



# Science and innovation behind public health promotion

**Dr Karim Berkouk**  
**Deputy Head of Unit for Medical Research and Ageing**  
**Health Directorate**  
**Research & Innovation DG**  
**European Commission**

# Content

- **About nutrition and physical activity**
  - The underpinning issues & their impact
  - Where do we stand in Europe
- **EU research efforts so far**
- **European perspective on Research & Innovation (R&I): Horizon 2020**

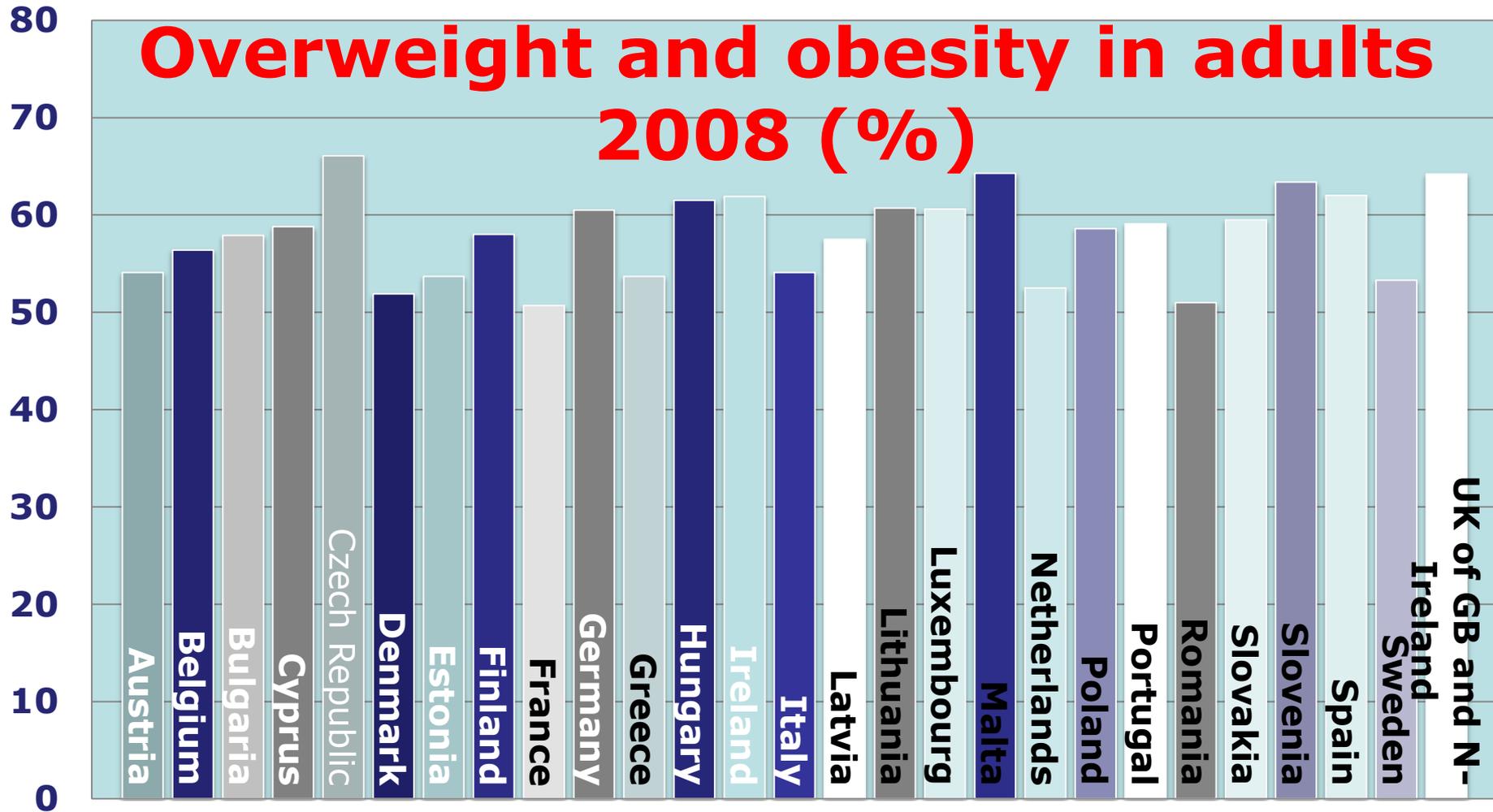
# A complex problem



- Intersection with many sectors of society: health, research, education, social, industries, transports...
- Gateways to major chronic diseases: obesity, diabetes, CVD, cancer, mental health...
- Time course perspective: trans-generational effect
- Huge economic burden
- Societal impact: Health inequities (national, regional, social, educational)
- Very limited pharmaco-therapeutical options:  
Innovation potential

