SUPPLEMENTAL MATERIALS

Supplemental Table 1. Demographics of European Americans in the ARIC dataset.

Characteristics	N	ARIC
Age (mean±standard deviation)	8,638	54.3±6
Sex		
Male (%)	4,069	47
Female (%)	4,569	53
Ever-never smoking		
Never (%)	3,437	40
Ever (%)	5,197	60
Age of smoking initiation		
Late (≥18) (%)	2,948	57
Early (<18) (%)	2,232	43
Cigarettes smoked per day		
Lighter smoking (<21) (%)	3,191	62
Heavier smoking (≥21) (%)	1,983	38
Smoking cessation		
Former (%)	3,088	59
Current (%)	2,108	41

Supplemental Table 2. Demographics of African Americans in the ARIC dataset.

Characteristics	N	ARIC
Age (mean±standard deviation)	2,412	53.4±6
Sex		
Male (%)	914	38
Female (%)	1,498	62
Ever-never smoking		
Never (%)	1,097	46
Ever (%)	1,313	54
Age of smoking initiation		
Late (≥18) (%)	788	62
Early (<18) (%)	489	38
Cigarettes smoked per day		
Lighter Smoking (<21) (%)	1,084	84
Heavier Smoking (≥21) (%)	211	16
Smoking Cessation		
Former (%)	600	46
Current (%)	711	54

Supplemental Table 3. Demographics of European Americans in the COGEND dataset.

Characteristics	N	ARIC
Age (mean±standard deviation)	1,935	36.5±5
Sex		
Male (%)	750	39
Female (%)	1,185	61
Nicotine Dependence*		
Dependent (%)	939	49
Not dependent (%)	996	51
Age of smoking initiation		
Late (≥14) (%)	1,070	55
Early (<14) (%)	863	45
Cigarettes smoked per day		
Lighter Smoking (<21) (%)	1,368	71
Heavier Smoking (≥21) (%)	567	29
Smoking Cessation		
Former (%)	657	34
Current (%)	1,267	66

*Nicotine dependence was defined as having a Fagerström Test for Nicotine Dependence (FTND) score of 4-10 while not being dependent on nicotine was defined as having an FTND score of 0 while having smoked at least 100 cigarettes lifetime (Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991).

REFERENCE

Heatherton, T. F., Kozlowski, L. T., Frecker, R. C., & Fagerstrom, K. O. (1991). The Fagerstrom Test for Nicotine Dependence: a revision of the Fagerstrom Tolerance Questionnaire. *Br J Addict, 86*(9), 1119-1127.

Supplemental Table 4. The number of independent SNPs generating each PRS at different p-value thresholds within European Americans.

Outcomes	P-value Thresholds							
	$\leq 5.00x10^{-1}$	$\leq 5.00x10^{-2}$	$\leq 5.00x10^{-3}$	$\leq 5.00x10^{-4}$	$\leq 5.00x10^{-5}$	$\leq 5.00x10^{-6}$	$\leq 5.00x10^{-7}$	$\leq 5.00x10^{-8}$
Ever smoking	86,480	26,007	7,168	2,238	922	433	233	135
Age of smoking initiation	86,440	23,734	4,687	893	195	51	17	7
Cigarettes smoked per day	86,494	23,831	4,904	1,052	273	93	48	30
Smoking cessation	85,262	21,662	4,047	699	134	34	11	6

SNP – single nucleotide polymorphism; PRS – polygenic risk score.

Supplemental Table 5. Models predicting each smoking phenotype within European Americans in the ARIC dataset.

Exposures	Demographics Only	Demographics Plus Genetic Ancestry	Demographics Plus One PRS	Demographics Plus Genetic Ancestry and One PRS
	OR [95% CI]	OR [95% CI]	OR [95% CI]	OR [95% CI]
Ever Smoking				
Age	1.00 [0.99, 1.01]	1.00 [0.99, 1.01]	1.00 [0.99, 1.01]	1.00 [0.99, 1.01]
Sex - Female	0.39 [0.35, 0.42]	0.38 [0.35, 0.42]	0.37 [0.34, 0.41]	0.37 [0.34, 0.41]
PRS – Ever smoking			1.37 [1.31, 1.44]	1.37 [1.31, 1.43]
Model Prediction	Pseudo $R^2 = 0.068$	Pseudo $R^2 = 0.080$[a]	Pseudo $R^2 = 0.097$[b]	Pseudo $R^2 = 0.107$[c]
Early Age of Smoking Initiation (<18 years)				
Age	0.99 [0.98, 1.00]	0.99 [0.98, 1.00]	0.99 [0.98, 1.00]	0.99 [0.98, 1.00]
Sex - Female	0.42 [0.38, 0.48]	0.42 [0.38, 0.47]	0.42 [0.37, 0.47]	0.42 [0.37, 0.47]
PRS – Age of smoking initiation			0.86 [0.82, 0.91]	0.87 [0.82, 0.92]
Model Prediction	Pseudo $R^2 = 0.056$	Pseudo $R^2 = 0.061$[d]	Pseudo $R^2 = 0.062$[e]	Pseudo $R^2 = 0.067$[f]
Heavier Smoking (≥21 cigarettes smoked per day)				
Age	0.97 [0.96, 0.98]	0.97 [0.96, 0.98]	0.97 [0.96, 0.98]	0.97 [0.96, 0.98]
Sex - Female	0.43 [0.38, 0.48]	0.42 [0.38, 0.48]	0.42 [0.37, 0.48]	0.42 [0.37, 0.47]
PRS – Cigarettes smoked per day			1.17 [1.10, 1.23]	1.17 [1.11, 1.25]
Model Prediction	Pseudo $R^2 = 0.056$	Pseudo $R^2 = 0.059$[g]	Pseudo $R^2 = 0.063$[h]	Pseudo $R^2 = 0.066$[i]
Smoking Cessation				
Age	0.97 [0.96, 0.98]	0.97 [0.96, 0.98]	0.97 [0.96, 0.98]	0.97 [0.96, 0.98]
Sex - Female	2.00 [1.79, 2.24]	2.01 [1.79, 2.25]	2.01 [1.79, 2.25]	2.01 [1.79, 2.25]
PRS – Smoking cessation			1.23 [1.16, 1.30]	1.24 [1.17, 1.32]
Model Prediction	Pseudo $R^2 = 0.047$	Pseudo $R^2 = 0.055$[j]	Pseudo $R^2 = 0.060$[k]	Pseudo $R^2 = 0.069$[l]

PRS – polygenic risk score; OR – odds ratio; CI – confidence interval.
The reference for sex is male.
The PRSs are in z-scores. The reference group for each PRS is a z-score of 0. Each OR represents a 1 standard deviation increase in PRS z-score.

[a]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 81.17 with 10 degrees of freedom and a corresponding p-value of <0.0001.
[b]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 192.31 with 1 degree of freedom and a corresponding p-value of <0.0001.
[c]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 264.80 with 11 degrees of freedom and a corresponding p-value of <0.0001.
[d]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 20.68 with 10 degrees of freedom and a corresponding p-value of 0.0235.
[e]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 25.62 with 1 degree of freedom and a corresponding p-value of <0.0001.
[f]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 44.19 with 11 degrees of freedom and a corresponding p-value of <0.0001.
[g]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 8.94 with 10 degrees of freedom and a corresponding p-value of 0.5375.
[h]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 27.67 with 1 degree of freedom and a corresponding p-value of <0.0001.
[i]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 38.11 with 11 degrees of freedom and a corresponding p-value of 0.0001.
[j]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 32.23 with 10 degrees of freedom and a corresponding p-value of 0.0004.
[k]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 51.53 with 1 degree of freedom and a corresponding p-value of <0.0001.
[l]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 85.21 with 11 degrees of freedom and a corresponding p-value of <0.0001.

Supplemental Table 6. Models predicting each smoking phenotype within European Americans in the COGEND dataset.

Exposures	Demographics Only	Demographics Plus Genetic Ancestry	Demographics Plus One PRS	Demographics Plus Genetic Ancestry and One PRS
	OR [95% CI]	OR [95% CI]	OR [95% CI]	OR [95% CI]
Nicotine Dependence				
Age	1.04 [1.02, 1.06]	1.04 [1.02, 1.06]	1.04 [1.02, 1.06]	1.04 [1.02, 1.06]
Sex - Female	0.52 [0.43, 0.62]	0.52 [0.43, 0.63]	0.51 [0.42, 0.61]	0.51 [0.42, 0.62]
PRS – Cigarettes smoked per day			1.45 [1.32, 1.60]	1.51 [1.37, 1.67]
Model Prediction	Pseudo $R^2 = 0.045$	Pseudo $R^2 = 0.064$[a]	Pseudo $R^2 = 0.086$[b]	Pseudo $R^2 = 0.108$[c]
Early Age of Smoking Initiation (<14 years)				
Age	1.03 [1.01, 1.05]	1.03 [1.01, 1.05]	1.03 [1.01, 1.05]	1.03 [1.01, 1.05]
Sex - Female	0.83 [0.69, 1.00]	0.83 [0.69, 1.00]	0.83 [0.69, 1.00]	0.83 [0.69, 1.00]
PRS – Age of smoking initiation			0.85 [0.78, 0.93]	0.85 [0.77, 0.93]
Model Prediction	Pseudo $R^2 = 0.011$	Pseudo $R^2 = 0.017$[d]	Pseudo $R^2 = 0.020$[e]	Pseudo $R^2 = 0.026$[f]
Heavier Smoking (≥21 cigarettes smoked per day)				
Age	1.05 [1.03, 1.07]	1.05 [1.03, 1.07]	1.05 [1.03, 1.07]	1.05 [1.03, 1.07]
Sex - Female	0.42 [0.34, 0.51]	0.42 [0.34, 0.51]	0.41 [0.34, 0.50]	0.41 [0.34, 0.51]
PRS – Cigarettes smoked per day			1.27 [1.14, 1.40]	1.30 [1.17, 1.45]
Model Prediction	Pseudo $R^2 = 0.070$	Pseudo $R^2 = 0.078$[g]	Pseudo $R^2 = 0.084$[h]	Pseudo $R^2 = 0.094$[i]
Smoking Cessation				
Age	1.00 [0.99, 1.01]	1.00 [0.98, 1.01]	1.00 [0.98, 1.01]	1.00 [0.98, 1.01]
Sex - Female	0.56 [0.46, 0.69]	0.57 [0.47, 0.70]	0.56 [0.46, 0.69]	0.57 [0.47, 0.70]
PRS – Smoking cessation			1.35 [1.23, 1.49]	1.35 [1.22, 1.49]
Model Prediction	Pseudo $R^2 = 0.023$	Pseudo $R^2 = 0.043$[j]	Pseudo $R^2 = 0.049$[k]	Pseudo $R^2 = 0.066$[l]

PRS – polygenic risk score; OR – odds ratio; CI – confidence interval.
The reference for sex is male.
The PRSs are in z-scores. The reference group for each PRS is a z-score of 0. Each OR represents a 1 standard deviation increase in PRS z-score.

