

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

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

## 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**  
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## Additional identifiers

**Protocol serial number**  
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

**Study type(s)**

Other

**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(s)**

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

**Key secondary outcome(s)**

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

**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

**Healthy volunteers allowed**

No

**Age group**

Adult

**Sex**

All

**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

**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

## **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