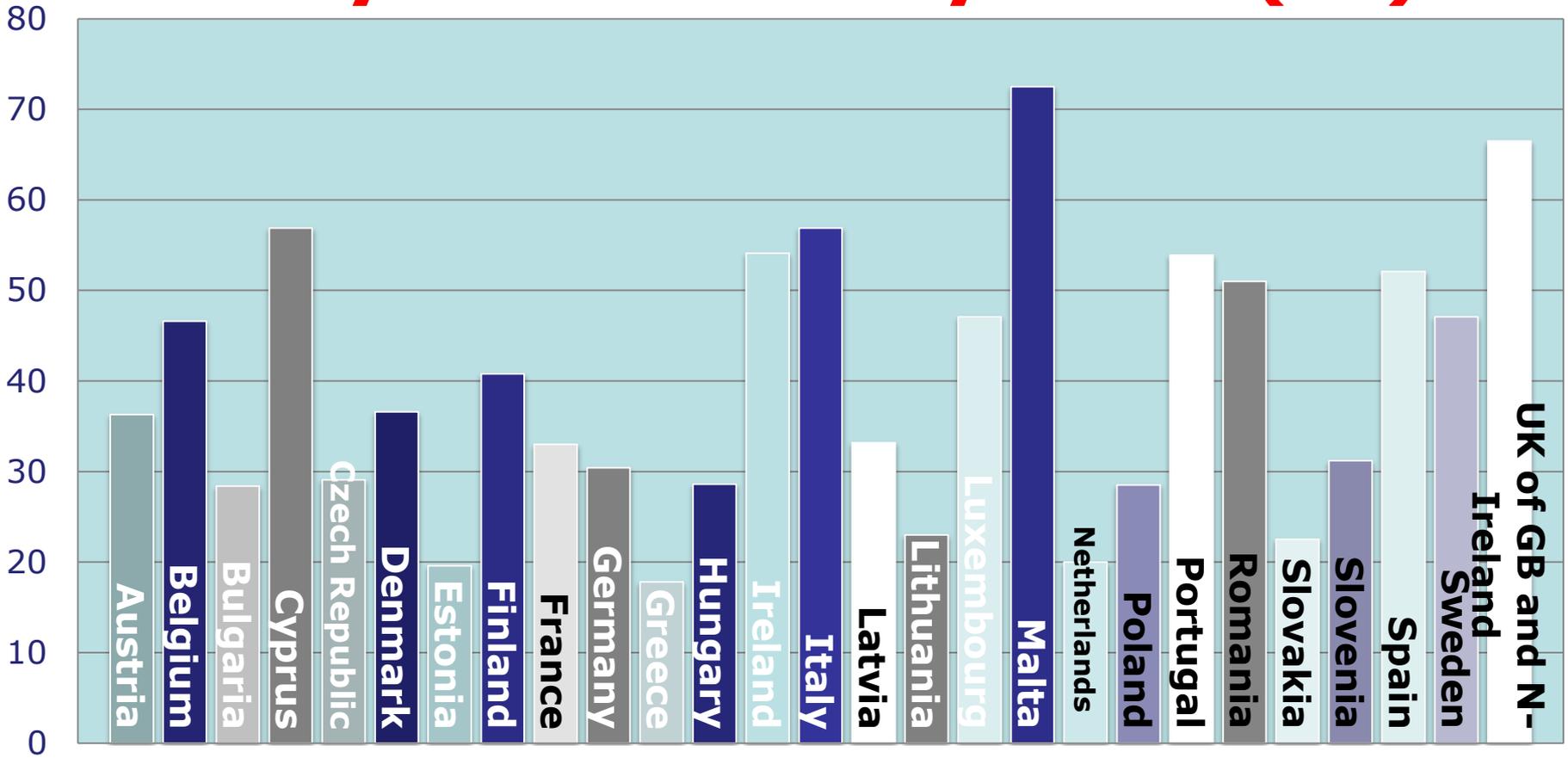
***'As a scientist, I want to understand what causes Type-2 diabetes, but sometimes I think my time would be better spent persuading people to eat less and exercise more'***

