Research & Innovation in food, health and ageing

Feasibility study on dietary recommendations for older adults in the European Union

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Past: EU R&D funding in 2007-2013

Present & Future:

- Horizon 2020 R&D&I funding (2014-2020)
- SC2, the bridge between past & future
- International collaboration

Workshop

- Objectives & expected results
- Outcomes
This presentation shall neither be binding nor construed as constituting commitment by the European Commission.

Mission: to develop & implement the European Research Area & Innovation policy achieving the goals of **Europe 2020** & the Innovation Union.

- **Smart growth:** developing an economy based on knowledge and innovation.
- **Sustainable growth:** promoting a more resource efficient, greener and more competitive economy.
- **Inclusive growth:** fostering a high-employment economy delivering social and territorial cohesion.

Tackling the challenges:
- **Climate**
- **Health**
- **Ageing**
- **Energy**
- **Food**
Examples of FP7 projects

- Malnutrition in developing countries (**INSTAPA**)
- Influence of food contaminants on early programming leading to obesity (**OBELIX**)
- Effect of diet on mental performance (**NUTRIMENTHE**)
- Impact of diet on ageing (**LIPIDIET**)
- Food labelling and consumer behaviour (**FLABEL**)
- Measures aimed at promoting healthy eating habits (**EATWELL**)
- European Micronutrient recommendations aligned (**EURRECA**)
- Diet and prevention of functional decline of the elderly (**NUAGE**)
- Personalised Food using rapid manufacturing for the nutrition of elderly consumers (**PERFORMANCE**)

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What is Horizon 2020?

The new European Union programme for research and innovation for 2014-2020

• Challenge-based

• An integrated programme coupling research to innovation

• Strong focus on SMEs

• Major simplification
Horizon 2020: 3 priorities / pillars

1. Excellent science
2. Industrial leadership
3. Societal challenges

1. Health, demographic change and wellbeing
2. Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy
3. Secure, clean and efficient energy
4. Smart, green and integrated transport
5. Climate action, resource efficiency and raw materials
6. Inclusive, innovative and reflective societies
7. Secure societies
Budget for SC2: €3,8 billion = More than double of budget under FP7

Biggest EU investment in Research and Innovation
Satisfying and shaping changing consumer demands for food

Sustainable primary production

Efficiency in food chain management

Assuring food quality and safety

COMPLEXITY

Challenges in EU & global food chains
Why? Making the best from our biological resources and move to a low-carbon economy

How? Focus on:

• Achieving food safety for all Europeans and decreasing the burden of food- and diet-related diseases
• Addressing the pressures on natural resources
• Improving animal health
• Reducing food waste by 50% by 2030

Budget 2014-2020? € 3,851 billion
SC2: Sustainable Food Security Call

Examples of 2014-2015 topics

1. Sustainable food production systems
   - SFS-6-2014: Sustainable intensification pathways of agro-food systems in Africa
   - SFS-10-2014/2015: Tackling disease-related challenges and threats faced by European farmed aquatic animals

2. Safe food and healthy diets and sustainable consumption
   - SFS-13-2015: Biological contamination of crops and the food chain
   - SFS-14-2014/2015: Authentication of food products
   - SFS-16-2015: Tackling malnutrition in the elderly

3. Global drivers of food security
   - SFS-20-2015: Sustainable food chains through public policies: the cases of EU quality policy and of public sector food procurement

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**Scope:** Based on a better understanding of the mechanisms of the ageing process, dietary strategies, dietary recommendations and new food products to prevent and treat malnutrition in the elderly (living at home, in nursing homes, hospitals, and/or emergencies) should be developed with the aim of preventing functional decline and improving appetite, health and quality of life of the elderly. A holistic strategy to prevent malnutrition should be developed, and could include research on the role of, amongst other, nutrients in the human organism (their bioavailability and interactions), the gut microbiome, food preparation at home, the physical and social environment (such as social networks).

