



International cooperation in the EU Framework Programmes **Health research**



Health Research
DG Research and Innovation – European Commission





Collaborative research in FP7: *The Cooperation Programme*

Thematic Priorities

Health	6.1
Food, agriculture, fisheries and biotechnology	1.9
Information and communication technologies	9.1
Nanosciences, nanotechnologies, materials and new production technologies	3.5
Energy	2.3
Environment (including climate change)	1.9
Transport (including aeronautics)	4.2
Socio-economic sciences and the humanities	0.6
Security & 10. Space	<u>2.8</u>

Total for collaborative research

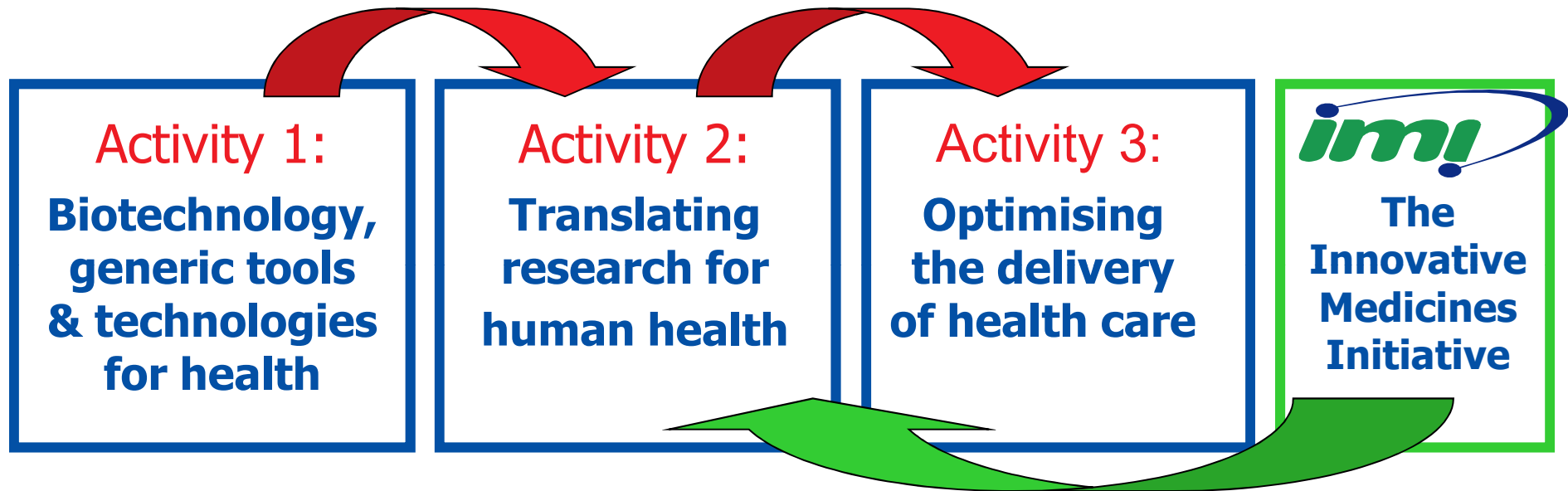
€32.4 billion

http://cordis.europa.eu/fp7/cooperation/home_en.html



The Health Theme

Three main activities (“pillars”)



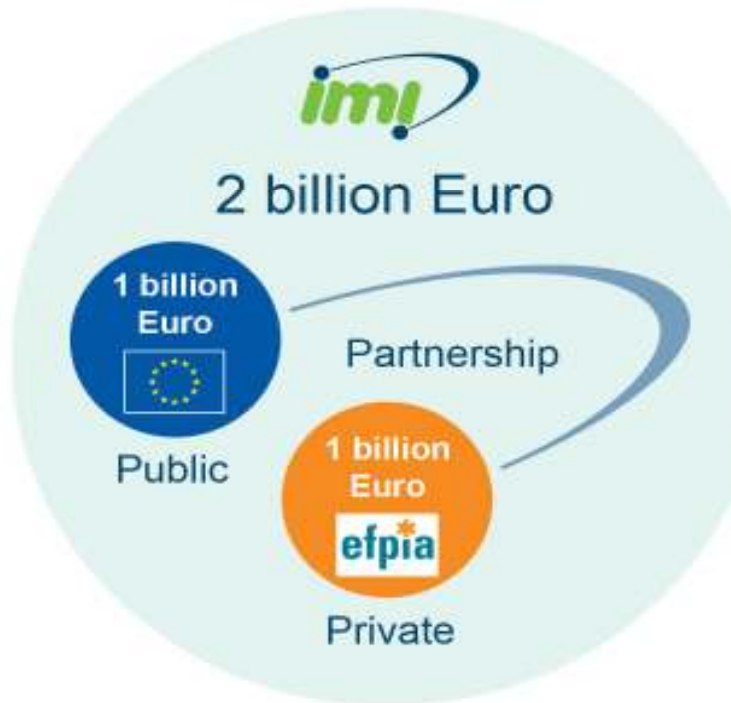
Cross-cutting issues: **international cooperation, SMEs, child health, ageing** populations, **gender-related** health issues

