

Table S9. 127-variant POAG GRS performance for predicting different types of IGS in AFR and EUR Veterans in the MVP. IGS case groups included (i) individuals who only had trabeculectomies documented in their EHR, (ii) individuals who only had GDI documented in their EHR, and (iii) individuals who had either trabeculectomies or GDI documented in their EHR. GRS were unweighted or weighted by published cross-ancestry meta-analysis or ancestry-specific effect estimates. Adjusted models include covariates for age, sex, and 10 principal components. We statistically compared GRS performance across ancestral groups for each IGS type using an extension of DeLong’s test for independent ROC curves.

Outcome	Model	GRS Type	AFR AUC (95% CI)	EUR AUC (95% CI)	EUR vs. AFR <i>p</i> -value
Trabeculectomy	Unadjusted	Unweighted	0.55 (0.51-0.60)	0.54 (0.48-0.59)	0.672
		Cross-ancestry meta-analysis	0.56 (0.51-0.60)	0.54 (0.49-0.59)	0.617
		Ancestry-specific	0.58 (0.53-0.62)	0.55 (0.49-0.60)	0.390
	Adjusted	Unweighted	0.62 (0.57-0.66)	0.61 (0.56-0.67)	0.952
		Cross-ancestry meta-analysis	0.62 (0.57-0.67)	0.61 (0.56-0.66)	0.869
		Ancestry-specific	0.64 (0.59-0.68)	0.61 (0.56-0.67)	0.561
GDI	Unadjusted	Unweighted	0.53 (0.48-0.58)	0.59 (0.55-0.64)	0.046
		Cross-ancestry meta-analysis	0.53 (0.49-0.58)	0.60 (0.56-0.64)	0.031
		Ancestry-specific	0.57 (0.52-0.62)	0.60 (0.56-0.65)	0.282
	Adjusted	Unweighted	0.59 (0.55-0.63)	0.64 (0.6-0.69)	0.094
		Cross-ancestry meta-analysis	0.59 (0.54-0.63)	0.65 (0.6-0.69)	0.063
		Ancestry-specific	0.61 (0.57-0.66)	0.65 (0.61-0.7)	0.251
Any IGS	Unadjusted	Unweighted	0.54 (0.50-0.57)	0.57 (0.53-0.61)	0.206
		Cross-ancestry meta-analysis	0.54 (0.50-0.58)	0.58 (0.54-0.61)	0.142
		Ancestry-specific	0.56 (0.53-0.60)	0.58 (0.54-0.62)	0.526
	Adjusted	Unweighted	0.59 (0.55-0.63)	0.61 (0.57-0.65)	0.411
		Cross-ancestry meta-analysis	0.59 (0.55-0.63)	0.62 (0.58-0.65)	0.328
		Ancestry-specific	0.61 (0.58-0.65)	0.62 (0.58-0.66)	0.788

Abbreviations: AFR = non-Hispanic African ancestry, EUR = non-Hispanic European ancestry, MVP = Million Veteran Program, GRS = genetic risk score, IGS = invasive glaucoma surgeries, GDI = glaucoma drainage implants, Any IGS = trabeculectomy or GDI, AUC = area under the curve, CI = confidence interval.