HORIZON 2020

Societal Challenge 1(SC1)
"Health, demographic change and well-being"

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HORIZON 2020

Horizon 2020 - what's new?

- **A single programme** bringing together three separate programmes/initiatives*

- **Coupling research to innovation** – from research to retail, all forms of innovation

- **Focus on societal challenges** facing European society e.g. health and ageing, clean energy and transport

- **Simplified access,** for all companies, universities, institutes in all EU countries and beyond

* The 7th Research Framework Programme (FP7), innovation aspects of Competitiveness and Innovation Framework Programme (CIP), EU contribution to the European Institute of Innovation and Technology (EIT)
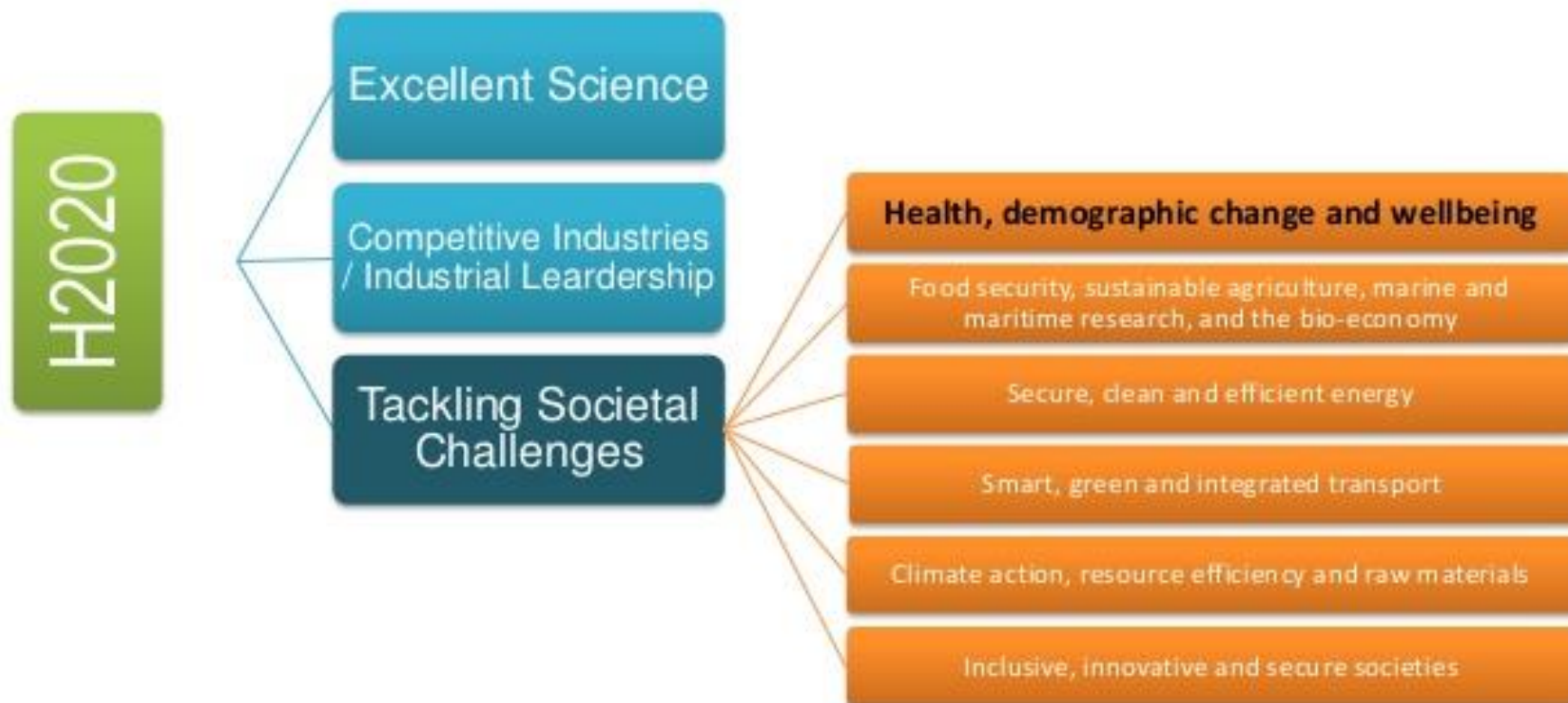
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European Commission

