Name	**Healthy Live in an Urban Setting (HELIUS)**
Description	The HELIUS study is a prospective cohort study, including six ethnic groups (including the Dutch as a reference) living in Amsterdam, the Netherlands. The general objective of the HELIUS study is to study the causes of (the unequal burden of) diseases across these ethnic groups, with emphasis on three disease categories: cardiovascular diseases, mental health and infectious diseases
Location	Amsterdam
Lead Institute	Amsterdam UMC, location AMC
Cohort size	23,942 inhabitants of Amsterdam • 4671 Dutch • 3369 South-Asian Surinamese • 4458 African Surinamese • 2735 Ghanaian • 4200 Turkish • 4502 Moroccan
Start Cohort	2011
Follow-up	Baseline was in 2011 First follow up: 2019
Variables and Measurement methods	**Overview variables in baseline HELIUS questionnaire**

DETERMINANTS OR RISK FACTORS					
General	**Infectious diseases**	**Mental health**	**Cardiovascular diseases**	**Health care**	**Nutrition**
- Sex, age - Marital status - Household composition - Ethnic origin (incl. subgroups and province) - Migration history - Educational level - Occupational status - Work-related recovery opportunities - Religion - Cultural distance - Smoking - Alcohol intake - Cannabis use - Physical activity (SQUASH)	- Sexual behaviour - Anti-conception use (women) - HPV vaccination (women) - Circumcision (men) - Travel behaviour (incl. visited countries) - Use of self-tests - Blood transfusions - Use of drugs by injection - Surgery in other country	- Perceived discrimination (Everyday discrimination scale, Forman et al 1997) - Perceived social support (Social Support Questionnaire for Satisfaction Emotional Support Subscale) - Childhood trauma (NEMESIS-I) - Parental psychiatric history (NEMESIS-I) - Mastery (NEMESIS-I) - Neuroticism (NEO-FFI) - Extraversion (NEO-FFI) - Stressful life events (NEMESIS-II) - Psychological stress (2 items from INTERHEART)	- History of high blood pressure (incl. family history) - History of dyslipidaemia (incl. family history) - History of diabetes (incl. family history) - Fainting - Age of menarche - Age of menopause - Variables to link with LVR	- Difficulty understanding medical information - Compliance to medication - Perceived quality of GP	- Weight perception - Fruit intake - Vegetarian diet - Dietary pattern (breakfast, lunch, meal) - Coffee/tea and sugary drinks intake

OUTCOMES					
General	**Infectious diseases**	**Mental health**	**Cardiovascular diseases**	**Health care**	**Nutrition**
- General diseases - Quality of life (SF-12) - Functional limitations	- Allergy/asthma (incl. family history) - Rhinitis - Food allergy - Urogenital infections	- Cigarette dependence (Fagerström) - Alcohol dependence (AUDIT) - Lifetime alcohol dependence - Cannabis dependence (CUDIT) - Lifetime cannabis dependence - Current depression and depressive disorder (PHQ-9) -Lifetime depression - Post-traumatic stress disorder	- Angina pectoris (Rose) - Myocardial infarction - Intermittent claudication (Rose) - Heart failure - CVA/TIA - Family history CVD and sudden death	- Visit to GP - Visit to specialists - Psychological help - Alternative health care - Medication or care in other country/countries	- Self-reported weight and height

Overview measurements/variables baseline HELIUS physical examination

Questions at physical examination	
Time of latest meal (to check fasting state)	
Time of latest cigarette	
Currently breastfeeding	
Normal dietary pattern for the last 3 days	
Normal physical activity patterns for the last 3 days	
Current/recent (past 2 weeks) health problems:	Fever
	Head ache
	Muscle pain
	Pain in throat
	Coughing
	Shortness of breath
	A cold
Part of twin	
Medication	Name, dose, frequency, indication
Nutritional supplements	Name, indication
Health literacy test	
Measurements	
Anthropometry	Weight
	Height
	Waist circumference
	Hip circumference
	Thigh circumference
	Arm circumference
	Calf circumference
Body fat percentage	(by bio-impedance)
Hand grip strength	
Blood pressure	(sitting)

	Ankle-arm index: (supine position) ECG: Left ventricular hypertrophy, infarction, etc. Nexfin: Cardiac output, peripheral resistance Arteriograph: Arterial stiffness
	Collection biological material
	Morning urine sample: Storage Direct determination of: micro-albumin, creatinine Fasting blood sample: Storage Direct determination of: total chol, HDL, LDL, triglycerides, creatinine, glucose, Hb, HbA1c, CK Throat swabs: Storage Nose swab: Storage Vaginal swab (women only): Storage Faeces sample: Storage
Availability and Type of -omic data	**Available are:** Fecal microbiome data (n~6000) Whole genome SNP genotypes (n~10000) Vaginal microbiome data (n~600, women only) Metabolomics data (n~500, Ghanaians and African Surinamese with (pre)diabetes)
Design paper	Stronks et al. (2013)
website	www.heliusstudy.nl/