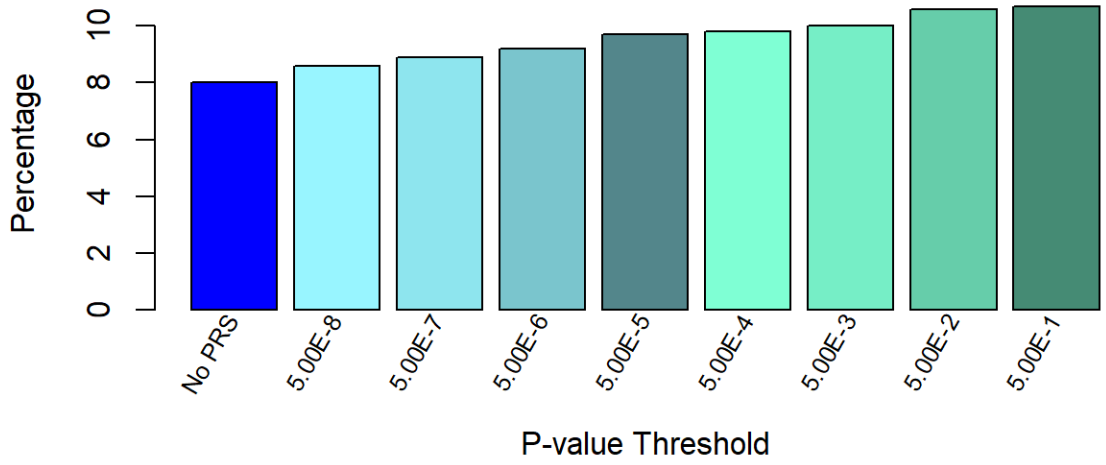
[a]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 27.42 with 10 degrees of freedom and a corresponding p-value of 0.0022.
[b]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 62.07 with 1 degree of freedom and a corresponding p-value of <0.0001.
[c]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 96.67 with 11 degrees of freedom and a corresponding p-value of <0.0001.
[d]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 9.23 with 10 degrees of freedom and a corresponding p-value of 0.5100.
[e]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 12.45 with 1 degree of freedom and a corresponding p-value of 0.0004.
[f]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 21.18 with 11 degrees of freedom and a corresponding p-value of 0.0316.
[g]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 11.01 with 10 degrees of freedom and a corresponding p-value of 0.3497.
[h]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 20.65 with 1 degree of freedom and a corresponding p-value of <0.0001.
[i]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 34.56 with 11 degrees of freedom and a corresponding p-value of 0.0003.
[j]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 28.03 with 10 degrees of freedom and a corresponding p-value of 0.0018.
[k]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 37.47 with 1 degree of freedom and a corresponding p-value of <0.0001.
[l]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 62.22 with 11 degrees of freedom and a corresponding p-value of <0.0001.

Supplemental Table 7. Models predicting each smoking phenotype within African Americans in the ARIC dataset.

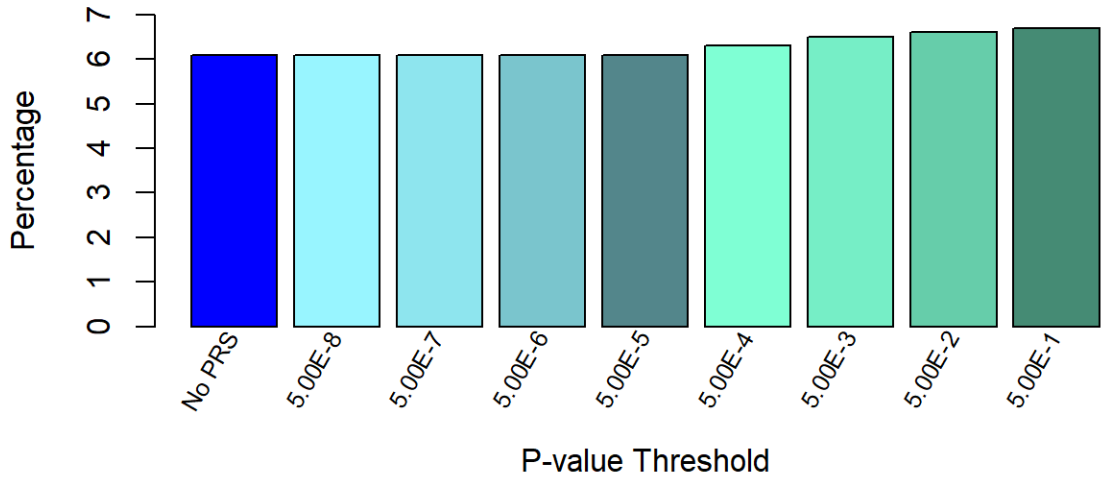
Exposures	Demographics Only	Demographics Plus Genetic Ancestry	Demographics Plus One PRS	Demographics Plus Genetic Ancestry and One PRS
	OR [95% CI]	OR [95% CI]	OR [95% CI]	OR [95% CI]
Ever Smoking				
Age	1.01 [1.00, 1.03]	1.01 [1.00, 1.03]	1.01 [1.00, 1.03]	1.01 [1.00, 1.03]
Sex - Female	0.33 [0.27, 0.39]	0.33 [0.27, 0.39]	0.33 [0.27, 0.39]	0.33 [0.27, 0.39]
PRS – Ever smoking			1.08 [1.00, 1.18]	1.09 [1.00, 1.20]
Model Prediction	Pseudo R^2 = 0.090	Pseudo R^2 = 0.099[a]	Pseudo R^2 = 0.092[b]	Pseudo R^2 = 0.101[c]
Early Age of Smoking Initiation (<18 years)				
Age	1.01 [0.99, 1.03]	1.01 [0.99, 1.03]	1.01 [0.99, 1.03]	1.01 [0.99, 1.03]
Sex - Female	0.50 [0.40, 0.64]	0.50 [0.40, 0.63]	0.51 [0.40, 0.64]	0.50 [0.40, 0.63]
PRS – Age of smoking initiation			0.93 [0.83, 1.04]	0.93 [0.83, 1.04]
Model Prediction	Pseudo R^2 = 0.038	Pseudo R^2 = 0.044[d]	Pseudo R^2 = 0.040[e]	Pseudo R^2 = 0.046[f]
Heavier Smoking (≥21 cigarettes smoked per day)				
Age	1.00 [0.98, 1.03]	1.00 [0.98, 1.03]	1.00 [0.97, 1.03]	1.00 [0.98, 1.03]
Sex - Female	0.40 [0.29, 0.55]	0.40 [0.29, 0.55]	0.40 [0.29, 0.55]	0.40 [0.29, 0.55]
PRS – Cigarettes smoked per day			0.94 [0.81, 1.09]	0.94 [0.76, 1.15]
Model Prediction	Pseudo R^2 = 0.045	Pseudo R^2 = 0.063[g]	Pseudo R^2 = 0.046[h]	Pseudo R^2 = 0.064[i]
Smoking Cessation				
Age	0.97 [0.95, 0.99]	0.97 [0.95, 0.98]	0.97 [0.95, 0.99]	0.97 [0.95, 0.98]
Sex - Female	1.21 [0.98, 1.52]	1.21 [0.97, 1.51]	1.22 [0.98, 1.52]	1.21 [0.97, 1.51]
PRS – Smoking cessation			0.98 [0.87, 1.09]	0.96 [0.83, 1.12]
Model Prediction	Pseudo R^2 = 0.016	Pseudo R^2 = 0.033[j]	Pseudo R^2 = 0.016[k]	Pseudo R^2 = 0.034[l]

PRS – polygenic risk score; OR – odds ratio; CI – confidence interval.
The reference for sex is male.
The PRSs are in z-scores. The reference group for each PRS is a z-score of 0. Each OR represents a 1 standard deviation increase in PRS z-score.

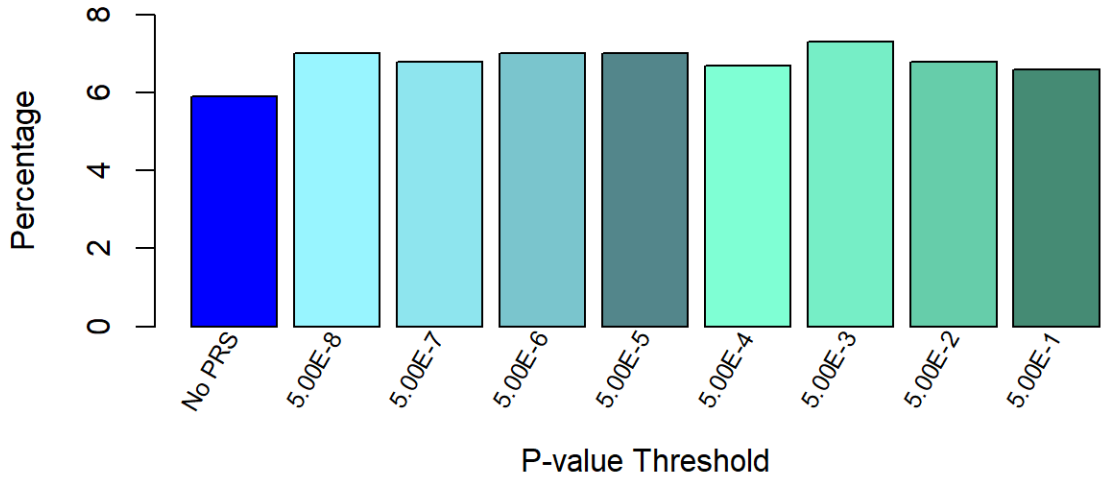
[a]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 17.64 with 10 degrees of freedom and a corresponding p-value of 0.0613.
[b]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 3.81 with 1 degree of freedom and a corresponding p-value of 0.0509.
[c]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 21.54 with 11 degrees of freedom and a corresponding p-value of 0.0282.
[d]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 5.79 with 10 degrees of freedom and a corresponding p-value of 0.8326.
[e]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 1.57 with 1 degree of freedom and a corresponding p-value of 0.2096.
[f]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 7.42 with 11 degrees of freedom and a corresponding p-value of 0.7637.
[g]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 14.28 with 10 degrees of freedom and a corresponding p-value of 0.1608.
[h]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 0.71 with 1 degree of freedom and a corresponding p-value of 0.3990.
[i]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 14.66 with 11 degrees of freedom and a corresponding p-value of 0.1984.
[j]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 17.48 with 10 degrees of freedom and a corresponding p-value of 0.0644.
[k]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 0.19 with 1 degree of freedom and a corresponding p-value of 0.6632.
[l]The X^2 statistic from the likelihood ratio test when comparing to the demographics only model is 17.73 with 11 degrees of freedom and a corresponding p-value of 0.0882.



