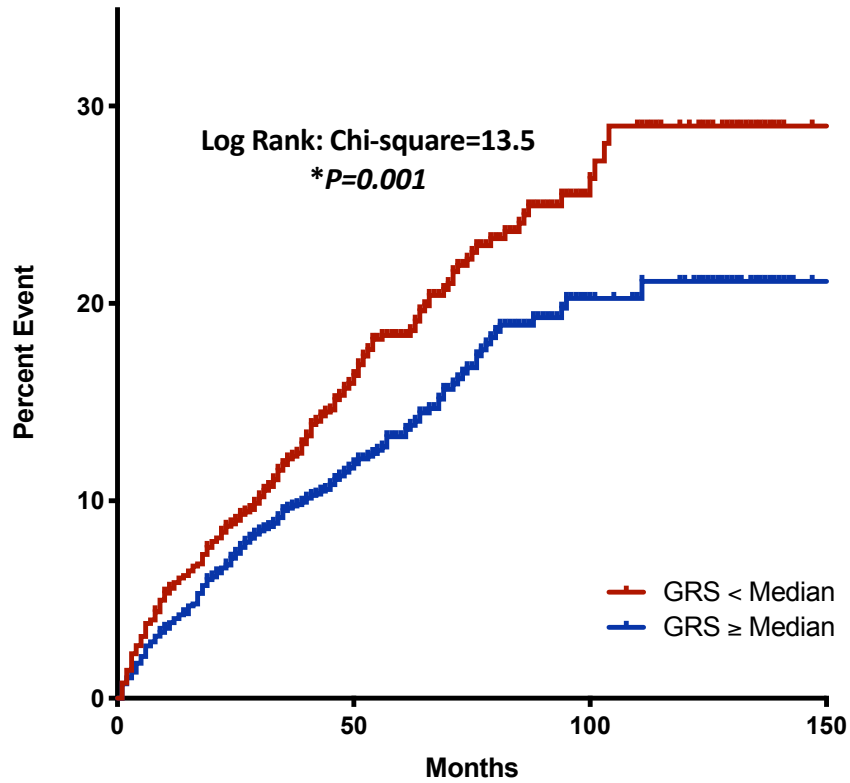


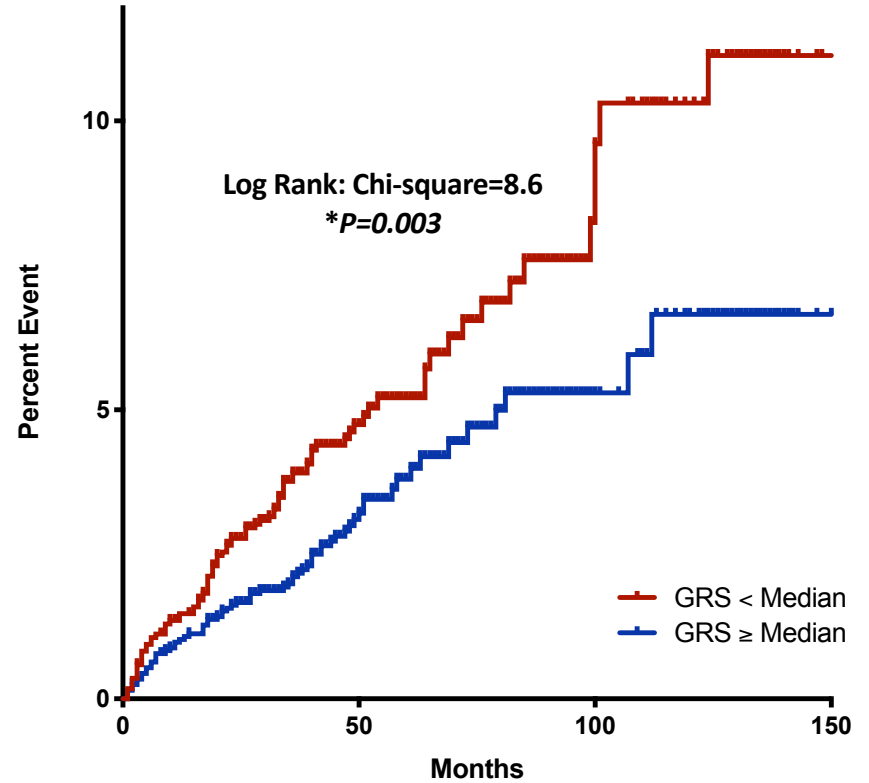
**Figure 1.**

**Kaplan-Meier Curves Analyses for Clinical Cardiovascular Endpoints Stratified by Vit-D Genetic Exposure**

**Panel A.