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Horizon 2020, structure

Excellence Science

- **European Research Council**
  - Frontier research by the best individual teams
- **Marie Curie actions**
  - Opportunities for training and career development
- **Future and Emerging Technologies**
  - Collaborative research to open new fields of innovation
- **Research Infrastructure (including e-infrastructure)**
  - Ensuring access to world-class facilities

Industrial leadearship

- **Leadership in enabling and industrial technologies**
  - ICT, nanotechnologies, materials, biotechnology, manufacturing, space
- **Access to risk finance**
  - Leveraging private finance and venture capital for research and innovation
- **Innovation in SMEs**
  - Fostering all forms of innovation in all types of SMEs

Societal Challenges

- Health, demographic change and wellbeing
- Food security, sustainable agriculture, marine and maritime research & the bioeconomy
- Secure, clean and efficient energy
- Smart, green and integrated transport
- Climate action, resource efficiency and raw materials
- Inclusive, innovative and secure societies

European Institute of Innovation and Technology (EIT)

Combining research, innovation & training in Knowledge and Innovation Communities

Joint Research Center (JRC)

Providing a robust, evidence base for EU policies

TECHNOLOGICKÉ CENTRUM AV ČR

Societal challenges

Proposed funding
(million EUR, 2014-2020)*

Societal challenges	Proposed funding
Health, demographic change and wellbeing	7 472
Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the Bioeconomy	3 851
Secure, clean and efficient energy *	5 931
Smart, green and integrated transport	6 339
Climate action, environment, resource efficiency and raw materials	3 081
Inclusive, innovative and reflective societies	1 310
Secure societies	1 695
Science with and for society	462
Spreading excellence and widening participation	816

* All funding figures in this presentation are subject to the pending Multiannual Financial Framework Regulation by the EP and the Council

HORIZON 2020

European Commission

Building on experience

FP7 'Health' – the largest multi-national fund...

- ...for collaborative research, global consortia, and public-private co-operation

- ...to fund excellent applied health and ageing research and innovation

- ...to bring together leading players from Europe and across the globe

- ...to tackle key European and global health challenges

H2020
what is it?

- **Horizon 2020 budget: € 7.4 bilion**

- ✓ **Brings together FP7 (Framework programme 7)**
- ✓ **Health and ICT**
- ✓ **Health and CIP**

- ✓ **Also builds on FP7 activities: programmatic approach, SME**

from illness to health
from treatment to prevention and early diagnostics
from approach one-fits-all to personalized medicine

