

Swiss TPH



UNIVERSIDAD PERUANA  
**CAYETANO HEREDIA**  
FACULTAD DE SALUD PÚBLICA Y ADMINISTRACIÓN

# The ALTO-Cohort Project

Swiss - Peruvian Health Research Platform

**Daniel Mäusezahl & Stella Hartinger-Peña**

Cohorts and Long-term Partnerships

Virtual events

8.9.2022

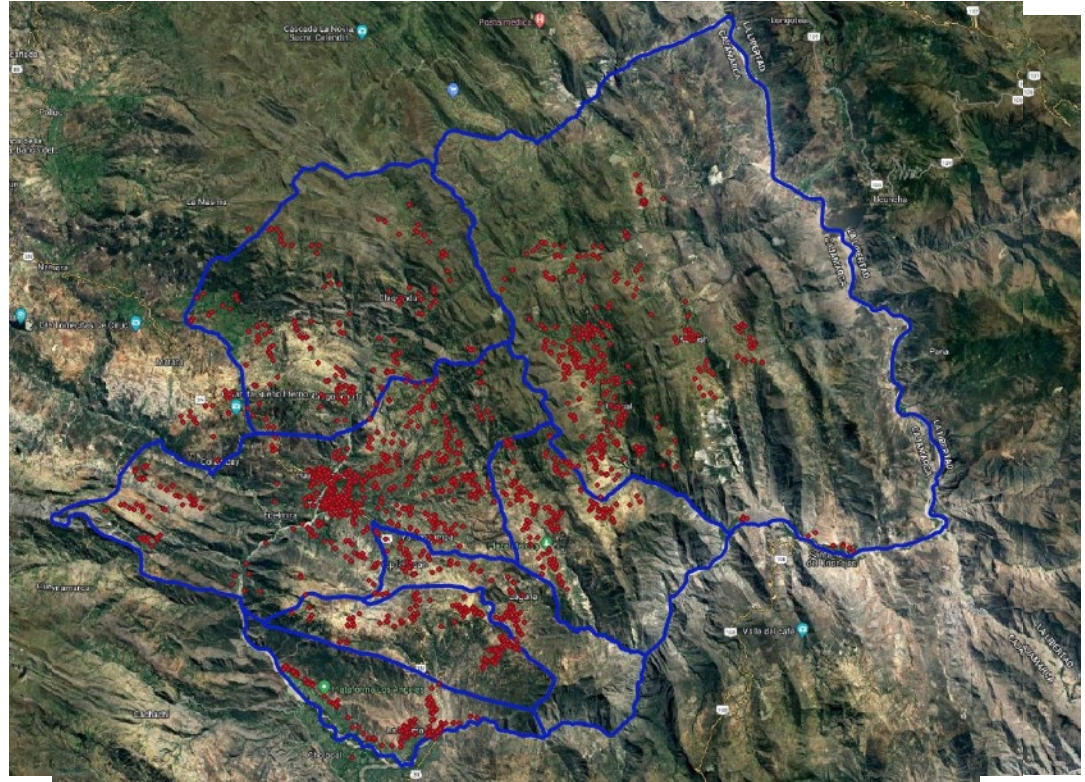
# ALTO - The Peruvian Andes Multigenerational High Altitude Cohort

- Multi-generational birth cohort located in the Northern Peruvian Andes
- Pregnancies and family members
- Enrolment mid-Feb 2020 until mid-Aug 2022



# Study Design

- Provincia de San Marcos, Región Cajamarca
- Cohort Study
- Pregnant women, 2000 births expected
- Family members, up to 4 generations
- Currently enrolled: (2022, wk36)
  - 1884 pregnancies
  - 2490 family members



# Peruvian Andes Multi-Generational High Altitude Cohort (ALTO)

To establish a birth- & multigenerational cohort in the entire province of San Marcos (2020-2022)

## Elderly Health Outcomes

Chronic conditions  
Quality of Life  
Lifestyles

## Adult Health Outcomes

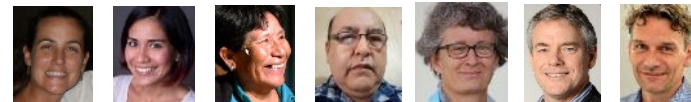
Hypertension  
Diabetes  
Overweight  
Mental health  
Degenerative diseases

