

Background

Goal: Estimate transition rates between single, dual, and poly tobacco use categories over time to help identify areas for policy intervention.

Data: Waves 1-4 of the Population Assessment of Tobacco and Health (PATH) study, 2013-2017

Methods

Transition rates between tobacco use categories in adults were estimated under a multistate Markov model framework accounting for complex survey weights. The use categories (defined as current everyday or someday use) were:

- Never use
- Non-current use (30 day abstinence)
- Single use of cigarettes, e-cigarettes, other combustibles, or smokeless tobacco (SLT)
- Dual use with cigarettes
- Poly-use with cigarettes
- Poly-use without cigarettes (including dual-use)

Instantaneous two-step transitions (e.g. from never use to dual use) were disallowed from the model, except for into non-current use. Included 24,336 adults who had data for at least two waves.

Key Findings

- Dual and poly-use categories are largely transient
- Single-use categories are more stable over time
- Transitions out of dual and poly-use categories that included cigarettes were most likely to cigarettes alone
- Transitions out of dual or poly-use without cigarettes were most likely to be to sole non-cigarette product use or non-current use

Results

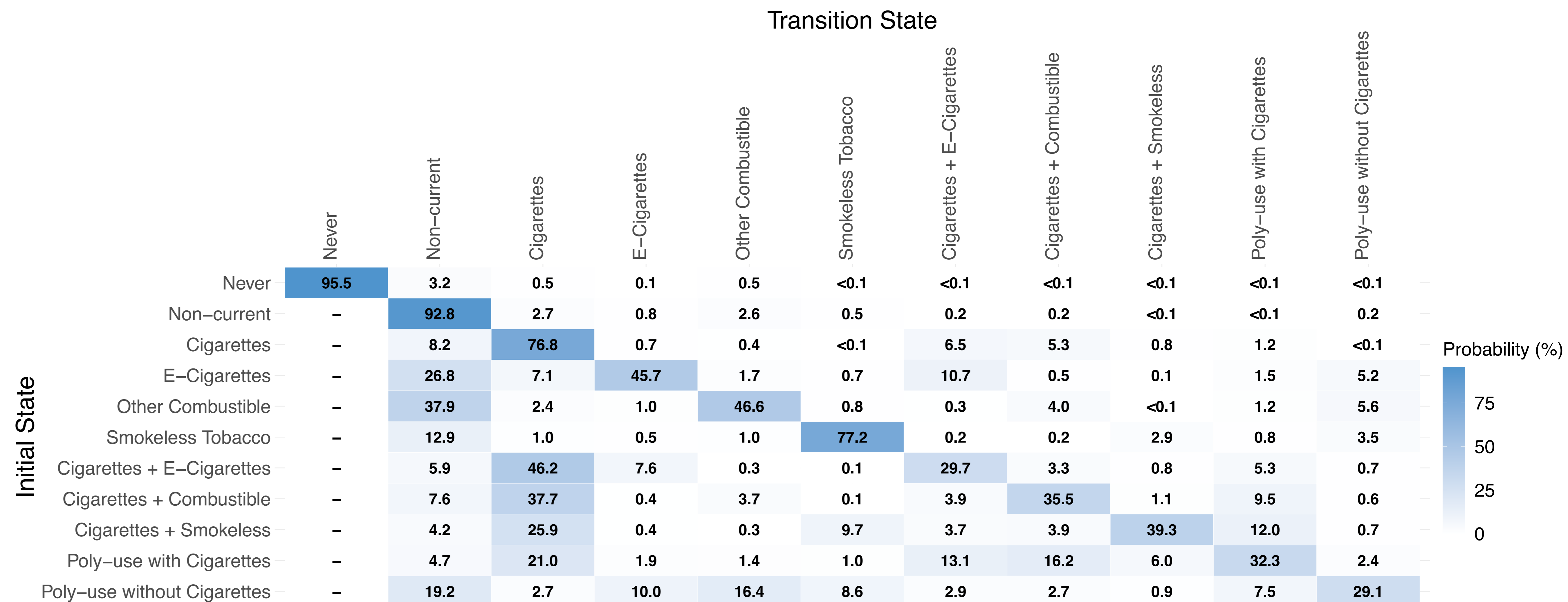


Figure 1. Probability of transition from initial state (left) to transition state (top) within one wave, estimated from multistate Markov model

Results

- Sole cigarette or smokeless tobacco use was persistent with 76.8% and 77.2% users remaining users after one wave.
- Other single, dual, and poly-use states were more transient with 29.1% to 46.6% of users reporting the same use pattern after one wave.
- If single product users transitioned it was most likely to non-current use.
- If dual or poly cigarette users transitioned it was most likely to sole cigarette use:
 - Cigarettes and e-cigarettes: 46.2% (95%CI 46-47); cigarette and other combustible: 37.7% (95%CI 37-39); cigarette and smokeless tobacco: 25.9% (95%CI 23-33); poly-user with cigarette: 21.0% (95%CI 17-25)
- If dual or poly-use without cigarette users transitioned it was most likely to:
 - Sole non-cigarette product (37.7% (95%CI 35-39)) or non-current (19.2% (95%CI 15-25)) use