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Ancillary Study Title: Investigation of lipoprotein classes and subclasses as cardiovascular risk factors in African Americans

Project Overview: Several studies, including recently released Heart Disease and Stroke Statistics – 2009 Update by the American Heart Association, have shown that mortality and morbidity rates due to cardiovascular disease (CVD), including coronary heart disease (CHD), are high among African Americans compared to Whites. Among the established risk factors, lipids and lipoproteins are found to be the most important, and aggressive treatment to reduce their levels has resulted in significant lowering of CHD. Although differences in levels of standard lipoproteins such as low density lipoprotein cholesterol (LDL-C), high density lipoprotein cholesterol (HDL-C), and triglycerides have been observed in African Americans and Whites, they do not appear to account for the difference in CHD prevalence. Several studies have shown that other lipoproteins such as lipoprotein(a) [Lp(a)], intermediate density lipoprotein (IDL) and very low density lipoproteins (VLDL), and subclasses, such as HDL2, HDL3, small dense LDL, and small dense VLDL, also increase CHD risk. To our knowledge, comprehensive lipoprotein profile that includes all classes and subclasses of lipoproteins has not been measured in a prospective study involving a large African American cohort. In order to investigate whether lipoprotein classes and subclasses are associated with increased risk in African Americans we propose to measure comprehensive cholesterol profile using Vertical Auto Profile (VAP) method in the blood samples collected from all participants of the Jackson Heart Study during their first visit. We hypothesize that abnormal levels of not-routinely measured lipoprotein classes and subclasses in African Americans may explain increased CHD prevalence in this population