*International cooperation* is encouraged. Relevant stakeholders, including industry and SMEs, should be involved. 7M€

**Expected impact:** Design and development of evidence-based dietary strategies, dietary recommendations and new food products that support active and healthy ageing and help prevent malnutrition in the elderly.
International cooperation

Horizon 2020 – Open to the World!

Non-EU countries applicants fall into 2 categories:

devolving countries - eligible for funding

industrialised or BRIC countries – funded in exceptional cases

SC2 WP 2014-2015:

"For certain topics, support to international cooperation efforts and particularly the participation from entities from the targeted countries or regions will be positively considered during the evaluation of proposals."

2 topics stemming from KBBE forum:

SFS-10-2014/2015: Tackling disease-related challenges and threats faced by European farmed aquatic animals

SFS-16-2015: Tackling malnutrition in the elderly
Objectives:

To bring together experts from various innovative research disciplines

To provide a broad overview on the specific challenge "ageing population" and present the latest results in this field

To identify major research gaps and future research priorities with benefit for partnership between academia, policymaker and food industry
Highlight promising policy strategies/interventions promoting active, healthy and independent life of the elderly

Identify how International Cooperation can help to address societal challenges at global level

Identify key research areas for future funding
Day 1: Nutrition, inflammation and cognitive decline

Day 2: Understanding and prevention of physical decline

Day 3: Tackling global challenges in the ageing society by an integrated multidisciplinary approach
Conclusions

• New innovative markers and tools to measure early functional, physiological, social wellbeing and cognitive decline (Alzheimer). Biomarkers validation against "hard" endpoints.

• Investigation of the origin and causes of ageing at early stages for developing more effective prevention strategies of metabolic disease and cognitive decline. Identify the lifestyle factors that contribute to premature ageing (molecular and mechanistic understanding). Studies on culture-related nutrition patterns and health outcomes.

• Better understand the role (benefits/doses/risks) of nutrients (micro-nutrients) and non-nutritional components (e.g. phytochemical, prebiotic-like compounds, new probiotics) in foods and their interactions (synergies/antagonism) with drugs and other xenobiotics on aging-related outcomes => to identify the best strategies to reformulate food and develop new food products.
Conclusions

• Knowledge about the consumers preference of 80+ population

• Do not use specific age groups but refer to the functionality of the person. Develop functional foods for certain physiological conditions (transit, swallowing, saliva) appropriately labelled for texture and taste (+ globally accepted measures).

• Make distinctions between people still living at home, being in hospitals or nursing homes life settings, living arrangements.

• Develop tools to help the elderly to understand what is a balanced healthy diet and how to motivate them to eat a balanced diet.
Conclusions

- Use ICT for monitoring body parameters in a minimal and non-invasive manner. For cognitive endurance and Personal Fitness (Wearable technologies, self-monitoring). Help to detect small physical and mental health issues early, to reduce overall health care costs – prevention better than cure.

- Needs to better understand ageing society needs. Integrate factors such as socio-cultural and economical, environmental, genetic, lifestyle factors in a multidisciplinary approach. Facilitate the network establishment between disciplines in order to achieve improved mutual understanding and enhance the capacity of multi-level, multi-disciplinary and socio-cultural research and interventions.

- Better understanding of how mental, physical and social health and wellbeing interact with each other => Open sharing of methods, metrics/parameters and data across cohorts and communities.
Conclusions

• Specific funding instruments for long-term research. Long-term transdisciplinary epidemiological and interventions studies and regular meeting with authorities and experts in different fields to exchange their views and approaches to implement scientific informed intervention measures at population level.

• Improve standardisation with the establishment of control measures or an agreed set of parameters to be measured in every public funded intervention or research for standardising the results in the elderly => reference model

• Stronger health economics research to identify the most cost-effective interventions => valuable information to support better decision making
Further information about H2020?

• **NCP network** (National Contact Points)

• **Participant Portal**

• **Helpdesk**
  http://ec.europa.eu/research/enquiries

• **Expert evaluators needed!**

• **Learn more about Horizon 2020**
  http://ec.europa.eu/horizon2020

Thank you for your attention!