

Demographic Correlates of Polytobacco Transitions

PATH Waves 1 to 4: 2013 to 2018
TRSM 2021

Fatema Shafie-Khorassani¹

Andrew F. Brouwer², Jana L. Hirschtick², Rafael Meza², Nancy L. Fleischer²

¹ University of Michigan, Department of Biostatistics

² University of Michigan, Department of Epidemiology

Markov Transition Analysis

Goal: transition analysis using multiple products (cigs, e-cigs, combustible, smokeless) and compare hazards of transition between:

- Male and female sex
- Age groups
- Race/ethnicity groups

Current use definition: now uses product everyday or some days

Data: Population Assessment of Tobacco and Health (PATH) study

- Weighted to represent the US population
- Waves 1-4: 2013-2018

Categories:

1. Never user
2. Former user
3. Cigarettes only
4. E-cigarettes only
5. Other combustibles only
6. Smokeless tobacco only
7. Cigarettes + e-cigarettes
8. Cigarettes + other combustibles
9. Cigarettes + smokeless tobacco
10. Poly-use with cigarettes
11. Poly-use without cigarettes

Observed Transition Counts: Current Use

- Unweighted
- Transitions between cigs + e-cigs/combust → exclusive cigs
- Transitions out of exclusive e-cigs use
- Transitions out of poly use

		Transition State										
		Never	Former	Cigs	E-Cigs	Other Combustible	SLT	Cigs + E-Cigs	Cigs + Combust	Cigs + SLT	Poly use w/ Cigs	Poly use w/out Cigs
Initial State	Never	13856	766	177	49	125	12	5	18	1	6	26
	Former	0	18859	954	298	958	133	113	131	17	54	170
	Cigs	0	1102	10912	147	44	11	884	784	108	195	12
	E-Cigs	0	444	105	692	44	8	154	24	1	39	64
	Other Combustible	0	1664	120	80	2065	8	19	166	1	48	255
	SLT	0	197	22	10	12	1272	0	1	41	25	67
	Cigs + E-Cigs	0	151	1260	139	8	2	886	111	16	132	8
	Cigs + Combust	0	228	1118	35	94	1	131	1015	15	298	18
	Cigs + SLT	0	24	133	4	0	50	20	9	197	79	8
	Poly use w/ Cigs	0	107	446	60	24	20	253	339	137	691	49
	Poly use w/out Cigs	0	265	41	107	210	124	21	41	9	87	369

Number

- [0,10)
- [10,100)
- [100,500)
- [500,1000)
- 1000+

Multistate Model Results: All Transitions

- Cumulative probabilities of transition (%)
- Incorporate survey weights
- Captures observed probabilities well
- All transitions allowed

