This project is to build and develop a Tobacco Regulation and Addiction Center at the American Heart Association (AHA). This virtual Center will be a network of consortia between AHA and several leading academic institutions. It will house programs of multidisciplinary research that will inform the manufacture, distribution and marketing of tobacco products related to the regulatory authority of the FDA. Center investigators will study the cardiovascular toxicity of tobacco products and the relationship between tobacco product use and subclinical progression of cardiovascular disease to identify sensitive and robust biomarkers of cardiovascular injury related to tobacco product exposure. These studies will help to identify the relative sensitivity of specific domains of cardiovascular injury that are sensitive to tobacco exposure and facilitate the identification of harmful and potentially harmful constituents of current, new and emerging tobacco products that cause cardiovascular injury and how the impact of these constituents on cardiovascular disease outcomes could be measured. In cohorts of varying ethnicities, behavior, perceptions, and attitudes regarding tobacco products will be studied to identify which communications channels are used by vulnerable populations to obtain information about tobacco products, and which strategies are likely to be effective in discouraging initiation and continuation of tobacco use. The Center will also provide comprehensive education, state-of-the-art training in tobacco regulatory science and foster the development of independent research careers of junior investigators. Research in the Center will be supported by facilities/cores that will provide assessments and characterization of exposure to tobacco products and unified measurements of biomarkers and validated indices of cardiovascular injury. The administrative core of the Center will provide scientific, administrative and logistic oversight to all aspects of the Center and coordinate integrative team science focused on addressing the research priorities of the FDA. The Center will be well-poised to undertake strong and coordinated research projects in response to new developments and conduct collaborative research with other Centers in the Tobacco Centers of Regulatory Science.