



MetaHealth

EEN GEZOND GEWICHT EN GEZOND GEBIT VOOR KINDEREN

MetaHealth Consortium meeting

15 April, 2024, ACTA, Amsterdam



Agenda

13:00 – 14:40 Plenary program (hybrid & large lecture room)

- Welcome & MetaHealth Website launch
- Progress report:
 - WP6
 - WP5
 - WP2
 - WP1&2
- Introductions by the advisory board members

14:40 – 15:00 Break with coffee & tea

15:00 – 16:30 Interactive session (large lecture room) / Advisory board meeting (13th floor)

16:30 – Networking & drinks (ACTA lobby)



MetaHealth

MetaHealth website:

<https://nwo-metahealth.nl>



MetaHealth

Work package 6: Knowledge utilization & participation





MetaHealth
EEN GEZOND GEWICHT EN GEZOND GEBIT VOOR KINDEREN

WP6 PhD Project

Lea Hohendorf

UNIVERSITY
OF TWENTE.

inholland
hogeschool



Table of contents

1. Recap
2. Overview of projects in WP6
3. Scoping review
4. Next steps
5. Health Science Master student project



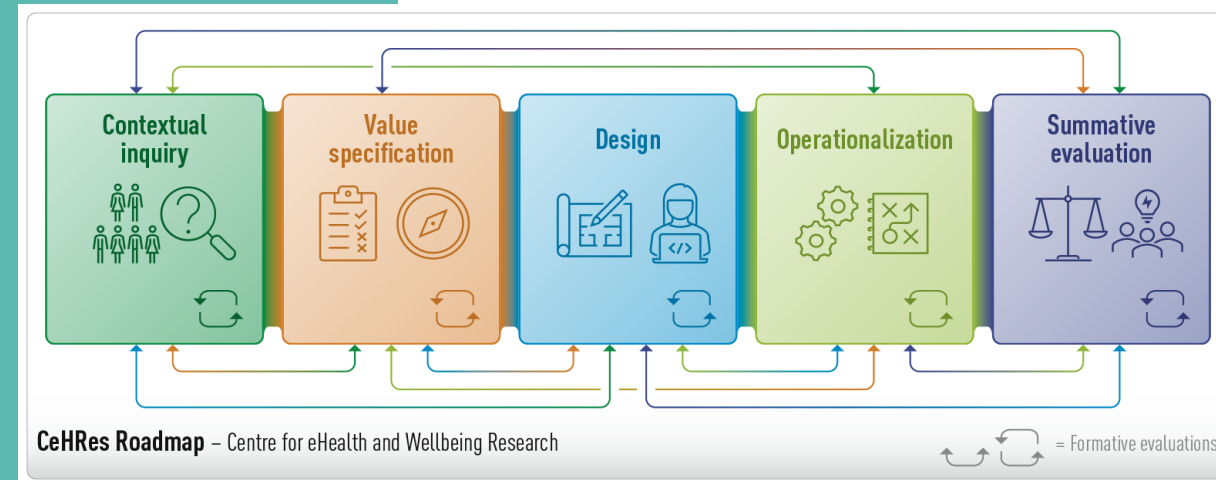
Recap

Aim PhD project

1. Understand how digital and non-digital strategies can strengthen one another
2. Understand how to inclusively design digital and non-digital strategies
3. How can we make health information/resources accessible?

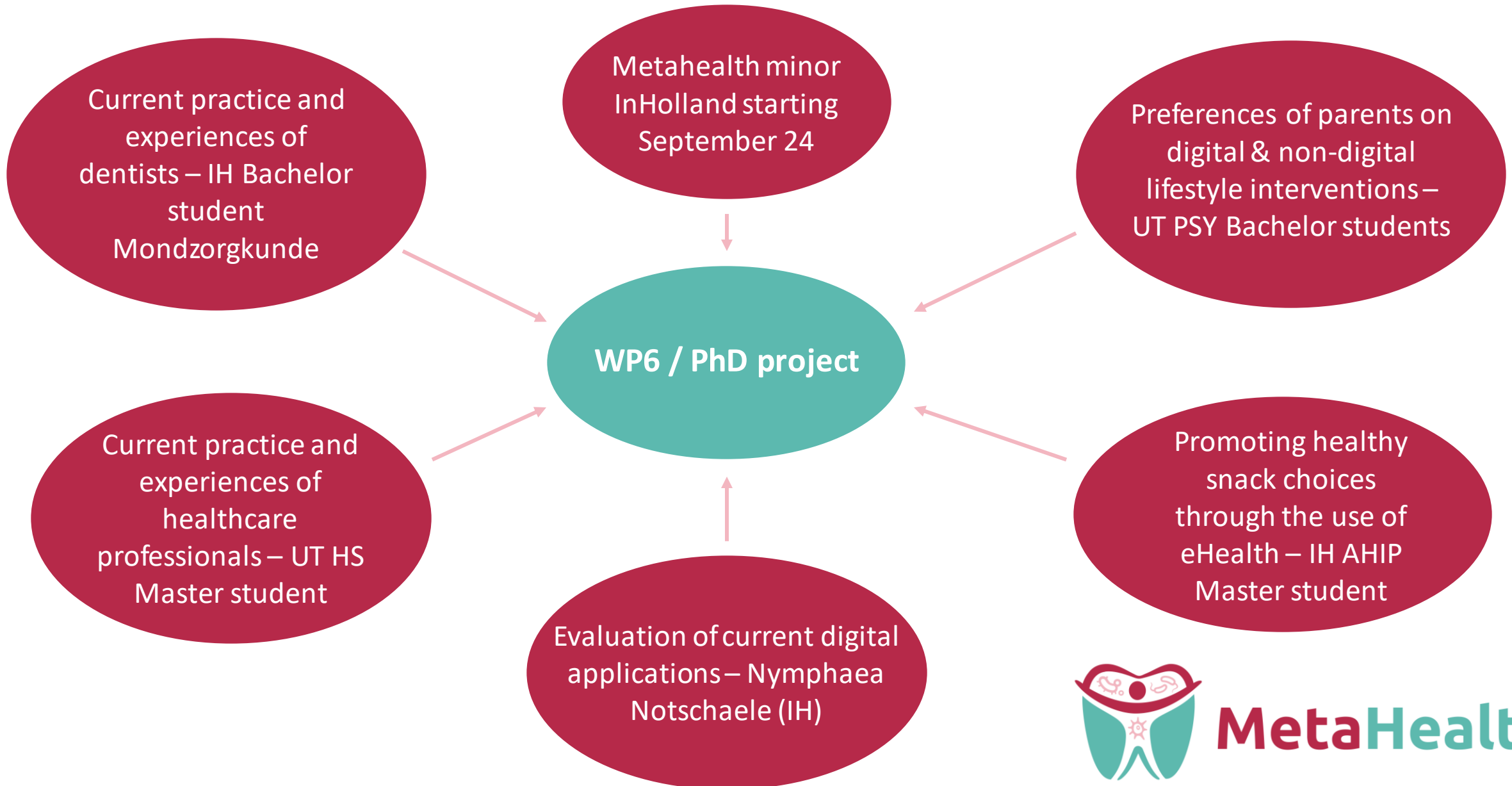
Contextual Inquiry Goal(s)

- Analyse the current situation and its weak and strong points
- Identify the main point(s) of improvement for which an eHealth technology could be a solution



MetaHealth

Overview of current projects



Scoping Review

Objective(s)

1. Identify and map working mechanisms of eHealth lifestyle interventions for children aged 0-5
2. Comparison between interventions for the general and low SES populations

Interventions

Outcome behaviours:

- Higher fruit & vegetable intake
- Less consumption of sugar-sweetened beverages
- Less unhealthy snacking
- Less sedentary behaviour
- More physical activity
- Brushing the teeth as recommended by guidelines

Data extraction

- Effectiveness
- Behaviour Change Techniques/Theoretical foundations
- Persuasive Features
- Technology Channel
- Type of delivery environment



