

## **USC Tobacco Center of Regulatory Science (TCORs) for Vulnerable Populations**

Adolescent Smoking: Vulnerability to Tobacco Use and Marketing across Life (Project 3 – Vulnerable Populations)

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### Abstract:

Early initiation of smoking and rapid progression during the key adolescent and young adult period predicts chronic and addicted smoking in adult life and high risk for health consequences. However, there has been little research on how adolescent smoking trajectories relate to future vulnerability to industry marketing and emerging products intended to sustain nicotine addiction. This project addresses the hypothesis that the early course of cigarette smoking is a key determinant of future nicotine dependence and vulnerability to point-of-sale and electronic marketing, resulting in future use of new non-cigarette products and poly-tobacco use. These questions are addressed using data from over 12,000 largely Hispanic and non-Hispanic White participants recruited from Southern California schools into the Children's Health Study cohort between 1993 and 2002. Smoking data have been collected yearly through high school graduation at age 18. Using these data and state-of-the-art statistical modeling, adolescent cigarette smoking trajectories will be characterized based on initiation and progression patterns. Associations of these trajectories with neighborhood and community environmental, demographic and social factors, and with marketing exposure, based on tobacco retailer proximity and density at home, school and a novel route to school metric, will be assessed. Samples of smokers and at-risk non-smokers in the younger wave of recruitment currently 17-18 years of age (N=600) and of smokers from earlier waves now 26-36 years of age (N=450) will be re-interviewed and followed prospectively to assess the relationships of early life smoking trajectory with tobacco product perception, attitudes and beliefs, persistence of use and difficulty quitting smoking. Specific types of tobacco marketing at point-of-sale, through electronic and social media, and interpersonal influences that amplify the risk of different trajectories of childhood tobacco use will be identified. A hierarchical modeling approach will integrate information on early life smoking trajectory, marketing, perceptions, attitudes and beliefs across life stages and over follow-up to elucidate the role of each in use of new tobacco products. The study will yield refined information on nature and characteristics of early life smoking phenotype trajectories and on response to marketing relevant to regulation and prevention among vulnerable populations. Further, it will clarify how early-life cigarette smoking serves as a gateway process to other forms of tobacco product use, which could be amplified by tobacco marketing. It addresses FDA research priorities: vulnerability, perceptions, attitudes and beliefs, understanding new product use, and marketing.