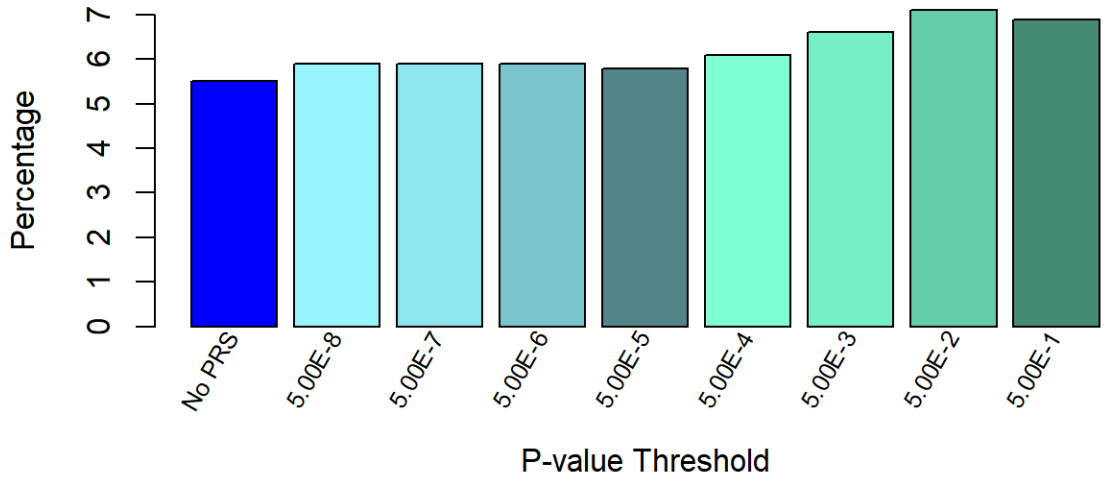
Supplemental Figure 1. Models using various p-value thresholds to predict ever smoking within European Americans in the ARIC dataset.
The p-values represent the SNP inclusion threshold of GWAS summary statistics from the GSCAN study. The model adjusted for age, sex, 10 PCs, as well as the ever smoking PRS in one model. The PRS is in z-scores. The percentage represents the total predictability of the exposures (pseudo r^2).



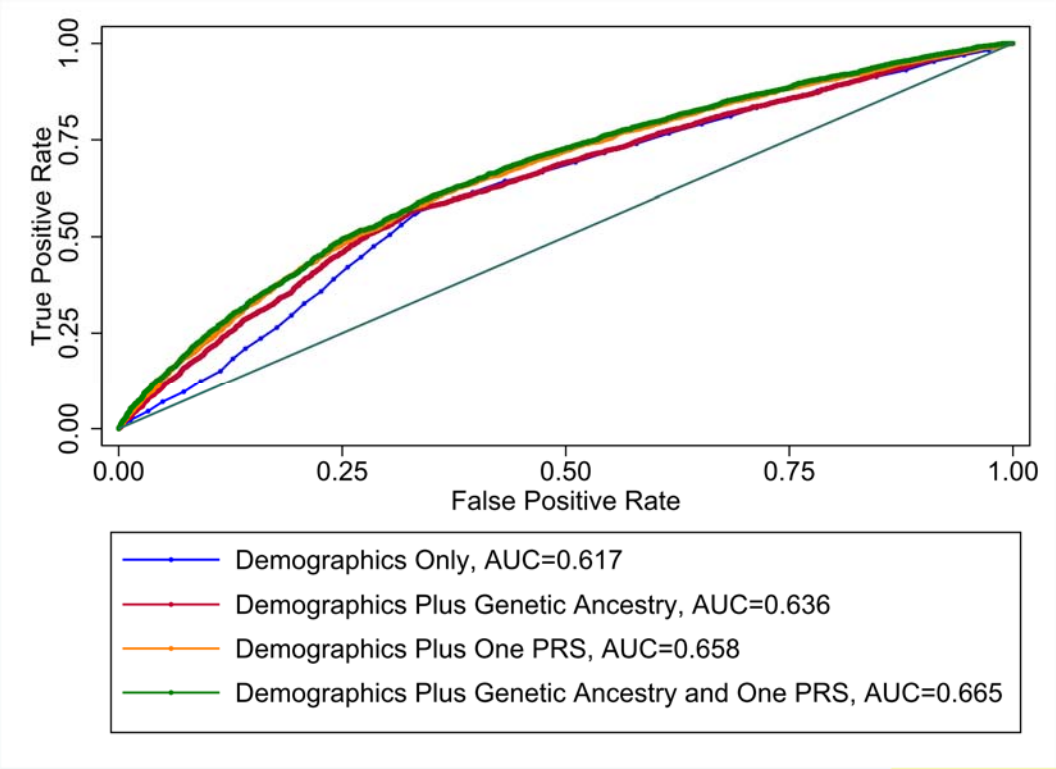
Supplemental Figure 2. Models using various p-value thresholds to predict early age of smoking initiation (<18 years) within European Americans in the ARIC dataset.
The p-values represent the SNP inclusion threshold of GWAS summary statistics from the GSCAN study. The model adjusted for age, sex, 10 PCs, as well as the age of smoking initiation PRS in one model. The PRS is in z-scores. The percentage represents the total predictability of the exposures (pseudo r^2).



Supplemental Figure 3. Models using various p-value thresholds to predict heavier smoking (≥21 cigarettes smoked per day) within European Americans in the ARIC dataset. The p-values represent the SNP inclusion threshold of GWAS summary statistics from the GSCAN study. The model adjusted for age, sex, 10 PCs, as well as the cigarettes smoked per day PRS in one model. The PRS is in z-scores. The percentage represents the total predictability of the exposures (pseudo r^2).



Supplemental Figure 4. Models using various p-value thresholds to predict smoking cessation within European Americans in the ARIC dataset.
The p-values represent the SNP inclusion threshold of GWAS summary statistics from the GSCAN study. The model adjusted for age, sex, 10 PCs, as well as the smoking cessation PRS in one model. The PRS is in z-scores. The percentage represents the total predictability of the exposures (pseudo r^2).



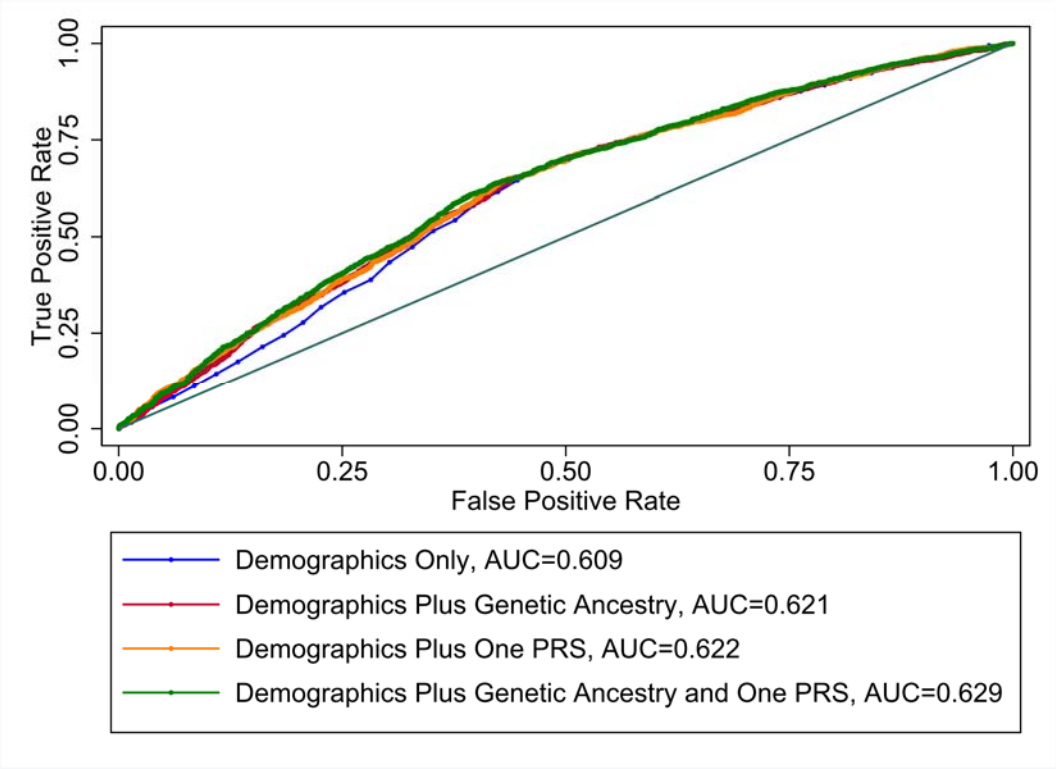
Supplemental Figure 5. ROC curves for predicting ever smoking within European Americans in the ARIC dataset.

Demographics Only: adjusting for age and sex.

