The impact time since product change on transitions in cigarette and e-cigarette use in a cohort of cigarette and dual users

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Introduction

- Understanding how people transition between electronic nicotine delivery systems (ENDS), cigarettes, and dual use is important for designing effective interventions.
- Cigarette or e-cigarette users who recently started or stopped using a product may behave differently than long-term users.
- To understand the impact of time since product change, we can compare transition rates between ENDS, cigarette use, and dual product use by length of time since product change.

Methods

- Univariable multistate Markov model estimate hazard rates of transition as a function of time since last transition.
- Length of time since last transition:
  - Excluded data before first observed transition.
  - Categorized length of time since last transition into 5 categories for analysis: <2 months, 2 to <4 months, 4 to <6 months, 8 to <14 months, and 14 to 22 months.

Data

Exhale Study

- Cohort: 422 adult daily cigarette users and dual cigarette and ENDS users who were not intending to quit.
- Users were followed up every two months for two years.
- 207 users started or stopped using cigarettes or e-cigarettes at least once.
- Tobacco product use states were determined by self-reported abstinence in the past 30 days and users were categorized into four states:
  - Non-current use, cigarette only use, e-cigarette only use, or dual use of cigarettes and e-cigarettes.

Results

- Most of the observed transitions represented a reversion to a recent previous pattern of use.
- Transition rates significantly decreased by length of time in state for transitions from cigarette only to dual use, e-cigarette only to dual use, and dual use to cigarettes only.
- Results may inform smoking cessation or harm reduction strategies by promoting repeated quit attempts or longer e-cigarette trial periods.

Key Findings