

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**

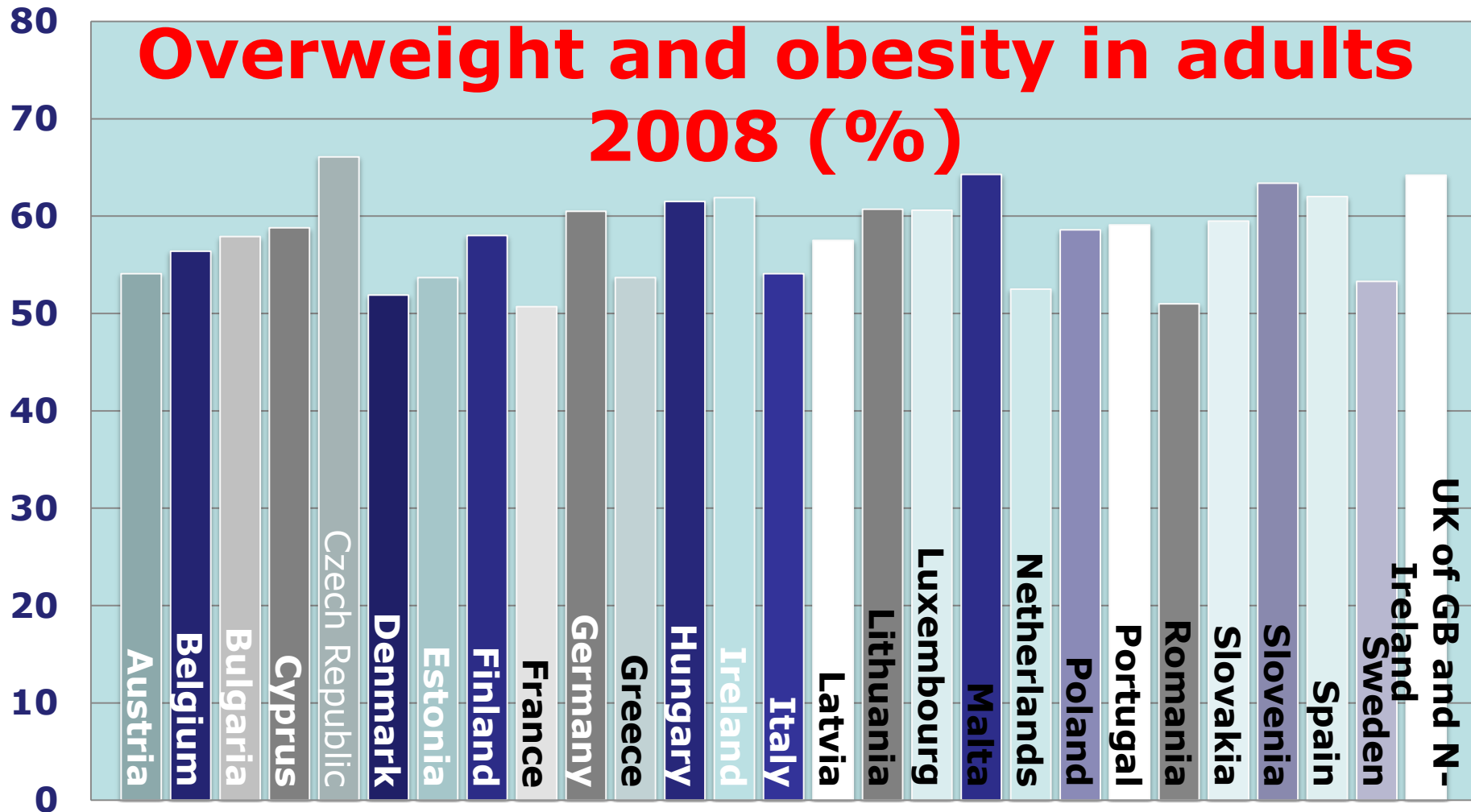
A complex problem



- 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

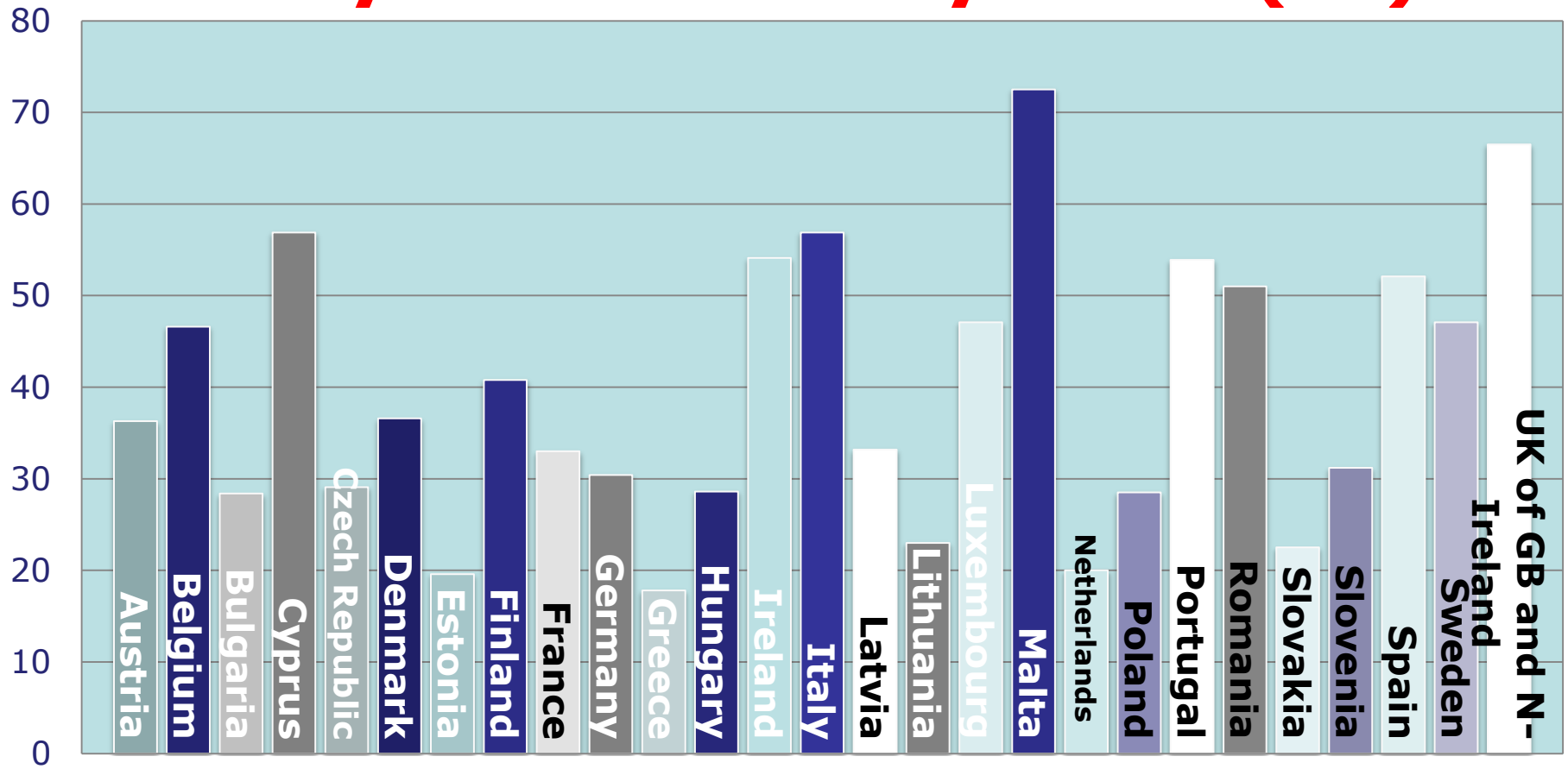
***'As a scientist, I want to understand
what causes Type-2 diabetes,
but sometimes I think my time would be
better spent persuading people to eat
less and exercise more'***

Prof Frances Ashcroft (University of Oxford, UK)



