Relationships of microbiota and metabolites in saliva with oral and general health (non-communicable diseases)

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Introduction

Appplicant / University

Norwegian University of Science and Technology

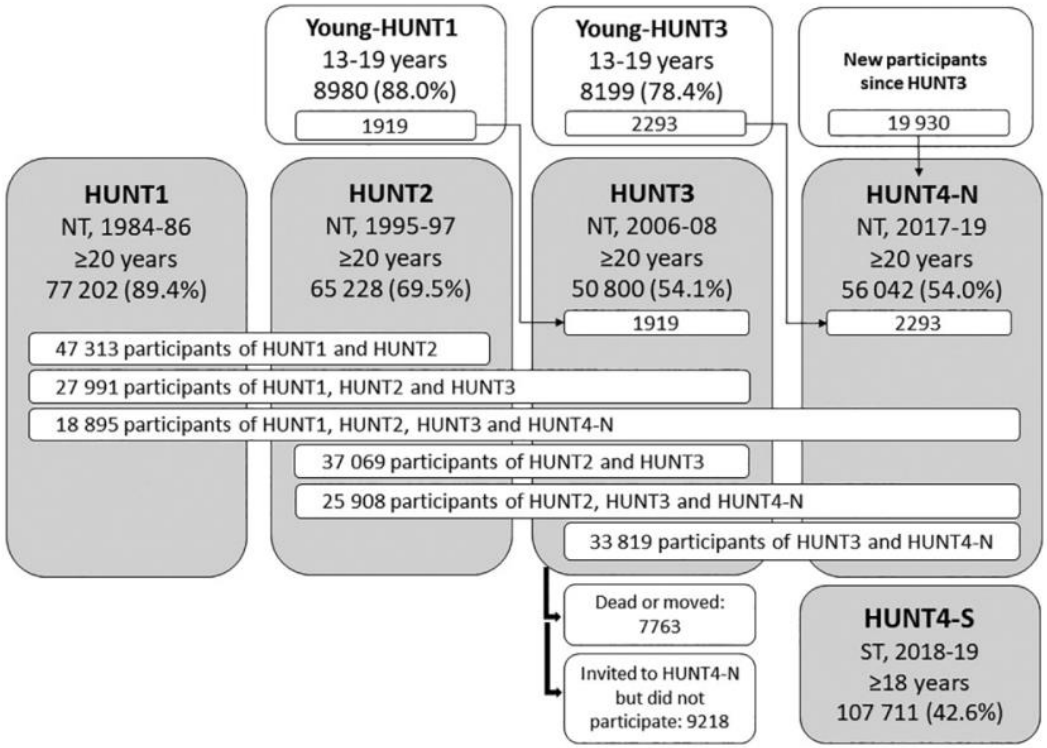
NTNU, Norwegian University of Science and Technology, is a university with an international focus, with headquarters in Trondheim and campuses in Ålesund and Gjøvik.
NTNU has a main profile in science and technology, a variety of programmes of professional study, and great academic breadth that also includes the humanities, social sciences, economics, medicine, health sciences, educational science, architecture, entrepreneurship, art disciplines and artistic activities.

Aims

- Overarching aim: investigate the relationships of microbiota and metabolites in saliva with oral and general health in the HUNT Study
- Specifically, we will develop prediction models for non-communicable diseases (cancer, dementia, cardiovascular diseases *etc.*) with oral microbiota and metabolites using advanced tools

The HUNT Study: cohort profile

HUNT is one of the largest and most comprehensive population surveys conducted in Norway with four waves
https://www.ntnu.edu/hunt



Åsvold *et al.* Int J Epidemiol, 2022: https://pubmed.ncbi.nlm.nih.gov/35578897/
Brumpton *et al.* Cell Genomics, 2022: https://www.sciencedirect.com/science/article/pii/S2666979X22001422

The HUNT4 Oral Health Study (2017–19)

- HUNT has also sub-surveys, one of them is the HUNT4 Oral Health Study: A random sample of 4933 participants in the HUNT4 adults
- About 4020 saliva samples from the HUNT4 Oral Health Study were collected in a specific buffer for detection of microbiota are stored at -80ºC
- In addition, 40% of the participants in the HUNT4 Oral Health Study have saliva samples without buffer stored at -80ºC, which can be used to measure metabolites

What we seek

Aim for calls in:

- “Destination 3. Tackling diseases and reducing disease burden”, e.g., ‘HORIZON-HLTH-2023-DISEASE-03-07: Relationship between infections and non-communicable diseases’
- “Destination 1. Staying healthy in a rapidly changing society”, e.g., ‘HORIZON-HLTH-2024-STAYHLTH-01-05-two-stage: Personalised prevention of noncommunicable diseases - addressing areas of unmet needs using multiple data sources’
- Open to other suggestions as well

What we seek

- **Partner seeks consortium and coordinator**
- Interdisciplinary research using microbiota and metabolites
- Projects to investigate non-communicable diseases
- Budget to measure microbiota and metabolites in saliva
- Expertise in advanced big data analysis

What we have

- **Can act as WP leader or partner**
- A cohort (population study) that can be linked with health-related registries in Norway
- Saliva samples in the HUNT Study ready for measuring microbiota and metabolites
- Expertise in (genetic) epidemiology, study design and statistical analysis
- Have partner and facilities to analyze metabolites in saliva
- Can find partner for advanced big data analysis