MetaHealth

Preliminary Results

Intervention aims

- PA & healthy eating

Target group

- Early childhood educators

Effectiveness

- More effective

Theoretical framework

- Guskey's model of teacher change
- Community of practice

Strategy & Channel

- Blended

Environment

- Education centres

PSD elements

- Expertise
- Social learning
- Social facilitation

Intervention aims

- Healthy eating

Target group

- Low-income mothers & healthcare professionals

Effectiveness

- Somewhat effective

Theoretical framework

- No mention

Strategy & Channel

- Blended

Environment

- Home & clinics

PSD elements

- Not enough insights



MetaHealth

Preliminary Results

Intervention aims

- PA, healthy eating, screen time, & sleep

Target group

- Parents

Effectiveness

- Somewhat effective

Theoretical framework

- Social cognitive theory
- SMART goal framework

Strategy & Channel

- Digital

Environment

- Home

PSD elements

- Social facilitation
- Expertise
- Social learning

Intervention aims

- PA, healthy eating, & screen time

Target group

- Low-income Parents

Effectiveness

- Somewhat effective

Theoretical framework

- Social cognitive theory
- SMART goal framework

Strategy & Channel

- Digital

Environment

- Home

PSD elements

Reminders



MetaHealth

Next Steps

Next Research Project

- Preferences, needs, & opinions of low SES parents concerning interventions
 - Use of Panel tool to gather/create qualitative data with target group

Practical next step

- Get into contact with the target group
- Build trust
- Recruit parents



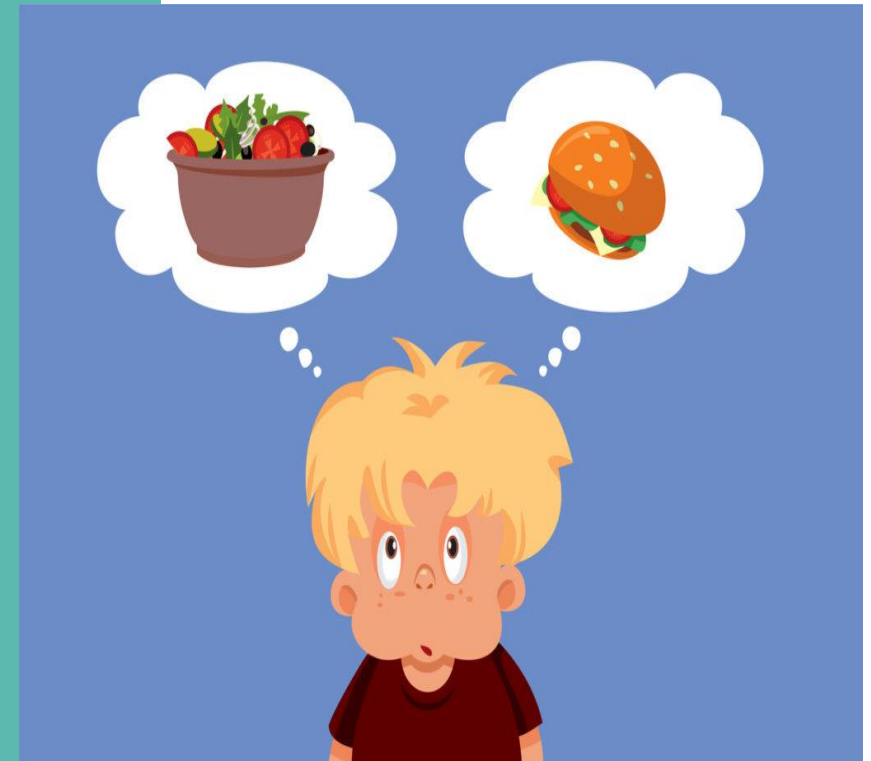
MetaHealth



Relevance

- 14% of children between 2 and 12 years old are overweight
- Association between low SES and being overweight
- Children's Health Clinics and the first four years

Research question: How do youth nurses and physicians at Children's Health Clinics support healthy eating in families with a low socioeconomic status?



MetaHealth

Desk research

- Little literature available on the information provision specific to low SES families
- Publicly available information from the GGD
 - Websites
 - Social media
 - Initiatives



MetaHealth



MetaHealth

EEN GEZOND GEWICHT EN GEZOND GEBIT VOOR KINDEREN

Thank you for your
attention!

UNIVERSITY
OF TWENTE.

holland
hogeschool



Work package 5: Complex interventions



MetaHealth
EEN GEZOND GEWICHT EN GEZOND GEBIT VOOR KINDEREN

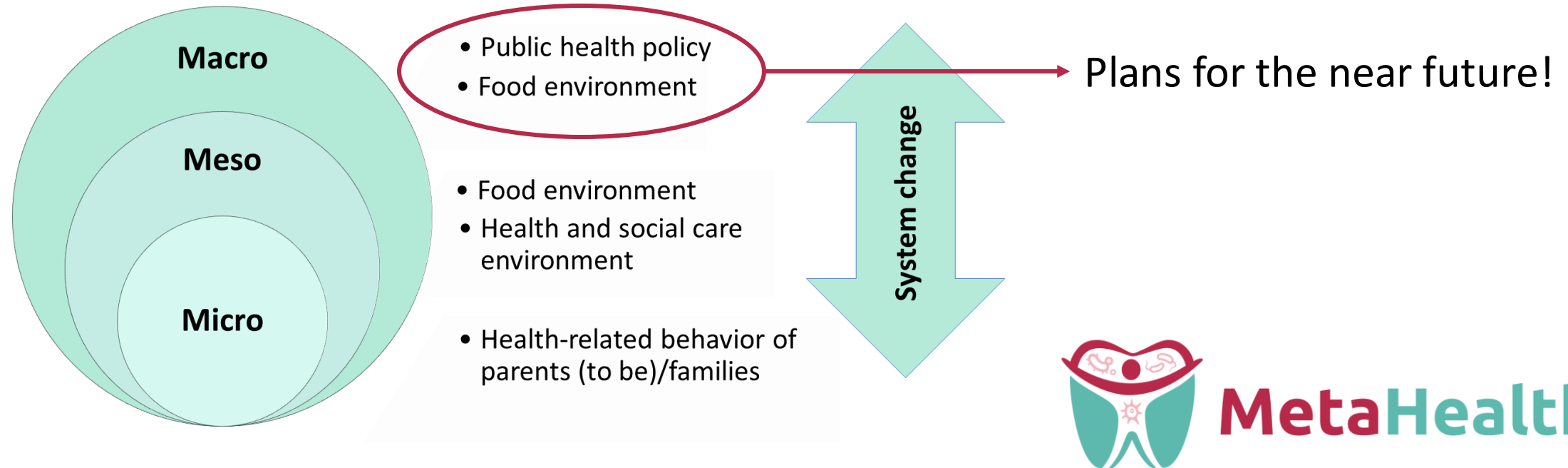
WP5 – Complex Interventions

M.T. Streppel (WP lead)



WP5 - Objectives

To develop, implement and evaluate **interventions at various system levels** that contribute to the maintenance and improvement of oral and metabolic health in the first 1,000 days





MetaHealth
EEN GEZOND GEWICHT EN GEZOND GEBIT VOOR KINDEREN



WP5 – Plans for the near future

J.D. Mackenbach



The food environment

- Dutch food environments have become unhealthier over time (Pinho et al. 2020)
- Several aspects of the food environment, especially food environment policies, are associated with oral health outcomes (Mackenbach et al. 2022)
- Food choices of parents (to be) affect their own health and the health of their children (Roseboom et al. 2011)
- Even with co-created food environment interventions, it is difficult to promote healthier food choices (Stuber et al. 2024)



Exciting times!



De vrijstelling van BTW voor groente en fruit en de suikertaks kunnen deze kabinetsperiode geen doorgang vinden door capaciteitsproblemen bij de Belastingdienst.
Foto Marcel van den Bergh / de Volkskrant

Geen suikertaks, jubelton verlengd door ict-problemen fiscus

Yvonne Hofs
Den Haag

De nieuwe coalitie heeft zijn belastingplannen aangepast op aandringen van de Belastingdienst. Het kabinet heeft de afschaffing van de schenkingsvrijstelling eigen woning, beter bekend als de 'jubelton', uitgesteld tot 2024 omdat de Belastingdienst de belastingwijziging niet eerder kan verwerken.

Het kabinet wilde eigenlijk al in 2023 afscheid nemen van de belastingvrijstelling op schenkingen tot 106.000 euro aan jonge huizenkopers. Minister Kaag van Financiën antwoordt op een kamervraag hierover het volgende: 'In 2022 is de beschikbare capaci-

teit nodig voor afronding van de overgang naar het nieuwe systeem voor de schenk- en erfbelasting. Capaciteit voor het verwijderen van de schenkingsvrijstelling is beschikbaar vanaf 2023. Dit maakt verwijdering mogelijk per 1 januari 2024.'

De coalitie wil ook graag een belasting op suikerhoudende producten afschaffen.