Activity 4: Support actions & response to policy needs





The Innovative Medicines Initiative (IMI): the Largest PPP in Life Sciences R&D



Why Public-Private Partnership?

- Innovative medicines require in-depth knowledge of disease pathways and molecular targets
- Anticipating potential side effects of new drugs is a must
- The pharmaceutical industry builds new business models based on collaboration and transparency

Key Concepts Underlying IMI Projects:

- Pre-competitive research
- Open innovation



Commitment to the support of investigator-driven clinical trials through EU research funding



Aims to accelerate the development of new or improved drugs, vaccines and microbicides against HIV/AIDS, malaria and tuberculosis, with a focus on **phase II and III clinical trials in sub-Saharan Africa**

Originally funded under FP6; an extension of the current programme; work ongoing for establishing a new programme.



FP7 Health Programme in support of these aims:

Main policy drivers:

- Improving health of European citizens
- Increasing competitiveness of European health-related industries and businesses
- Addressing global health issues



Immediate (FP7) drivers (2)

- **Innovation driven approach – responding to the Europe 2020 strategy**
 - Focus on SME
- **Challenge-driven approach**, focussed on grand challenges
- **Support implementation of European Innovation Partnerships**, such as “**Active and healthy ageing**”
- Stronger **socio-economic impact** - innovation dimension
 - more attention on **exploitation phase**
- **Balance** upstream research and activities closer to market in order to achieve short and medium-term impact



Strategy for 2012-2013

Budget: ~€620m for 2012, ~€780m for 2013

Strategic aspects:

- Fewer, but more significant priorities.
i.e. more focus on fewer areas (several areas closed)
- Greater emphasis on innovation:
 - especially through SME-targeted topics
- Continued support of clinical trials
- International cooperation continues to be a priority, but with a more strategic focus.



Priorities for **Health** in 2012-2013

2012 thematic priorities:

- Ageing
- Medical technologies
- Rare diseases / Pers. Med.
- Healthcare systems

2013 thematic priorities:

- **The brain**
- Cancer?
- Cardiovascular diseases?
- Comparative effectiveness?

Cross-cutting priorities:

- Innovation / SMEs
- International Cooperation



International Cooperation in FP7

3 different avenues:

1. All topics open for International Cooperation

- International Cooperation Partner Countries (ICPCs) can participate in projects and receive EC funding, same applies for USA
- Other countries may be funded if their participation is seen as essential for the project or if provided for in the call
- Minimum number of participants: 3 from MS/AC

2. Specific International Cooperation Actions

- Address specific issues that partner countries face or have a global character, on the basis of mutual interest and benefit
- Minimum number of participants: 2+2 (2 MS/AC + 2 from ICPCs)

3. Programme Level Cooperation

- Bilateral agreements with specific countries e.g. BRIC
- Multilateral with several funding agencies, e.g. NIH, Canada...