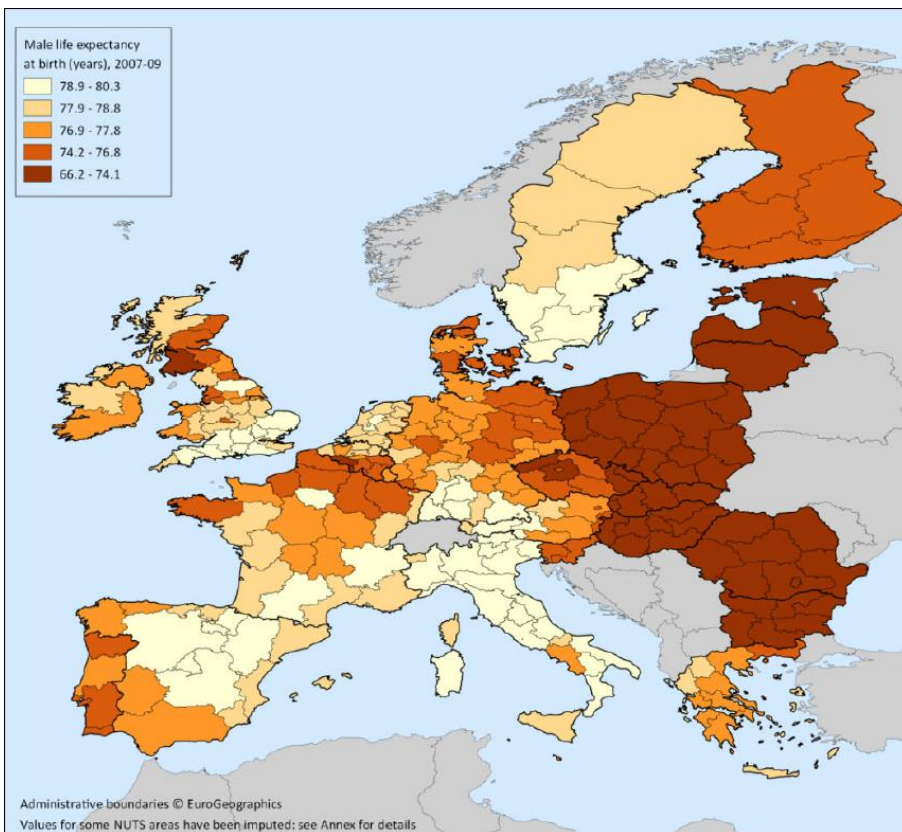
Eu 27 countries

Physical inactivity 2008 (%)