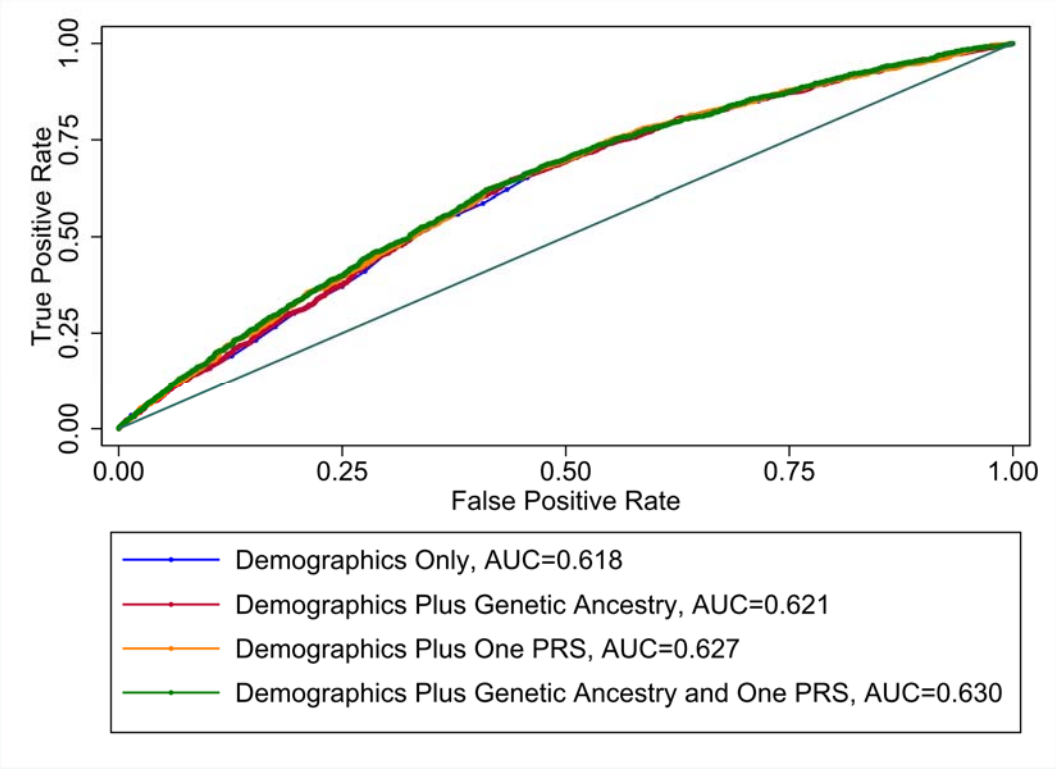
Demographics Plus Genetic Ancestry: adjusting for age, sex, and 10 PCs.

Demographics Plus one PRS: adjusting for age, sex, and 10 PCs as well as the ever smoking PRS. The PRS is in z-scores.

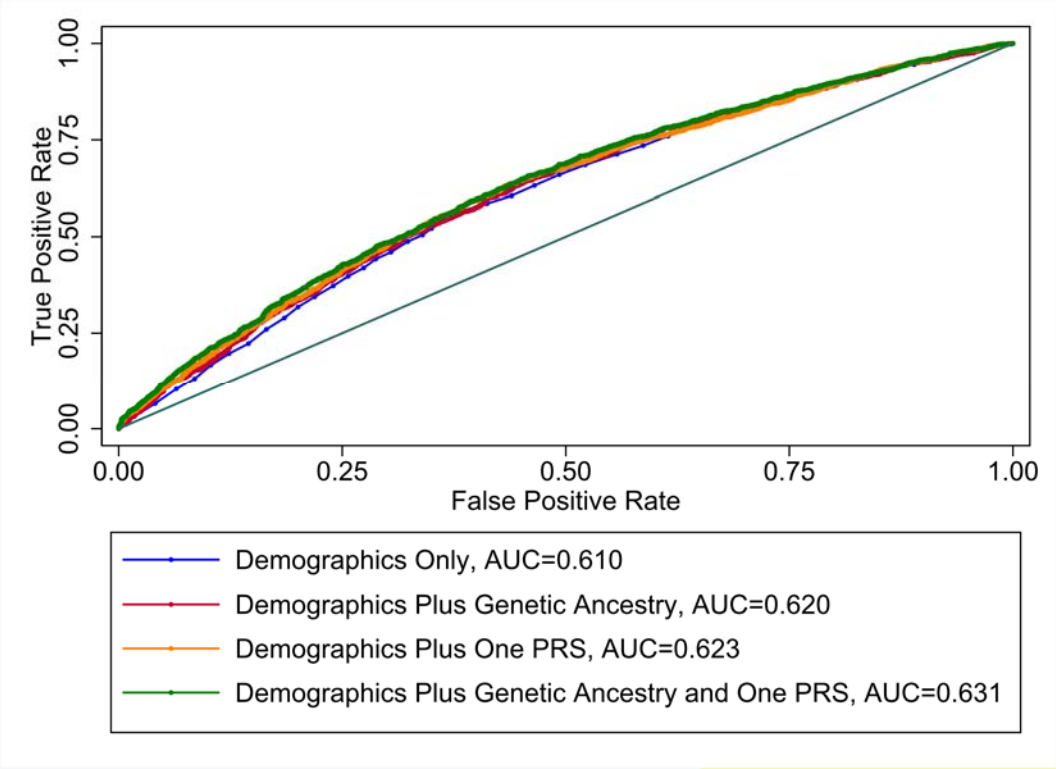
Demographics Plus Genetic Ancestry and one PRS: adjusting for age, sex, and 10 PCs as well as the ever smoking PRS. The PRS is in z-scores.



Supplemental Figure 6. ROC curves for predicting early age of smoking initiation (<18 years) within European Americans in the ARIC dataset.
Demographics Only: adjusting for age and sex.
Demographics Plus Genetic Ancestry: adjusting for age, sex, and 10 PCs.
Demographics Plus one PRS: adjusting for age, sex, and 10 PCs as well as the age of smoking initiation PRS. The PRS is in z-scores.
Demographics Plus Genetic Ancestry and one PRS: adjusting for age, sex, and 10 PCs as well as the age of smoking initiation PRS. The PRS is in z-scores.



Supplemental Figure 7. ROC curves for predicting heavier smoking (≥21 cigarettes smoked per day) within European Americans in the ARIC dataset.
Demographics Only: adjusting for age and sex.
Demographics Plus Genetic Ancestry: adjusting for age, sex, and 10 PCs.
Demographics Plus Genetic Ancestry and one PRS: adjusting for age, sex, and 10 PCs as well as the cigarettes smoked per day PRS. The PRS is in z-scores.
Demographics Plus Genetic Ancestry and one PRS: adjusting for age, sex, and 10 PCs as well as the cigarettes smoked per day PRS. The PRS is in z-scores.



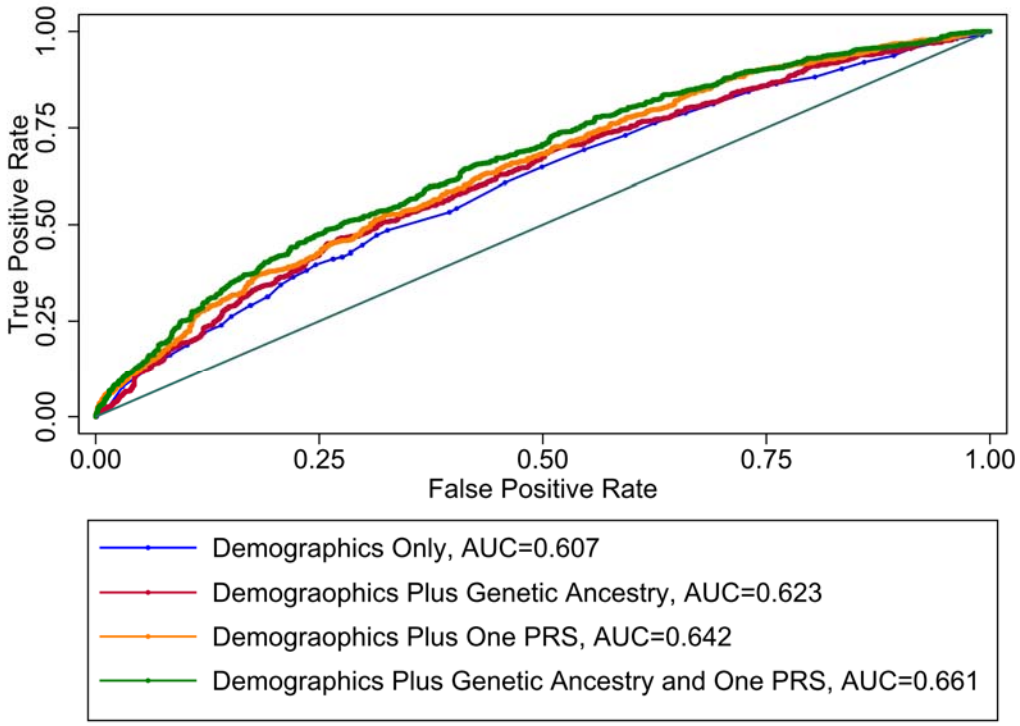
Supplemental Figure 8. ROC curves for predicting smoking cessation within European Americans in the ARIC dataset.

Demographics Only: adjusting for age and sex.

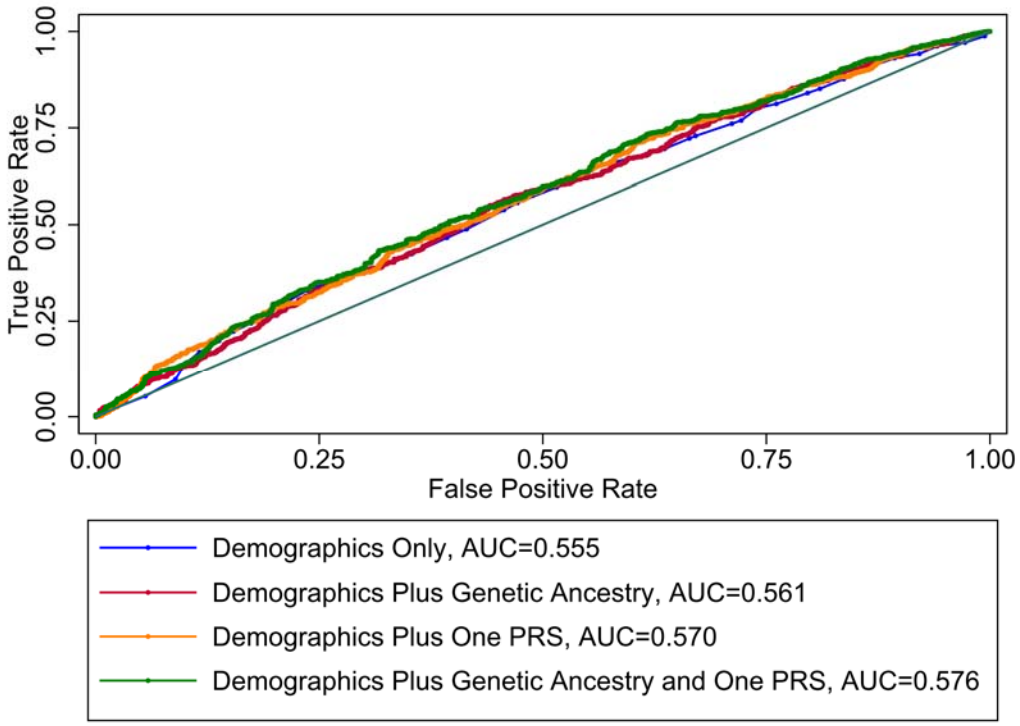
Demographics Plus Genetic Ancestry: adjusting for age, sex, and 10 PCs.

