PROMISS symposium
Prevention of Malnutrition in Senior Subjects
Agenda

• General outline and objectives PROMISS project
  Marjolein Visser

• Poor diet quality – incident malnutrition
  Linda Hengeveld (Health ABC)

• Low protein intake - muscle strength and physical performance
  Nuno Mendonca (Newcastle 85+)

• Dietary protein food patterns – incident frailty and disability
  Hélène Payette (NuAge)

• Physical function and poor appetite
  Milan Chang (AGES)
CONFLICT OF INTEREST DISCLOSURE

I have no potential conflict of interest to report
PRevention Of Malnutrition In Senior Subjects

Coordinated by the Vrije University, Amsterdam

Funded by the European Union’s Horizon 2020 research and innovation programme
Grant n° 678732.

Budget: € 6,915,506
Duration: 5 years (2016-2021)
Prevention of protein-energy malnutrition in community-dwelling older adults
Why community-dwelling?

90-95% of older adults live at home

Highest absolute numbers of malnourished older adults

Awareness relatively low

Prevent malnutrition to reduce care costs

Prevent malnutrition for active and healthy aging

Important consumer market

Hunting ground for industry and SMEs

Community-dwelling older adults
Objectives

- Identify the relationships of (daily patterns of) food intake, food characteristics, physical activity, and the oral and gut microbiota with poor appetite, malnutrition and poor clinical outcomes in older adults;
- Characterize the attitudes and preferences of older adults with regard to (daily patterns of) food intake, food characteristics, and physical activity by appetite and malnutrition strata;
- Develop optimized, sustainable and evidence-based dietary and physical activity strategies to prevention of malnutrition and support active and healthy ageing;
- Design new food concepts, new food products and electronic support systems that fit within these newly developed dietary strategies to support the prevention of malnutrition, and active and healthy ageing;
- Disseminate and implement the newly developed holistic strategies and related practical recommendations in order to prevent malnutrition in all older EU citizens and improve health and health care.
Dietary intake and outcomes

Cohorts:

- Longitudinal Aging Study Amsterdam (LASA, the Netherlands)
- Age, Gene/Environment Susceptibility-Reykjavik Study (AGES, Iceland)
- Newcastle 85+ Study (UK)
- Quebec Longitudinal Study on Nutrition and Aging (NuAge, Canada)
- Health, Aging and Body Composition Study (HABC, USA)
Daily dietary patterns

Surveys:

• Dutch National Food Consumption Survey Older Adults (DNFSC, the Netherlands)
• National FINDIET 2007 Survey (FINDIET, Finland)
• Italian National Food Consumption Survey INRAN-SCAI 2005-06 (Italy)
• INCA2 Survey (France)
Activity and sedentary behavior

- Describe daily patterns of physical activity and sedentary behavior, also according to appetite and malnutrition strata
- Study interactions between diet and physical activity in relation to outcomes
- Methodological studies
Gut and oral microbiome

- Nested case-control study in LASA participants
  Conducted at home
  Saliva / tongue swap / faeces samples
  Taste & smell tests,
  Detailed questionnaire

<table>
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<tr>
<th>Poor appetite</th>
<th>Good appetite</th>
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<td>Weight loss</td>
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Gut and oral microbiome

• Mouse experiments

• Long-term trial (WP8)
  Collect saliva/tongue swap/ faeces samples
  objective blood markers, fMRI in subsample
Preferences and attitudes

- Large-scale consumer surveys in 5 countries
- Survey 1: identify preferences and attitudes, also within appetite and malnutrition strata
- To identify implications and recommendations for dietary and physical activity strategies and for food product development
- Survey 2: Identify acceptance of and preferences for potential dietary and physical activity strategies, also within appetite and malnutrition strata
Food products and concepts

“PROMISS kitchen”

- Development of food concepts and food products
- Road map for industry
- Master class for industry
Strategies for prevention

• Develop sustainable, feasible and (cost)effective dietary and physical activity strategies to prevent malnutrition and support active and healthy ageing

• Develop modern technological solutions to support older adults in making healthy choices that fit within these strategies
Feasibility and short-term impact

• Two experiments: N=60-100, 3-4 weeks
  – Test different prevention strategies
  – Examine barriers/enablers, compliance, dietary intake, actual product use, physical activity, appetite, body weight
• Pilot study for long-term term trial
• Experiment persuasive technology: N=20
Long-term (cost)effectiveness

- 6 months intervention, N=500
- Two study sites: Amsterdam (NL) & Helsinki (FI)
- Sample: 70+ y at high risk of malnutrition
- Intervention:
  - optimal dietary strategy incorporating new food products
  - idem + optimal physical activity strategy
  - control group (no intervention)
  - in subsample yes/no persuasive technology
- Primary outcomes: functional performance (SPPB)
Dissemination & implementation

• Translation of strategies into practical recommendations
• Dissemination of practical dietary and physical activity recommendations, roadmap and master class
• Reach health professionals, industry, policy makers and older EU citizens
Thank you for your attention!