In connection with

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
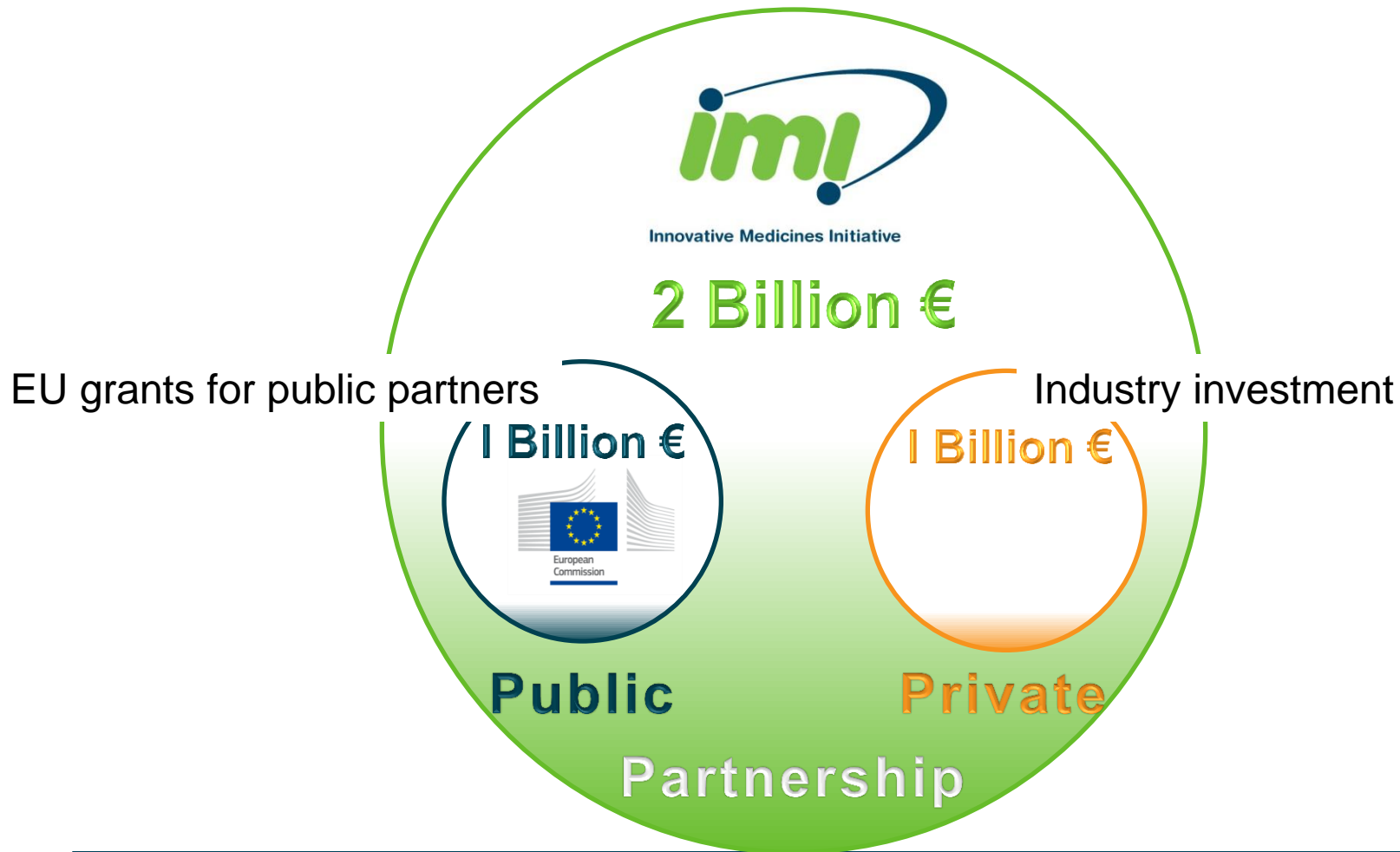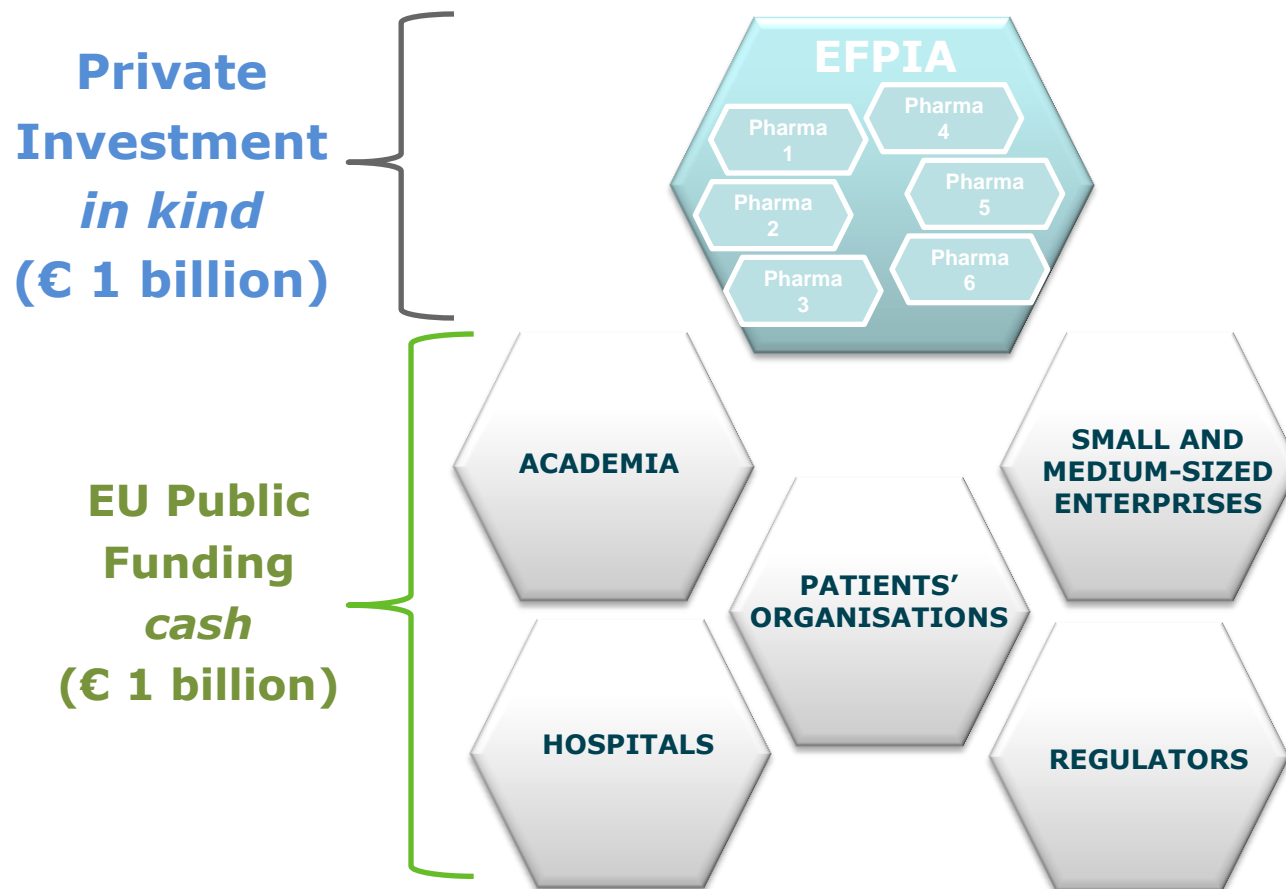www.aal-europe.eu

