Overview of PRECISE-SG100K Resource

The PRECISE-SG100K resource is a unique multi-ancestry Asian population cohort dataset of ~100,000 Singaporean residents drawn from four major prospective population health studies in Singapore: [1]HELIOS-NTU, SPHS-NUS, SERI-SEED and NHCS-SingHeart. This extensive resource includes:

Research Phenotype Data

1. **Questionnaire Data**

   - Detailed health and lifestyle information, including medical history, medications, behavioural risk factors, mental health, and socio-economic status

   - Singapore-specific food frequency data, enabling detailed analysis of dietary patterns and nutrient intake

   - Cognitive function assessments using validated memory and thinking tests

2. **Physical Measurements**

   - Comprehensive anthropometric measurements

   - Digital blood pressure readings

   - 12-lead ECG for cardiac assessment

   - Spirometry results

   - 7-day physical activity data using Axivity tri-axial accelerometry

3. **Advanced Imaging**

   - DXA scans for bone density and body composition

   - Carotid ultrasound for cardiovascular assessment

   - Detailed eye examinations including retinal photography, OCT, tonometry, and refraction

   - Coronary artery calcification data (representative subset of 2,000 participants)

Molecular Data

   - **Whole genome sequencing** data (short read 30X coverage sequencing) generated with the Genome Institute of Singapore (A*STAR) under Phase II of Singapore's National Precision Medicine Programme

   *Please note: Data availability may be phased, with some datasets becoming accessible at later stages.

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[1] Health for Life in Singapore Study (HELIOS), National Technological University (NTU); Singapore Population Health Studies (SPHS), National University of Singapore (NUS); Singapore Eye Research Institute (SERI) – Singapore Epidemiology of Eye Diseases (SEED); National Heart Centre Singapore (NHCS) – SingHEART