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The Public Health Impact of a Ban on Flavored Cigars: A Decision-Theoretic Policy Framework

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Introduction: Half of adult cigar users report flavored cigars as their usual brand. The FDA proposed prohibiting "all characterizing flavors in cigars" and "menthol… in cigarettes." We provide evidence on cigar and cigarette transitions and a framework to assess the impact of a U.S. flavored cigar ban.
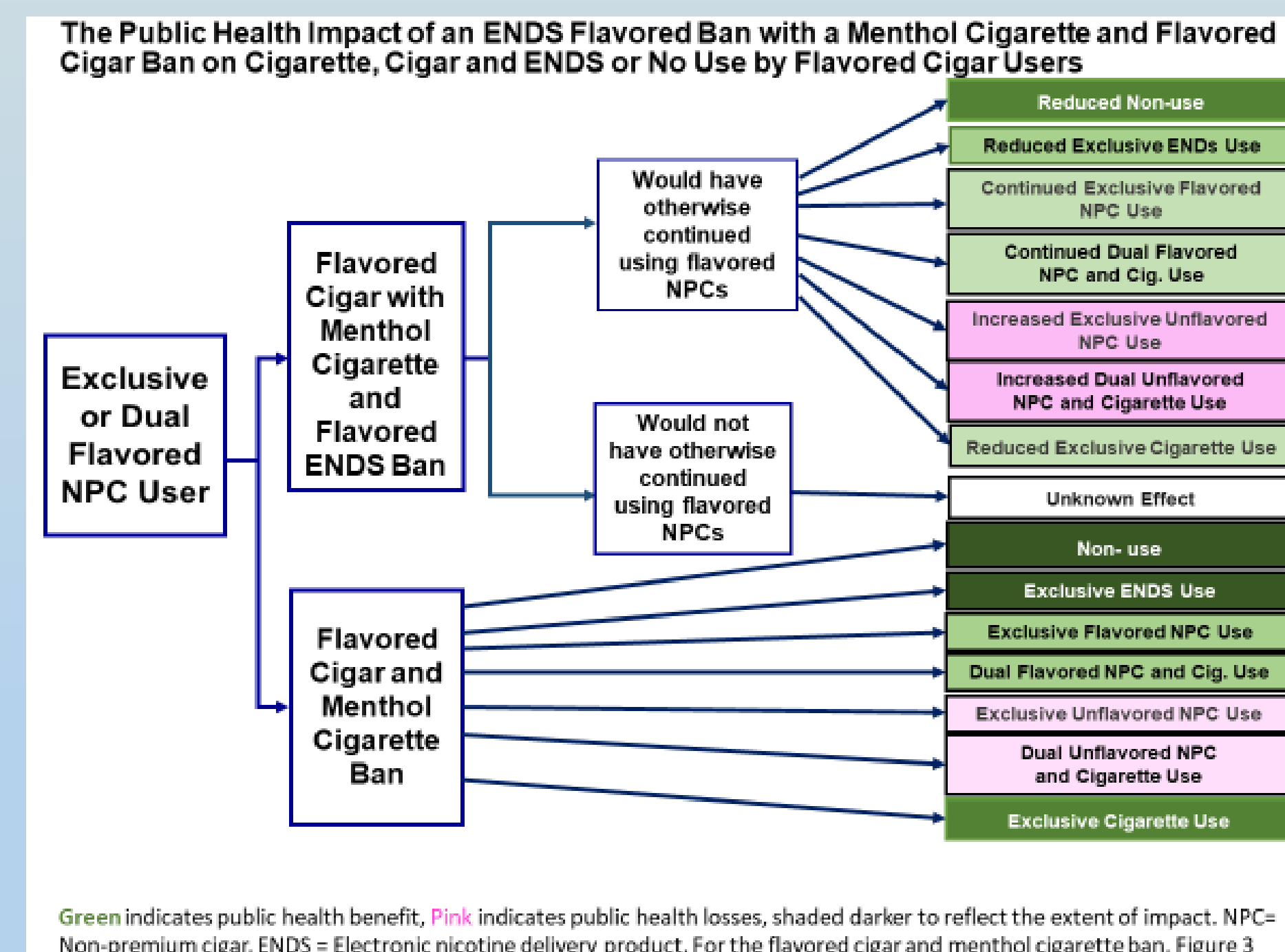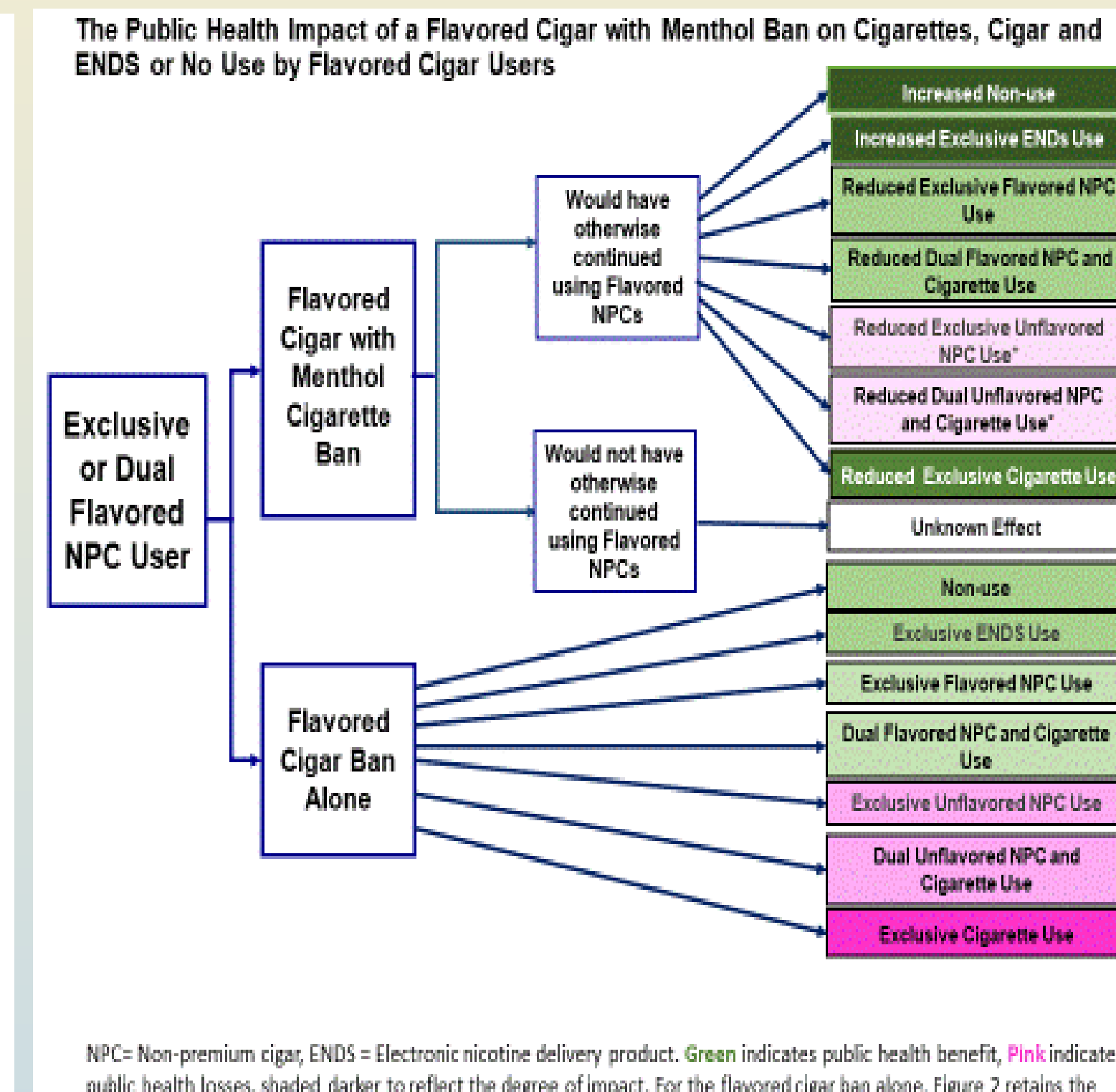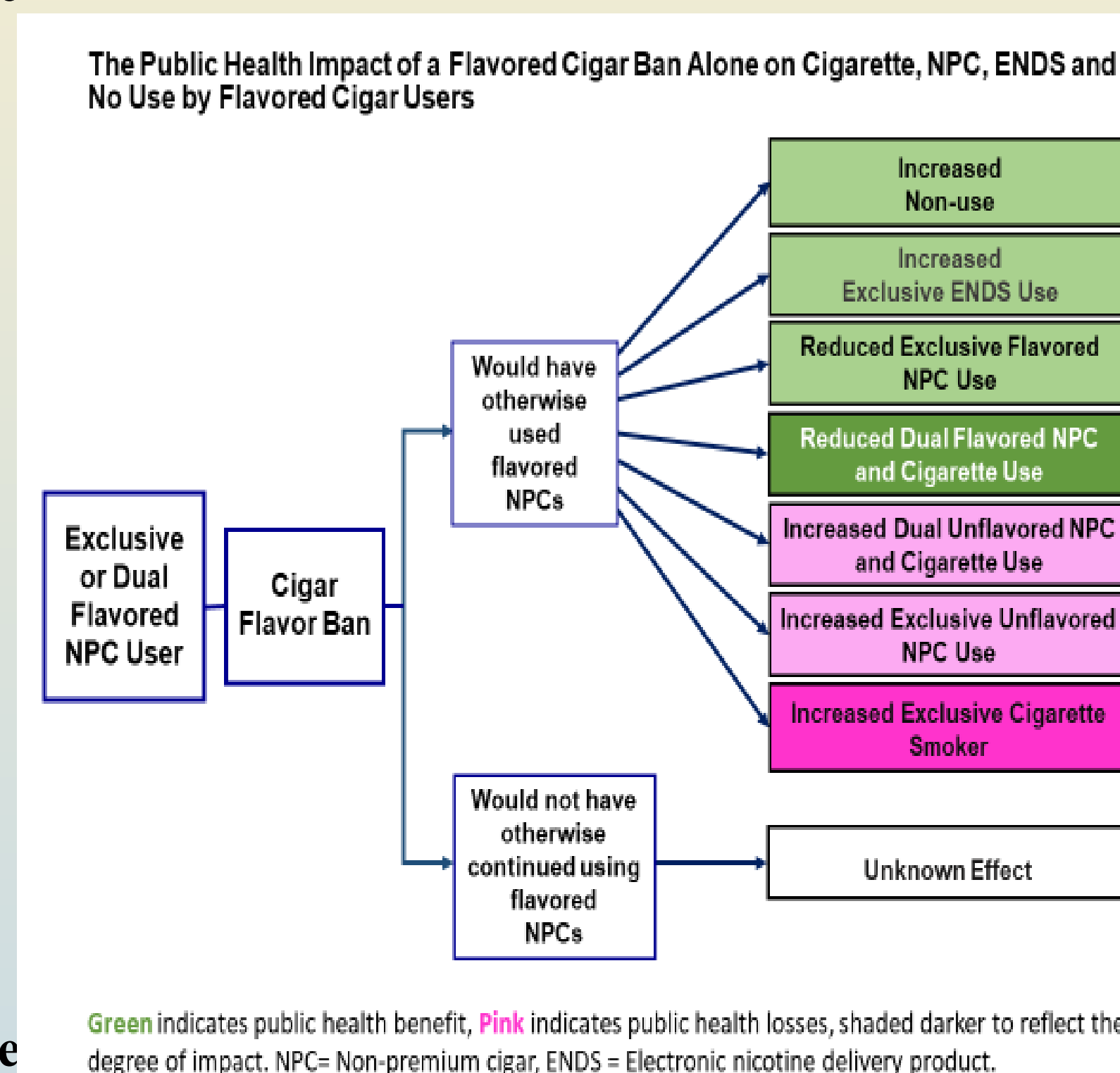
Methods: Using PATH Waves 1-4, we estimated use patterns and annual transitions among flavored cigars, non-flavored cigars, cigarettes, and among adults aged 18-34 and aged 35+. We also consider ENDS-related transitions. We developed a decision-theoretic framework for examining the impact of a flavored cigar ban alone, and the impact of a flavored cigar with a menthol cigarette ban with and without a non-tobacco flavored ENDS ban.

