Integrated Health, Behavioral and Economic Research on Current and Emerging Tobacco Products
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Overall Center Abstract:
After decades of stability, the tobacco products people use and the way they use them are changing. Cigarette use continues to decline, but e-cigarette, cigar, and moist snuff use are increasing and use of multiple products is becoming more common. New "heat-not-burn" products are being proposed to the FDA as modified risk tobacco products. There is only a limited evidence base to inform regulatory and public communication responses to these changes. The ***integrative theme*** of this TCORS is that understanding combined ***health effects, behavior,*** and ***impact analysis*** will provide actionable information for regulation of and public communications about current and emerging tobacco products. This integration is reflected by the fact that several projects fall within more than one domain. The TCORS' ***specific aims*** are: (1) Evaluate the short-term health effects, including respiratory and cardiovascular effects, of e-cigarettes, heat-not-burn, and other tobacco products and how specific tobacco product characteristics influence health effects and behavior; (2) Develop the science base to inform product standards and marketing regulations for these tobacco products, integrating the health and behavioral dimensions of tobacco use with economic models, with particular emphasis on specific product characteristics and previously under-studied short-term effects; and (3) Implement a career enhancement program for postdoctoral fellows, junior faculty, and established faculty who are not currently involved in regulatory science research to build the tobacco regulatory science research community through mentoring, developmental grants, and other support. We will accomplish these aims through ***5 projects***: (1) Impact of Different E-cigarette Characteristics on Acute Lung Injury; (2) Short-term Cardiovascular Effects of E-cigarettes: Influence of Device Power and E-liquid pH, and How E-cigarettes Compare with Heat-not-burn Products; (3) Cardiovascular Health Effects of Emerging Heat-Not-Burn Tobacco Products; (4) Current and Emerging Tobacco Products in a Rural Context: Influences of Product Characteristics on Perceptions, Behaviors, and Biologic Exposures; and (5) Impact of Changing Tobacco Product Use on Healthcare Costs for General and Vulnerable Populations. ***Four cores*** will support these projects: (1) Administration; (2) Career Enhancement; (3) Statistics and Informatics; and (4) Biomarker ***All projects and cores interact to support each other and increase their collective impact***. The health effects (Projects 1, 2, and 3) and behavior (Project 4) projects inform each other and are further integrated through economic models (Project 5) that will improve regulatory impact analyses. Quantifying the health effects of specific design aspects of tobacco products is important for identifying opportunities for regulation. In particular, because benefits far in the future are heavily discounted in the FDA's regulatory impact analysis, identifying short-term health effects is important for accurate regulatory impact assessment.