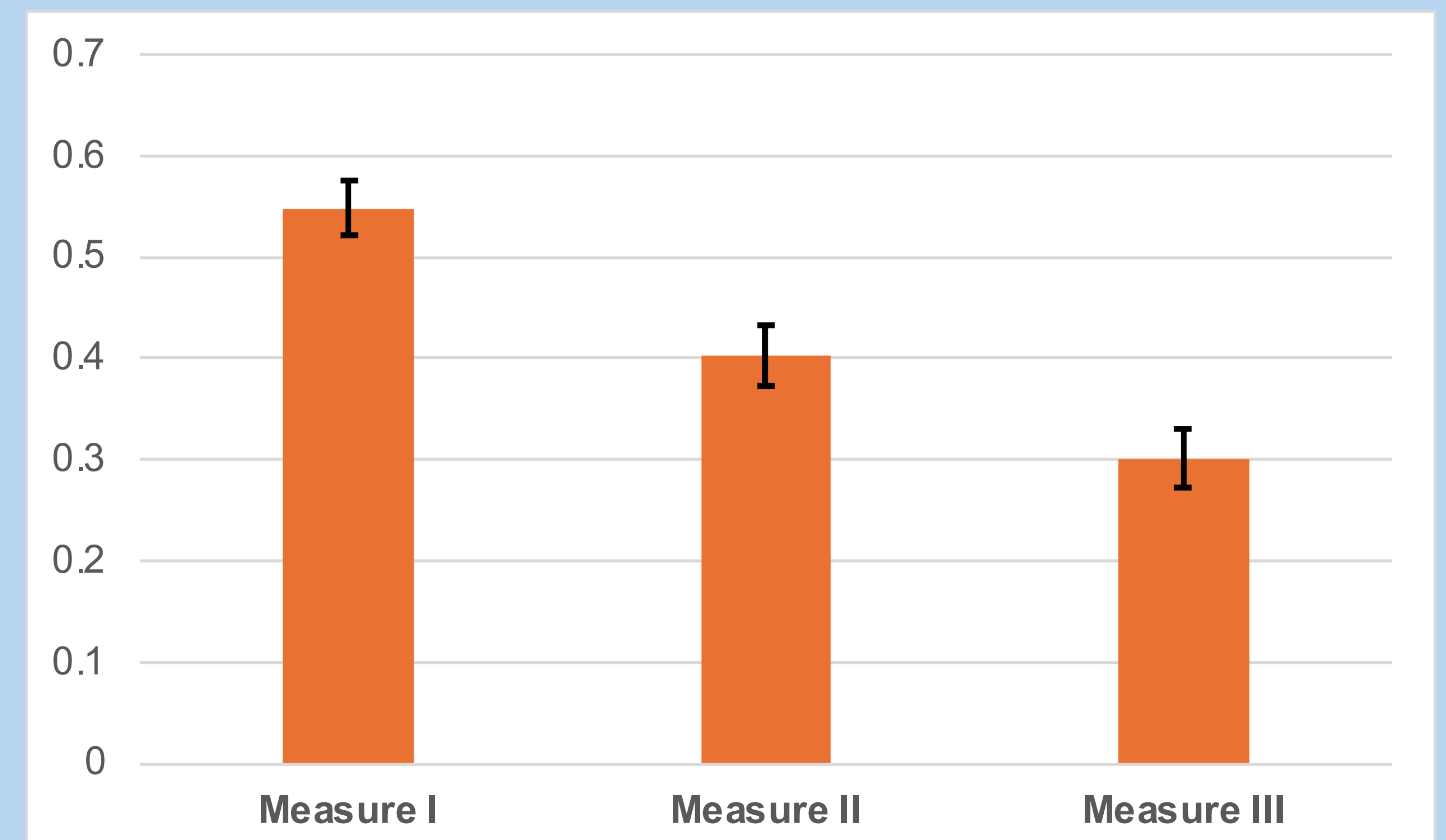


Table 1. Weighted prevalence of smoking relapse by tobacco product use at follow-up 1.

Tobacco product use at follow-up 1	Prevalence of smoking relapse Weighted % (95% CI)		
	Relapse Measure I n = 957	Relapse Measure II n = 719	Relapse Measure III n = 549
Overall	54.8 (52.2-57.5)	40.3 (37.3-43.3)	30.1 (27.2-33.1)
No tobacco	52.1 (48.8-55.4)	39.8 (36.5-43.3)	30.6 (27.5-33.8)
Any tobacco	60.1 (53.9-65.9)	41.2 (35.6-47.0)	29.2 (24.3-34.6)
Any combustibles	59.4 (47.2-70.6)	41.0 (30.9-51.9)	24.0 (17.2-32.3)
Exclusive non-combustibles	60.2 (54.3-65.8)	41.0 (34.9-47.4)	31.6 (26.0-37.8)
Any e-cigarette	61.8 (55.3-67.9)	43.0 (36.8-49.5)	33.2 (27.2-39.7)

Table 2. Adjusted risk differences of relapse by follow-up 2 among recent former smokers.

Current use at follow-up 1	Adjusted Risk Difference (% points, 95% CI)	p-value
Relapse Measure I at follow-up 2		
REF: Never tobacco use		
Any tobacco use	6.85 (0.27 to 13.43)	.04
Any combustible use	6.72 (-1.98 to 15.42)	.13
Exclusive non-combustible use	6.89 (-0.70 to 14.49)	.08
Any e-cigarette use	7.51 (-0.46 to 15.48)	.07
Relapse Measure II at follow-up 2		
Any tobacco use	-0.21 (-6.37 to 5.95)	.95
Any combustible use	3.27 (-5.38 to 11.91)	.46
Exclusive non-combustible use	-1.92 (-9.30 to 5.47)	.61
Any e-cigarette use	-0.28 (-7.60 to 7.05)	.94
Relapse Measure III at follow-up 2		
Any tobacco use	-0.39 (-9.14 to 1.43)	.15
Any combustible use	-4.67 (-13.60 to 4.26)	.30
Exclusive non-combustible use	-3.60 (-10.05 to 2.84)	.27
Any e-cigarette use	-1.70 (-8.26 to 4.87)	.61

Conclusions

- Recent former smokers who switched to any tobacco use, including exclusive non-combustible use and any e-cigarette use, were marginally more likely to relapse using Measure I.
- Those who switched to current e-cigarette or other tobacco product use may be more likely to slip but showed no difference in cigarette smoking relapse (based on measures II and III).

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Tobacco Industry	E-cigarette & nicotine product industry (excluding pharma)	Pharma Industry
NO	NO	NO
NO	NO	NO