** Combined CV Endpoints

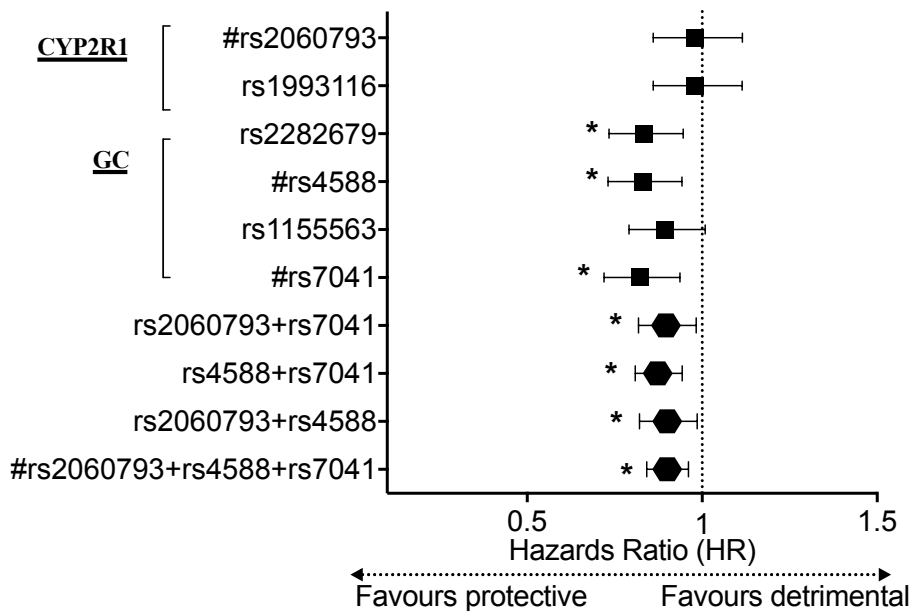


**Panel B.** Myocardial Infarction

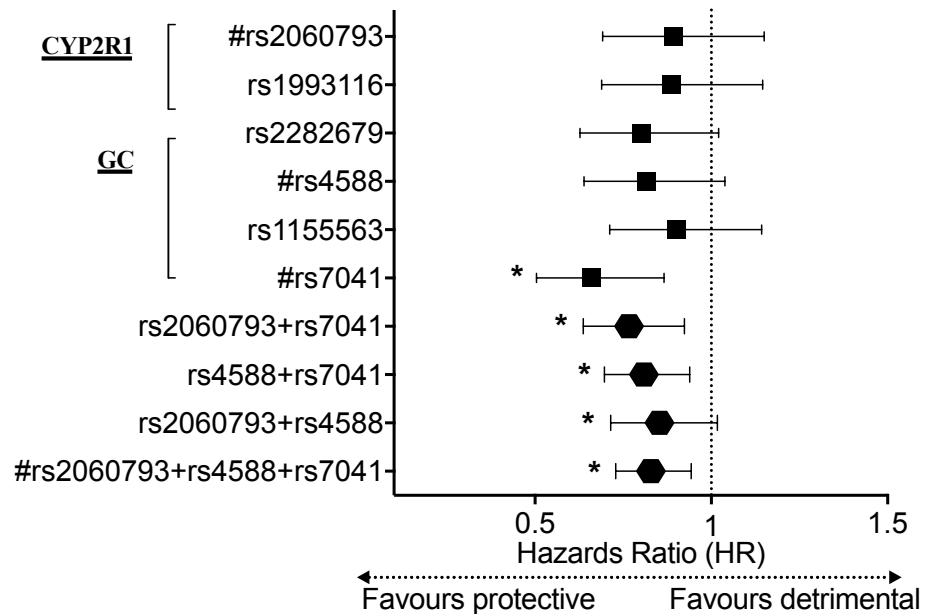


**Figure 2. Per-Allele Estimates of Hazards Ratio (HR) for Incident Clinical CV Endpoints Driven by Genetic Vit-D Exposure**

