

Online data supplement:

Defining the Metabolic Syndrome Construct: Multi-Ethnic Study of Atherosclerosis Cross-sectional Analysis

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Online Appendix Table 1. The Association of the Homoeostatic Model Assessment of Insulin Resistance (HOMA) With the Presence of Individual Components of the Metabolic Syndrome in the Multi-Ethnic Study of Atherosclerosis (2000-2002)

	Median HOMA (interquartile range) in HOMA units			
	men		women	
	Metabolic component absent	Metabolic component present	Metabolic component absent	Metabolic component present
Central Obesity	1.07 (0.71,1.71)	2.07 (1.34,3.28)	0.81 (0.57,1.17)	1.63 (1.02,2.59)
High TG	1.16 (0.75,1.91)	1.91 (1.26,3.02)	1.12 (0.73,1.90)	1.75 (1.12,2.78)
Low HDL	1.14 (0.74,1.85)	1.81 (1.14,2.92)	1.02 (0.70,1.66)	1.84 (1.14,2.89)
High BP	1.15 (0.75,1.89)	1.55 (0.96,2.59)	1.01 (0.69,1.67)	1.55 (0.95,2.56)
High Glucose	1.00 (0.68,1.55)	1.96 (1.24,3.13)	0.99 (0.67,1.53)	1.98 (1.35,2.98)
High Glucose*	1.00 (0.68,1.55)	1.87 (1.20,2.88)	0.99 (0.67,1.53)	2.08 (1.37,3.23)

TG, HDL – Serum Triglycerides, HDL Cholesterol, BP – Blood pressure, Glucose – Fasting Plasma Glucose, * - Analysis excludes subjects on antidiabetic medications. All metabolic component present vs. absent comparisons, p < 0.001

Online Appendix Table 2: The Association of the Homoeostatic Model Assessment of Insulin Resistance (HOMA) With the Number of Metabolic Syndrome Components by age and race in the Multi-Ethnic Study of Atherosclerosis (2000-2002)

# Metabolic Syndrome Components		Median HOMA (interquartile range) in HOMA units					
		0	1	2	3	4	5
Men	All	0.75 (0.53,0.99) n=375	0.93 (0.62,1.37) n=717	1.33 (0.90,2.02) n=812	1.81 (1.24,2.62) n=691	2.53 (1.68,3.85) n=458	3.59 (2.20,5.31) n=146
	White	0.68 (0.50,0.90) n=175	0.91 (0.62,1.31) n=293	1.16 (0.82,1.72) n=300	1.62 (1.20,2.41) n=262	2.42 (1.57,3.54) n=164	3.05 (2.00,4.64) n=63
	Chinese	0.83 (0.48,1.08) n=56	1.01 (0.70,1.53) n=99	1.37 (0.96,2.04) n=112	1.79 (1.21,2.36) n=76	2.44 (1.71,3.59) n=37	2.30 (2.04,4.50) n=7
	Black	0.77 (0.53,1.04) n=84	0.85 (0.56,1.31) n=197	1.47 (0.99,2.25) n=207	1.97 (1.20,2.77) n=196	2.43 (1.62,4.06) n=122	3.86 (2.05,5.31) n=31
	Hispanic	0.87 (0.70,1.07) n=60	1.06 (0.75,1.70) n=128	1.42 (0.93,2.37) n=193	1.87 (1.43,2.83) n=157	2.72 (1.97,4.31) n=135	3.91 (2.89,5.68) n=45
Women	All	0.65 (0.46,0.89) n=391	0.86 (0.64,1.20) n=683	1.17 (0.84,1.73) n=860	1.65 (1.10,2.50) n=843	2.27 (1.56,3.46) n=559	2.84 (1.85,4.34) n=240
	White	0.60 (0.43,0.82) n=227	0.76 (0.57,1.02) n=312	0.99 (0.74,1.49) n=297	1.39 (0.97,2.17) n=262	1.97 (1.39,2.96) n=175	2.69 (1.71,3.91) n=81
	Chinese	0.82 (0.55,0.96) n=54	0.85 (0.64,1.25) n=96	1.20 (1.00,1.65) n=102	1.53 (0.99,2.32) n=76	2.21 (1.40,3.09) n=61	2.16 (1.27,2.64) n=24
	Black	0.67 (0.52,1.03) n=63	0.80 (0.69,1.33) n=168	1.33 (0.87,1.98) n=280	1.89 (1.31,2.85) n=308	2.40 (1.71,3.60) n=165	2.96 (2.10,5.29) n=53
	Hispanic	0.80 (0.51,1.01) n=47	1.04 (0.77,1.47) n=107	1.31 (0.90,2.07) n=181	1.82 (1.23,2.59) n=197	2.60 (1.67,3.98) n=158	3.11 (2.20,5.05) n=82