Demographics Plus Genetic Ancestry and one PRS: adjusting for age, sex, and 10 PCs as well as the smoking cessation PRS. The PRS is in z-scores.

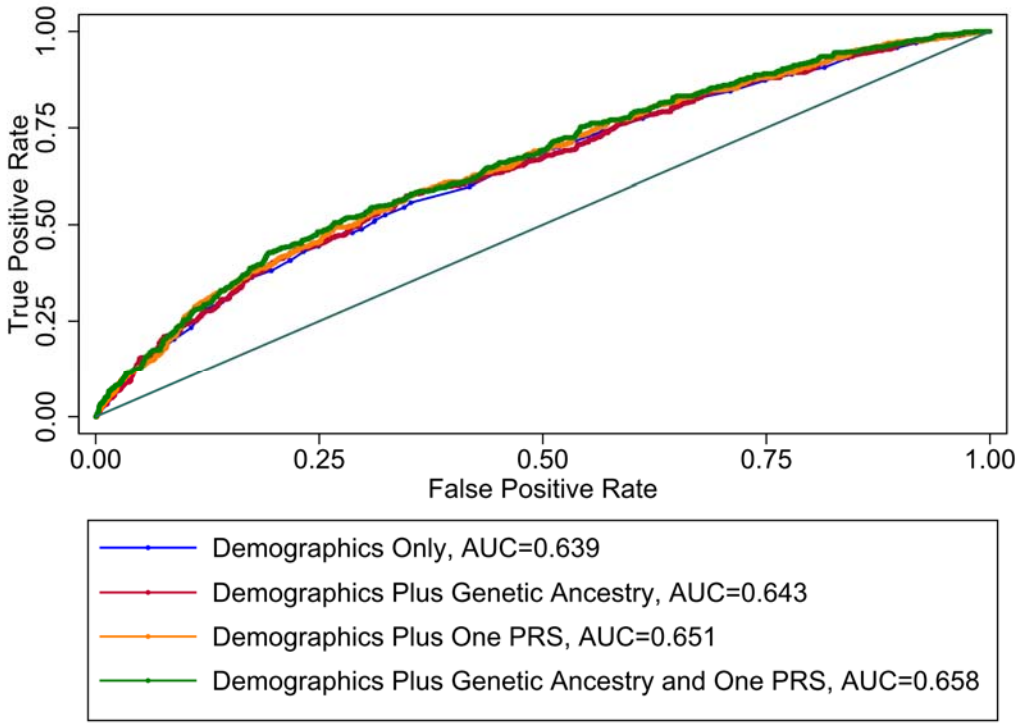
Demographics Plus Genetic Ancestry and one PRS: adjusting for age, sex, and 10 PCs as well as the smoking cessation PRS. The PRS is in z-scores.



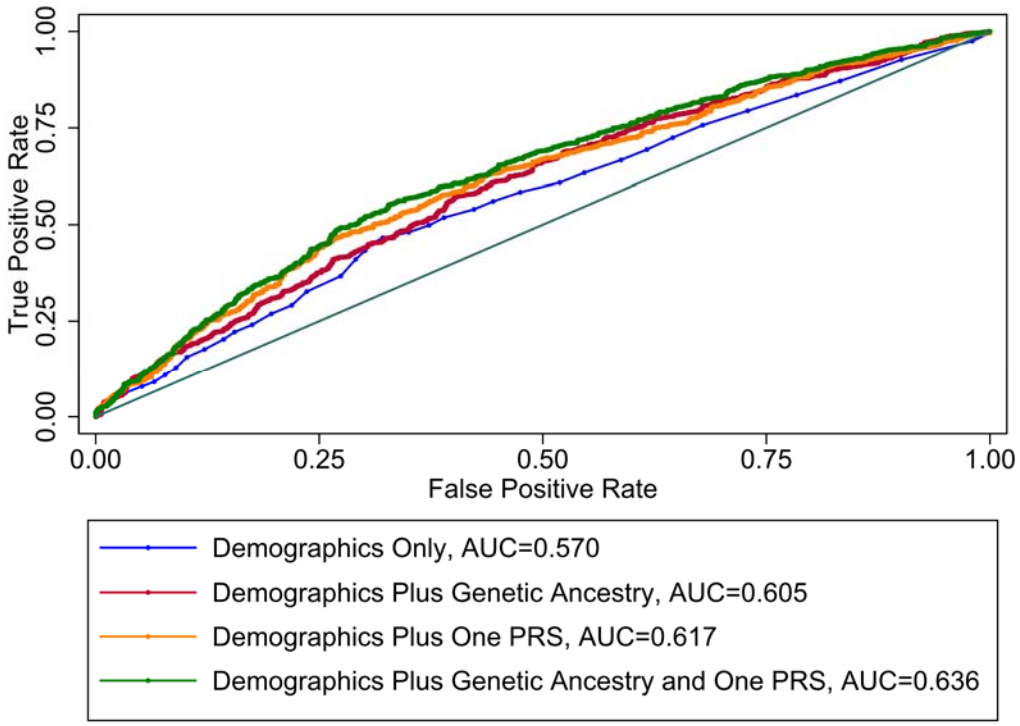
Supplemental Figure 9. ROC curves for predicting nicotine dependence within European Americans in the COGEND dataset.
Demographics Only: adjusting for age and sex.
Demographics Plus Genetic Ancestry: adjusting for age, sex, and 10 PCs.
Demographics Plus one PRS: adjusting for age, sex, and 10 PCs as well as the cigarettes smoked per day PRS. The PRS is in z-scores.
Demographics Plus Genetic Ancestry and one PRS: adjusting for age, sex, and 10 PCs as well as the cigarettes smoked per day PRS. The PRS is in z-scores.



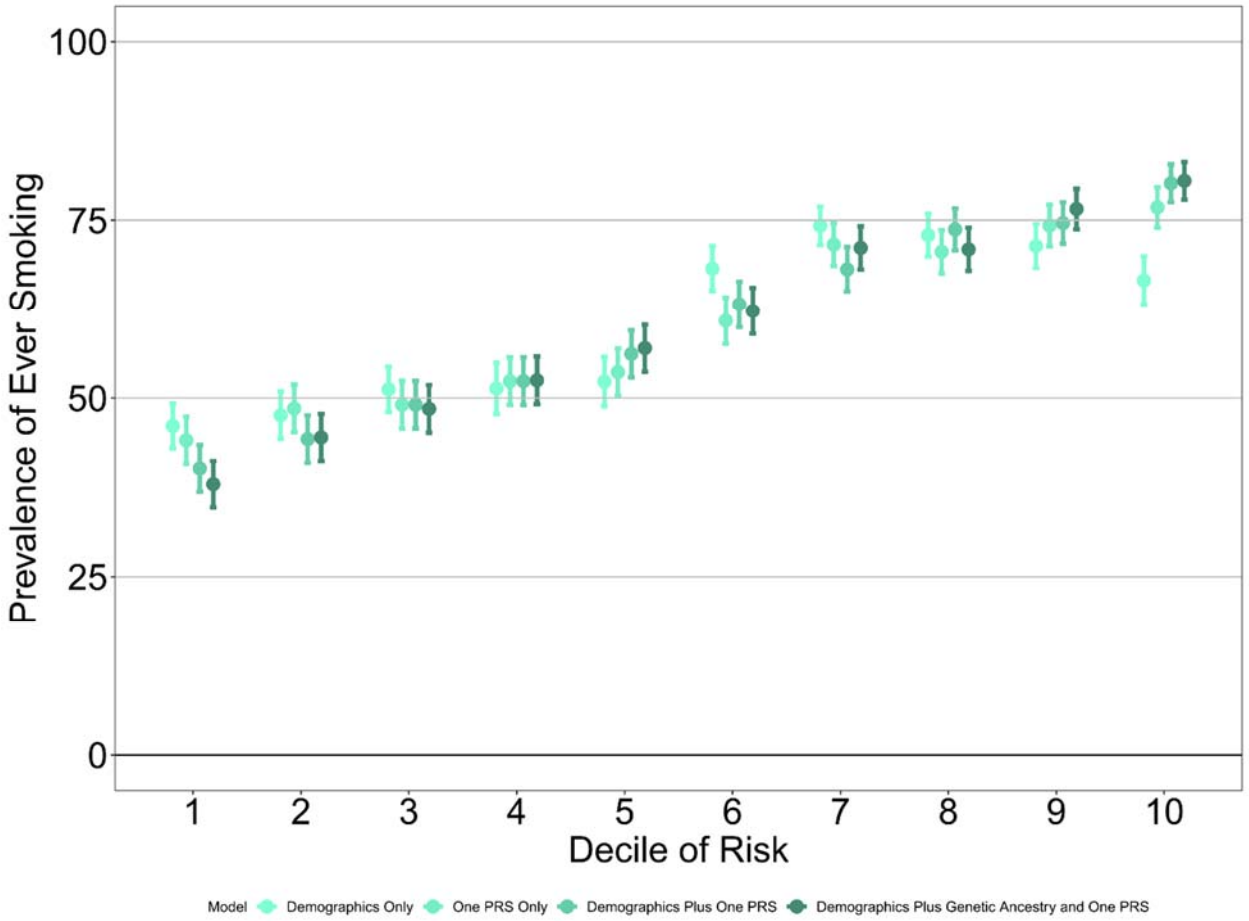
Supplemental Figure 10. ROC curves for predicting early age of smoking initiation (<14 years) within European Americans in the COGEND dataset.
Demographics Only: adjusting for age and sex.
Demographics Plus Genetic Ancestry: adjusting for age, sex, and 10 PCs.
Demographics Plus one PRS: adjusting for age, sex, and 10 PCs as well as the age of smoking initiation PRS. The PRS is in z-scores.
Demographics Plus Genetic Ancestry and one PRS: adjusting for age, sex, and 10 PCs as well as the age of smoking initiation PRS. The PRS is in z-scores.



