



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

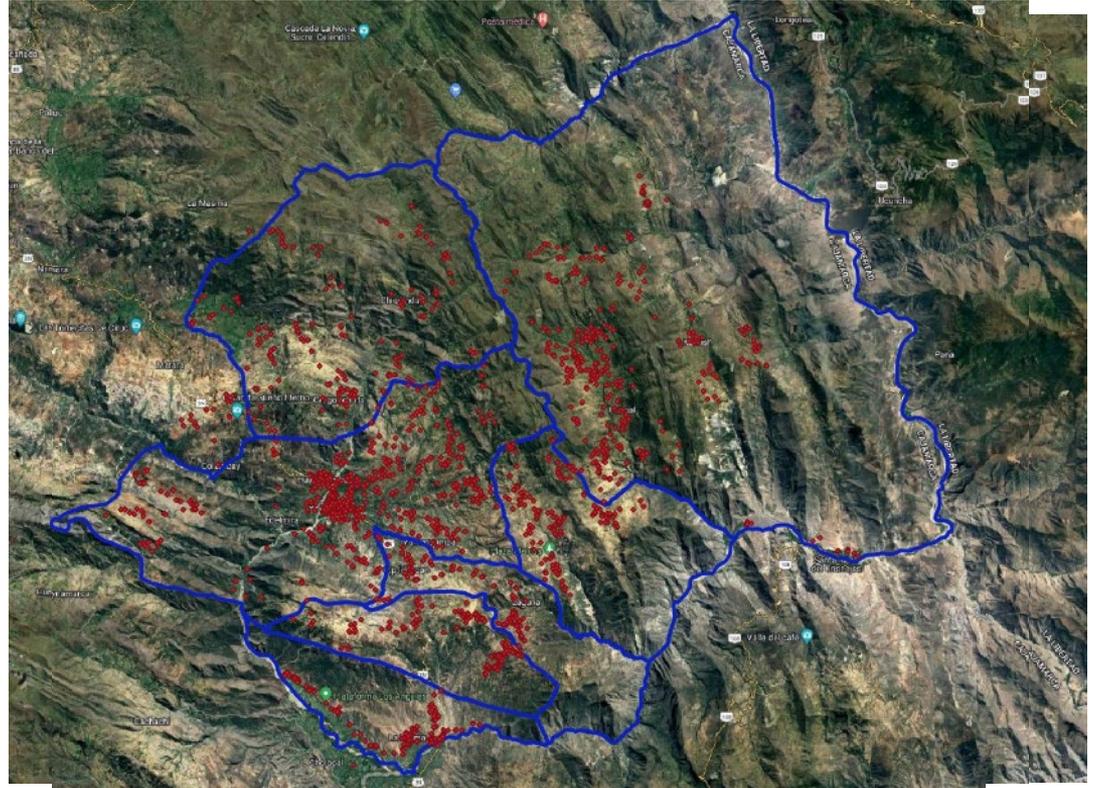
ALTO - The Peruvian Andes Multigenerational High Altitude Cohort

- 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 Live
Lifestyles

Adult Health Outcomes

Hypertension
Diabetes
Overweight
Mental health
Degenerative diseases

Pregnancy and child birth outcomes:

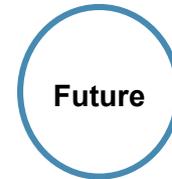
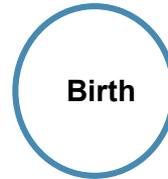
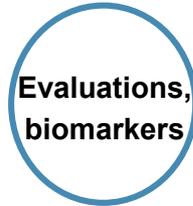
Preeclampsia, gestational diabetes
Foetal and perinatal health

Early child development & Health

Burden of disease, Diarrhoea
Respiratory infections, AMR



Study Design

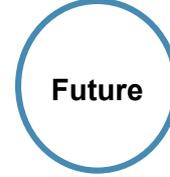
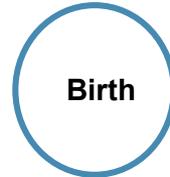
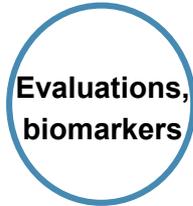


Ministry of Health (MoH) level – Weekly reports from “Pregnant women repository” (SIVIGYP)