European & Developing Countries Clinical Trials Partnership (EDCTP2)
www.edctp.org

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Innovative Medicines Initiative:
Joining Forces in the Healthcare Sector

Innovative Medicines Initiative

2 Billion €

EU grants for public partners

Industry investment

I Billion €

I Billion €

Public

Private

Partnership

A Typical IMI Consortium

Private Investment
in kind
(€ 1 billion)

EU Public Funding
cash
(€ 1 billion)

EFPIA

Pharma 1

Pharma 2

Pharma 3

Pharma 4

Pharma 5

Pharma 6

ACADEMIA

PATIENTS' ORGANISATIONS

SMALL AND MEDIUM-SIZED ENTERPRISES

HOSPITALS

REGULATORS

IMI will launch its 11th Call for proposals in late 2013.

- The Call currently has the following indicative topics:
- Applied public-private research enabling osteoarthritis clinical headway (APPROACH)
- European platform for proof of concept for prevention in Alzheimer's Disease (EPOC-AD)
- Blood-based biomarker assays for personalized tumour therapy: value of latest circulating biomarkers
- Zoonoses anticipation and preparedness initiative (ZAPI).
- Generation of research tools to translate genomic discoveries into drug discovery projects
- Ecorisk prediction (ERP)
- Under the Theme New Drugs for Bad Bugs (ND4BB)
- ND4BB Topic 6: Epidemiology research and development of novel systemic antibacterial molecules against healthcare-associated infections due to gram-negative pathogens
- ND4BB Topic 7: Development of novel inhaled antibiotic regimens in patients with cystic fibrosis (CF) and patients with non-CF bronchiectasis (BE)

Right prevention and treatment, for the right patient, at the right time ...

IMI and IMI2: from science to patients - together

SUCCESS

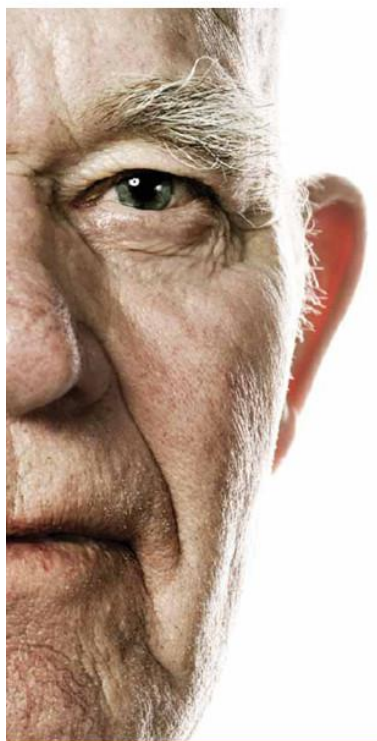| New model developed & published | Setting new standards | In house implementation by industry | Impact on regulatory practice | Better drugs & impact on med. practice |

FIRST WORK PROGRAMME OF

SOCIETAL CHALLENGE 1

HEALTH, DEMOGRAPHIC CHANGE AND WELLBEING

2014 – 2015

Better health for all

The challenges

- **Ageing population**
- **Increased disease burden**
- **Unsustainable and unequal health & care systems**
- **Health & care sector under pressure to reform**

A new approach

Challenge-driven

Broad topics

Less prescriptive topic texts

Two-year work programme

Stronger focus on end users

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European Commission

Topics for that call fall into 7 areas of interest:

'Prevention'

'Diagnosis'

'Delivering integrated, sustainable and citizen centered care'

'Understanding health'

'Improved health information and data exploitation'

'Advancing active and healthy ageing'

ICT

AREAS

1. Understanding health, ageing and disease
2. Effective health promotion, disease prevention, preparedness and screening
3. Improving diagnosis
4. Innovative treatments and technologies
5. Advancing active and healthy ageing
6. Integrated, sustainable, citizen-centred care
7. Improving health information, data exploitation and providing an evidence base for health policies and regulation

- Co-ordination activities – 10 topics
- Other activities

1/Understanding health, ageing and disease

- **PHC 1 – 2014: Understanding health, <u>ageing and disease</u>: determinants, risk factors and pathways**

- **PHC 2 – 2015: Understanding diseases: <u>systems medicine</u>**

- **PHC 3 - 2015: Understanding <u>common mechanisms of diseases</u> and their relevance in <u>co-morbidities</u>**

2/Effective health promotion, disease prevention, preparedness and screening
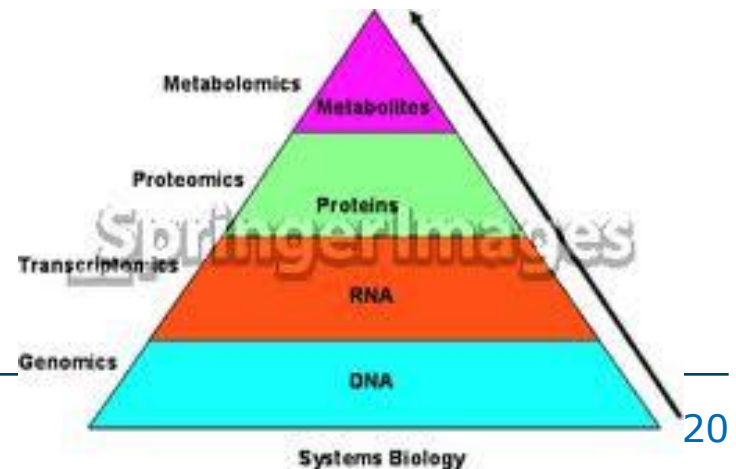
- **PHC 4 – 2015: Health promotion and disease prevention: improved inter-sector co-operation for environment and health based interventions**