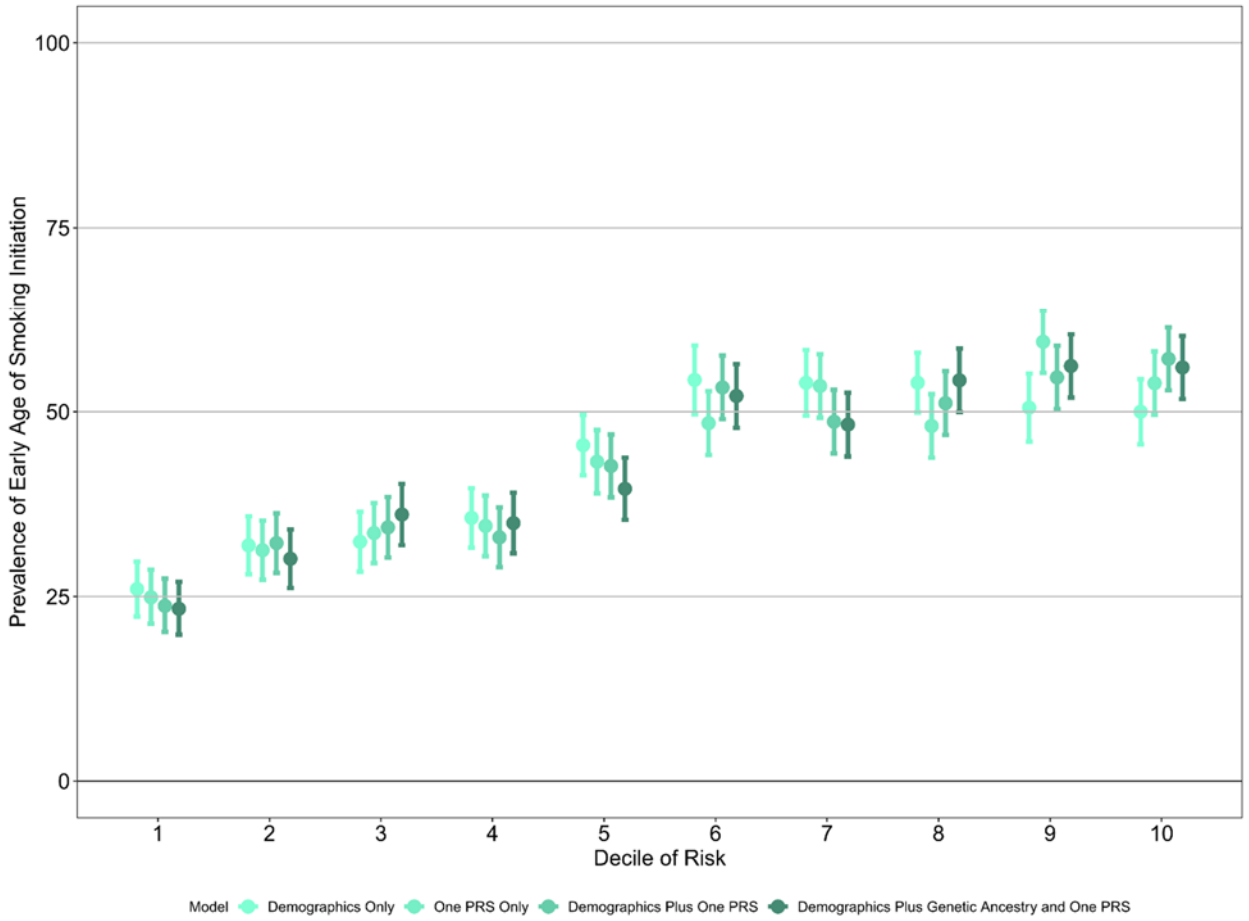
Supplemental Figure 11. ROC curves for predicting heavier smoking (≥21 cigarettes smoked per day) within European Americans in the COGEND dataset.
Demographics Only: adjusting for age and sex.
Demographics Plus Genetic Ancestry: adjusting for age, sex, and 10 PCs.
Demographics Plus Genetic Ancestry and one PRS: adjusting for age, sex, and 10 PCs as well as the cigarettes smoked per day PRS. The PRS is in z-scores.
Demographics Plus Genetic Ancestry and one PRS: adjusting for age, sex, and 10 PCs as well as the cigarettes smoked per day PRS. The PRS is in z-scores.



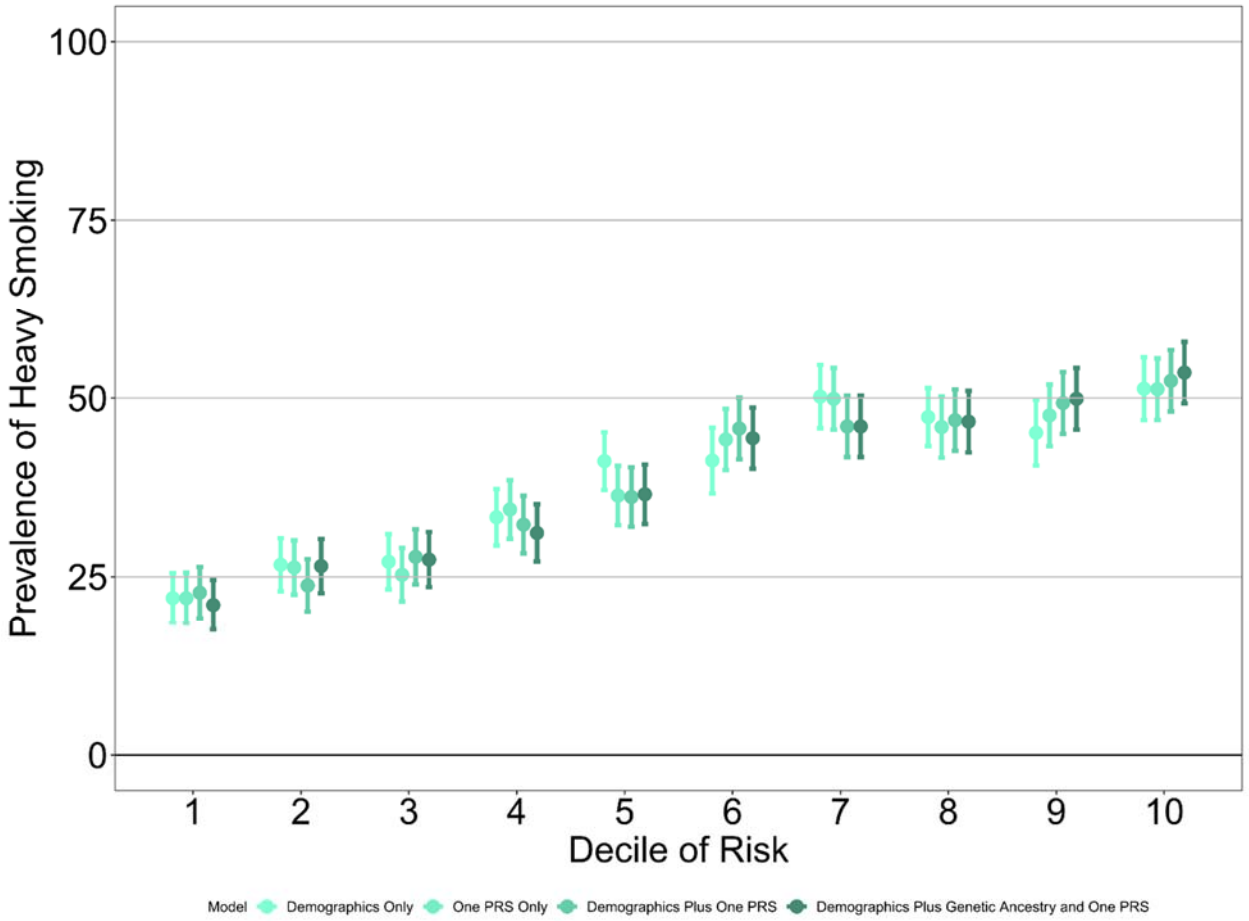
Supplemental Figure 12. ROC curves for predicting smoking cessation within European Americans in the COGEND dataset.
Demographics Only: adjusting for age and sex.
Demographics Plus Genetic Ancestry: adjusting for age, sex, and 10 PCs.
Demographics Plus Genetic Ancestry and one PRS: adjusting for age, sex, and 10 PCs as well as the smoking cessation PRS. The PRS is in z-scores.
Demographics Plus Genetic Ancestry and one PRS: adjusting for age, sex, and 10 PCs as well as the smoking cessation PRS. The PRS is in z-scores.



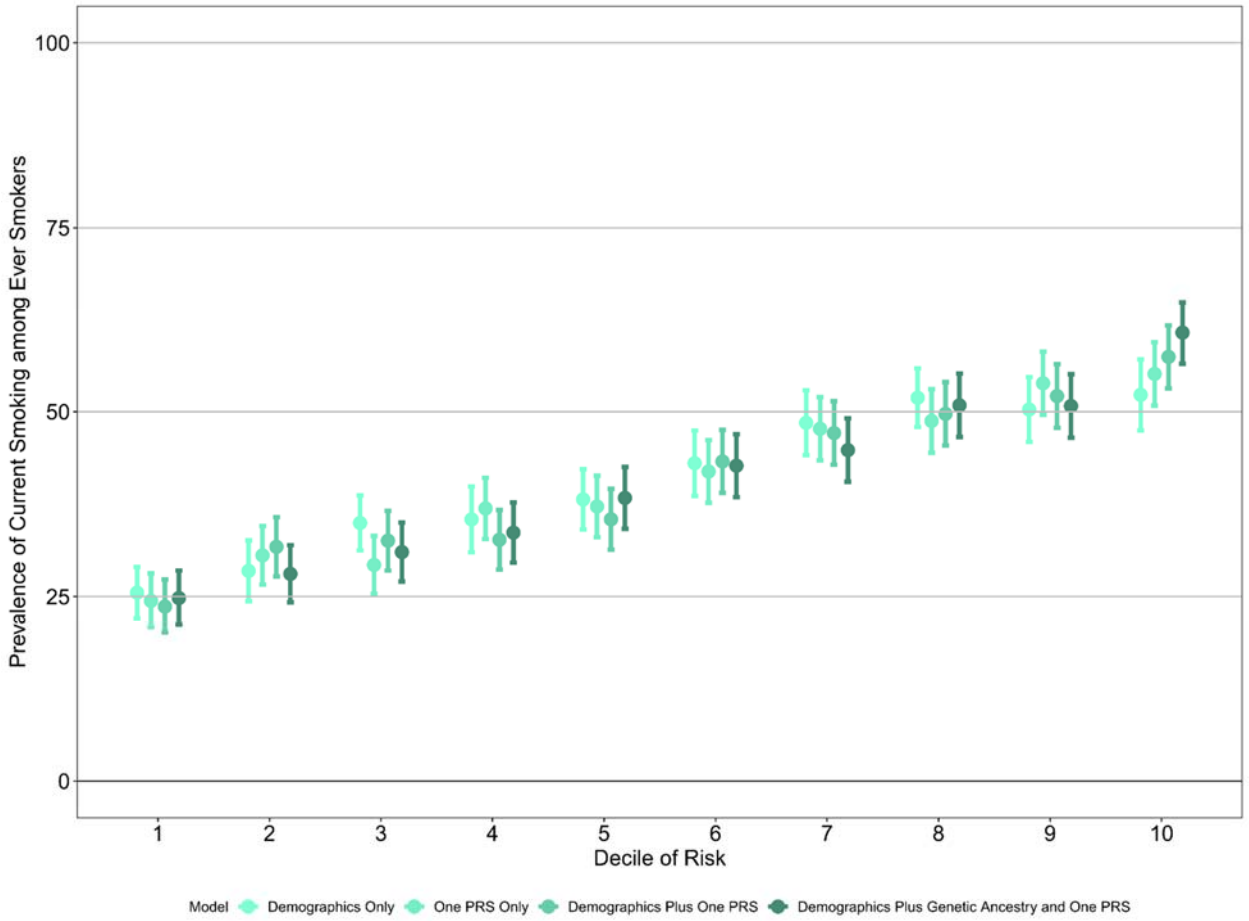
Supplemental Figure 13. Mean Prevalence of ever smoking stratified by deciles of risk within European Americans in the ARIC dataset.
The demographics only model included age and sex only. The demographics plus genetic ancestry includes age, sex, and 10 PCs. The demographics plus one PRS includes age, sex, and the ever smoking PRS. The demographics plus genetic ancestry and one PRS includes age, sex, 10 PCs, and the ever smoking PRS. The decile of risk was estimated for each individual for each model. The prevalence of ever smoking was calculated within each decile independently. The 95% confidence interval was estimated from the prevalence and sample size of each decile.