**Panel A.**  
Combined CV Endpoints



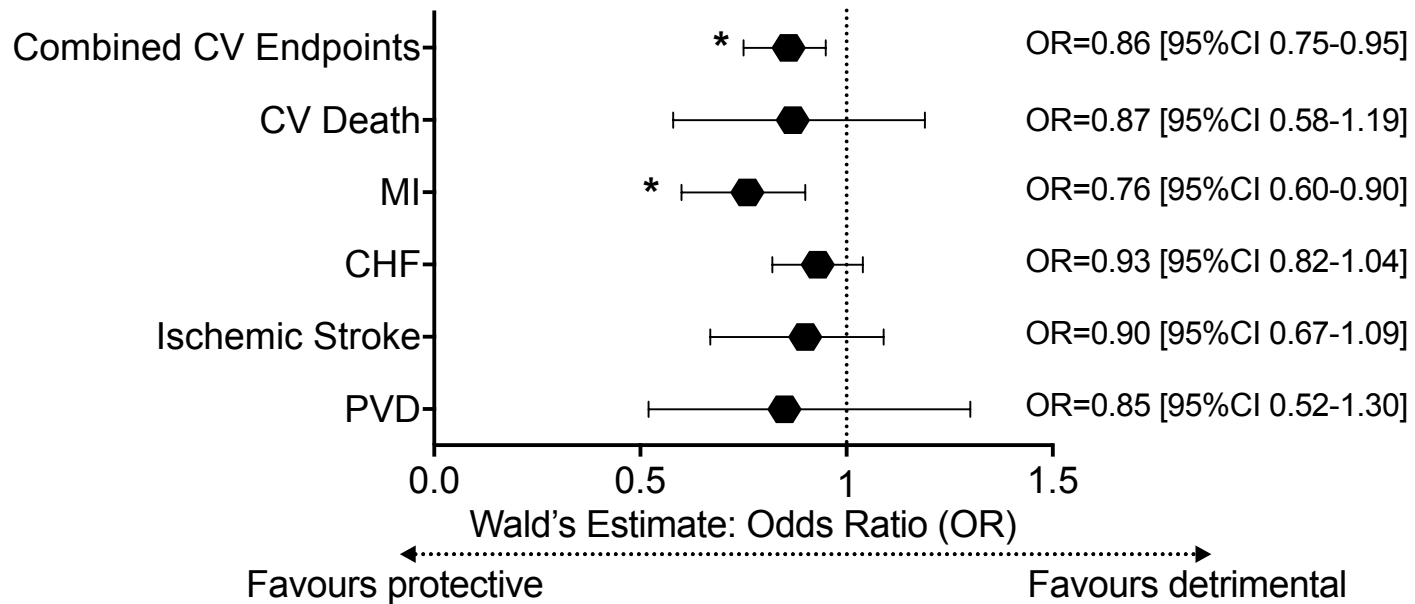
**Panel B.**  
Myocardial Infarction



\* P<0.05