- **PHC 5 – 2014: Health promotion and disease prevention: translating 'omics' into stratified approaches (genomics, epi-genomics, meta-genomics, proteomics)**

- **PHC 6 – 2014: Evaluating existing screening and prevention programmes**

- **PHC 7 – 2014: Improving the control of infectious epidemics and foodborne outbreaks through rapid identification of pathogens (see also SC2)**

- <u>Specific challenge:</u> Human and animal health worldwide is increasingly threatened by potential epidemics caused by existing, new and emerging infectious diseases (including from antimicrobial resistant pathogens)

  - TESSY = The European surveillance system
  - RASFF = Rapid Alert System for Food and Feed
  - EWRS = Early Warning and Response System
  - EFSA = European Food Safety Authority
  - ECDC = European Centre for Disease Prevention and Control

  - <u>Expected impact:</u>

- information system and global standards for rapid pathogen identification.

- **"Global Research Collaboration for Infectious Disease Preparedness"** and its objective to establish a research response within 48 hours of an outbreak.

- COM(2012)497 **15 – 20 mil €**

# 2/Effective health promotion, disease prevention, preparedness and screening

- **PHC 8 – 2014: Vaccine development for poverty-related and neglected infectious diseases: Tuberculosis**
- for discovery and early development of new vaccine candidates for tuberculosis
- close links with the European and Developing Countries Clinical Trials Partnership (EDCTP)

- **PHC 9 – 2015: Vaccine development for poverty-related and neglected infectious diseases – HIV/AIDS**
- for discovery and early development of new vaccine candidates for HIV/AIDS

- **15 – 20 mil €**

3/Improving diagnosis

- **PHC 10 – 2014: Development of <u>new diagnostic tools and technologies</u>: *in vitro* devices, assays and platforms**

- **PHC 11 – 2015: Development of new diagnostic tools and technologies: *in vivo* medical imaging technologies**

- **PHC 12 – 2014 and 2015: <u>Clinical validation of biomarkers</u>**
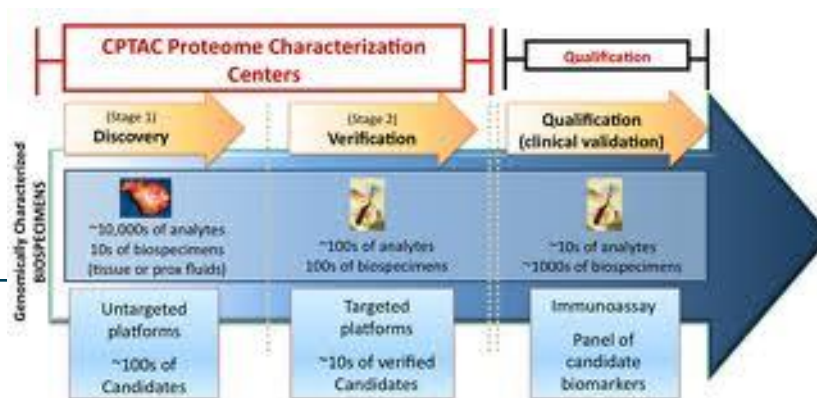
4/Innovative treatments and technologies