**Prof Frances Ashcroft (University of Oxford, UK)**



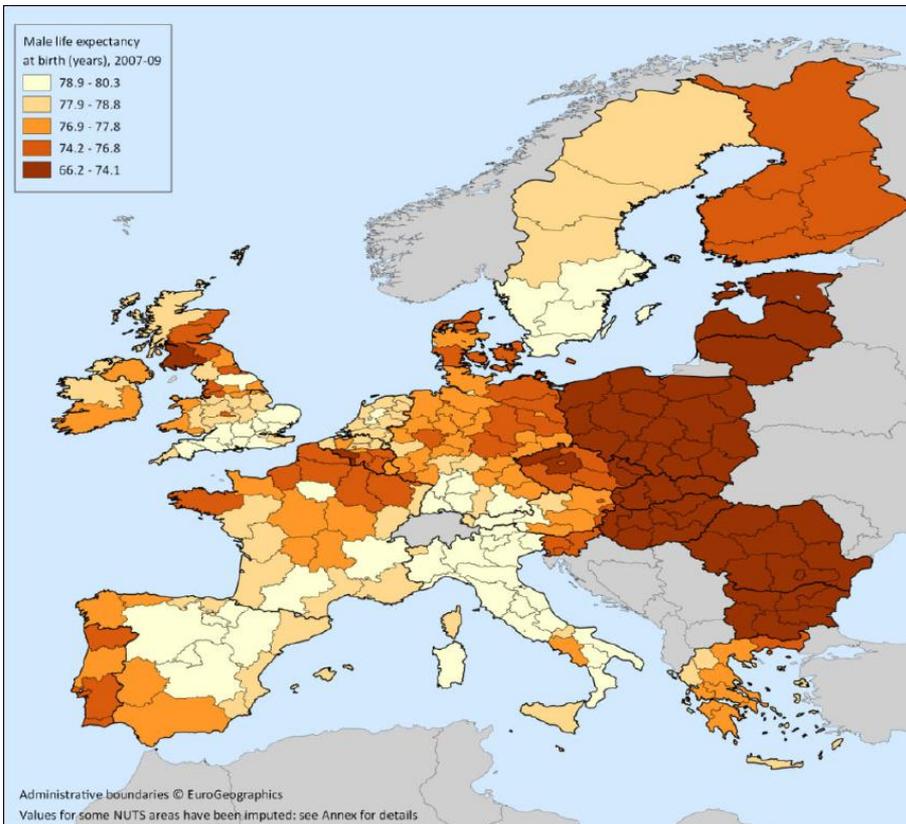
Eu 27 countries

# Physical inactivity 2008 (%)

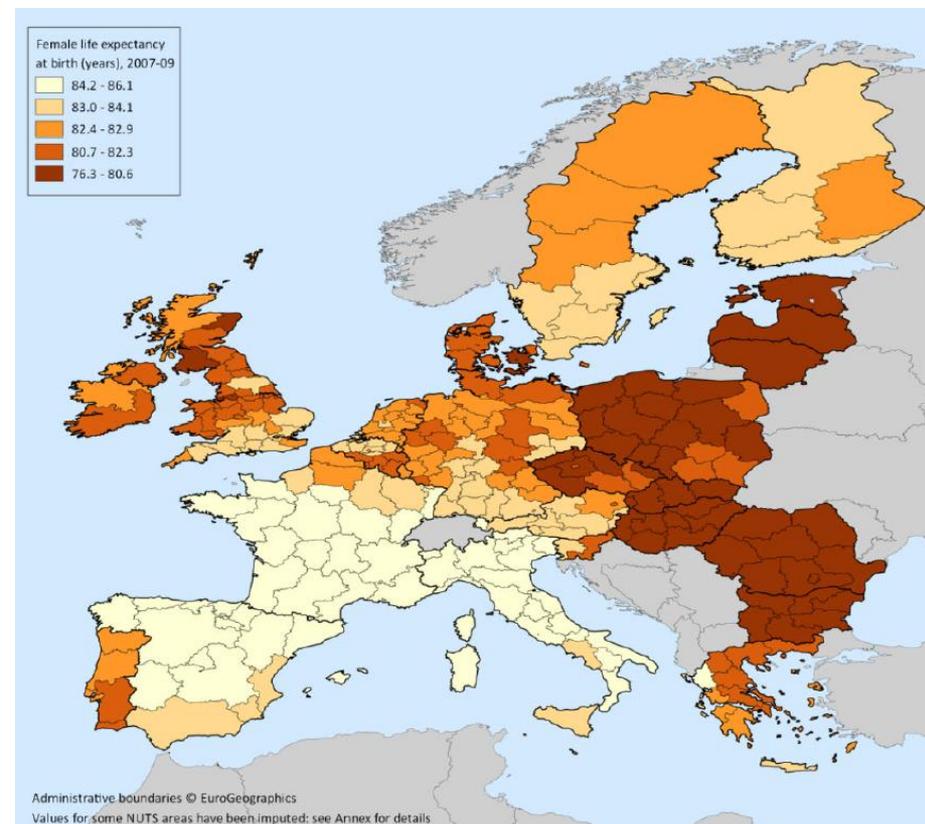


Eu 27 countries