## Pregnancy and child birth outcomes:

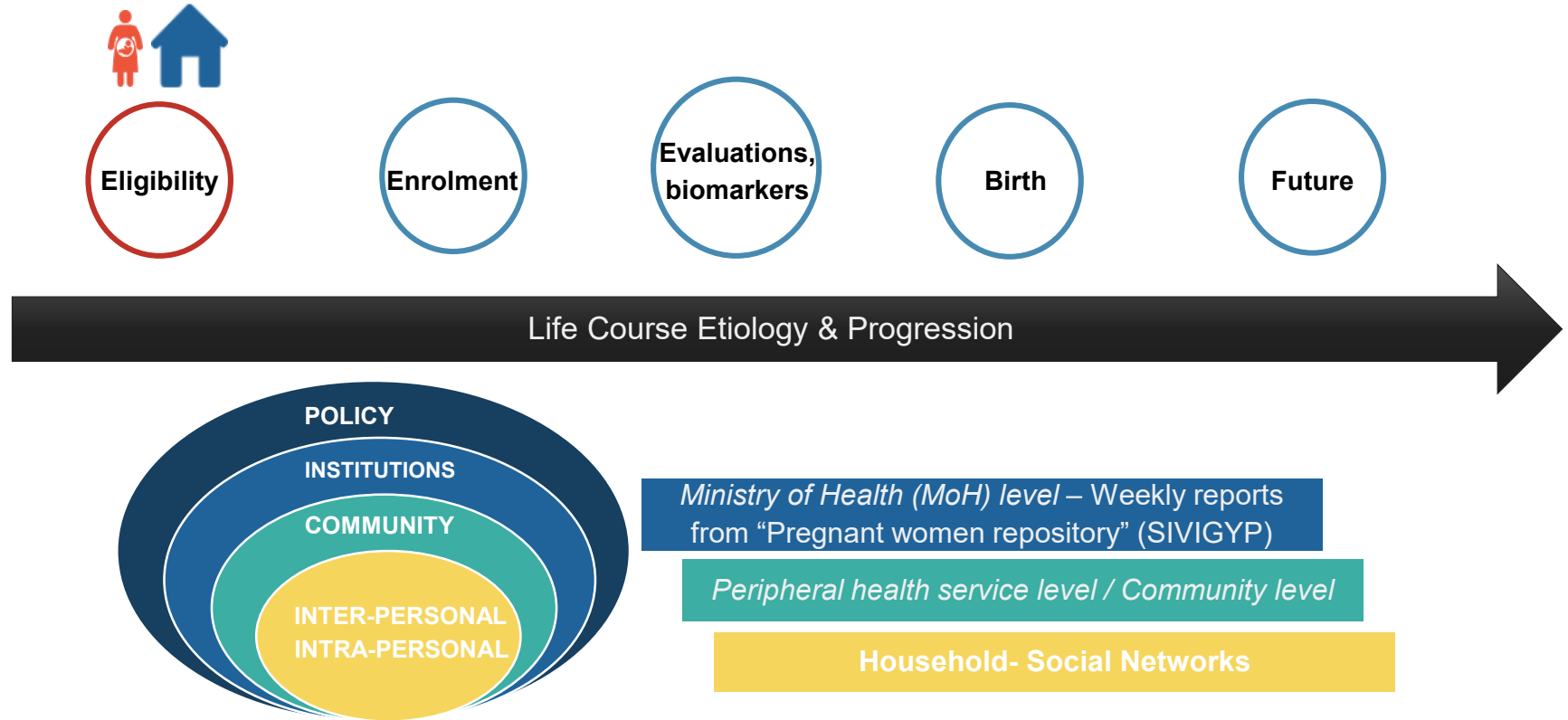
Preeclampsia, gestational diabetes  
Foetal and perinatal health

