

Supplemental Material

Supplemental Table 1. Cystatin C (mg/L) concentrations stratified by age, gender and race/ethnicity within the SEARCH Study (total and by diabetes type) and NHANES III.

<i>Strata</i>	<u>Mean Cystatin C (SE)</u>				<u>p-values</u>			
	SEARCH*	SEARCH Type 1*	SEARCH Type 2*	NHANES**	SEARCH vs NHANES	T1 vs NHANES	T2 vs NHANES	T1 vs T2
<u>All</u>	0.74 (0.004)	0.75 (0.004)	0.70 (0.01)	0.85 (0.01)	<0.0001	<0.0001	<0.0001	<0.0001
<u>Age</u>								
12-14	0.76 (0.01)	0.77 (0.01)	0.74 (0.02)	0.85 (0.01)	<0.0001	<0.0001	<0.0001	0.2040
15-19	0.72 (0.01)	0.73 (0.01)	0.68 (0.01)	0.84 (0.01)	<0.0001	<0.0001	<0.0001	0.0022

<u>Sex</u>								
Male	0.79 (0.01)	0.79 (0.01)	0.74 (0.02)	0.89 (0.01)	<0.0001	<0.0001	<0.0001	0.0040
Female	0.70 (0.01)	0.70 (0.01)	0.68 (0.01)	0.79 (0.01)	<0.0001	<0.0001	<0.0001	0.0979
<u>Race/Ethnicity</u>								
White	0.77 (0.005)	0.77 (0.005)	0.77 (0.02)	0.88 (0.01)	<0.0001	<0.0001	<0.0001	0.9578
Black	0.67 (0.01)	0.65 (0.01)	0.68 (0.02)	0.76 (0.005)	<0.0001	<0.0001	<0.0001	0.2221
Hispanic	0.69 (0.01)	0.70 (0.01)	0.69 (0.02)	0.79 (0.01)	<0.0001	<0.0001	<0.0001	0.7593
Other	0.72 (0.02)	0.72 (0.02)	0.70 (0.03)	0.86 (0.03)	<0.0001	<0.0001	0.0009	0.5806

*Values reported are mean (SE) of cystatin C

** Values reported are mean (SE) of cystatin C after accounting for sample weights and the clustered and stratified sample structure.

Supplemental Data 1

Standardization of Cystatin C assay in SEARCH

With a sample size of 100 participants in each calibration sample, a one-sided 95% confidence interval for the correlation coefficient (old measure vs. new measure) had a lower bound within 0.07 of the observed correlation if the correlation is above 0.8. If the correlation between the two methods was higher than 0.8 then the width of the confidence interval would be less than +/- 0.07.

The Siemens BNII analyzer was calibrated using the IFCC reference material through analysis occurring five times per day for five consecutive days. The mean of the obtained results was 0.168 ± 0.06 mg/L while the target as provided by Siemens was 0.148 mg/L. The selected 200 samples from the SEARCH cohort were then analyzed using the calibrator with the value traceable to the ERM DA 471 reference material. The correlation between the old and new cystatin C measures was calculated for both time periods. The observed correlations were 0.88 and 0.85 for samples collected prior to and after May 2008, respectively. Deming regression [26] models were then fit to derive the correction equations to link the previously measured cystatin C values with the new values measured after calibration.