MASALA study measurements

Baseline Exam 1: October 2010-March 2013
Social Networks: September 2014-March 2018
Exam 2: September 2015-March 2018
Exam 1A: March 2017-March 2018 (new wave of recruitment)

Measure	Baseline n=906	SN n=765	Exam 2 n=748	Exam 1A n=257
Questionnaire items*:				
Demographic: age, sex, country of birth, marital status; religion	X			X
SES: education; family income; employment status; number supported, wealth status, medical care, medical insurance	X			X
India: state identification; Pakistan: province/territory	X			X
Acculturation: language used during visit; language spoken at home; English fluency, years in the U.S.; percent of life in the US; food eaten at home/restaurant, social/cultural gatherings; friends; traditional cultural beliefs scale; acculturation strategies	X			X
Tobacco use; other tobacco products; 2nd hand smoke	X		X	X
Alcohol use; frequency; type of alcohol	X		X	X
Medical history: emphysema, asthma, arthritis, DVT/PE, rheumatic heart disease, liver disease, kidney disease, HTN, DM, GDM, high cholesterol, cancer (type)	X			X
Weight: history at age 20, 40, last 3 years	X			X
OB/Gyn history: pregnancy, hysterectomy, oophorectomy, OCP use, menopause, HRT use, UTI, incontinence (stress vs. urge)	X			X
Acute medical history (past 2 weeks): cold, flu, infections, etc.	X			X
Family history (heart attack, stroke, diabetes)	X			X
Medication use (Rx, vitamins, supplements, ayurvedic)	X	X	(X)	X
Physical activity: Total Week Activity Survey (leisure-time exercise, occupational, volunteer, and transportation); walk score	X	X	(X)	X
Psychosocial: CES-D, Spielberger anxiety, anger, chronic burden, discrimination	X			X
Food frequency questionnaire (SHARE)—total caloric intake, macronutrient intake; three major dietary patterns	X	X	(X)	X
Berlin sleep scale	X			
Neighborhood: Length of time in neighborhood, feeling about neighborhood, safety, environment	X			X
Census tract geocoding	X			
Social networks: 5 closest alters & 5 institutions (details below)		X		
Number and ages of sons and daughters			X	X
Language preference—spoken at home, reading, TV			X	X
Spirituality questionnaire (Harvard)			X	X
Childhood trauma—physical and emotional (Harvard)			X	X
Psychosocial measures: SF-12, happiness, forgiveness			X	X
General health follow-up			X	X

	Baseline	SN	Exam 2	Exam 1A
Physical Exam measurements:				
Weight, height, waist circumference, hip circumference	X	X	X	X
Seated blood pressure	X	X	X	X
Ankle brachial index	X			
Tests/Procedures:				
12-lead electrocardiogram (not coded)	X			
Cardiac CT (total CAC score, CAC volume, calcium density)	X		X	X
Carotid intima media thickness (common and internal carotid)	X			
Fasting laboratory tests:				
Glucose (Quest serum)	X		X	X
Insulin (Univ MN)	X		Planned	Planned
Urea Nitrogen (Quest)	X		X	X
Creatinine, BUN (Quest)	X		X	X
eGFR (calculated)	X		X	X
Liver enzymes: ALT/AST/GGT (Quest)	X		X	X
Uric Acid (Quest)	X		X	X
LDH (Quest)	X		X	X
Cholesterol: total, HDL, triglycerides, LDL, VLDL (Quest)	X		X	X
Electrolytes: sodium, potassium, bicarbonate, chloride (Quest)	X		X	X
Calcium, magnesium, phosphorous (Quest)	X		X	X
Total protein, albumin, globulin (Quest)	X		X	X
Total bilirubin (Quest)	X		X	X
Alkaline Phosphatase (Quest)	X		X	X
Iron (Quest)	X		X	X
HbA1c (Quest)	X		X	X
Oral glucose tolerance test: (only among those not taking diabetes meds)				
Fasting, 30- and 120-minute glucose (Quest)—plasma	X		X	X
Fasting, 30- and 120-minute insulin (Univ MN)--serum	X		Planned	Planned
Disposition index—calculated	X		Planned	Planned
HOMA-IR, HOMA-beta cell—calculated	X		Planned	Planned
Novel serum/plasma tests (fasting):				
hsCRP (Univ Vermont)	X			
Lp(a) (Univ MN)	X			
Adiponectin (Univ Vermont)	X			
Resistin (Univ Vermont)	X			
Leptin (Univ Vermont)	X			
TNF-alpha (Univ Vermont)	X			
Microalbuminuria (ACR) (Univ Vermont)	X			
Genomic and 'omics markers:				
Telomere length	X			
Whole genome sequencing	Planned			Planned
Whole genome methylation	Planned			Planned

	Baseline	SN	Exam 2	Exam 1A
Ectopic fat from CT scans:				
Abdominal visceral, subcutaneous fat, intermuscular fat (UCSD)	X			
Hepatic fat attenuation (Vanderbilt)	X			
Pericardial fat (Vanderbilt)	X			
Lean abdominal muscle mass (UCSD)	X			
Social Network Measurements		X		
Network size		X		
Network density		X		
Kin-nonkin density		X		
Proportion of kin in network		X		
Proportion female in network		X		
Proportion South Asian in network		X		
Closeness to network members		X		
Volume of contact with network members		X		
Discussion of health problems with network members		X		
Social support: emotional, instrumental,		X		
Social isolation		X		
Closeness to South Asian community		X		
Closeness to American community		X		
South Asian Identity		X		
American Identity		X		
Alter diet (perception of ego)		X		
Alter exercise (perception of ego)		X		
Affiliations to South Asian organizations		X		
Affiliation exposure		X		
Perception of body size norms of network		X		
Perception of self body size norms		X		

*all questionnaire items will require exact variable name in analysis plan—check annotated forms.
Yellow highlight indicates measures that were either not obtained in MESA, or done measured by a different protocol/reading center
(X) indicates that this questionnaire may have been done in context during Exam 2 if the participant did not complete the SN visit before Exam 2.

MASALA Study Timeline

Baseline Exam 1	SN exam	**Exam 2/SN**	Exam 1A	**(Exam 3/2A)**
Oct 2010-March 2013	Sept 2014-March 2018	Sept 2015-March 2018	March 2017-March 2018	(2019-2021)