- **PHC 13 – 2014: <u>New therapies </u>for *chronic non-communicable diseases***
- **PHC 14 – 2015: <u>New therapies </u>for *rare diseases***
- **PHC 15 – 2014/15: Clinical research on <u>regenerative medicine</u>**
- **PHC 16 – 2015: Tools and technologies for advanced therapies**
- **PHC 17 – 2014: <u>Comparing the effectiveness </u>of existing healthcare interventions in the elderly**
- **PHC 18 – 2015: Establishing effectiveness of health care interventions in the <u>paediatric population</u>**

Research and Development

5/Advancing Active and Healthy Ageing - ICT

- **PHC 19 – 2014: Advancing active and healthy ageing with <u>ICT</u>: Service robotics within assisted living environments**

- **PHC 20 – 2014: Advancing active and healthy ageing with <u>ICT</u>: ICT solutions for independent living with <u>cognitive impairment</u>**

- **PHC 21 – 2015: Advancing active and healthy ageing with <u>ICT</u>: <u>Early risk detection</u> and intervention**

- **PHC 22 – 2015: Promoting <u>mental wellbeing</u>: in the ageing population**

6/Integrated, sustainable, citizencentred care

- PHC 23 – 2014: Developing and comparing <u>new models</u> for safe and efficient, prevention oriented, health and care systems

- PHC 24 – 2015: Piloting <u>personalised medicin</u>e in health and care systems

- PHC 25 – 2015: Advanced <u>ICT systems</u> and services for Integrated Care

- PHC 26 – 2014: <u>Self-management</u> of health and disease: citizen engagement and <u>mHealth</u>

- PHC 27 – 2015: <u>Self-management</u> of health and disease and patient empowerment supported by ICT

- PHC 28 – 2015: <u>Self-management</u> of health and disease and decision support systems based on predictive computer modelling used by the patient him or herself

- PHC 29 – 2015: Public procurement of innovative eHealth <u>services</u>

- PHC 30 – 2015: eHealth Sectoral Inducement Prize

7/Improving health information, data exploitation and providing an evidence base for health policies and regulation

- **PHC 31 – 2015: Digital representation of health data to improve disease diagnosis and treatment**
- **PHC 32 – 2014: Foresight for health policy development and regulation**
- **PHC 33 – 2014: Advancing bioinformatics to meet biomedical and clinical needs**
- **PHC 34 – 2015: New approaches to improve predictive human safety testing**
- **PHC 35 – 2014: eHealth interoperability**
- **PHC 36 – 2015: Inducement prize – topic TBD**

European Innovation Partnership Active & Healthy Ageing
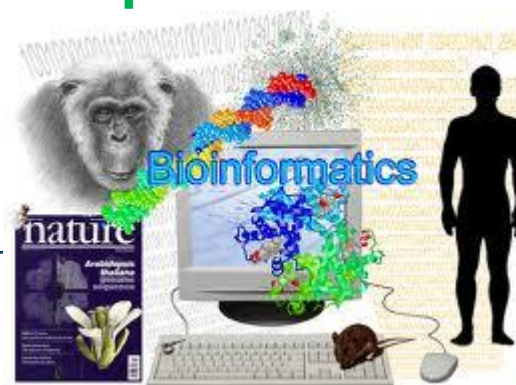
- **HCO 1 – 2014: Innovation Partnership: Support for the European Innovation Partnership on Active and Healthy Ageing (AHA)**

- <u>Scope:</u> The aim is to provide coordinated support to the activities of the European Innovation Partnership on Active and Healthy Ageing concerning the following aspects:

- <u>Support the existing action groups in implementing their action plans</u>. The support may relate for example to coordination of action group activities, communication among partners and dissemination of results;

- <u>Work together with the European Commission</u>, with relevant legislative and standardisation initiatives and with national, regional and local authorities in developing recommendations for more favourable regulatory and standardisation conditions, innovative procurement and incentive mechanisms.

