



Microbiome profiling in the COPLANT study

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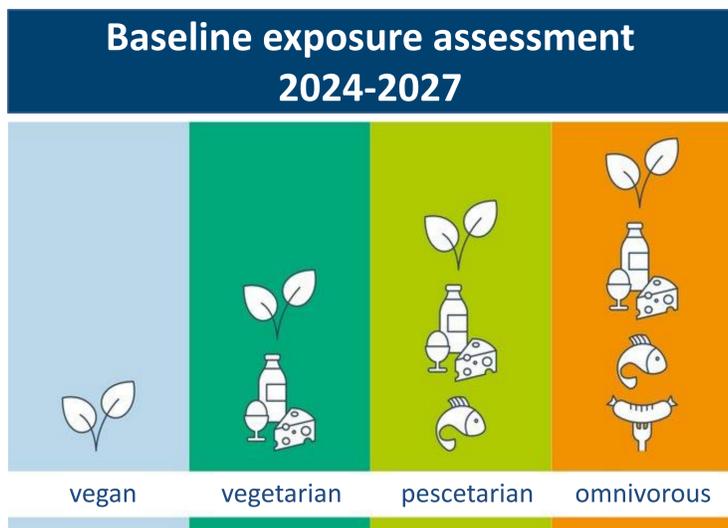
COPLANT – COhort on PLANT-based diets

Background – why we need a comprehensive study on plant-based diets

- Limited data available integrating diet, microbiome, sustainability and metabolic phenotyping
- Older plant-based diet studies often lack comparability to modern dietary patterns
- Full impact of plant-based diets on health, environment, and society is not yet fully understood

Aims:

- Detailed dietary assessment: FFQ + 3d weighted record (NutriDiary)
- Associations between diet, lifestyle and health parameters
- Contribution to evaluate dietary recommendations
- Evaluation of sustainability of different dietary patterns



N = 200 per group in each of 7 study centres (5000 – 6000 participants)

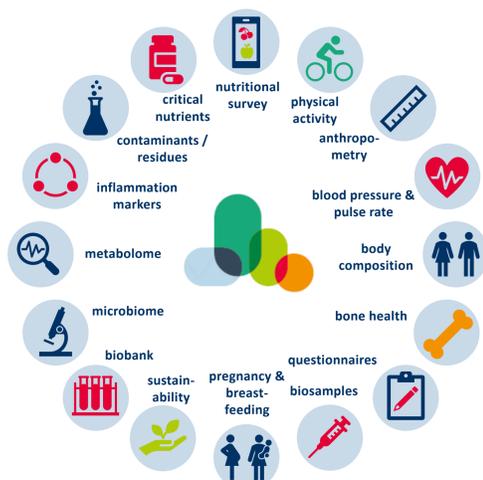
Map of study centres and timeline



- Pilot phase: 2024
- Baseline: 2024 - 27
- Follow up: every 2-3 years (questionnaires)
- Follow up: every 5-10 years (full examination)

Data and sample collection

- Quality-controlled measurements and biosample collection according to standard operating procedures (SOPs)
- Extensive data sets are collected and managed in a central database
- Biosamples (stool, blood, urine) are collected at study centres and transferred to central storage or biobank



Intestinal microbiome and gut health

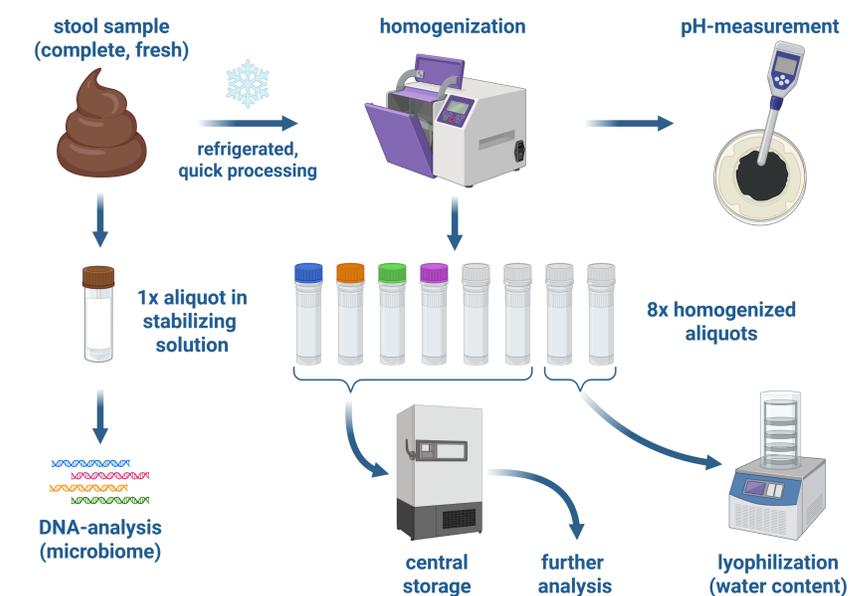
Background – the gut as link between nutrition and health

- What we eat affects composition and functionality of the microbiome
- The microbiome modulates resilience and nutrient availability

Aims:

- Assess composition and functionality of the intestinal microbiome
- Combine high-quality and detailed data on diet and microbiome
- Does diet affect microbial diversity and function at the level of nutritional patterns or individual nutrients?

Collection and processing of stool samples



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Analyses of stool sample aliquots

Planned measurements and analyses:

- 16S rRNA metabarcoding → microbiome composition
- Fecal short chain fatty acids content → microbial fermentation
- Fecal content of bile acids and derivatives → microbial activity
- Calprotectin → intestinal inflammation
- Fecal pH value → general microbial activity
- Fecal water content → proxy measurement for transit time

Current recruitment status

January 2026