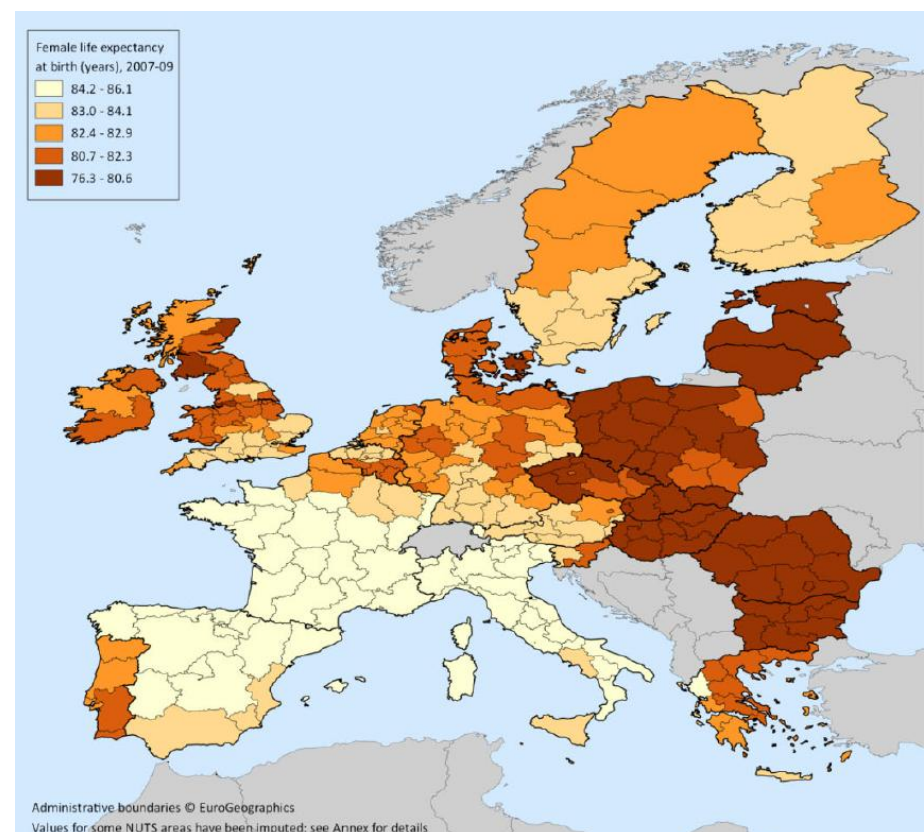


Eu 27 countries

European map of life expectancy at birth



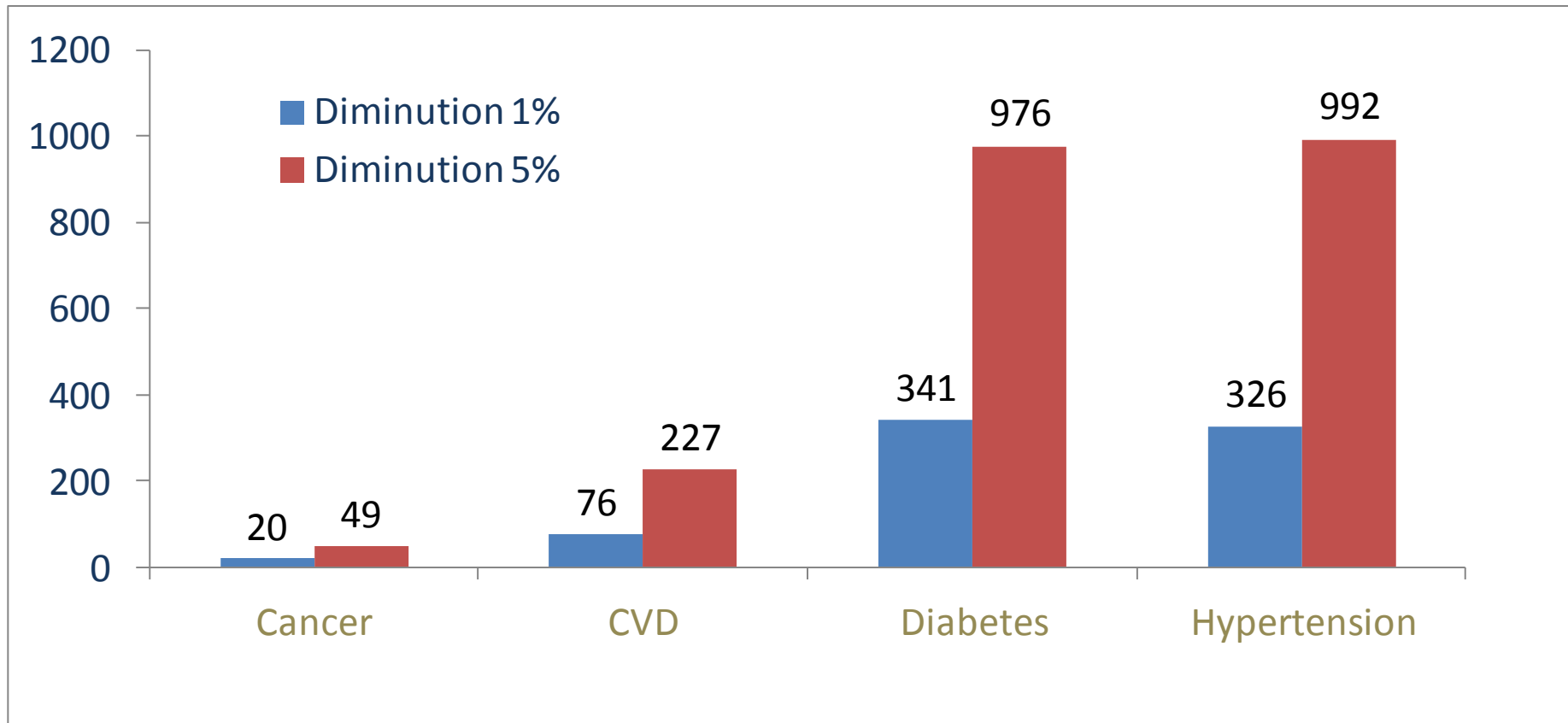
Male



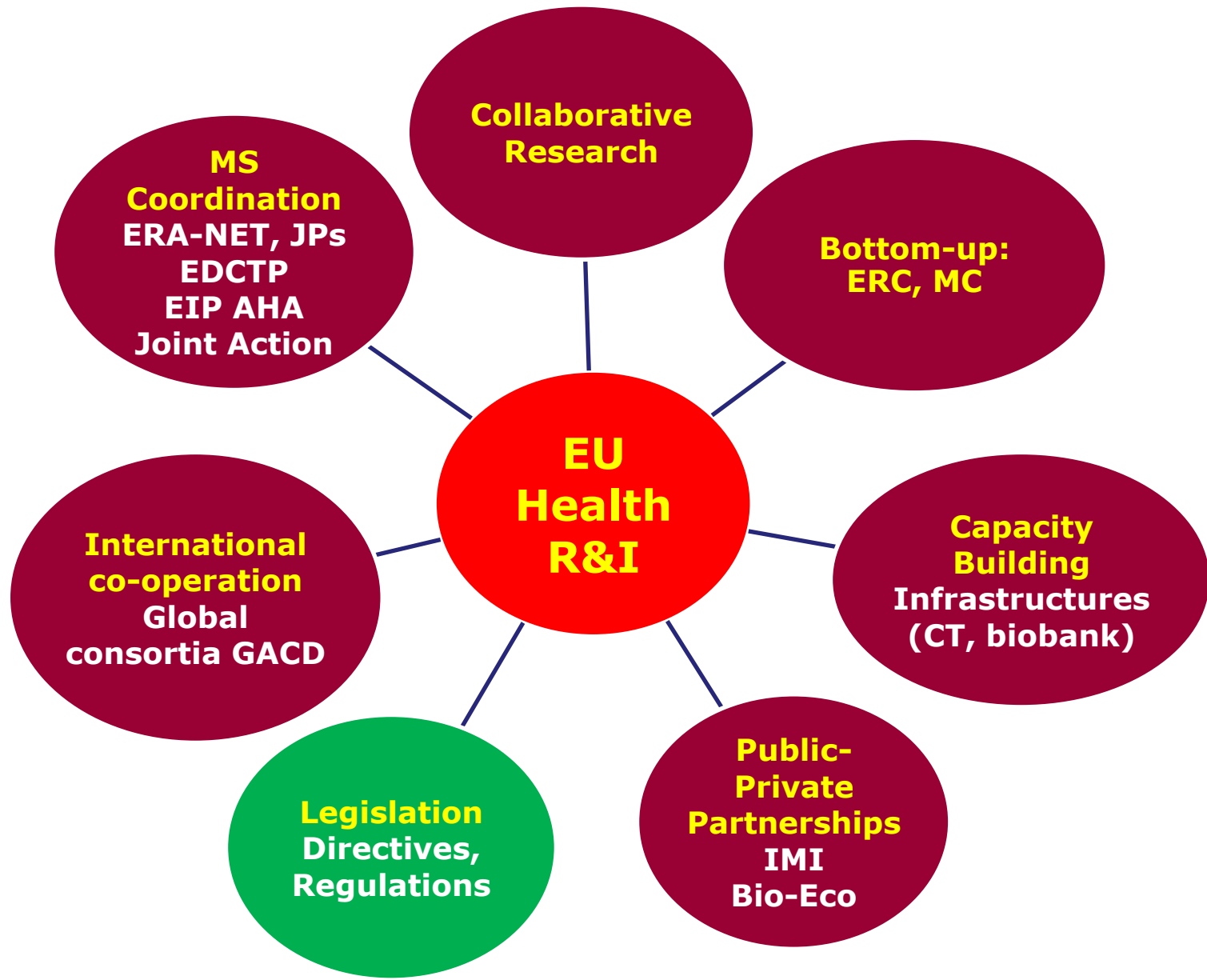
Female

Prevalence gains avoided

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