## Early child development & Health

Burden of disease, Diarrhoea  
Respiratory infections, AMR



# Study Design



# Study Design



Eligibility



Enrolment

Evaluations,  
biomarkers

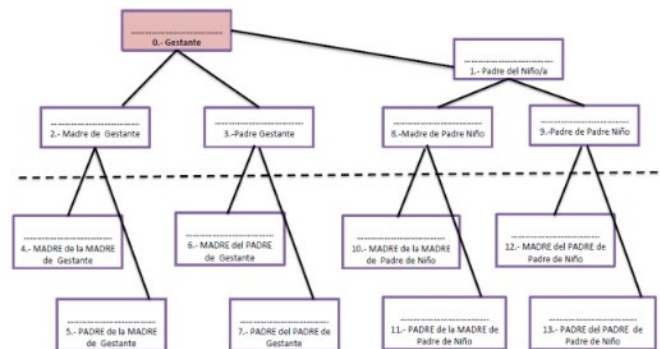
Birth

Future

Life Course Etiology & Progression

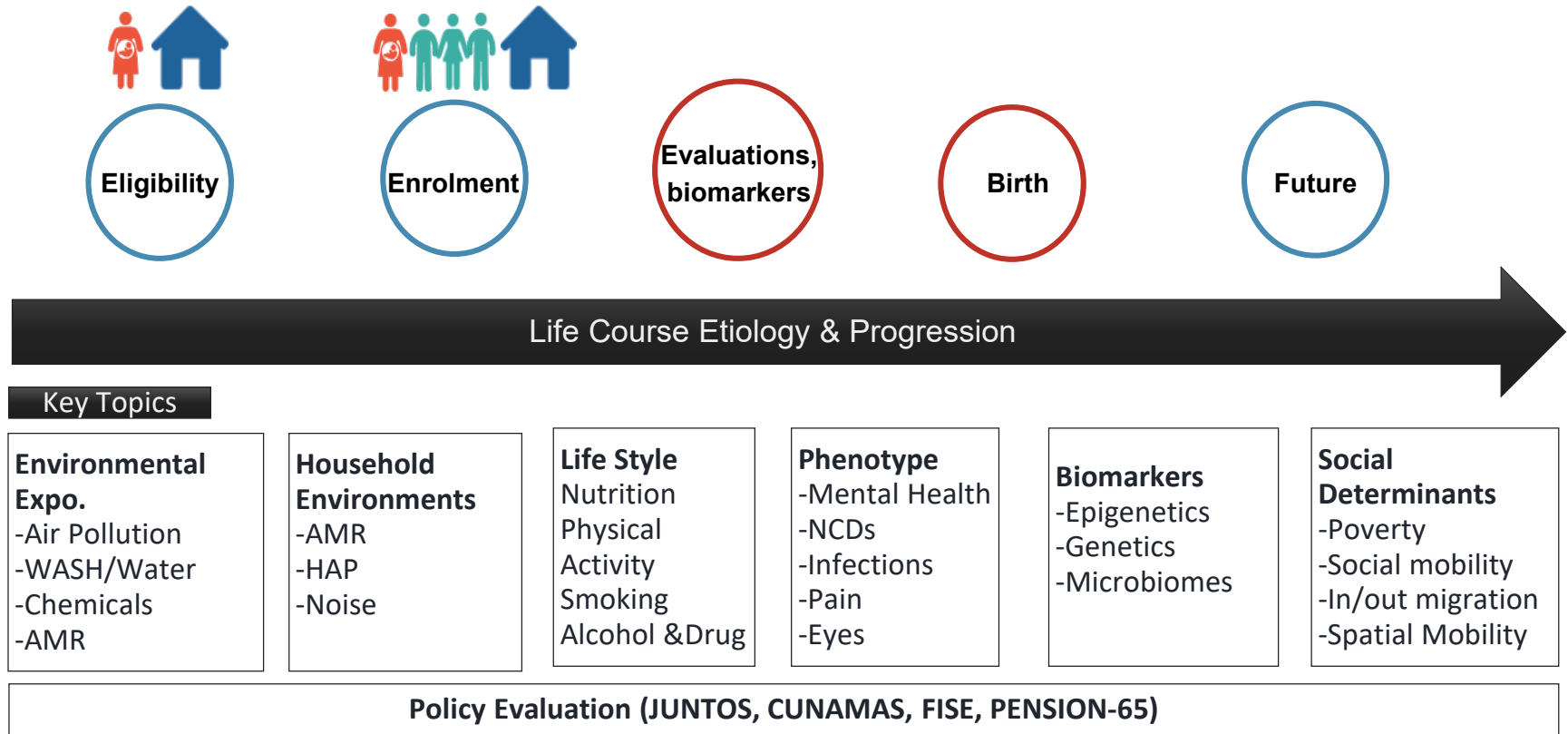
| INTENTO DE ENROLAMIENTO   |   |
|---|---|
| IDENTIFICACIÓN DEL PARTICIPANTE   |   |
| : NRO DE INTERES : 1 - - - -  |   |
| LUGAR: - - - - -  |   |
| Provincia / Distrito / CCPP : - / - / -   | Vivienda : - - - - -  |
| ID Trabajador de Campo Inicial: - - - - -   | Código: - - - - -   |
| Fecha: - - / - - / 20 - -   |   |
| Familia : F - - - - -   | Sujeto : S - - - - -  |
| Apellido : - - - - -  |   |
| Nombre: - - - - -   |   |
| Fecha de Nacimiento (dd/mm/aaaa): - - / - - / 20 - - 77=NS                          |   |
| Qué edad tiene usted? [ - - ] años Meses de Gestación [ - - ] meses [ - - ] semanas |   |
| Dirección : - - - - -   |   |
|   |   |
| 1   | Desea Ud participar en el Proyecto ALTO (0=No, 1=Si, 2=Vea a consultor) [ - - ] |
| 2   | En caso NO Acepte, describa... [ - - ]  |
| Comentarios : - - - - -   |   |
|   |   |