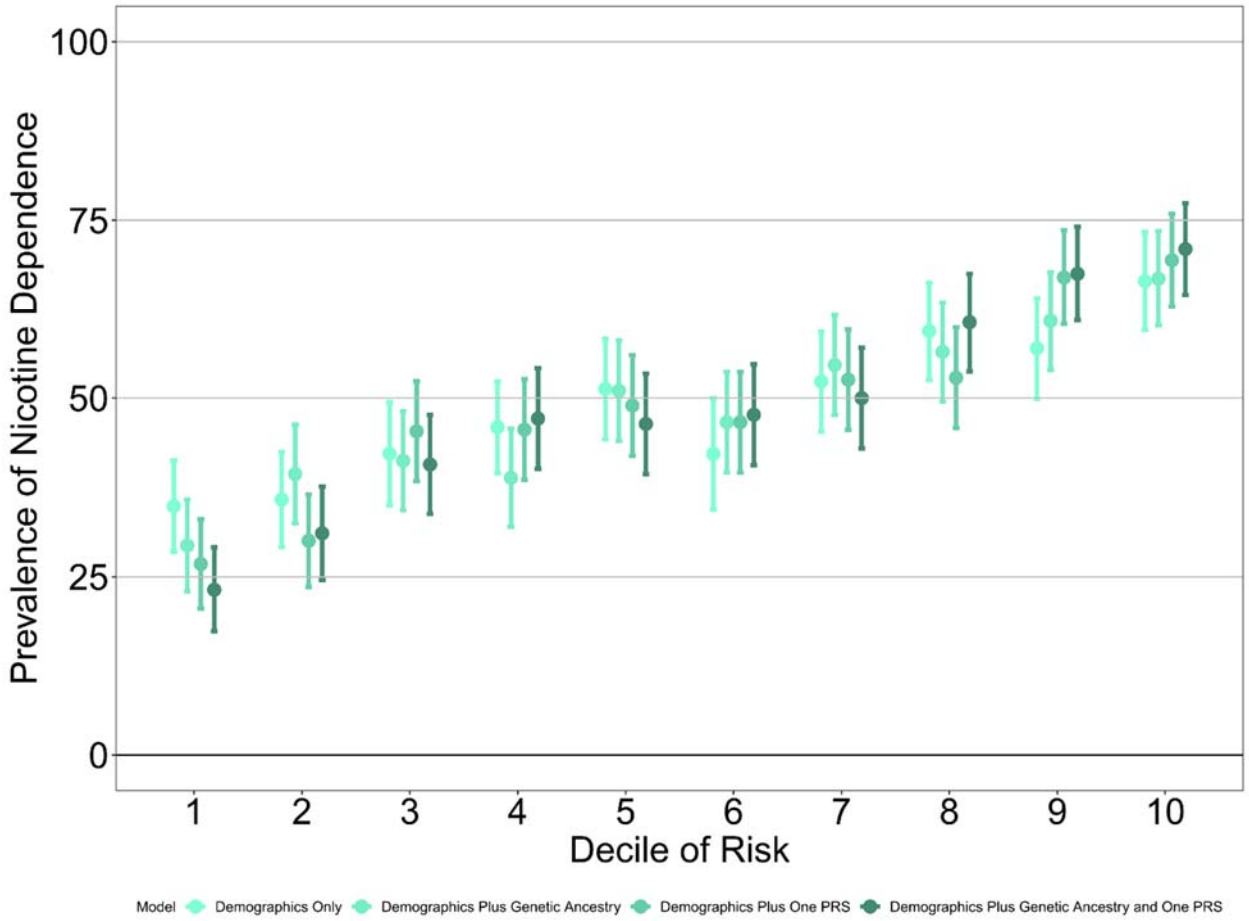
Supplemental Figure 14. Mean Prevalence of early age of smoking initiation (<18 years) stratified by deciles of risk within European Americans in the ARIC dataset.
The demographics only model included age and sex only. The demographics plus genetic ancestry includes age, sex, and 10 PCs. The demographics plus one PRS includes age, sex, and the age of smoking initiation PRS. The demographics plus genetic ancestry and one PRS includes age, sex, 10 PCs, and the age of smoking initiation PRS. The decile of risk was estimated for each individual for each model. The prevalence of ever smoking was calculated within each decile independently. The 95% confidence interval was estimated from the prevalence and sample size of each decile.



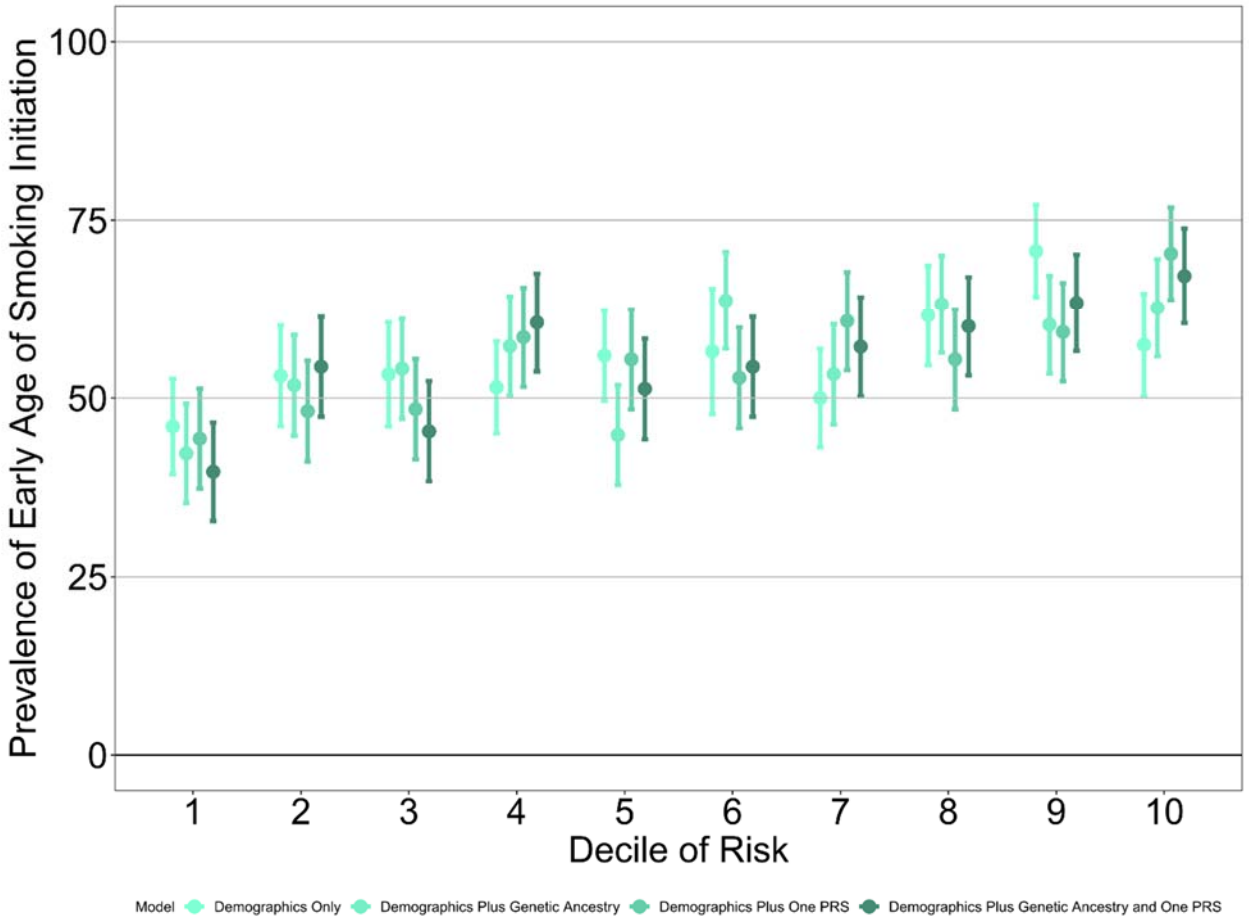
Supplemental Figure 15. Mean Prevalence for heavier smoking (≥21 cigarettes smoked per day) stratified by deciles of risk within European Americans in the ARIC dataset.
The demographics only model included age and sex only. The demographics plus genetic ancestry includes age, sex, and 10 PCs. The demographics plus one PRS includes age, sex, and the cigarettes smoked per day PRS. The demographics plus genetic ancestry and one PRS includes age, sex, 10 PCs, and the cigarettes smoked per day PRS. The decile of risk was estimated for each individual for each model. The prevalence of ever smoking was calculated within each decile independently. The 95% confidence interval was estimated from the prevalence and sample size of each decile.