Peripheral health service level / Community level

Household- Social Networks

Study Design



Life Course Etiology & Progression

INTENTO DE ENROLAMIENTO

IDENTIFICACIÓN DEL PARTICIPANTE

NRO DE INTERES: 1 _____
 LUGAR: _____

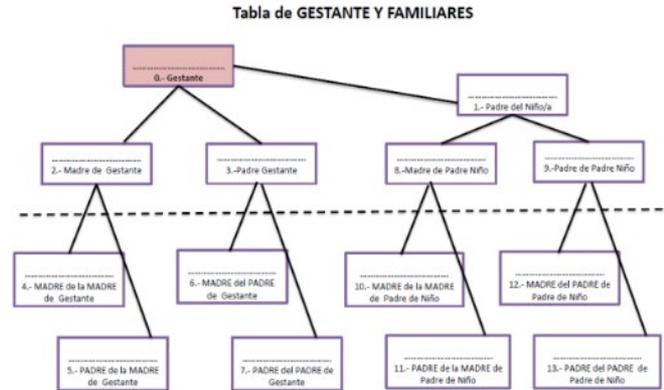
Provincia / Distrito / CCPP: _____ Vivienda: _____ ID Trabajador de Campo Inicial: _____ / Código: _____
 Fecha: __/__/20__

Familia: F _____ Sujeto: S _____

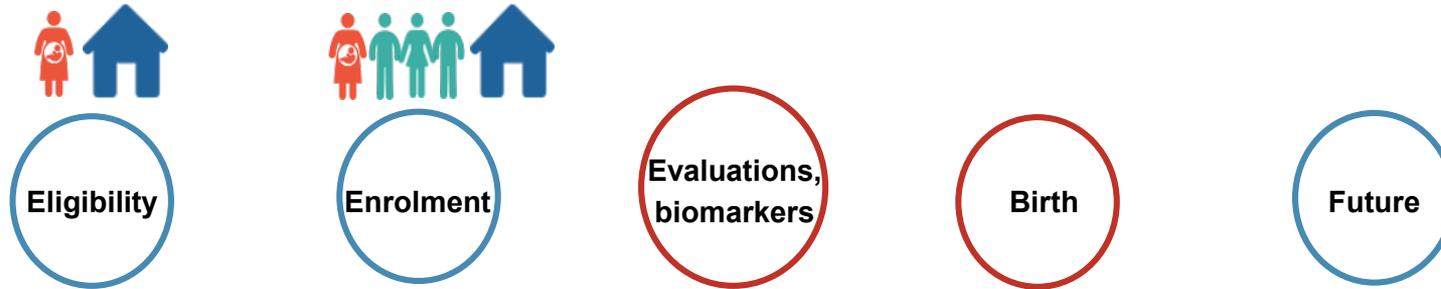
Apellido: _____
 Nombre: _____
 Fecha de Nacimiento (dd/mm/aaaa): _____ 77=NS
 Qué edad tiene usted? [__] años Meses de Gestación [__] meses [__] semanas
 Dirección: _____

1	Desea Ud participar en el Proyecto ALTO (0=No, 1=Si, 2=Vea a consultar)	[__]
2	En caso NO Acepte, describa...	

Comentarios: _____



Study Design



Life Course Etiology & Progression

Key Topics

Environmental Expo.