**Figure 3.**

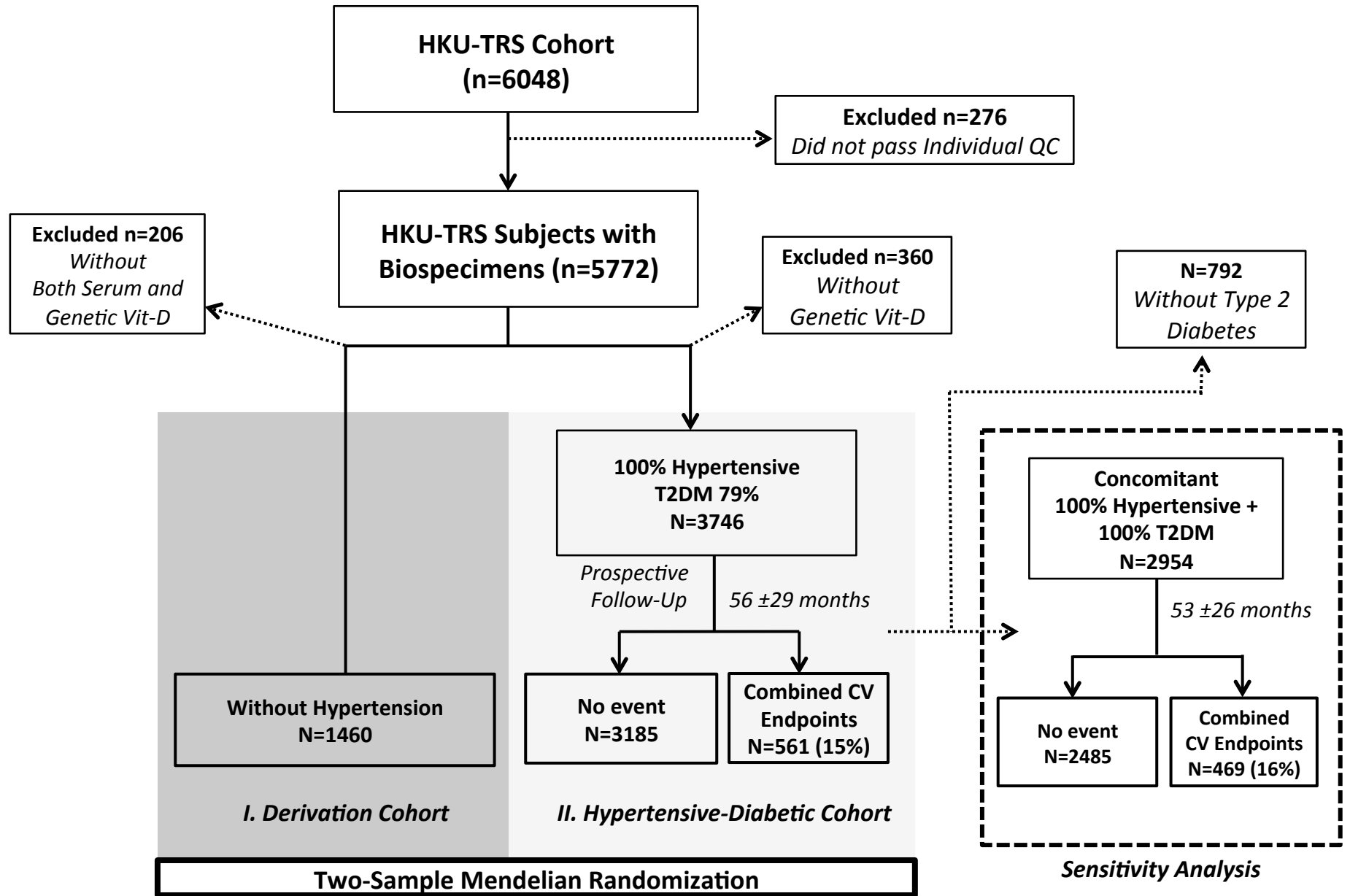
**Mendelian Randomization-Inferred Causality of Vit-D on Incident Clinical CV Endpoints**