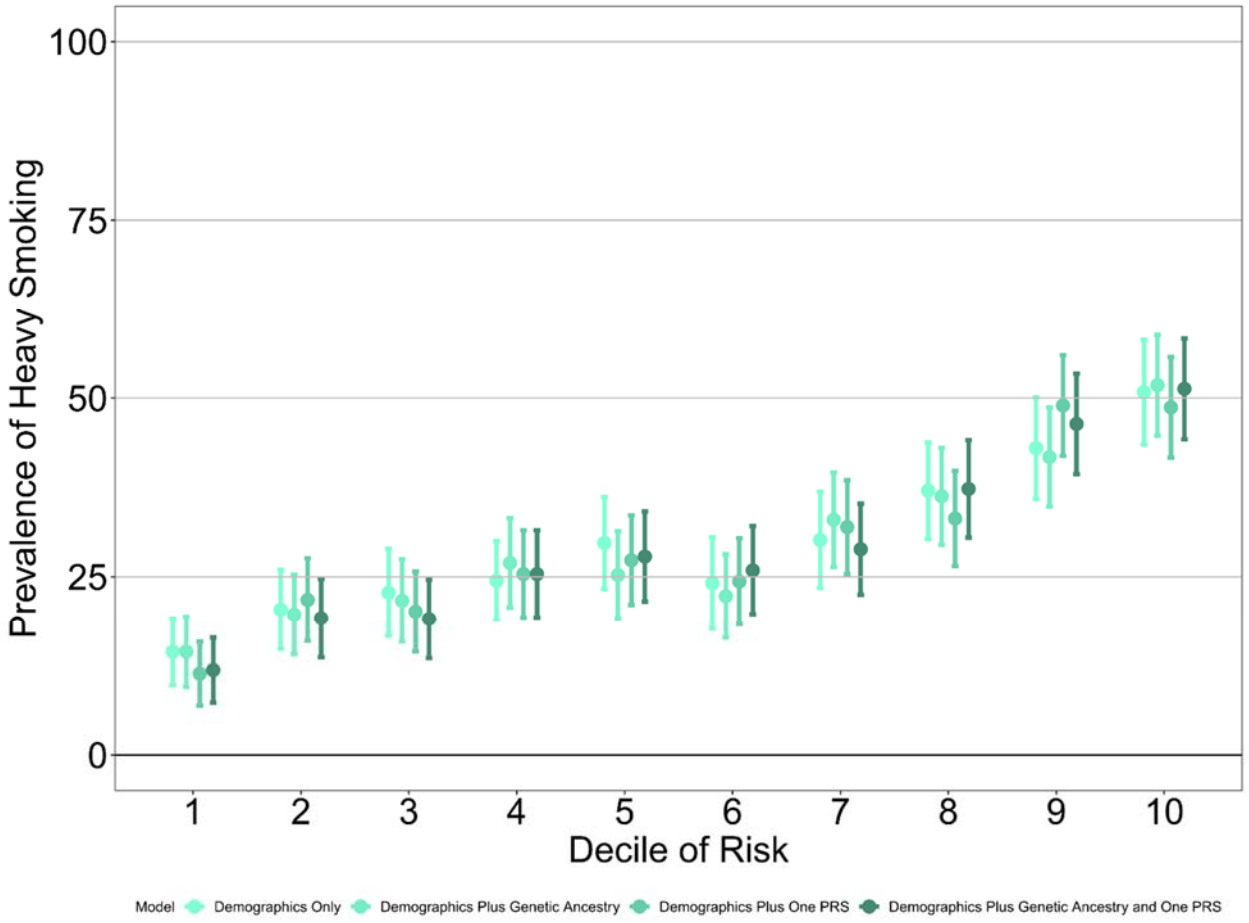
Supplemental Figure 16. Mean Prevalence for smoking cessation among ever smokers stratified by deciles of risk within European Americans in the ARIC dataset.
The demographics only model included age and sex only. The demographics plus genetic ancestry includes age, sex, and 10 PCs. The demographics plus one PRS includes age, sex, and the smoking cessation PRS. The demographics plus genetic ancestry and one PRS includes age, sex, 10 PCs, and the smoking cessation PRS. The decile of risk was estimated for each individual for each model. The prevalence of ever smoking was calculated within each decile independently. The 95% confidence interval was estimated from the prevalence and sample size of each decile.



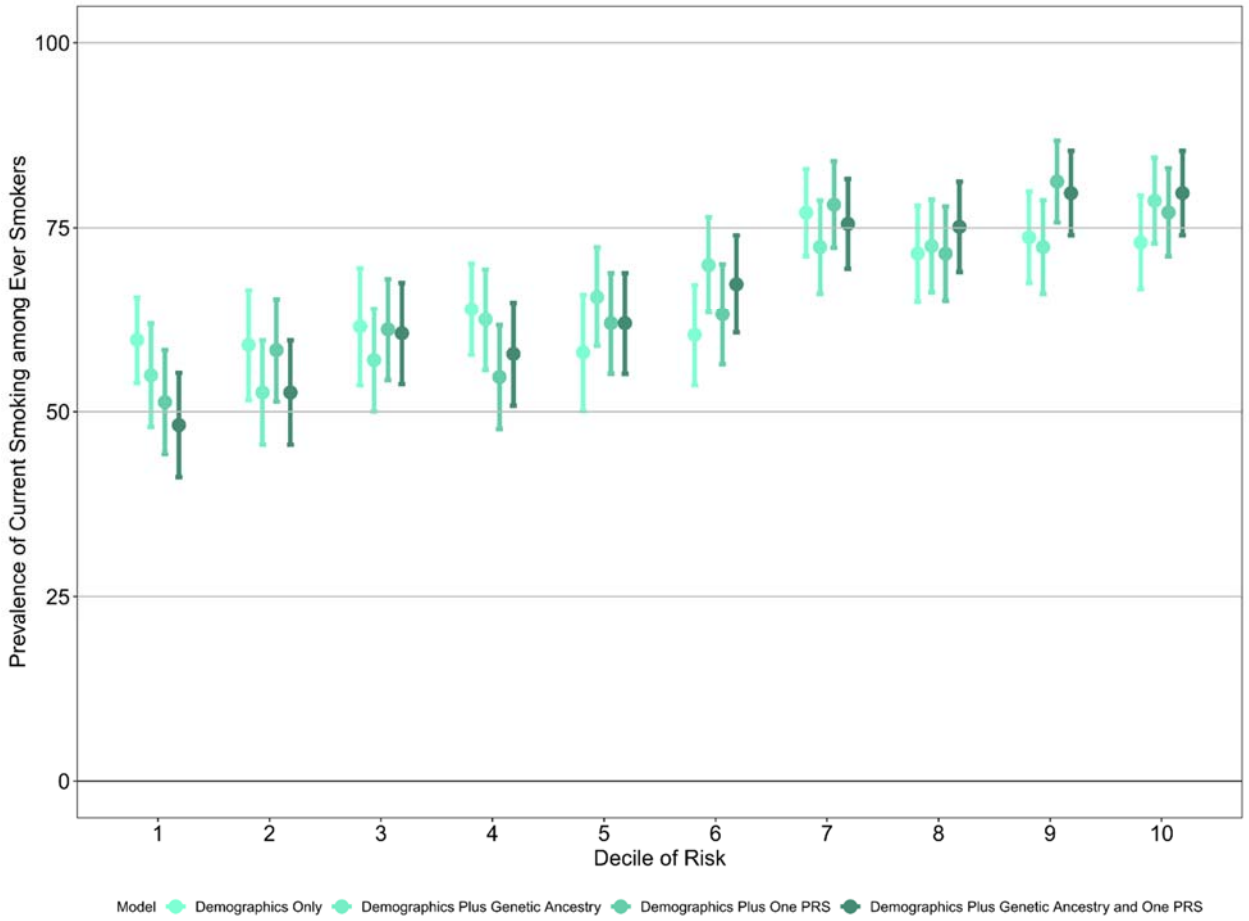
Supplemental Figure 17. Mean Prevalence of nicotine dependence stratified by deciles of risk within European Americans in the COGEND dataset.
The demographics only model included age and sex only. The demographics plus genetic ancestry includes age, sex, and 10 PCs. The demographics plus one PRS includes age, sex, and the cigarettes smoked per day PRS. The demographics plus genetic ancestry and one PRS includes age, sex, 10 PCs, and the cigarettes smoked per day PRS. The decile of risk was estimated for each individual for each model. The prevalence of ever smoking was calculated within each decile independently. The 95% confidence interval was estimated from the prevalence and sample size of each decile.



Supplemental Figure 18. Mean Prevalence of early age of smoking initiation (<14 years) stratified by deciles of risk within European Americans in the COGEND dataset.
The demographics only model included age and sex only. The demographics plus genetic ancestry includes age, sex, and 10 PCs. The demographics plus one PRS includes age, sex, and the age of smoking initiation PRS. The demographics plus genetic ancestry and one PRS includes age, sex, 10 PCs, and the age of smoking initiation PRS. The decile of risk was estimated for each individual for each model. The prevalence of ever smoking was calculated within each decile independently. The 95% confidence interval was estimated from the prevalence and sample size of each decile.



Supplemental Figure 19. Mean Prevalence for heavier smoking (≥21 cigarettes smoked per day) stratified by deciles of risk within European Americans in the COGEND dataset. The demographics only model included age and sex only. The demographics plus genetic ancestry includes age, sex, and 10 PCs. The demographics plus one PRS includes age, sex, and the cigarettes smoked per day PRS. The demographics plus genetic ancestry and one PRS includes age, sex, 10 PCs, and the cigarettes smoked per day PRS. The decile of risk was estimated for each individual for each model. The prevalence of ever smoking was calculated within each decile independently. The 95% confidence interval was estimated from the prevalence and sample size of each decile.



Supplemental Figure 20. Mean Prevalence for smoking cessation among ever smokers stratified by deciles of risk within European Americans in the COGEND dataset.
The demographics only model included age and sex only. The demographics plus genetic ancestry includes age, sex, and 10 PCs. The demographics plus one PRS includes age, sex, and the smoking cessation PRS. The demographics plus genetic ancestry and one PRS includes age, sex, 10 PCs, and the smoking cessation PRS. The decile of risk was estimated for each individual for each model. The prevalence of ever smoking was calculated within each decile independently. The 95% confidence interval was estimated from the prevalence and sample size of each decile.