# European map of life expectancy at birth



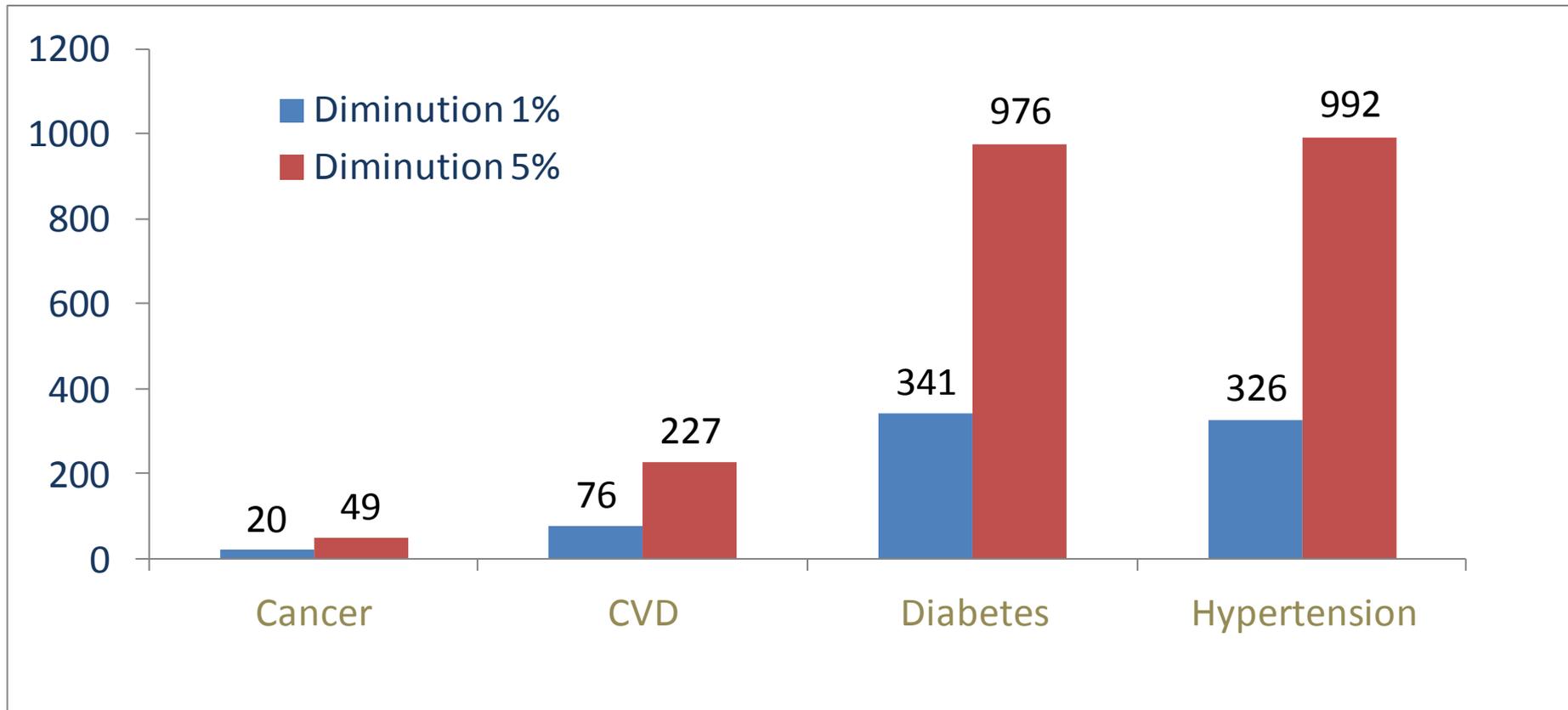
**Male**



**Female**

# Prevalence gains avoided

Per 100,000 of the EU population in 2030 by scenarios (WHO)