Tabla de GESTANTE Y FAMILIARES

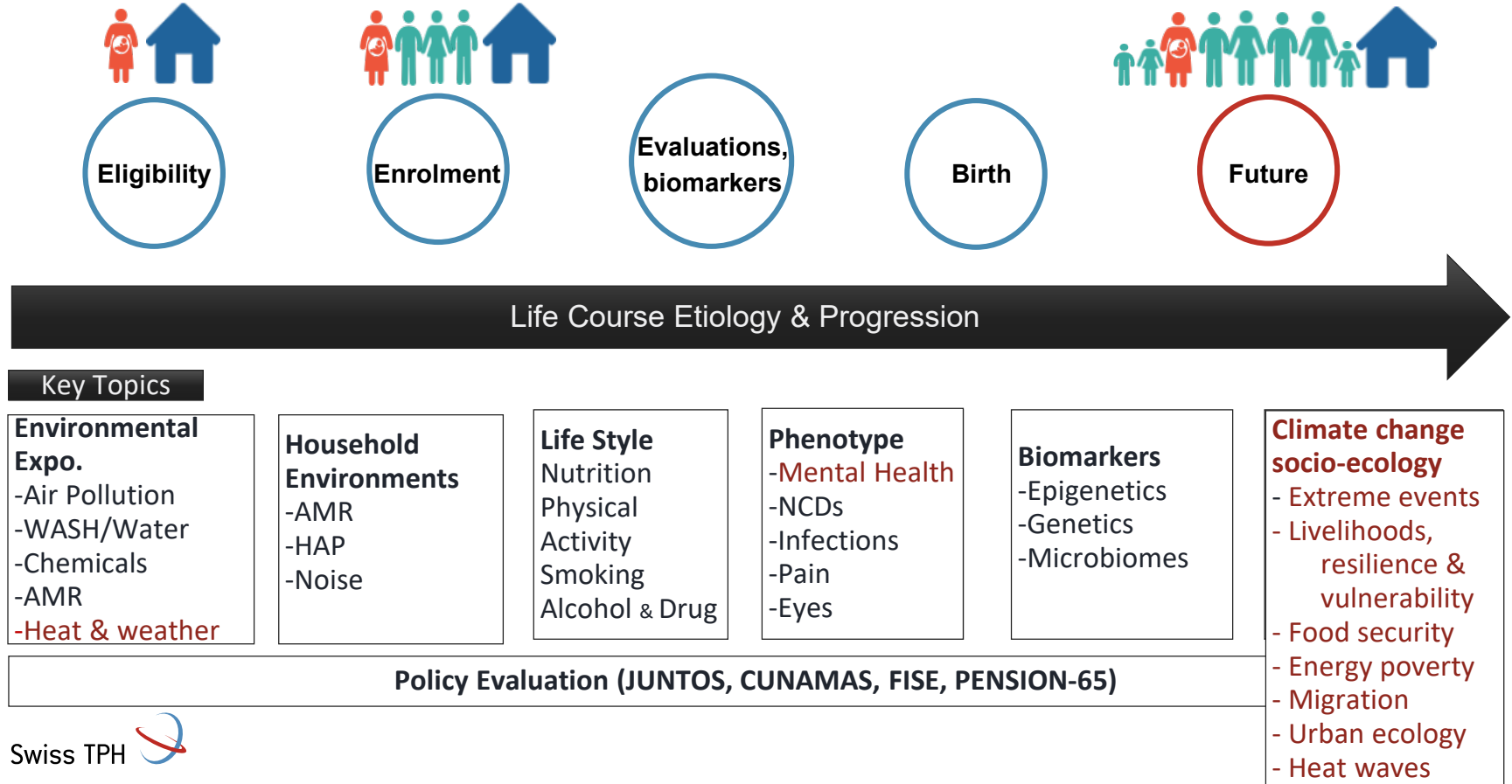




# Study Design



# Study Design

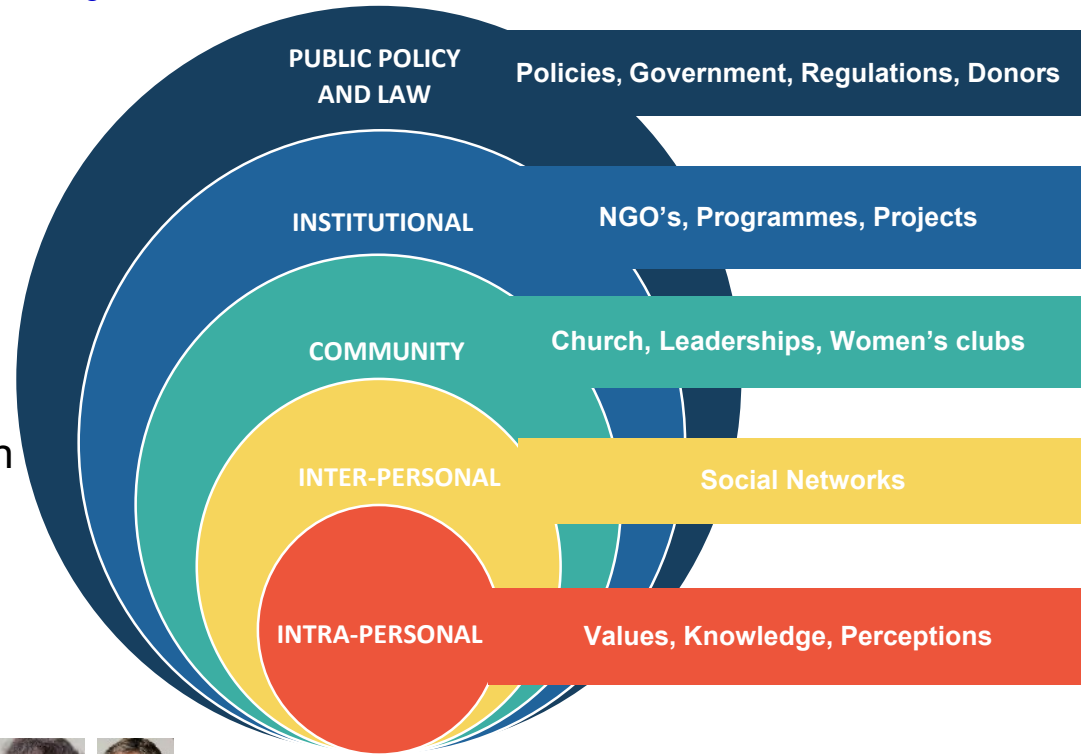




# Understanding NCDs in the ALTO cohort

To understand the epidemiology of NCDs in the rural high altitude setting and contribute to health system strengthening in NCDs prevention and control.

- **Hypertension** and **diabetes** in adults
- **Gestational diabetes** and **preeclampsia**
- Performance of the **Finnish Diabetes Risk Score** for Peruvian Andean population.
- **Perceptions of NCDs** in the general population and among health professionals.



# The Swiss – Peruvian Health Research Platform



## MoU Cayetano Heredia since 2012

- Promote joint projects to **strengthen research capability** in Infectious diseases, NCDs, Environmental public health, Epidemiology, Health systems and Policy analysis
- Strengthen collaboration in the field of **teaching and training** related to the joint research project
- Promote **staff and student exchange** between UPOCH and Swiss TPH
- **Exchange faculty** members for teaching /training in each other's training and teaching programmes.



### Areas of Research

- **Foster child health**
  - Early Child Development
  - Mother, New-born Child Health
- **Environmental Exposures**
  - WASH, Household Air Pollution
  - AMR, One Health
