## Crosswalk of PATH Study Objectives, Data Sources, Domains, and Analysis

Objective	Data Source	Domain / Questionnaire Component	Analysis
1. Identify and explain between-person differences and within-person changes in tobacco-use patterns.  2. Identify between-person differences and within-person changes in risk perceptions regarding harmful and potentially harmful constituents, new and emerging tobacco products, filters and other design features of tobacco products, packaging, and labeling; and, identify other factors that may affect use.	Adult, Youth, Parent, Tobacco Use Form, Biospecimen  Adult, Youth, Parent	Demographics, tobacco use, cigarette section, electronic nicotine delivery system section, cigar section, pipe section, hookah section, snus section, smokeless section, dissolvable section, poly use section, nicotine dependence section, secondhand smoke exposure section  Demographics, tobacco use, cigarette section, e-cigarette section, cigar section, pipe section, waterpipe section, snus section, smokeless section, dissolvable section, poly use section, nicotine dependence section, packaging and health warnings section, product regulation, modified risk product section, media utilization section, secondhand smoke exposure, peer and family influences, marketing advertising and promotion section	Examine the prevalence of each product cross-sectionally and examine rates of quitting, initiation, and relapse longitudinally overall and by demographics and other subgroups such as dependence and the presence of comorbidities.  Examine the levels of risk perceptions of different tobacco products cross-sectionally and to assess change prospectively overall and by demographics and other subgroups.
3. Characterize the natural history of tobacco dependence, cessation, and relapse.	Adult, Youth, Parent, Screener, Tobacco Use Form, Biospecimen	Demographics, tobacco use, cigarette section, e-cigarette section, cigar section, pipe section, waterpipe section, snus section, smokeless section, dissolvable section, poly use section, nicotine dependence section	Longitudinally examine rates of quit attempts, brand and product switching, and actual cessation and relapse overall and by subgroup.
4. Update the comprehensive baseline on tobacco-use behaviors and related health conditions, including	Adult, Youth, Parent, Screener, Tobacco Use Form, Biospecimen	Demographics, tobacco use, cigarette section, e-cigarette section, cigar section, pipe section, waterpipe section, snus section, smokeless section, dissolvable section, poly use section, nicotine	Examine rates of adverse health outcomes cross-sectionally and compare between different types of tobacco product users / nonusers. Longitudinally examine the rate of

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markers of exposure and tobacco-related disease processes. Data may also facilitate the selection of individuals for participation in small-scale research studies (see Objective 8).		dependence section, secondhand smoke exposure section, health effects section	onset of adverse health outcomes by tobacco product user status (user, recent quitter, product switcher, poly-product user).
5. Assess associations between actions related to the Tobacco Control Act and tobacco- product use, risk perceptions and attitudes, use patterns, cessation outcomes, and tobacco- related intermediate endpoints.	Adult, Youth, Parent, Screener, Tobacco Use Form, Biospecimen	(All sections used) Demographics, tobacco use, cigarette section, e-cigarette section, cigar section, pipe section, hookah section, snus section, smokeless section, dissolvable section, poly use section, nicotine dependence section, packaging and health warnings section, product regulation/modified risk product section, peer and family influences section, health section, marketing advertising and promotion section	Utilize regulatory conceptual models to identify changes in regulatory-specific intermediate variables and behaviors (see Attachment 4). When possible, analyses will account for other potential factors, such as demographics, other tobacco control policies, and social, familial, and economic factors, that may influence the observed patterns.
6. Assess between-person differences and within-person changes over time in attitudes, behaviors, exposures to tobacco products, and related biomarkers among and within population subgroups defined by racialethnic, gender, age, and health risk factors.	Adult, Youth, Parent, Screener, Tobacco Use Form, Biospecimen	Demographics, tobacco use, cigarette section, e-cigarette section, cigar section, pipe section, waterpipe section, snus section, smokeless section, dissolvable section, poly use section, nicotine dependence section, peer and family influences section, health section	This is essentially the analysis plan for Objectives 1, 2, and 4 but broken down by subgroup, including but not exclusive of, race/ethnicity, gender, age, sexual orientation and and health status measures.
7. Compare samples of former and never users of tobacco products for between-person differences and within-	Adult, Youth, Parent, Screener, Tobacco Use Form, Biospecimen	(All sections used) Demographics, tobacco use, cigarette section, e-cigarette section, cigar section, pipe section, waterpipe section, snus section, smokeless section, dissolvable section, poly use section,	This is essentially the analysis plan for Objectives 1, 2, and 4 but broken down by subgroup; however, the main subgroups of interest for this objective are persons with different

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person changes in relapse and uptake, risk perceptions, and indicators of tobacco exposure and disease processes.		nicotine dependence section, packaging and health warnings section, product regulation/modified risk product section, media utilization section, secondhand smoke section, peer and family influences section, health section, marketing advertising and promotion section	tobacco use statuses (nonuser, users, and former users of each type of product).
8. Use the PATH data as a basis for screening respondents for participation in small-scale research studies by the PATH Study.	Adult, Youth, Parent, Screener, Tobacco Use Form, Biospecimen	(All sections used) Demographics, tobacco use, cigarette section, e-cigarette section, cigar section, pipe section, waterpipe section, snus section, smokeless section, dissolvable section, poly use section, nicotine dependence section, packaging and health warnings section, product regulation/modified risk product section, media utilization section, secondhand smoke section, peer and family influences section, health section, marketing advertising and promotion section	Specific types of participants may be of interest for additional studies to address this aim. For example, polytobacco product users may be of interest for more focused studies of changes in their tobacco use behavior and predictors of this change, and youth susceptible to tobacco use would also be of interest to track predictors to transition to regular tobacco use by product. Persons with certain health conditions may be of interest for additional studies to better assess correlates of changes in their health status over time. These respondents can be identified from the PATH data as needed throughout the study.