Kabinet wilde jubelton eigenlijk al in 2023 afschaffen

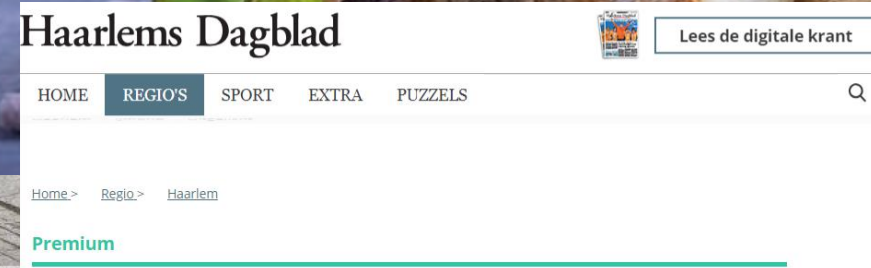
teit nodig voor afronding van de overgang naar het nieuwe systeem voor de schenk- en erfbelasting. Capaciteit voor het verwijderen van de schenkingsvrijstelling is beschikbaar vanaf 2023. Dit maakt verwijdering mogelijk per 1 januari 2024.'

De coalitie wil eerst een uitgewerkt wetsvoorstel zien om te kunnen beoordelen of de voorgestelde voedingsbelastingen uitvoerbaar zijn, zegt een woordvoerder van de Belastingdienst. Het invoeren van een suikerbelasting en een apart nuttarief voor

groente en fruit is complex dat het lastig is de definitie 'suikerhoudend product' 'groente en fruit' goed af te meten. Valt jam bijvoorbeeld categorie 'groente en fruit' het een suikerhoudend product. De Belastingdienst is soverig voor al te veel wijgen in de belastingwetgeving vroeger ruim twee jaar den nog om een politieke leidspauze' om de achterst in het ict-onderhoud weg te tken. Het ict-systeem voor d zetbelasting dateert uit de tachtig en kan op korte ter geen grote wijzigingen aan schrijft het ministerie van cten in november 2021 aan formateurs.

AAAH, BROOD MET NUTRI-SCORE A!

MAAR WAT BETEKEN DAT NU PRECIES?



Haarlem gaat na 2024 reclames verbieden voor vliegreizen en vlees uit de bio-industrie



Proposed plans

- Evaluating (changes in) the healthiness of food environments
- Evaluating the equity effects of food environment interventions
- Evaluating the effects of the Nutriscore
- Evaluating the process and effects of advertisement bans
- Preparing the systems analysis



MetaHealth



Why this and why now?

Why this?

- WP5 builds on WP1, which is centered around the target group and their experience
- It is likely that external risk factors such as food advertisements or food prices are overlooked as priorities
- While we know that these aspects matter for oral and metabolic health, for both parents and their children

Why now?

- Exciting times (momentum)
- Minimising financial risk



Work package 2: Cohort studies





Amsterdam Infant Microbiome Study



MetaHealth
HEALTHY WEIGHT AND HEALTHY TEETH FOR CHILDREN

Sarphati

amsterdam research for
healthy living

× GGD
× Amsterdam
×

AIMS status update Q1 2024

Metahealth half yearly meeting





2019

- Q2: Start recruitment AIMS midwives A'dam Noord
- Q3: First AIMS baby born
- Q4: Start recruitment at midwives A'dam Oost & West

2020

- Q1: Recruitment halted due to COVID restrictions
- Q3: Recruitment resumed

2021

- Q1: 100 AIMS babies born
- Q2: First 200 biosamples sequenced for quality check

2022

- Q2: Start recruitment A'dam Zuidoost
- Q3: First AIMS baby 3 years old

2023

- Q1: 200 AIMS babies born
- Q3: Start recruitment through whooping cough vaccination at OKT
- Q4: Start online recruitment campaign

2024

- Q1: 300 AIMS babies born; Biosample collection of 35 families sequenced (1.000 samples)
- Q2: 100 AIMS families completed AIMS
- Q4: **stop recruitment**

2025

- Q1: final AIMS baby born

2026

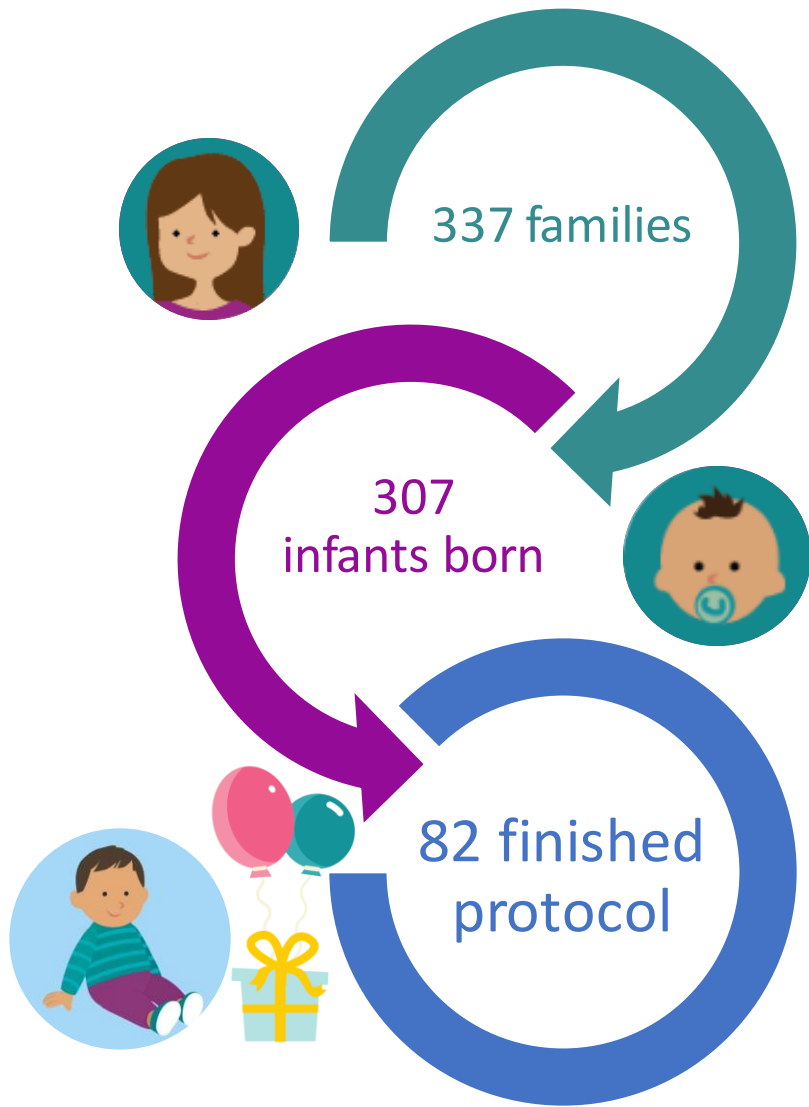
- Q2: 200 AIMS families completed AIMS protocol