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MORE YEARS BETTER LIVES

JOINT PROGRAMMING INITIATIVE „MORE YEARS, BETTER LIVES

- **HCO 2 – 2014: Joint Programming: Coordination Action for the Joint Programming Initiative (JPI) "More Years, Better Lives - the Challenges and Opportunities of Demographic Change„**

- **Scope**

- The action will ensure the coordination of exchange on national programmes on demographic change as well as facilitate the effective governance of the JPI. It will also monitor national research activities in the area and provide support for the implementation of the Strategic Research Agenda of the JPI MYBL in particular through;

- Coordination and organisation of potential joint calls;

- Alignment of national research programmes and activities to the JPI's Strategic Research Agenda;

- Integration and enhanced accessibility of national data related to active and healthy ageing, demographics, and statistics, to support evidence-based policy making and effective cross-policy actions; common usage of databases and infrastructures where appropriate;

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Co-ordination activities

- **HCO 3 – 2015: Support for the European Reference Networks: Efficient network modelling and validation**

Co-ordination activities

- **HCO 4 – 2014: Support for international infectious disease preparedness research**

- **Scope**

- provide organisational support to the implementation of the global research collaboration for **Global Research Collaboration for Infectious Disease Preparedness (GloPID-R)**, in close collaboration with the European Commission, research funding agencies from Member States and from third countries involved.
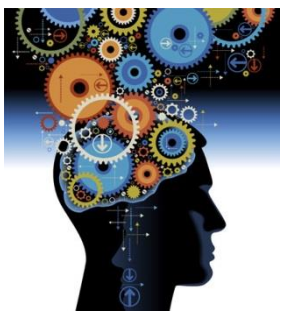
Co-ordination activities

- **HCO 5 – 2014: Global Alliance for Chronic Diseases: prevention and treatment of type 2 diabetes**

- **HCO 6 – 2015: Global Alliance for Chronic Diseases: subject to be confirmed**

Co-ordination activities

- **HCO7 – 2014: ERA-NET: Joint Programming - Establishing synergies between the Joint Programming on Neurodegenerative Diseases Research and Horizon 2020 (JPND)**

- **Scope**

- Implement transnational call, with EU co-funding, with a view to scale-up the implementation of the JPND Research Strategy

- Align national research plans and strategies, address interoperability of databases, harmonise methods and develop key indicators for outcome measures

- **Expected Impact**

- Reinforce alignment of national/regional plans and initiatives in this field as well as commitment to the implementation of the JPND SRA

- Leverage transnational research with EU-added value in this field

- **ERA-NET**

Co-ordination activities

- **HCO8 – 2014: ERA-NET: Aligning national/regional translational <u>cancer research</u> programmes and activities**

- **HCO9 – 2014: ERA-NET: Collaboration and alignment of national programmes and activities in the area of <u>brain-related diseases and disorders of the nervous system</u>**

- **HCO10 – 2014: ERA-NET: Systems medicine to address clinical needs**

- **HCO 11 – 2014: ERA NET: Rare Disease research implementing IRDiRC objectives**

- **HCO12 – 2015: ERA-NET: Generating programmes and activities on antibiotic resistance by the Joint Programming on Antimicrobial Resistance**

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Co-ordination activities

- **HCO13 – 2015: ERA-NET: Cardiovascular disease or HIV/AIDS**

- **HCO14 – 2014: New approaches to bridge the divide in European health research and innovation**

- **HCO 15 – 2014: Mobilisation and mutual learning action plan in the area of societal challenge 1**

Important info

- **Get in touch with your national contact point:**
  http://ec.europa.eu/research/participants/portal/page/nationalcontactpoint

- **Fit for Health:**
  http://www.fitforhealth.eu

- **Health competence:**
  http://www.healthcompetence.eu

- **IMI partnering platform:**
  http://www.imi-partnering.eu

http://ec.europa.eu/research/health/events

- **Personalised health care dead lines**

- **Single stage: 15th April 2014**
- **Two stage: 11th March 2014**
  19th August 2014

- **Health co-ordination activities dead lines**
- **Only single stage: 15th April 2014**

http://ec.europa.eu/research/horizon2020/index_en.cfm

Děkuji za pozornost

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