\*  $P < 0.05$

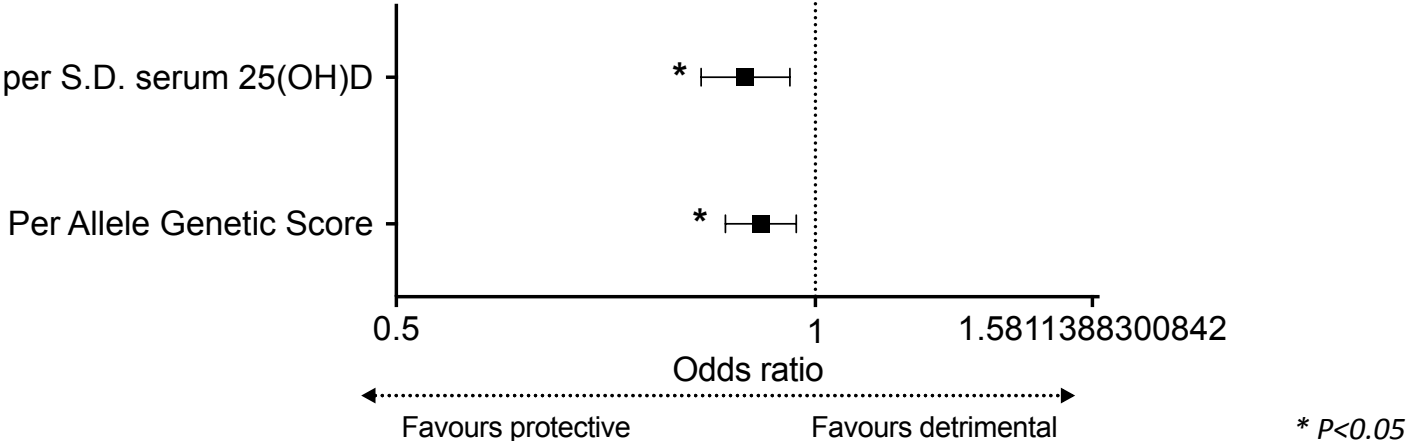
**Supplementary Figure 1**

**STUDY FLOWCHART**

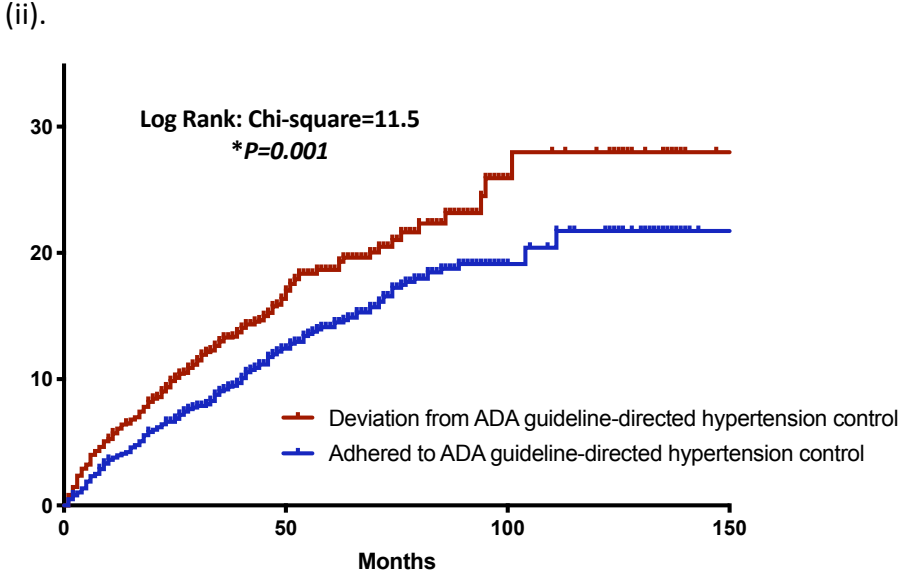
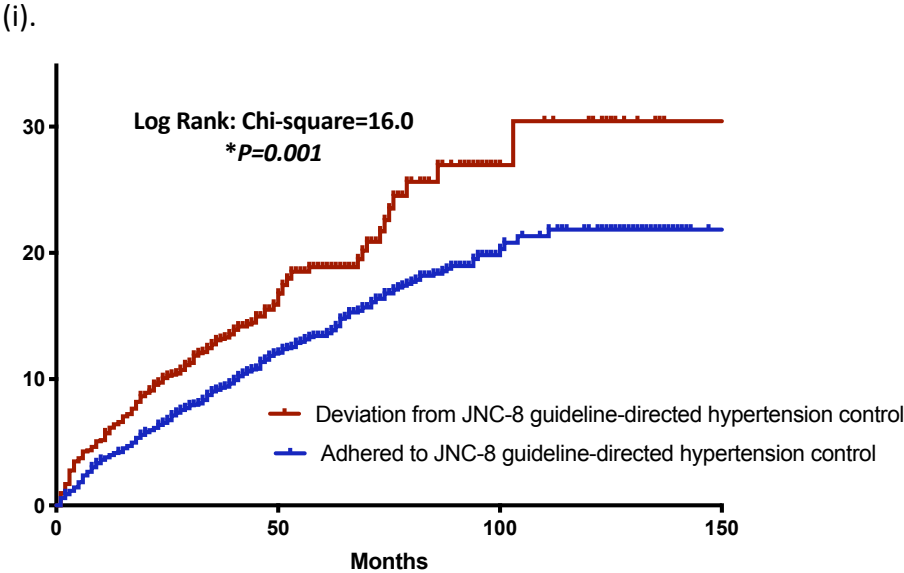


# Supplementary Figure 2.

**Panel A.** Serological and Genetic Vitamin D Prediction Risk Estimates for Deviation from Achieving Guideline-Directed Systolic Hypertension Control



**Panel B.** Failed (i) JNC-8 and (ii) ADA Guidelines-Directed Cut-off For Systolic Hypertension Predicts Risk of Incident Combined CV Endpoints.



### Supplementary Figure 3.

#### Theoretical Paradigm

Genetically Predicted Vit-D Confers Secondary Protection Against CVD Events in Hypertensive-Diabetic Subjects via Facilitating Blood Pressure Control