2027

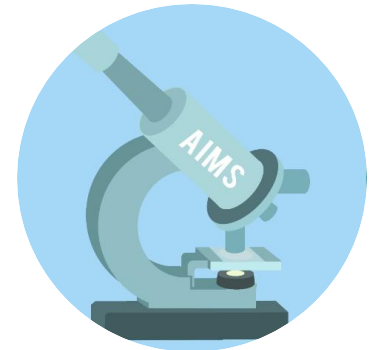
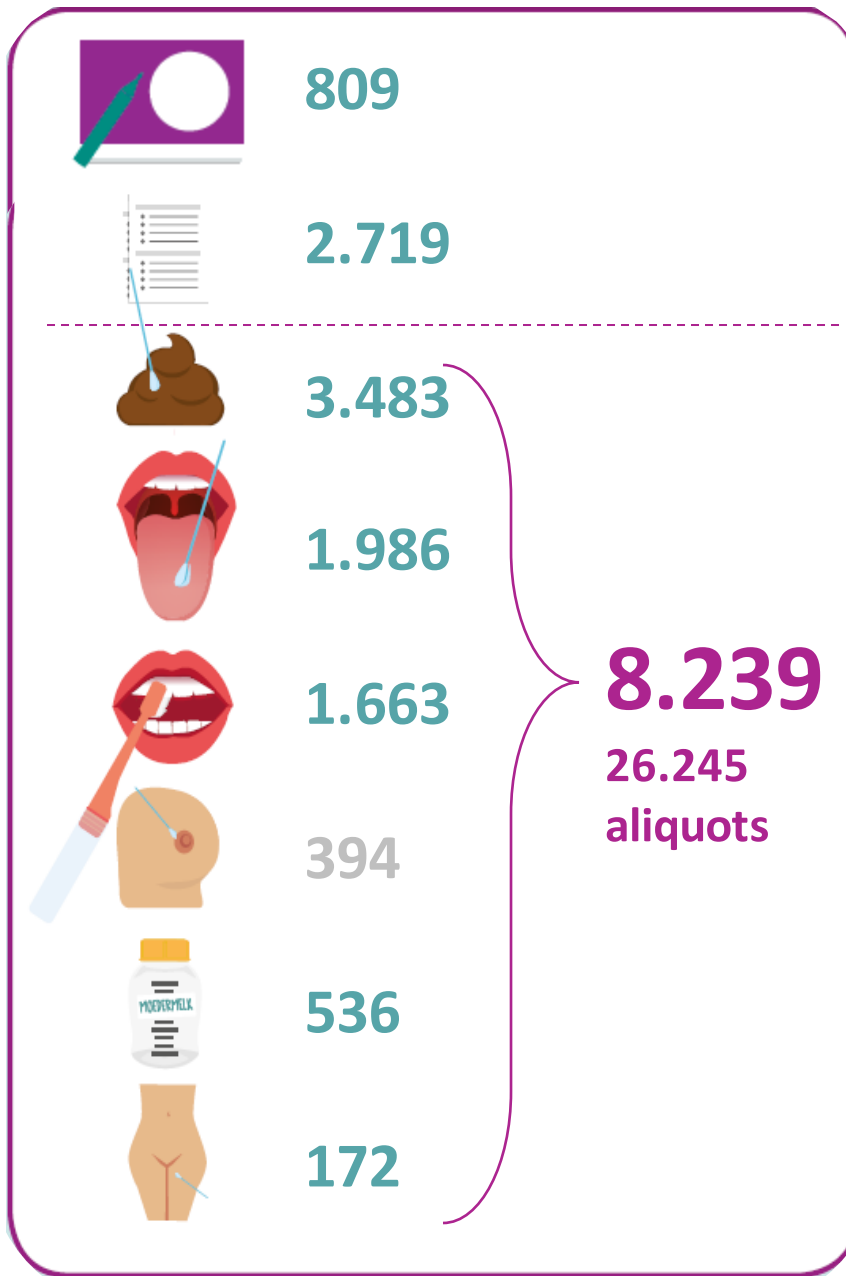
- Q1: 300 AIMS families completed AIMS protocol

2028

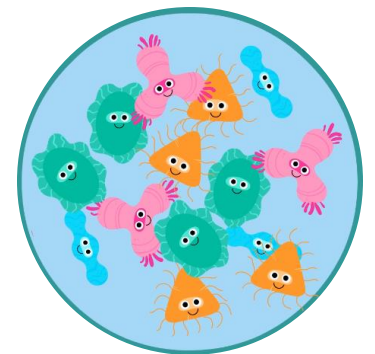
- **Q1: final AIMS sample in biobank**



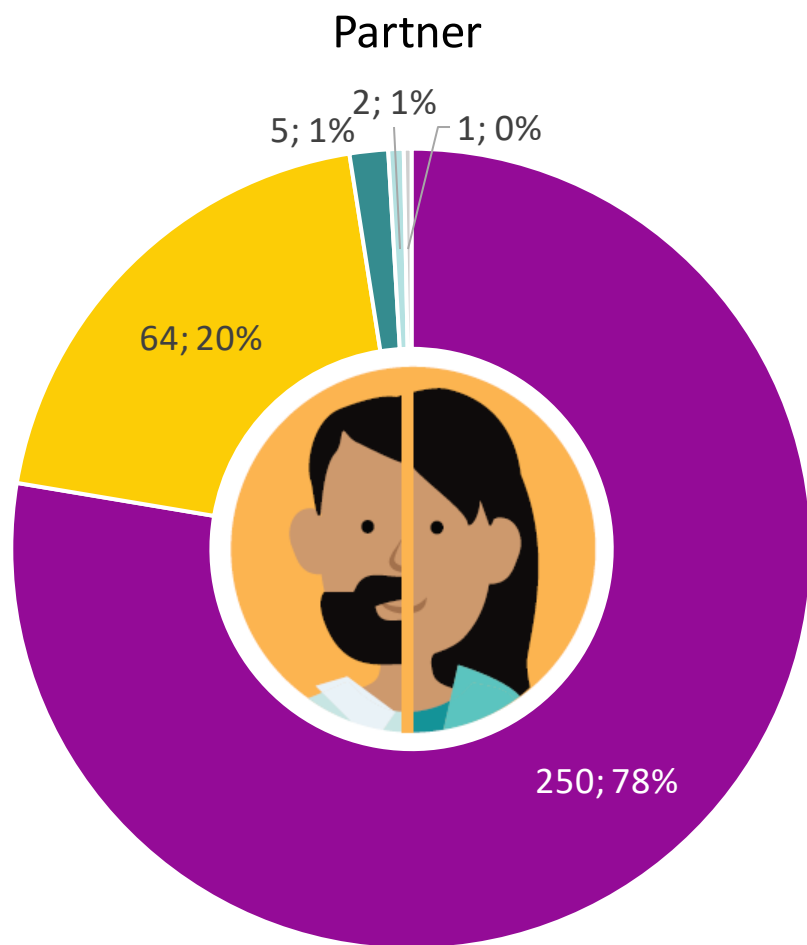
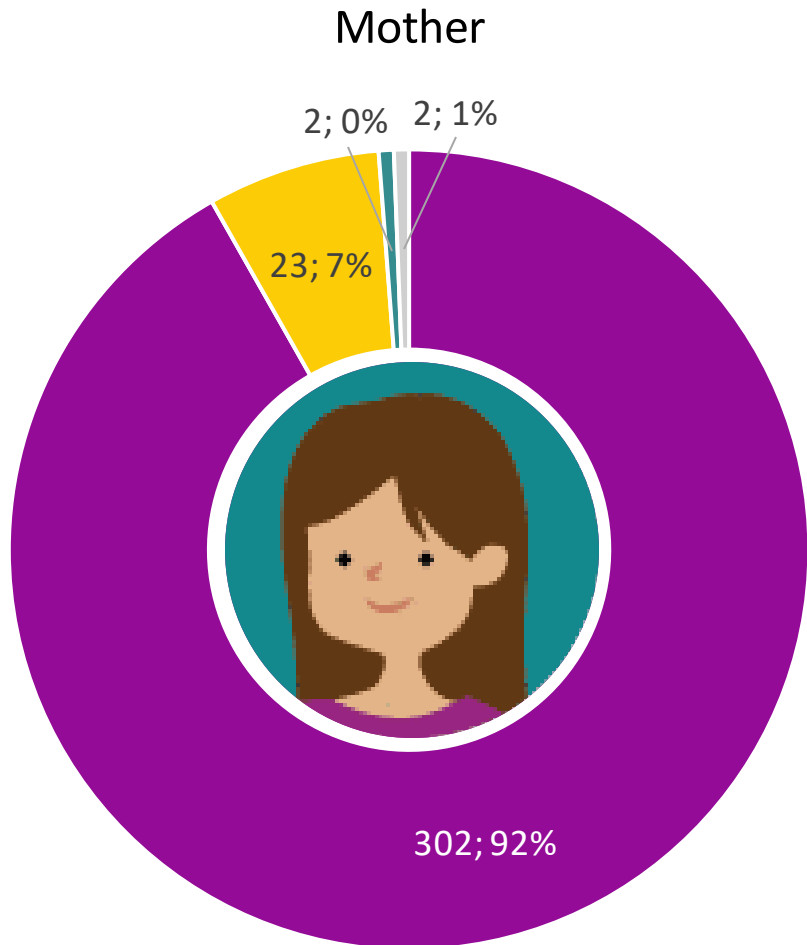
Progress recruitment AIMS