# The EU means





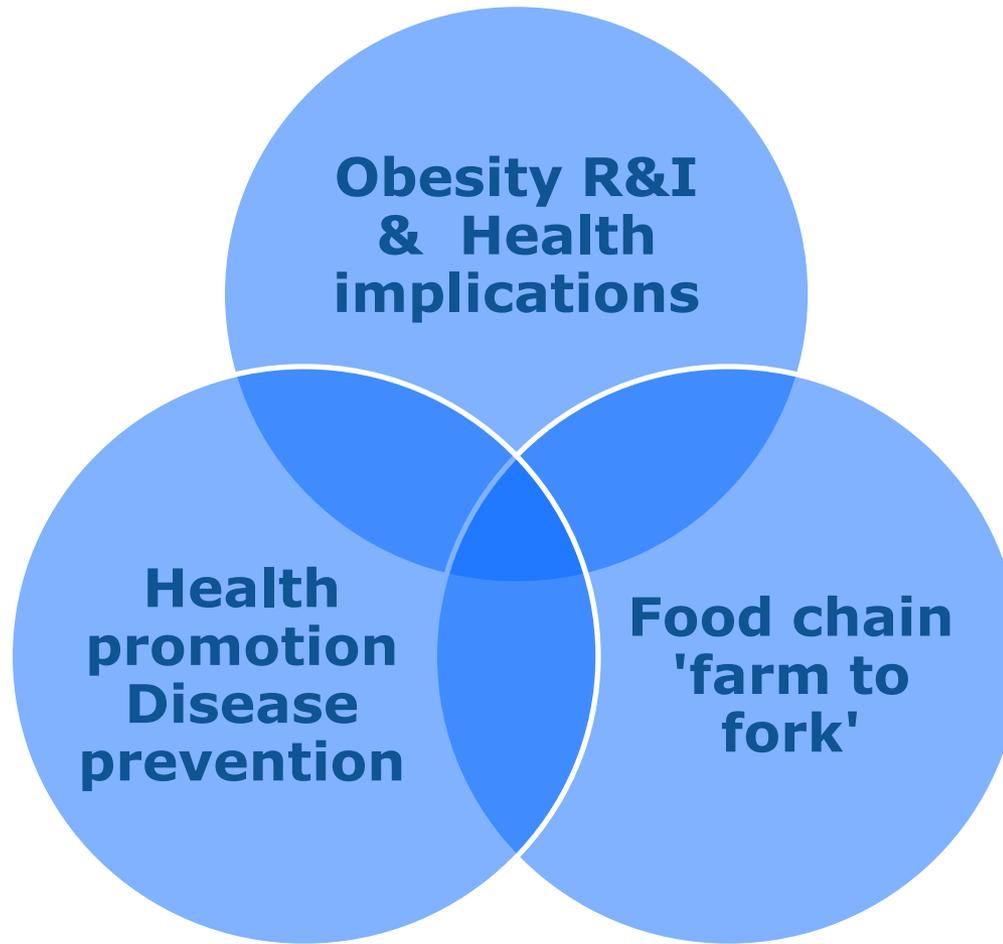
## Relevant EU Policy initiatives

- The EU Platform on Health, Diet & P.A
- The new action plan on childhood obesity
- The Joint Action on Chronic Diseases