The EU means





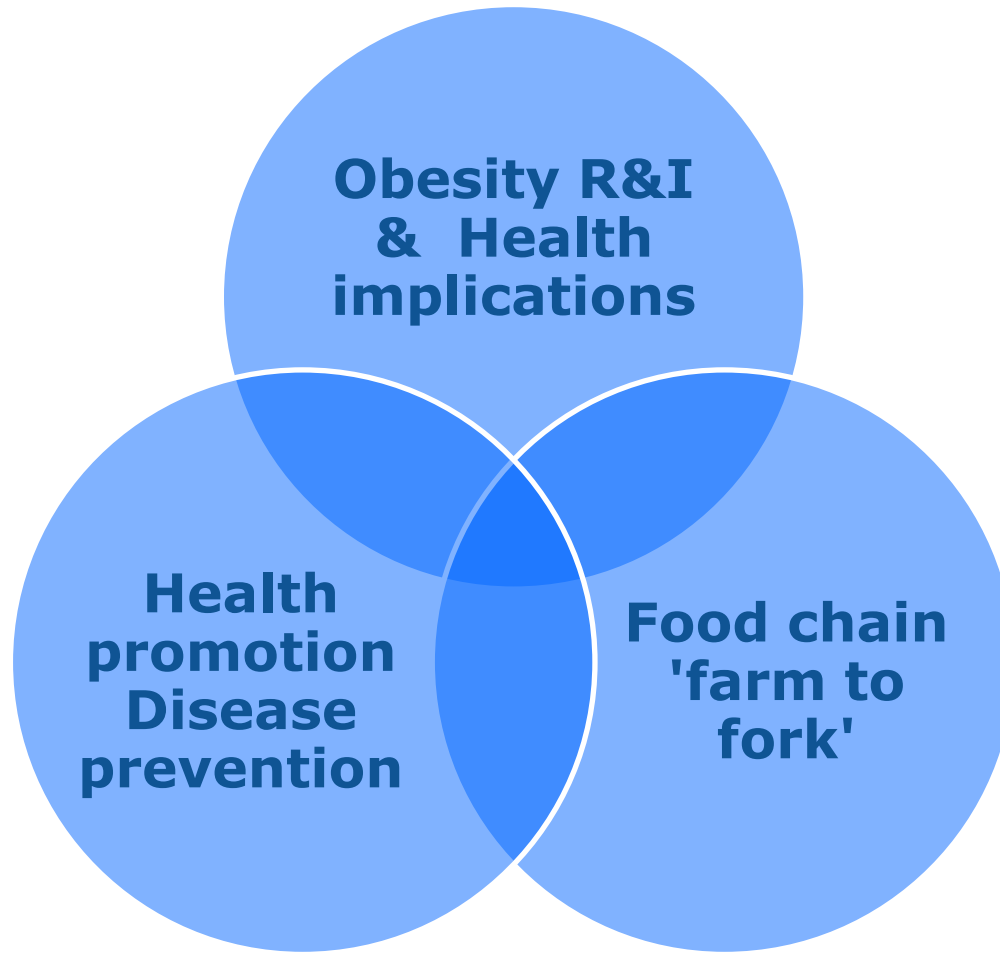
Relevant EU Policy initiatives

- 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

EU food facts and figures

- Leading manufacturing sector
- Employs 4.1 million
- EUR 800 billion annual turnover
- 283 000 food companies (99% SMEs)

The food and drink industry is one of Europe's most important and dynamic economic sectors. The European Commission aims to maintain its competitiveness while taking account of the requirements of the Community's policies and the European Union's international obligations.



