Binary traits (Binomial model) Quantitative traits (Gaussian model) Mean platelet volume 0.4 -Spearman's  $\rho = 0.1$ Hair color (red) Spearman's  $\rho = 0.64$ (p-value: 0.099) (p-value: 3.5e-72) 0.3 0.3 Hair color (blonde) Porphyrin and Celiac disease bilirubin metabolism Incremental AUC Genetic disorders (TTE) Hair color (dark brown)  $\mathbb{R}^2$ hematological disorder Incremental Direct billirubin Lipoprotein A height Intestinal malabsorption (TTE) Type 1 diabetes Apolipoprotein B Ankylosing spondylitis Other coagulation defects (TTE) 0.1 0.1 EBNA-1 antigen for Epstein-Barr Virus 0.0 0.0 100 10 1000 10000 Number of genetic variants 10 100 1000 10000 Number of genetic variants Lifestyle and environment Cancer Others Bone-densitometry of heel Disease outcome Anthropometry Trait category Trait category Family history Psychosocial factors **Biomarkers** Lifestyle and environment Health and medical history **Blood** assays Others