## Relevant EU legislation

- The Nutrition and Health Claims Regulation (2007)
- The Regulation on the Provision of Food Information to Consumers (2011)
- The Audiovisual Media Services Directive (2007)

# EU R&I : Providing the evidence



# EU Research on obesity (€450 Million)

- **Prevention**: the role of nutrition, healthy foods/diet and lifestyle interventions
- The mechanisms underlying **obesity development** and the search for therapeutic interventions
- The effects of income on food choices, vulnerability, social and cultural factors on diet and physical activity choices
- International efforts: impact of diabetes on specific global populations (South-Asia, Sub-Saharan Africa and the Mediterranean region).

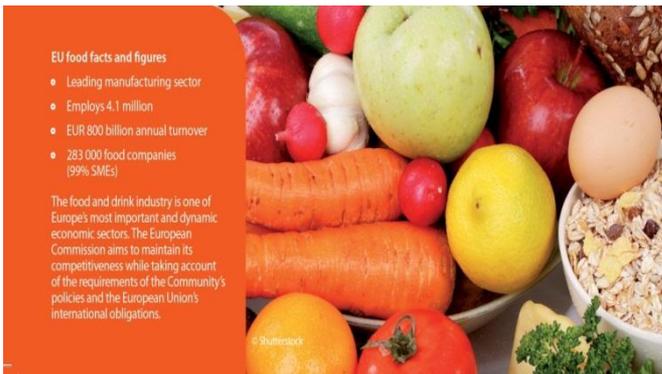
## Health promotion & disease prevention (€ 87 Million)

- Research on the **determinants** of health and health inequalities
- Research **providing evidence on interventions** that increase healthy lifestyle
  - **Nutrition, physical activity, obesity**
  - **Alcohol and tobacco**
- Research using **social innovation** as a tool for health promotion
- Development of better tools for **impact assessment** of health promotion interventions

# “Fork to farm”: Food, health and well being



Food, Agriculture and Fisheries, and Biotechnology



- **Consumer: perception and attitudes towards food, understanding societal and cultural trends, determinants of food choice**
- **Nutrition, diet related diseases, interaction between nutrition, physiological and psychological functions, new food dev.**
- **Innovative food and feed processing, packaging, smart control, waste management**
- **Improved quality and safety of food and feed, detection methods, risk governance**
- **Total food chain concept, environmental impact of/on food chain**