- **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**

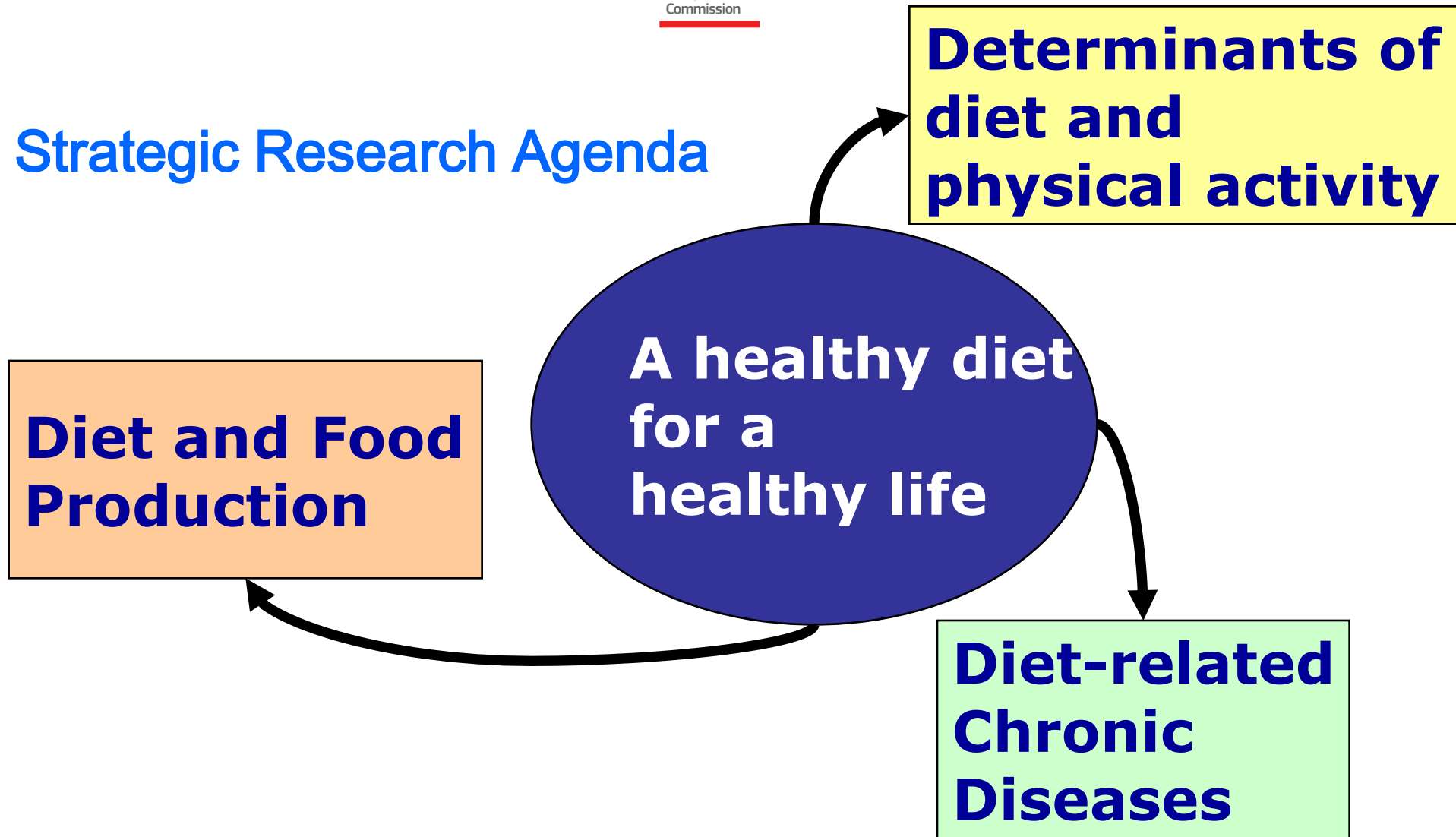
Fork to farm

- 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 maritime 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



Innovative Medicines Initiative 2
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



**European & Developing Countries
Clinical Trials Partnership (EDCTP2)**
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

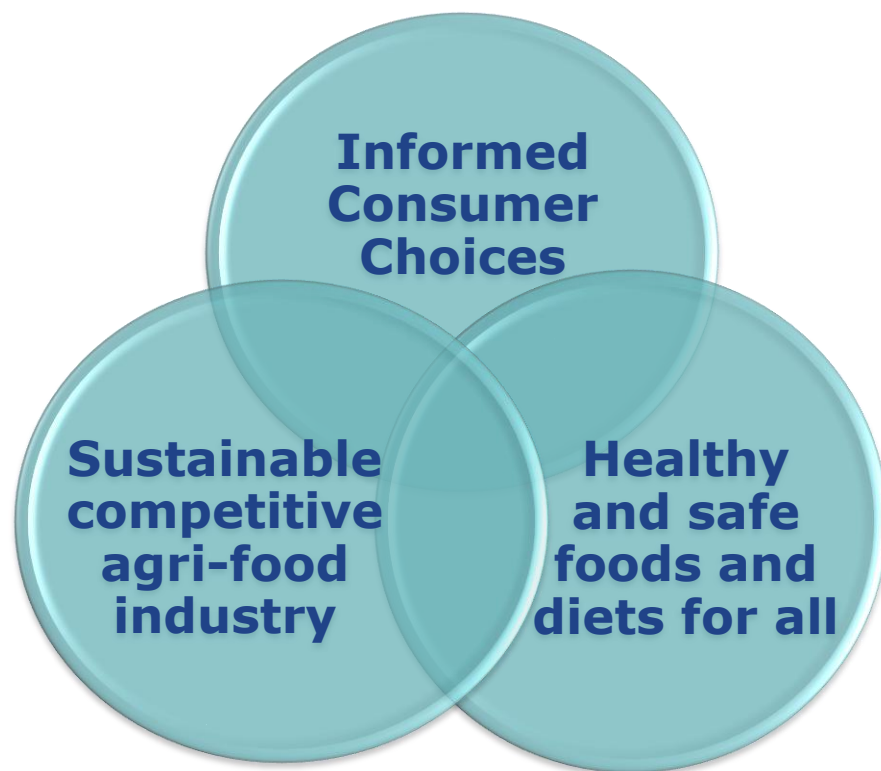


Production

Food Chain

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