- Air Pollution
- WASH/Water
- Chemicals
- AMR

Household Environments

- AMR
- HAP
- Noise

Life Style

- Nutrition
- Physical Activity
- Smoking
- Alcohol & Drug

Phenotype

- Mental Health
- NCDs
- Infections
- Pain
- Eyes

Biomarkers

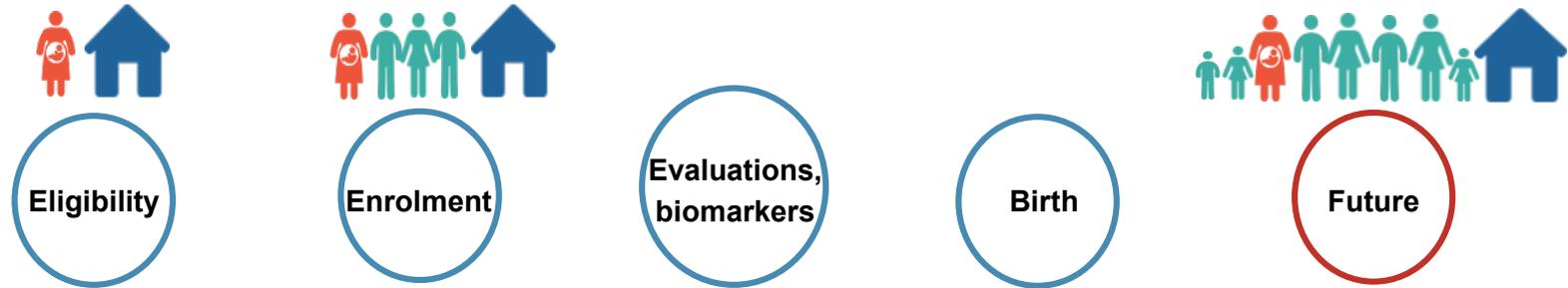
- Epigenetics
- Genetics
- Microbiomes

Social Determinants

- Poverty
- Social mobility
- In/out migration
- Spatial Mobility

Policy Evaluation (JUNTOS, CUNAMAS, FISE, PENSION-65)

Study Design



Life Course Etiology & Progression

Key Topics

Environmental Expo.

- Air Pollution
- WASH/Water
- Chemicals
- AMR
- Heat & weather

Household Environments

- AMR
- HAP
- Noise

Life Style

- Nutrition
- Physical Activity
- Smoking
- Alcohol & Drug

Phenotype

- Mental Health
- NCDs
- Infections
- Pain
- Eyes

Biomarkers

- Epigenetics
- Genetics
- Microbiomes

Climate change socio-ecology

- Extreme events
- Livelihoods, resilience & vulnerability
- Food security
- Energy poverty
- Migration
- Urban ecology
- Heat waves

Policy Evaluation (JUNTOS, CUNAMAS, FISE, PENSION-65)

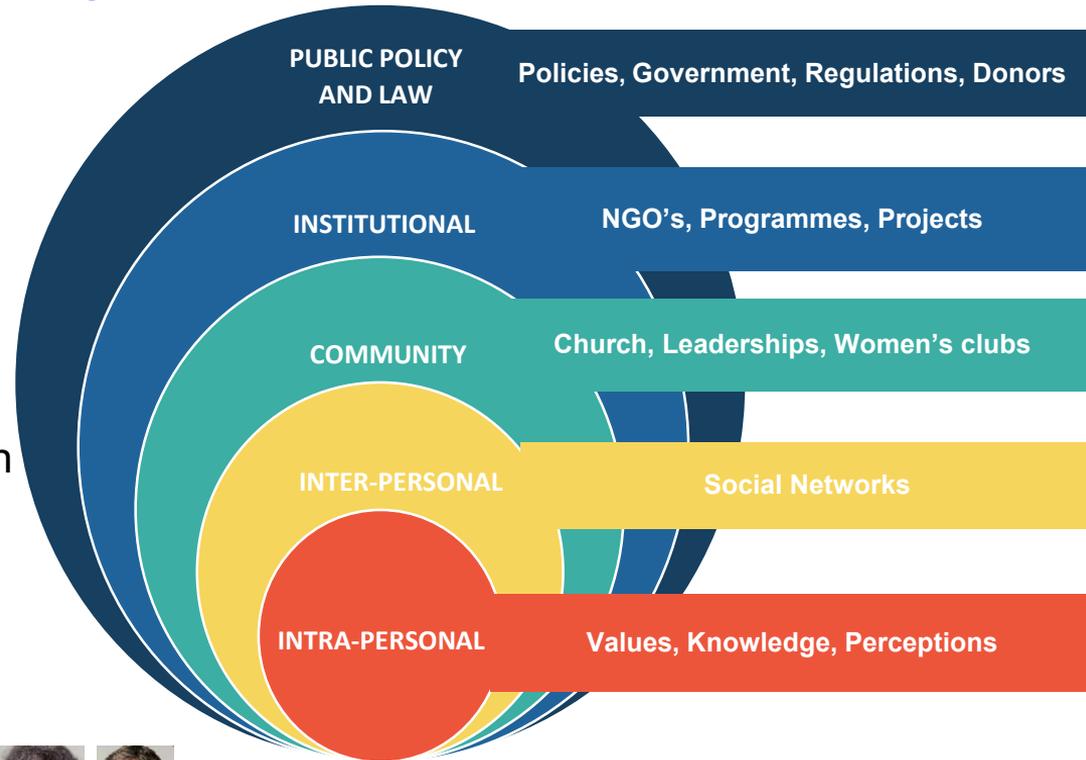


Understanding NCDs in the ALTO cohort



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 UPCH 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



Child development and health

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

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



GLOBAL ALLIANCE FOR
CLEAN COOKSTOVES



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*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: SpO₂, blood pressure, anthropometrics, Hemoglobin, fasting glucose and lipids, urine dipstick analysis*.