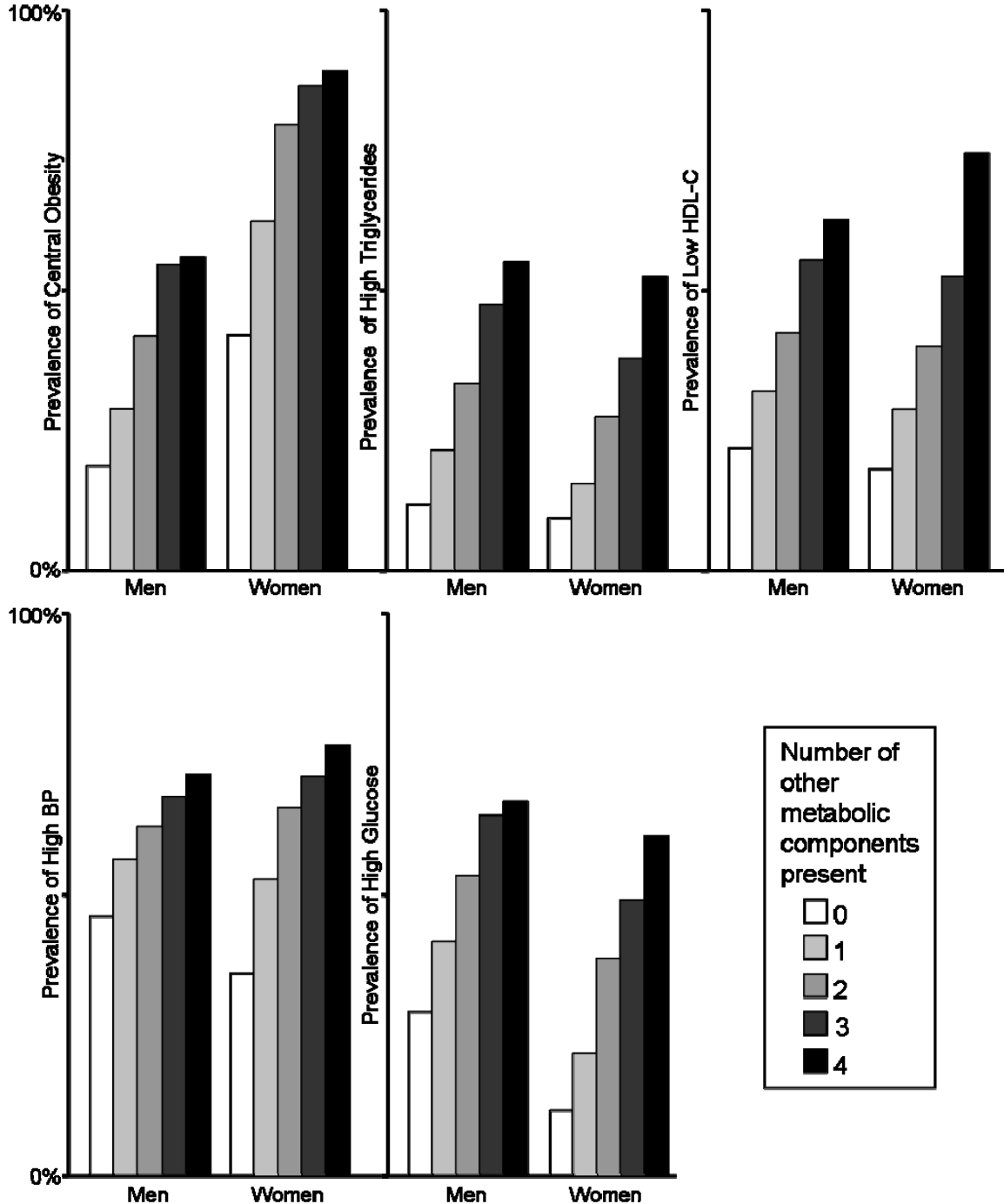
Tested using Kusick non-parametric trend test. For trends of HOMA levels vs. component count in all race/ethnicities, severally or pooled, $p < 0.001$.

Online Appendix Table 3: Receiver Operating Characteristic Curve Analysis of the Efficiency of Metabolic Component Number in Diagnosis of HOMA in the Upper Quartile of the Population Distribution in the Multi-Ethnic Study of Atherosclerosis (2000-2002), by Race/Ethnicity and Sex

	Area under ROC Curve (95% CI)	
	Men	Women
White	0.82 (0.80 to 0.85)	0.86 (0.84 to 0.88)
Chinese	0.77 (0.72 to 0.83)	0.81 (0.76 to 0.86)
Black	0.77 (0.74 to 0.80)	0.75 (0.72 to 0.78)
Hispanic	0.78 (0.75 to 0.82)	0.77 (0.74 to 0.81)

ROC – Receiver operating characteristic curve, HOMA – Homeostatic model assessment of insulin resistance

Online Appendix Figure 1:
 Expected Co-Prevalence of Metabolic Syndrome Components Based on the Prevalence of Individual Components, compared to the Observed Co-prevalences in the Multi-Ethnic Study of Atherosclerosis (2000-2002)



Tested using Goodman and Kruskal's gamma with asymptotic standard error, p-value for trend to higher prevalence of each component by the number of other components, all trends < 0.001