

Table 1. Summary of participant selection criteria for each Healthy Hearts Consortium cohort

Contributing cohort	Selection criteria
Utrecht (The Netherlands)	<ul style="list-style-type: none"> • Aged between 25 and 35 years • No prior history of cardiovascular disease • No cardiac arrhythmias • No record of cardiovascular preventive medication
Pisa (Italy)	<ul style="list-style-type: none"> • Age between 15 and 80 years • No personal history of cardiac or non-cardiac disease that may affect cardiac function. • No family history of genetic disease • Normal physical examination • Normal electrocardiogram • Normal echocardiographic examination • No coronary risk factors including diabetes, hypertension (defined as diastolic blood pressure >90 mmHg, systolic blood pressure >140 mm Hg, or receiving treatment for hypertension), hyperlipidemia (abnormal lipid levels or receiving lipid-lowering therapy), obesity (defined as body mass index $\geq 30 \text{ kg/m}^2$). • No history of smoking or drug use
Heidelberg (Germany)	<ul style="list-style-type: none"> • Aged over 20 years old • No signs, symptoms or history of any cardiac disease, including arterial hypertension, cardiovascular, cerebrovascular or non-cardiac diseases, any regular medication except for contraceptives or vitamins • Screening was performed with clinical history, physical examination, 12-lead ECG, and a resting blood pressure • Fasting glucose and HbA1c were measured, and those with impaired glucose tolerance were excluded • In all participants, CMR stress test (first-pass perfusion with adenosine-induced vasodilation or stress function CMR during dobutamine) was performed to exclude significant coronary artery disease
Singapore	<ul style="list-style-type: none"> • Aged 20 to 69 years old • No symptoms, clinical or family history of cardiovascular or cerebrovascular disease • No history of hypertension, hyperlipidemia, or diabetes mellitus. • Individuals with valvular heart disease or wall motion abnormalities detected on CMR were excluded
Study of Health in Pomerania (SHIP)	<ul style="list-style-type: none"> • Aged 20 to 80 years • No prior arterial hypertension (measured blood pressure), diabetes mellitus (measured HbA1c), myocardial infarction (self-report, 12-lead ECG), self-reported cardiac surgery, heart failure, stroke, chronic lung disease, peripheral artery disease. • No cardiovascular/pulmonary medication • subjects with ECG signs of atrial fibrillation or left or right bundle branch block and participants with late gadolinium enhancement in CMR imaging were excluded from the reference population
UK Biobank	<ul style="list-style-type: none"> • Age 44 to 83 years old • Exclusion of any record of cardiovascular disease according to self-report in UK Biobank assessments, or linked electronic health records – including hospital episode statistics and Office of Population Censuses and Surveys Classification of Interventions and Procedures • Matched deprivation and risk factor profile to the UK general population • For further details see Supplemental Methods

Table 1 footnote. CMR: cardiovascular magnetic resonance; ECG: electrocardiogram; HbA1c: glycated haemoglobin.