1.220
aliquots
sequenced

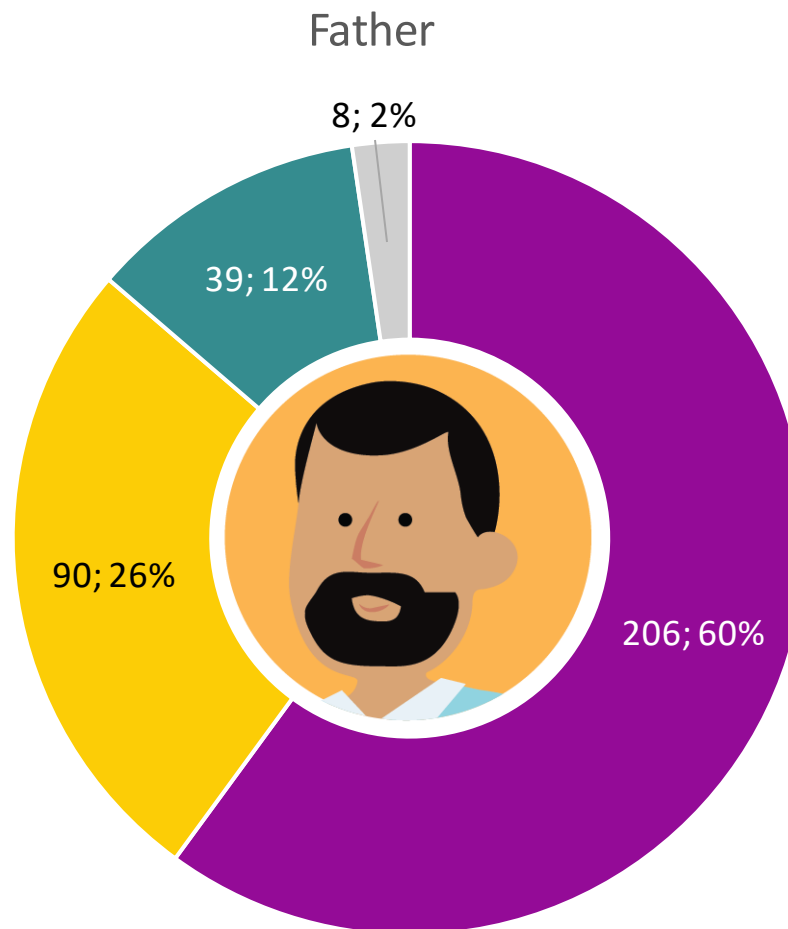
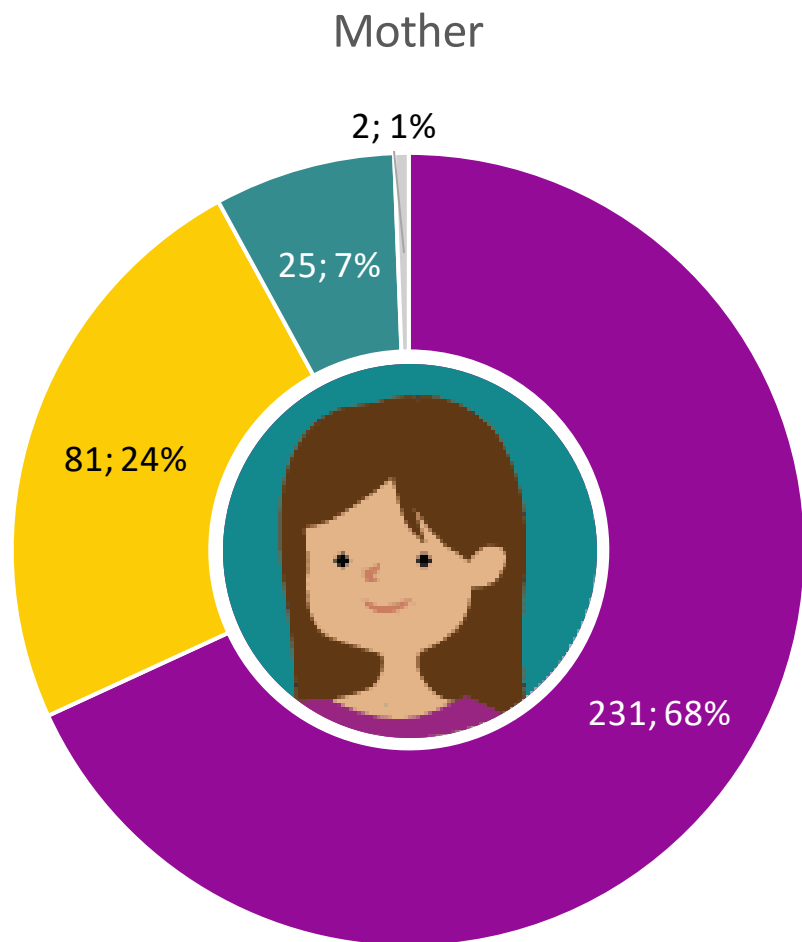


Composition of AIMS Families by educational level



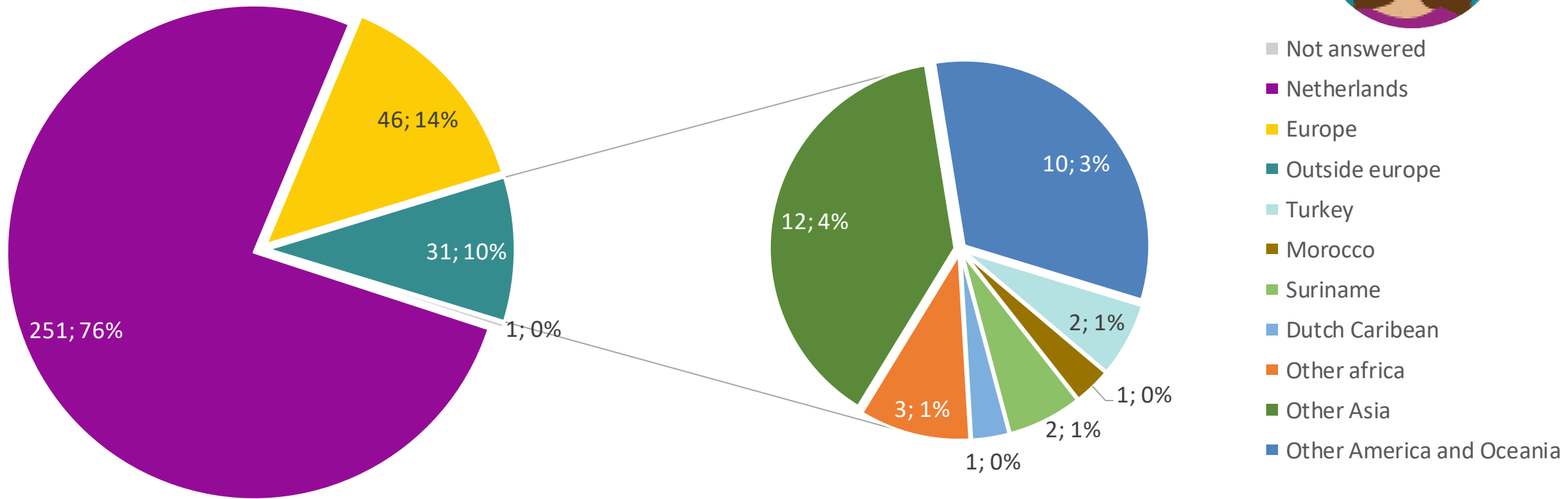
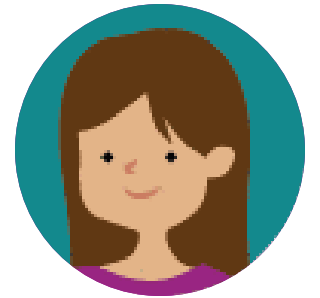
- Higher professional education (HBO) / University education (WO)
- Secondary vocational education (MBO 2-4); Senior general secondary education (HAVO) Pre-university education (VWO)
- Pre-vocational education (VMBO), Secondary vocational education (MBO 1), Primary education
- no partner
- unknown

