

SUPPLEMENTARY DATA

Supplementary Table S1. Footnote:*p-value for unpaired ROC comparison of models estimated in African Americans versus Whites; †Model 1a and Model 1b used the following published prediction models to calculate diabetes risk; Framingham: probability (diabetes) = $[\exp(X)/(1+\exp(X))]/8]^5$, where $X = -18.607 - 0.0101*\text{age in years} - 0.4308*\text{sex (1 if male, 0 if female)} + .4383*1 \text{ if parent history of diabetes if present} + 0.03922*\text{BMI} + 0.001*\text{systolic blood pressure in mm Hg} - 0.0488*\text{HDL in mg/dL} + 0.0488*\text{waist circumference in cm} + .1398*\text{fasting glucose in mg/dL}$; San Antonio Heart Study: probability(diabetes) = $[\exp(X)/(1+\exp(X))]/7.5]^5$, where $X = -13.415 + 0.028*\text{age in years} + 0.661*\text{sex (1 if female, 0 if male)} + 0.412*1 \text{ if Mexican American (all 0 for this study)} + 0.079*\text{fasting glucose in mg/dL} + 0.018*\text{systolic blood pressure in mm Hg} - 0.039*\text{HDL in mg/dL} + 0.070*\text{BMI} + 0.481*1 \text{ if family history of diabetes is present}$; ‡p-value for unpaired ROC comparison of models estimated within Overall cohort, African Americans and Whites comparing change in model discrimination when diagnostic guidelines are updated from ADA 2004 to ADA 2010 diagnostic guidelines; §Model 2a included the following predictors from the published Framingham prediction model: age, sex, BMI, waist circumference, parent history of diabetes, HDL, triglycerides, fasting glucose, systolic blood pressure and the San Antonio Heart Study prediction model: age, sex, BMI, family history of diabetes, HDL, fasting glucose, systolic blood pressure . Model 2b included the same predictors as Model 2a with the addition of A1C; ||p-value for paired ROC comparison of models estimated within Overall cohort, African Americans and Whites comparing change in model discrimination when diagnostic guidelines are updated to include baseline A1C as a predictor

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Table S1. Discrimination of 5-year incident diabetes using the Framingham and San Antonio Heart Study risk prediction models: the CARDIA study (2005-2011)

	Overall AUC (95% CI)	African Americans AUC (95% CI)	Whites AUC (95% CI)	p-value*
Model 1: Previously published regression coefficients†				
Framingham				
Model 1a: ADA 2004 diagnostic guidelines	0.850 (0.780, 0.902)	0.810 (0.730, 0.891)	0.905 (0.858, 0.952)	0.05
Model 1b: ADA 2010 diagnostic guidelines	0.817 (0.777, 0.857)	0.784 (0.725, 0.843)	0.861 (0.813, 0.908)	0.05
p-value‡	0.33	0.61	0.19	
San Antonio Heart Study				
Model 1a: ADA 2004 diagnostic guidelines	0.847 (0.795, 0.898)	0.798 (0.718, 0.878)	0.906 (0.861, 0.951)	0.02
Model 1b: ADA 2010 diagnostic guidelines	0.825 (0.785, 0.865)	0.783 (0.724, 0.842)	0.871 (0.821, 0.921)	0.03
p-value‡	0.52	0.76	0.32	
Model 2: Regression equations re-estimated in CARDIA using ADA 2010 diagnostic guidelines§				
Framingham				
Model 2a: Original predictors	0.836 (0.797, 0.875)	0.797 (0.740, 0.855)	0.885 (0.835, 0.934)	0.02
Model 2b: Original predictors + A1C	0.866 (0.835, 0.897)	0.818 (0.765, 0.871)	0.913 (0.879, 0.946)	0.003
p-value	0.006	0.16	0.04	
San Antonio Heart Study				
Model 2a: Original predictors	0.830 (0.789, 0.871)	0.792 (0.732, 0.853)	0.870 (0.817, 0.923)	0.06
Model 2b: Original predictors + A1C	0.857 (0.823, 0.890)	0.810 (0.756, 0.865)	0.899 (0.862, 0.936)	0.009
p-value	0.01	0.18	0.05	

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Supplementary Table S2. Footnote: Baseline and incident diabetes defined according to the following guidelines adapted from ADA 2010 diagnostic guidelines: reported use of anti-diabetic medication, or fasting glucose ≥ 126 mg/dl, 2-hour oral glucose tolerance test ≥ 200 mg/dL, or A1C $\geq 6.5\%$ or self-reported physician diagnosis of diabetes, N=2,329; *p-value for unpaired ROC comparison of models estimated in African Americans versus Whites; §Model 2a included the following predictors from the published ARIC prediction model: age, parent history of diabetes, fasting glucose, systolic blood pressure, waist circumference, height, HDL cholesterol, triglycerides. Model 2b included the same predictors as Model 2a with the addition of A1C; ||p-value for paired ROC comparison of models estimated within Overall cohort, African Americans and Whites comparing change in model discrimination when diagnostic guidelines are updated to include baseline A1C as a predictor

Supplemental Table S2. Discrimination of 5-year incident diabetes using the ARIC risk prediction model and alternate ADA 2010 diagnostic guidelines modified to include self-reported physician diagnosis of diabetes: the CARDIA study (2005 – 2011)

	Overall AUC (95% CI)	African Americans AUC (95% CI)	Whites AUC (95% CI)	p-value*
Model 2: Regression equations re-estimated in CARDIA using ADA 2010 diagnostic guidelines				
Model 2a: Original predictors	0.824 (0.787, 0.861)	0.782 (0.733, 0.821)	0.852 (0.813, 0.900)	0.04
Model 2b: Original predictors + A1C	0.843 (0.809, 0.877)	0.801 (0.746, 0.856)	0.875 (0.831, 0.919)	0.04
p-value [‡]	0.07	0.24	0.15	