- **Adaptation to Climate Change**
  - Integrated Home-based Approaches
- **Interventions & new technologies**
  - m-Health & Access to Care
  - Behavioural Sciences
- **NCDs & Infectious diseases**
  - Adult health

# Research with SPHR? – We have your expert team!







Hygiene and One Health



Water quality and HWT

Non-communicable disease,  
environmental exposures & HAP



**Integrated Household-based Approaches  
Livelihoods and HH economics**



Child development and health

Adaptation to Climate Change  
and Health

# Swiss - Peruvian Health Research Partnership

## Partners



UNIVERSIDAD PERUANA  
CAYETANO HEREDIA



Swiss TPH



## Funding



Grand Challenges Canada®  
Grands Défis Canada



National Institutes of Health  
Fogarty International Center



NOVARTIS | The Novartis Foundation

swissuniversities



SSPH+  
SWISS SCHOOL OF  
PUBLIC HEALTH

# Non Communicable Diseases Andean cohort

## Participants:

- 500 pregnant/post partum women
- 2450 family members ( $500 \times 4.9$  HH)

## Data collection

- Socioeconomic questionnaire
- Personal questionnaire (physical activity, smoking, diet, disease history)
- KAP questionnaire of hypertension and type II diabetes
- Physical examination: SpO<sub>2</sub>, blood pressure, anthropometrics, Hemoglobin, fasting glucose and lipids, urine dipstick analysis\*.