Composition of AIMS Families by ethnicity

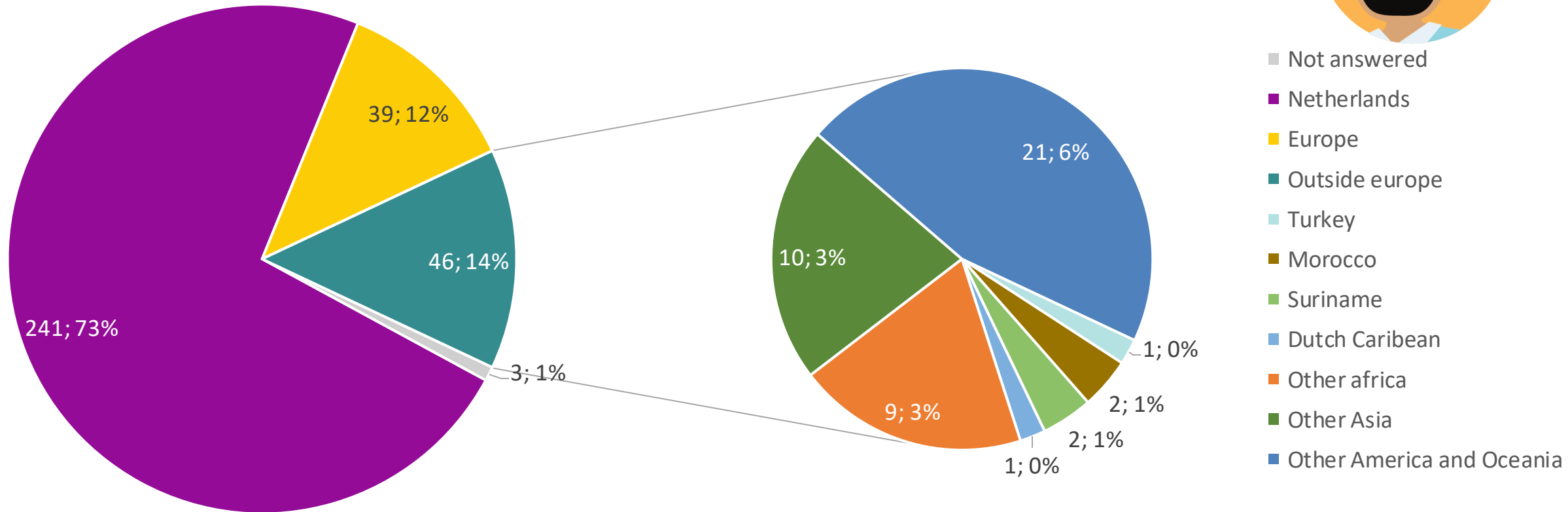


- Both parents and grandparents born in the Netherlands
- Mother / Father born outside the Netherlands
- 1 or more grandparents born outside the Netherlands
- Not answered

Composition of AIMS Families by country of birth mother



Composition of AIMS Families by country of birth father



Work package 1: Inclusivity & engagement of families in research, and intervention development





MetaHealth

EEN GEZOND GEWICHT EN GEZOND GEBIT VOOR KINDEREN

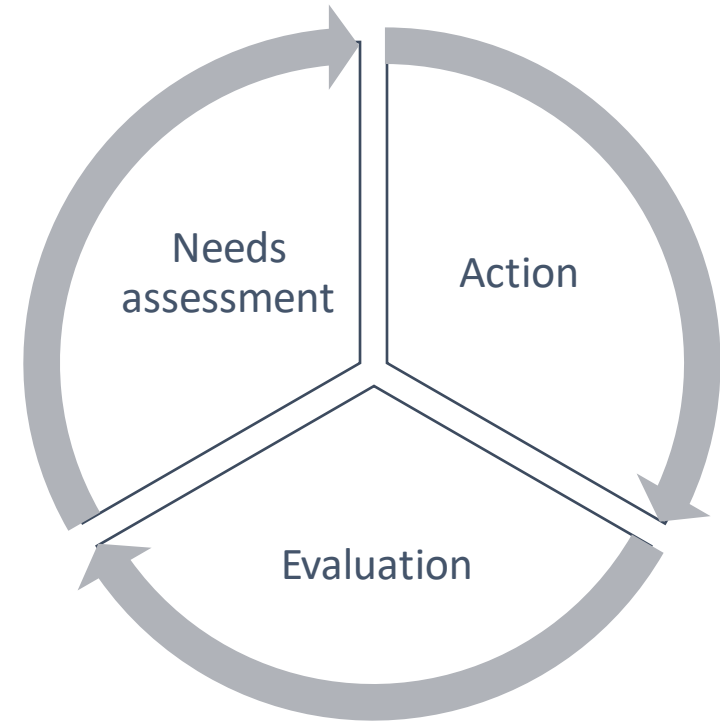
Workpackage 1: system development

Bich Chau / 15-04-2024 / Metahealth half-yearly meeting



Aim of workpackage 1: system development

- By utilizing a **participatory systems approach** to gain insights into the system of childhood dental caries and overweight in the first 1000 days of children living in vulnerable conditions and develop actions to achieve change within that system
- Amsterdam Noord



MetaHealth

What has happened in the past months?

Needs assessment phase

- Two exploratory studies conducted by students
 - Photovoice of neighbourhood
 - Study about the daily practices in families with young children living in Amsterdam North
- Interviews with parents
- Scoping review; aim to understand reasons and determinants for avoiding dental care
- Continue getting known with neighbourhood organizations



For the upcoming months

- Finish with interviews
- Continue scoping review
- Start group model building sessions

Eventually move to the action phase



Work package 1: Inclusivity & engagement of families in research, and intervention development

&

Work package 2: Cohort studies



MetaHealth



MetaHealth
EEN GEZOND GEWICHT EN GEZOND GEBIT VOOR KINDEREN

MetaHealth

Half yearly meeting
April 15th, 2024

WP1 & WP2 Health Sociology group

Carla Rodrigues

Postdoctoral researcher, FMG | UvA



WP1 – Inclusivity and engagement of families in research and intervention development

Discussing the notions of...

- **Representation, inclusion, diversity and participation** in health research.

-> *people may feel under-represented in these studies, by the way these studies describe them.*

Het Parool De eerste 1000 dagen van een baby zijn cruciaal

De eerste duizend dagen van een kind zijn essentieel voor de gezondheid in het latere leven. Hoogopgeleide moeders beseffen dat beter dan laagopgeleide, zegt Tanja Vrijkotte van het Amsterdam UMC.

Jop van Kempen 9 juni 2019, 12:00



BEELD MEREL CORDUWENER



MetaHealth

WP1 – Inclusivity and engagement of families in research and intervention development

20th Biennial ESHMS (European Society of Health and Medical Sociology) Conference
Antwerp, July 2024

Conference theme: *Intersectionality & Inclusion in Health*

Panel: *Studying (non-)participation in health research: experiences, research and theory*

C. Rodrigues, S. Mandrone & C. Broer

Oral presentation: *Inclusion in health research, empirical cases and theoretical import*

S. Mandrone, C. Rodrigues, Z.C. Cosac, G. Veltkamp, C. Broer & Y. Liu



MetaHealth

WP1 – Inclusivity and engagement of families in research and intervention development

EASST-4S

European Association for the Study of Science and Technology and Society for Social Studies of Science
Amsterdam, July 2024

Conference theme: *Making & Doing Transformations*

Panel: *Doing diversity: difference, equity and inclusion in biomedical research*

Oral presentation: *Doing diversity and inclusion within an interdisciplinary health research*

