Table S4. Coefficients of determination (R^2) on the observed scale (Nagelkerke's) and the liability scale for model variables in our adjusted GRS models for AFR and EUR Veterans in the MVP. We calculated Nagelkerke's R^2 and liability R^2 for each set of model variables to account for covariates in our adjusted models. To do this, we first entered age and sex into the model, then we added 10 PCs to account for population structure. We then added each GRS approach (unweighted, cross-ancestry meta-analysis weighted, and ancestry-specific weighted) into the model and calculated increases in R^2 by each GRS type. In addition, we include the single genome-wide significant AFR-specific variant in *IQGAP1* (rs16944405) to each GRS. For the liability scale calculations, we used a single fixed prevalence value for POAG (2.4%; cited in Zhang et al. 2021) for the sake of comparison.

Model Variables	AFR		EUR	
	Nagelkerke's R^2 (Observed Scale)	Liability R^2	Nagelkerke's R^2 (Observed Scale)	Liability R^2
Age+Sex	0.08645841	0.05212212	0.001087428	0.001253605
Age+Sex+10PCs	0.1031472	0.06273584	0.002002607	0.002308977
Age+Sex+10PCs+GRS (Unweighted)	0.1271559	0.07834008	0.04673353	0.05427347
Age+Sex+10PCs+GRS (Cross-ancestry meta-analysis weighted)	0.1328011	0.08206801	0.05788033	0.06734026
Age+Sex+10PCs+GRS (Ancestry-specific weighted)	0.117113	0.07176384	0.05691808	0.06621041
Age+Sex+10PCs+GRS_IQGAP1 (Unweighted)	0.1273081	0.0784403	0.04647621	0.05397238
Age+Sex+10PCs+ GRS_IQGAP1 (Cross-ancestry meta-analysis weighted)	0.1317377	0.08136405	0.05788689	0.06734797
Age+Sex+10PCs+ GRS_IQGAP1 (Ancestry-specific weighted)	0.1171453	0.07178492	0.05692639	0.06622016
R^2 increase				
GRS (Unweighted)	0.0240087	0.01560424	0.044730923	0.051964493
GRS (Cross-ancestry meta-analysis weighted)	0.0296539	0.01933217	0.055877723	0.065031283
GRS (Ancestry-specific weighted)	0.0139658	0.009028	0.054915473	0.063901433
GRS_IQGAP1 (Unweighted)	0.0241609	0.01570446	0.044473603	0.051663403
GRS_IQGAP1 (Cross-ancestry meta-analysis weighted)	0.0285905	0.01862821	0.055884283	0.065038993
GRS_IQGAP1 (Ancestry-specific weighted)	0.0139981	0.00904908	0.054923783	0.063911183

Abbreviations: POAG = primary open-angle glaucoma, PCs = principal components, GRS = genetic risk scores, AFR = non-Hispanic African ancestry, EUR = non-Hispanic European ancestry, MVP = Million Veteran Program.