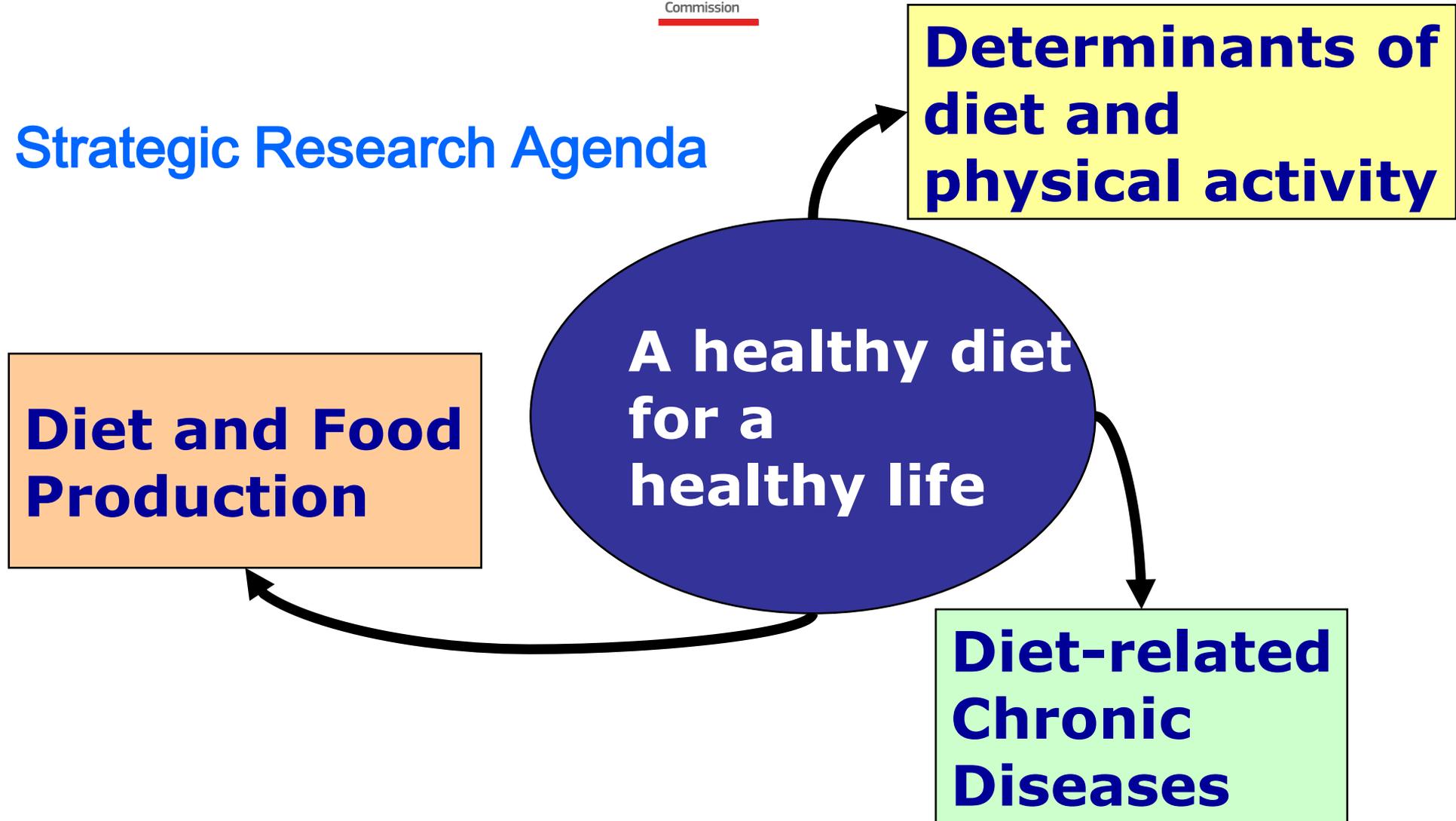
# Fork to farm

- Nutrition & physical activity on ageing
- Overweight and obesity in children & adolescents
- Mental Health
- Food reformulation
- Consumer choice and eating behaviour

# JPI - Healthy Diet for Healthy Life



## Strategic Research Agenda





# Horizon 2020

# Perspectives

# What Horizon is 2020 about



**Budget:  
about €79 Billion**



**The EU's 2014-20 programme  
for research & innovation**

**A core part of Europe 2020,  
Innovation Union &  
European Research Area**

- Responding to the economic crisis to invest in future jobs and growth**
- Addressing people's concerns about their livelihoods, safety and environment**
- Strengthening the EU's global position in research, innovation and technology**

# Three priorities

- European Research Council
- Future and Emerging Technologies
- Marie Skłodowska-Curie actions
- Research infrastructures



- Leadership in enabling and industrial technologies
- Access to risk finance
- Innovation in SMEs

- Health, demographic change and wellbeing
- Food security, sustainable agriculture and forestry, marine and inland water research and the Bioeconomy
- Secure, clean and efficient energy
- Smart, green and integrated transport
- Climate action, environment, resource efficiency and raw materials
- Inclusive, innovative and reflective societies
- Secure societies
- Science with and for society
- Spreading excellence and widening participation

# Health, Demographic change and wellbeing - aim



**Funding: € 7.5 Billion**



- **Translate science to benefit citizens**
- **Test and demonstrate new healthcare models, approaches and tools**
- **Promote healthy and active ageing**
- **Improve health outcomes, reduce inequalities**
- **Support a competitive health sector**