C. Rodrigues, S. Mandrone, G. Veltkamp, C. Broer, Y. Liu & Z.C. Cosac



MetaHealth

WP2 – Sarphati Ethnography cohort

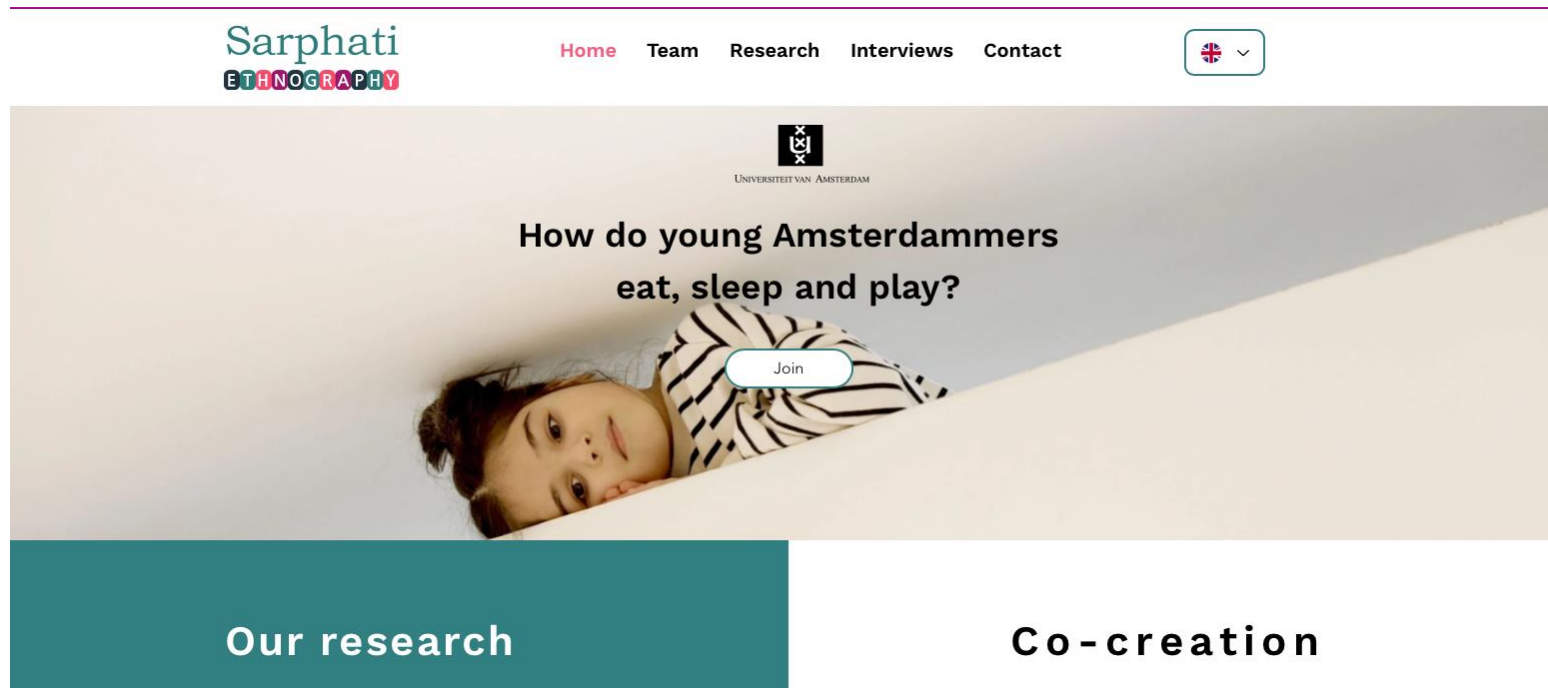
- Sampling and recruitment strategies (*ongoing*)
 - Diversity of people
 - Diversity of practices
 - Theories of practice by *Blue et al. (2016)*
- (Re)establishing contact with families + recruitment of new families (*ongoing*)
 - Current active families: 22
- Interview guide adaptations
 - Food and breastfeeding
 - Oral/bodily hygiene and cleaning/sanitizing
 - Medication (incl. AB and probiotics)
- Observation guide adjustments
 - Materiality and interactions
 - Meanings of practices
 - Relations between practices



MetaHealth

WP2 – Sarphati Ethnography cohort

- Creation of a Sarphati Ethnography website:



MetaHealth

Thank you!

Contact:

c.a.ferreirarodrigues@uva.nl



MetaHealth

Introductions by our Advisory board members



MetaHealth

METAHEALTH Advisory Board



Arnoud Verhoeff
GGD Amsterdam / UvA / Sarphati
Amsterdam



Danielle Kretz
GGD Amsterdam



Stanley Brul
UvA



Anne Marie Plass
InHolland



Janneke Krikken
NVvK



Floor Hugenholtz
NWO



Eline van der Beek
External scientific member

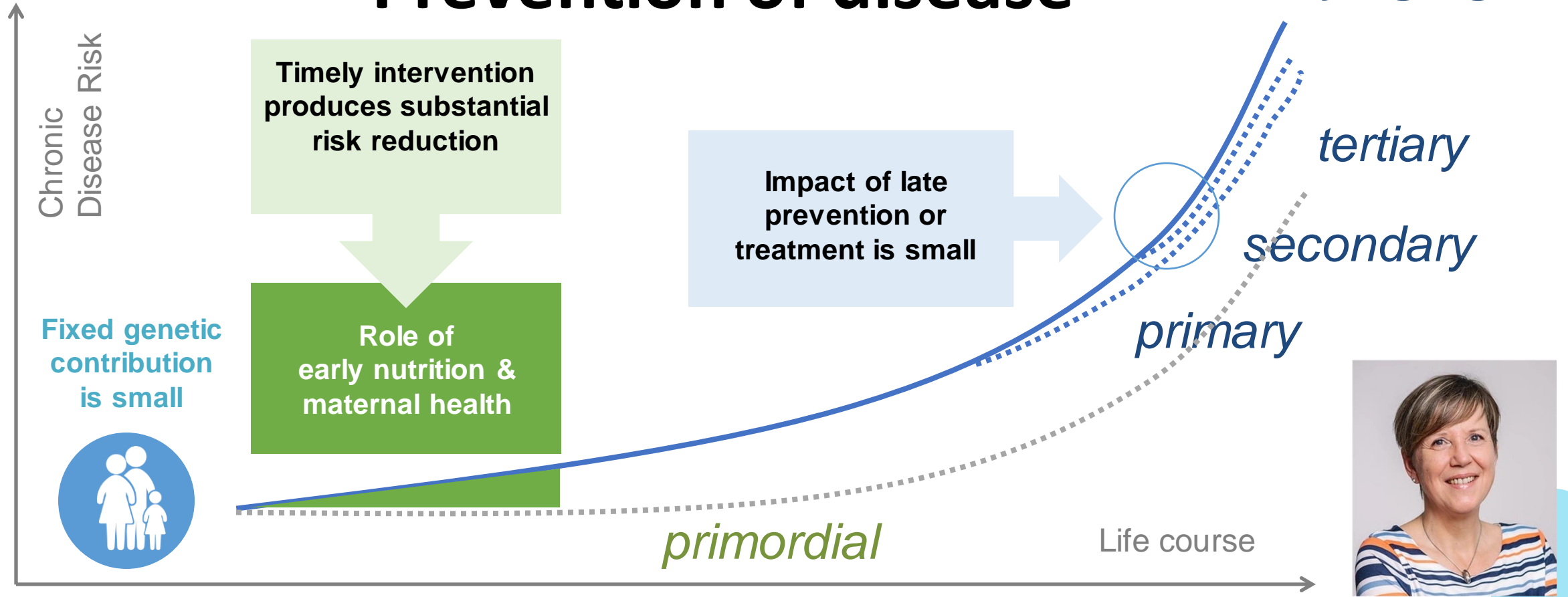


Lili Genee Pirayesh
External societal member



Prevention of disease

Healthy aging



Eline van der Beek
External scientific member

• Gluckman PD [Journal of Developmental Origins of Health and Disease](#) 2010:1(01) pp 6-18. adapted with permission.





- Professor of molecular biology and microbial food safety at the Faculty of Natural Sciences Mathematics and Informatics (FNWI) of the UvA.
- Trained as a biochemist at the UvA and received a doctorate in research at the medical faculty (1991).
- After my PhD I specialized in microbiology at the Radboud University Nijmegen and after working at Unilever R&D for 8 years I am now at the Swammerdam Institute for Life Sciences of the UvA since 2002.
- Research on bacterial spore-forming organisms, the microbiome and in addition to the professorship I fulfill various management roles in education and research. More information can be found here [Stanley Brul UvA](#).

