# Gene-lifestyle interactions and complex traits Involved in elevated disease risk

Submission date 05/10/2017	<b>Recruitment status</b> No longer recruiting	<ul> <li>Prospectively registered</li> <li>Protocol</li> </ul>
<b>Registration date</b> 17/11/2017	<b>Overall study status</b> Ongoing	<ul> <li>Statistical analysis plan</li> <li>Results</li> </ul>
Last Edited 17/11/2017	<b>Condition category</b> Circulatory System	<ul> <li>Individual participant data</li> <li>Record updated in last year</li> </ul>

#### Plain English summary of protocol

Background and study aims

Since 1986, all residents of the northern Swedish county of Västerbotten who turned 40, 50 and /or 60 years are invited to visit the primary care centre. The aim of this study is to use the extensive data collected as part of this ongoing health survey in order to address questions related to lifestyle and genetic risk factors in cardiometabolic disease (e.g., heart disease and type 2 diabetes).

Who can participate? Adults aged 40, 50, and 60 from Västerbotten

What does the study involve?

Patients complete a detailed lifestyle questionnaire and provide blood samples. The blood sample is used to measure blood glucose (sugar), blood lipids (fat, cholesterol), and genetic information. The data is used to find out whether lifestyle/environmental factors affect the link between genetics and human character (e.g. body mass index, blood glucose).

What are the possible benefits and risks of participating? Participants receive some health-related advice as part of the background study, which may be perceived as a benefit. Risks include those related to the handling of sensitive personal data. There are no significant treatment-related risks.

Where is the study run from? Primary Care Center in Västerbotten (Sweden)

When is the study starting and how long is it expected to run for? January 1986 to December 2025

Who is funding the study?

- 1. Swedish Research Council (Sweden)
- 2. Novo Nordisk (Denmark)
- 3. Swedish Heart-Lung Foundation (Sweden)
- 4. Swedish Diabetes Association (Sweden)

Who is the main contact? Prof. Paul Franks

### **Contact information**

**Type(s)** Scientific

**Contact name** Prof Paul Franks

**Contact details** Department of Clinical Sciences, Genetic and Molecular Epidemiology CRC, Building 91, Level 10 Jan Waldenströms gata 35 Skåne University Hospital Malmö Malmö Sweden 21428

## Additional identifiers

EudraCT/CTIS number

**IRAS number** 

ClinicalTrials.gov number

Secondary identifying numbers Dnr 2015-197-32M

## Study information

#### Scientific Title

Gene-lifestyle interactions and complex traits involved in elevated disease risk: a prospective population-based cohort study

#### Acronym GLACIER

#### **Study objectives**

The GLACIER study was designed to estimate the separate and combined effects of genetic and lifestyle factors in cardiometabolic disease.

**Ethics approval required** Old ethics approval format

**Ethics approval(s)** The Regional Ethics Review Board in Umeå, 21/10/2010, ref: Dnr 2015-197-32M **Study design** Prospective population-based cohort study

**Primary study design** Observational

**Secondary study design** Cohort study

**Study setting(s)** Other

Study type(s) Other

#### Participant information sheet

Not available in web format, please use the contact details to request a patient information sheet

#### Health condition(s) or problem(s) studied

Cardiovascular disease and type 2 diabetes

#### Interventions

All participants are asked to complete a questionnaire concerning various lifestyle factors including diet and to donate a blood sample for for later research purposes. The blood samples were then measured for blood glucose, blood lipid profiles (e.g. triglyceride, HDL-cholesterol) and for genetic information. Body weight and height were measured. The study is focused on whether lifestyle/environmental factors influence the association between genetics and human character (e.g. body mass index, blood glucose).

#### Intervention Type

Mixed

#### Primary outcome measure

Many hundreds of exposure and outcome variables including type 2 diabetes, myocardial infarction and stroke, derived from health survey data every 10 years

#### Secondary outcome measures

Secondary outcomes include quantitative cardiometabolic traits (e.g., blood pressure, glucose, and lipids, and anthropometry) usually assessed in the year of each participant's 40, 50, 60th or 70th birthdays. Examinations occurred between 1986 and 2007

Overall study start date 01/01/1986

Completion date 31/12/2025

# Eligibility

#### Key inclusion criteria

All individuals 40, 50, and 60 years of age in the county's population are invited

**Participant type(s)** Mixed

**Age group** Adult

**Sex** Both

Target number of participants 100000

**Key exclusion criteria** People who are not able to consent or not living in the county

# Date of first enrolment 01/01/1986

Date of final enrolment 01/01/2020

### Locations

**Countries of recruitment** Sweden

**Study participating centre Primary Care Center in Västerbotten** SE-901 87

### Sponsor information

**Organisation** Umeå University Department of Biobank Research

**Sponsor details** Department of Biobank Research Umeå University Umeå Sweden SE-901 87 **Sponsor type** University/education

Website http://www.biobank.umu.se/biobank/

ROR https://ror.org/05kb8h459

## Funder(s)

**Funder type** Government

**Funder Name** Vetenskapsrådet

Alternative Name(s) Swedish Research Council, VR

**Funding Body Type** Government organisation

Funding Body Subtype National government

**Location** Sweden

**Funder Name** Novo Nordisk

Alternative Name(s) Novo Nordisk Global

**Funding Body Type** Private sector organisation

**Funding Body Subtype** For-profit companies (industry)

**Location** Denmark **Funder Name** Hjärt-Lungfonden

Alternative Name(s) Swedish Heart-Lung Foundation

**Funding Body Type** Private sector organisation

**Funding Body Subtype** Trusts, charities, foundations (both public and private)

**Location** Sweden

**Funder Name** Diabetesförbundet

Alternative Name(s) Swedish Diabetes Foundation, Svenska Diabetesförbundet

**Funding Body Type** Private sector organisation

**Funding Body Subtype** Associations and societies (private and public)

**Location** Sweden

### **Results and Publications**

**Publication and dissemination plan** Papers are published on an ongoing basis in peer reviewed biomedical journals.

# Intention to publish date 31/12/2026

#### Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study is not expected to be made available due to consenting constraints.

#### IPD sharing plan summary

Not expected to be made available