Results: Cigar users exhibited less stable use than cigarette users, with a large portion of cigar users switching to cigarette use each year. Past studies provide limited information on transitions between cigar and ENDS use. Our policy framework suggests that imposing a flavored cigar ban alone may be partially undermined by the substitution of menthol cigarettes for flavored cigars. While adding a menthol cigarette to a flavored cigar ban is expected to improve public health, a simultaneously implemented ENDS may offset some of the gains.

Discussion: Our analysis suggests the information necessary to gauge the public health impact of a cigar flavor ban alone and with flavor bans on cigarettes and ENDS. Further research is needed on ENDS vis-a'-vis cigar use, and the impact of enforcement and non-flavor-related policies on flavor ban effectiveness.

Average prevalence and transition rates of cigarette and cigar users, >PATH waves 1-4, ages 18-34

Year 1 / Year 2	Never regular (62.3%)	Non-current/ Infrequent (15.4%)	Exclusive cigar, non-Flavor (0.4%)	Exclusive cigar, Flavor (0.3%)	Exclusive cigarette (20.6%)	Year 2 Dual cigar, Non-flavor (0.4%)	Year 2 Dual cigar, Flavor (0.6%)
Never regular (64.7%)	96.4%	1.8%	0.1%	0.1%	1.5%	0.0%	*
Non-Current/ Infrequent (13.1%)	-	82.8%	0.7%	0.8%	15.0%	0.2%	0.4%
Exclusive cigar, Non-flavor (0.4%)	-	46.6%	31.1%	9.1%	7.8%	3.6%	1.7%
Exclusive cigar, Flavor (0.5%)	-	50.5%	7.4%	22.2%	11.1%	2.7%	6.1%
Exclusive cigarette (20.2%)	-	14.0%	0.1%	0.1%	83.4%	1.0%	1.5%
Dual cigar, Non-flavor (0.4%)	-	11.4%	2.8%	*	63.8%	13.8%	7.9%
Dual cigar, Flavor (0.7%)	-	11.4%	0.8%	1.6%	55.9%	6.7%	23.6%

Average prevalence and transition rates of cigarette and cigar users, >PATH waves 1-4, ages 35+

Year 1 / Year 2	Never regular (52.9%)	Non-Current/In-frequent (29.3%)	Exclusive cigar, Non-flavor (0.3%)	Exclusive cigar, flavor (0.2%)	Exclusive cigarette (16.1%)	Dual cigar, Non-flavor (0.3%)	Dual cigar, Flavor (0.4%)
Never regular (54.8%)	96.5%	2.5%	0.1%	0.0%	0.9%	0.0%	*
Non-Current/ Infrequent (28.1%)	-	96.0%	0.2%	0.1%	3.5%	0.0%	0.1%
Exclusive cigar, Non-flavor (0.3%)	-	31.8%	48.9%	6.0%	4.4%	7.0%	1.8%
Exclusive cigar, Flavor (0.2%)	-	31.0%	8.5%	39.7%	3.9%	2.0%	14.9%
Exclusive cigarette (16.0%)	-	9.0%	0.0%	0.1%	89.3%	0.8%	0.9%
Dual cigar, non-Flavor (0.3%)	-	4.0%	7.9%	*	36.9%	38.5%	11.4%
Dual cigar, flavor (0.4%)	-	11.0%	1.1%	5.6%	40.3%	7.9%	34.1%

The Public Health Impact of a Flavored Cigar Ban Alone on Cigarette, NPC, ENDS and No Use by Flavored Cigar Users

Green indicates public health benefit, Pink indicates public health losses, shaded darker to reflect the degree of impact. NPC= Non-premium cigar, ENDS = Electronic nicotine delivery product.

The Public Health Impact of a Flavored Cigar with Menthol Ban on Cigarettes, Cigar and ENDS or No Use by Flavored Cigar Users

NPC= Non-premium cigar, ENDS = Electronic nicotine delivery product. Green indicates public health benefit, Pink indicates public health losses, shaded darker to reflect the degree of impact. For the flavored cigar ban alone, Figure 2 retains the

The Public Health Impact of an ENDS Flavored Ban with a Menthol Cigarette and Flavored Cigar Ban on Cigarette, Cigar and ENDS or No Use by Flavored Cigar Users

Green indicates public health benefit, Pink indicates public health losses, shaded darker to reflect the extent of impact. NPC= Non-premium cigar, ENDS = Electronic nicotine delivery product. For the flavored cigar and menthol cigarette ban, Figure 3