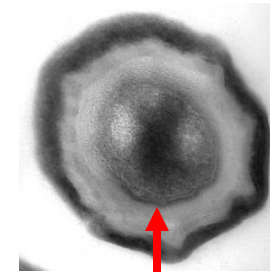
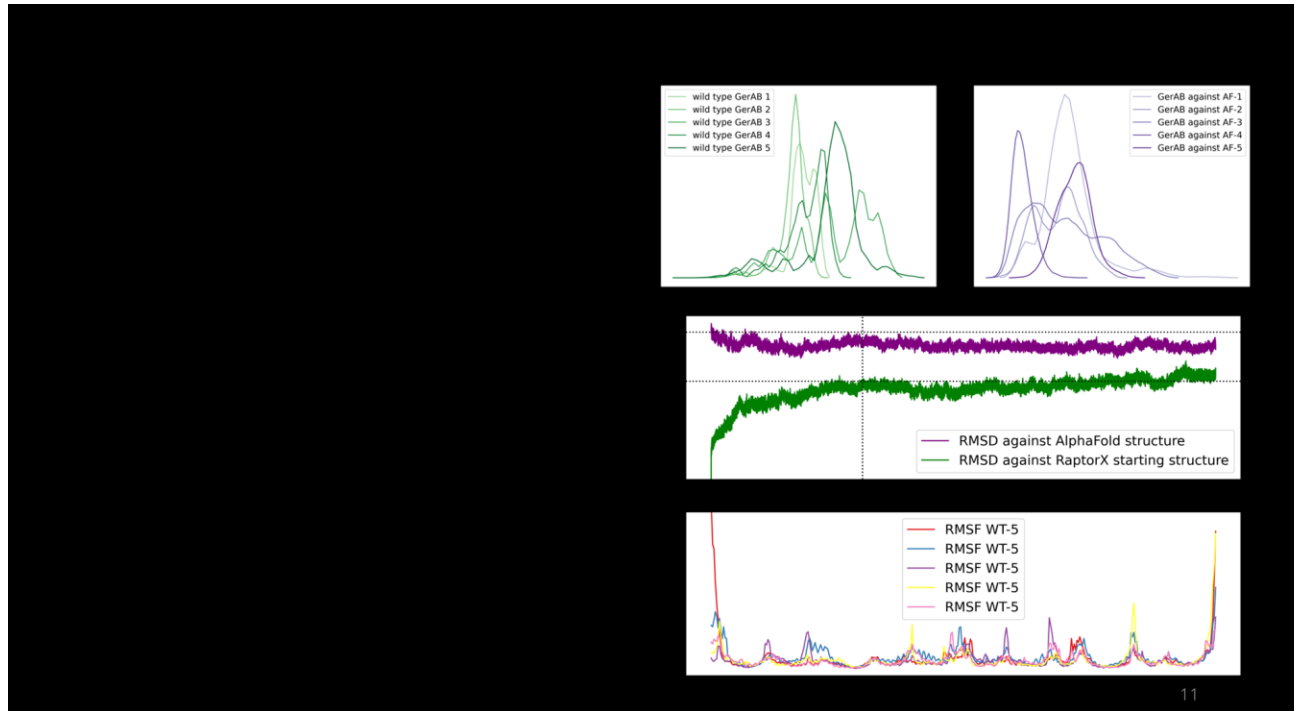


<https://www.sporesconference.co.uk/>

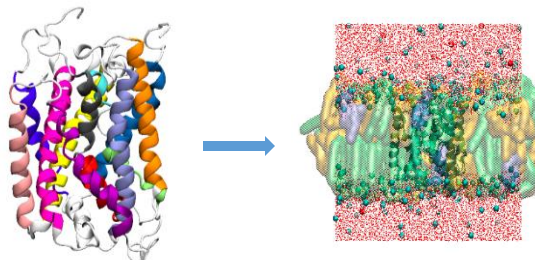
The life cycle of spore-forming bacteria

Cruciaal voor onze gezondheid maar ook ziekteverwekkers

Fundamental interest in *Bacillus subtilis* and *Bacillus cereus* as a toxigenic spore former that causes food borne disease upon spore germination and outgrowth.



Inner membrane with GRs



ACKNOWLEDGEMENTS



Prof. Peter Setlow, UConn Health



PhD student Longjiao Chen



Dr. Jocelyne Vreede, HIMS, UvA



MBMFS Group, SILS, UvA



Computational Chemistry Group,
HIMS, UvA

- Internship students
Sophie Blinker
Houdijn Beekhuis
Christina van den Bosch
Gianni Vinay

- Funding





HOLOMICROBIOOM

www.holomicrobiom.nl

**Aanvraag voor een investering
uit het Nationaal Groeifonds**

Toward a healthier holomicrobiome			
Name of submitters	Holomicrobiome		
Project duration	10 years		
Site	R&D and Innovation, Knowledge Development		
Total investment (mln. Euros)	Requested contribution NGF (mln. Euro)	Contributions from other parties (mln. Euros)	
		Wv. Public	Wv. Private
350 M€	200 M€	116 M€	34 M€

Mens



Microbiomen op onze huid en in ons spijsverteringstelsel zijn essentieel voor onze gezondheid – ze omvatten 99% van alle genen in en op ons lichaam. Maar ook de effecten van ongezonde microbiomen worden steeds duidelijker, zoals ernstige darm- of hersenziekten.

Dier



Microbiomen in darmen van kippen, varkens en koelen zijn cruciaal voor dierlijke productie en dierwelzijn maar spelen ook hoofdrollen in uitstoot van nutriënten in het milieu. Via veevoer en medicijnen beïnvloeden ze voedselveiligheid en uitbraken van dierziekten.

Plant



Microbiomen helpen voedingsgewassen om nutriënten te halen uit bodem en lucht, maar ook om insectenvraat en plantenziekten te voorkomen. Via voedselketens belanden die microbiomen in landbouwhuisdieren of direct op ons bord.

Bodem



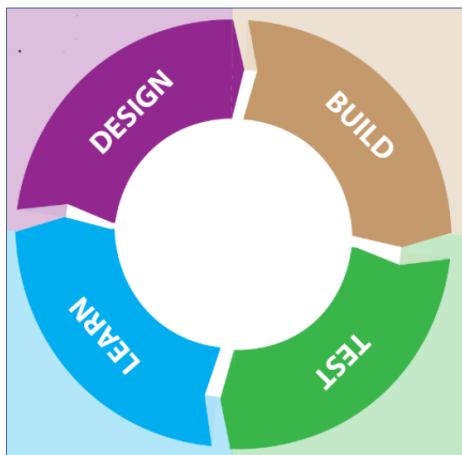
Microbiomen in de bodem zijn essentieel voor de landbouw. Ze bepalen het bodemleven, de opname en het weglekken van meststoffen en het tegengaan van plantenziekten. En chemicaliën in de bodem sijpelen uiteindelijk door tot in het hele voedselsysteem.

Water



Gezonde microbiomen zijn essentieel voor waterkwaliteit. Ze reinigen afval, afvalwater en oppervlaktewater, maar omgekeerd kunnen micro-organismen, microbiële genen of reststoffen de kwaliteit en veiligheid van water ook ernstig bedreigen.

Pillar 1	Data analysis and research infrastructure
	1.1 Research, data analysis and modeling
	1.2 Broad research infrastructure



Immune fitness is a central concept
Just like in METAHEALTH is! See also

<https://www.gumi-mps.com/news>



Pillar 2	Concept-oriented research
<i>Product category 2.1</i>	Manure processing and fertilization
<i>PMCs:</i>	<ul style="list-style-type: none"> • Microbiomes separating nutrients • Microbiomes as fertilizers • Microbiomes for resilience • Understanding plant-microbiome interaction
<i>Product category 2.2</i>	Food and food additives for humans and animals
<i>PMCs:</i>	<ul style="list-style-type: none"> • Pre- and probiotic products for better resistance of humans and animals • Cross-domain models and diagnostic tools
<i>Product category 2.3</i>	Therapies and interventions
<i>PMCs:</i>	<ul style="list-style-type: none"> • Prevention • Diagnostics • Treatment

Pillar	3Valorization and <i>Outreach</i>
	3.1 <i>Living Labs</i>
	3.2 Valorization
	3.3 Project management
	3.4 <i>Outreach</i>

Pillar 4	Education and human capital for a growing microbiome sector
	4.1 Development of national master track 'Microbiomes and applications'
	4.2 Microbiome applications and higher professional education
	4.3 <i>Life-long learning</i> about microbiomes and applications

**Interactive session (this room) /
Advisory board meeting (room 13N-63)**



World Café: 15:00 – 16:30

THEME: Bridging scientific world with the practice

Tijd	Activity	
15:00 – 15:10	Instructions and groups in place	Laurence/Martinet
15:10 - 15:25	Round 1 (15min)	All
15:25 - 15: 35	Round 2 (10min)	All
15:40 - 15:50	Summary per question (10 min)	Chairs (duo's)
15:55 - 16:25	Plenary: Report finding + additional feedback on findings (10 min per question)	All, Chairs
16:25 -16:30	Closing session	Laurence/Martinet

World Café: round 1 – 15 min, round 2 – 10 min

THEME: Bridging scientific world with the practice

Chair: Denise

Round 1: Group 1

Round 2: Group 4

1. How can science and practice trust each other's expertise?

Chair: Lea

Round 1: Group 2

Round 2: Group 6

Chair: Monique

Round 1: Group 3

Round 2: Group 1

2. How can we/What is needed to build sustainable relationships between science and practice?

Chair: Bastiaan

Round 1: Group 4

Round 2: Group 5

Chair: Vivek

Round 1: Group 5

Round 2: Group 2

3. What would make you trust a computational model or AI's output/interventions suggested?"

Chair: Nymphaea

Round 1: Group 6

Round 2: Group 3