# Health promotion and disease prevention: Topic Examples



- Evaluating **existing screening and prevention** programmes
- Innovative approaches for preventive oriented health systems
- Inter-sectoral collaboration for environment and health interventions
- Translating "omics" into stratified approaches
- Foresight on future public health challenges
- Self-management of health and disease
- Understanding health, ageing and disease
- Comparing effectiveness of healthcare interventions in the elderly
- Establishing effectiveness of healthcare interventions in children
- New therapies for chronic non-communicable diseases

# **Support for European and International Initiatives**

- **European Innovation Partnership on Active and Healthy Ageing**
- **Joint Programming Initiative 'More Years, Better Lives'**
- **Global Alliance for Chronic Diseases (GACD) – Type 2 Diabetes**

# Strategic Initiatives



European  
Commission



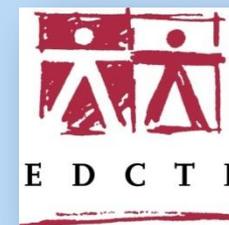
**Innovative Medicines Initiative 2**  
[www.imi.europa.eu](http://www.imi.europa.eu)



**European Innovation Partnership  
on Active and Healthy Ageing**  
<https://webgate.ec.europa.eu/eipaha>



**Active and Assisted Living 2**  
[www.aal-europe.eu](http://www.aal-europe.eu)



**European & Developing Countries  
Clinical Trials Partnership (EDCTP2)**  
[www.edctp.org](http://www.edctp.org)

**Funding: € 3.85 Billion**

## Sustainability

- 2.1 Sustainable Agriculture and Forestry
- 2.2 Sustainable and competitive agri-food sector for safe and healthy diets
- 2.3 Unlocking the potential of aquatic living resources
- 2.4 Sustainable and competitive bio-based industries

Consumption

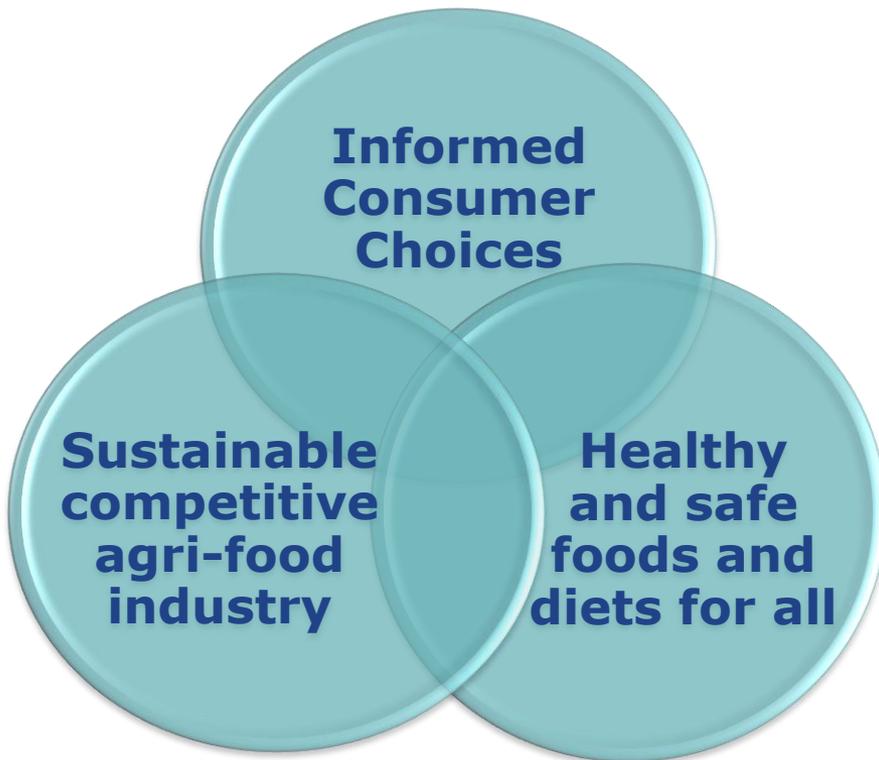


Food Chain

Production

## Security, resilience

# Sustainable and competitive agri-food sector for a safe and healthy diet



## Complex challenges:

- Consumer needs for safe, healthy and affordable food
- Impacts of food consumption behaviour and food and feed production on human health and the total ecosystem