International Collaboration in FP7

- FP7 Cooperation Programme is currently the biggest international fund for collaborative biomedical research
- The origin and focus of the FPs is research in the EU, but the international character is growing
- Most funded projects are likely to have at least one international participant, tendency increasing
- Funding is provided for low- and medium-income countries, partners from other countries can also receive funds in certain The cases



Participation of researchers from non-associated 3rd countries

SUCCESSFUL PROPOSALS:

	<i>participants</i>	<i>countries</i>
<i>FP6, 2003-06:</i>	<i>214</i>	<i>51</i>
<i>FP7 calls 2007-10:</i>	<i>536</i>	<i>77</i>

(77 + 27 MS + 14 AC = 118 countries)



Programme Level Cooperation

- Discussion at high level on broad areas (e.g. in JSTCCs)
- Workshop to identify priority topics within the areas
- Issuing of calls in FP and in the cooperating country(-ies)
- Independent evaluation of proposals
- Negotiation of complementary proposals
- Close cooperation of the funded projects on both sides (common meetings, conferences, exchange of staff etc.)



International Human Microbiome Consortium (IHMC)



International Human Metagenome Consortium (IHMC)

Common set of principles and policies to study the role of the human microbiome in the maintenance of health and causation of disease and to use that knowledge to improve the ability to prevent and treat disease

NIH, EU Commission, CIHR (Canada), JST (Japan), CSIRO (Australia), MRC (UK)

Total investment: > \$80 million

<http://www.human-microbiome.org/>



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nature

ARTICLES

A human gut microbial gene catalogue established by metagenomic sequencing

Junjie Qin^{1*}, Ruiqiang Li^{1*}, Jeroen Raes^{2,3}, Manimozhayan Arumugam², Kristoffer Solvsten Burgdorf⁴, Chaysavanh Manichanh⁵, Trine Nielsen⁴, Nicolas Pons⁶, Florence Levenez², Takuji Yamada⁷, Daniel R. Mende², Junhua Li^{1,7}, Junming Xu¹, Shaochuan Li¹, Dongfang Li^{1,8}, Jianjun Cao¹, Bo Wang¹, Huiqing Liang¹, Huisong Zheng¹, Yinlong Xie^{1,7}, Julien Tap⁹, Patricia Lepage⁶, Marcelo Bertalan⁹, Jean-Michel Batto⁶, Torben Hansen⁴, Denis Le Paslier¹⁰, Allan Linneberg¹¹, H. Bjørn Nielsen⁹, Eric Pelletier¹⁰, Pierre Renault⁶, Thomas Sicheritz-Ponten⁹, Keith Turner¹², Hongmei Zhu¹, Chang Yu¹, Shengting Li¹, Min Jian¹, Yan Zhou¹, Yingrui Li¹, Xiuqing Zhang¹, Songgang Li¹, Nan Qin¹, Huanming Yang¹, Jian Wang¹, Søren Brunak⁹, Joel Doré⁶, Francisco Guarner², Karsten Kristiansen¹³, Oluf Pedersen^{3,14}, Julian Parkhill¹², Jean Weissenbach¹⁰, MetaHIT Consortium†, Peer Bork², S. Dusko Ehrlich⁶ & Jun Wang^{1,13}

Intestinal bacteria split human populations in three groups

The international MetaHIT consortium, funded by the European Commission, shows for the first time that human populations can be differentiated by their intestinal bacteria. Somewhat analogous to the blood groups, the three “enterotypes” group individuals irrespective of their geographic origin, health or age. Enterotypes are determined by characteristic populations of bacterial species and the functions that they encode. They open avenues for better understanding of human biology and for numerous applications in human health and nutrition. **The results have been published in Nature 10/03/2011**

International Rare Diseases Research Consortium (IRDiRC)

- achieve **ambitious aims** through **international cooperation** (incl. data and resource sharing), feasible and accepted by all partners & stakeholders, e.g. by 2020:
 - **200 new therapies for RD**
 - **diagnostic tests for all RD**
- receive **strong commitment** from funders and research leaders in the field
- **governance: executive committee** (funding agencies) and international **scientific steering committee**, interacting with working groups on specific issues
- **open**: accept new members if in line with the consortium policy and goals

Flexible structure: any project can join at anytime



Global initiative on diabetes research

FP7 HEALTH Work Programme 2011 – Diabetes and obesity

HEALTH.2011.2.4.3-4 **Genetic and environmental factors in obesity and/or diabetes in specific populations**

AIM:

- Understanding the genetic and environmental factors causing variations in prevalence and incidence of metabolic disorders in specific populations.
- Based on new comparisons between populations, e.g. immigrant populations.
- Emphasis on role of genetic, environmental and/or lifestyle factors, as well as their interactions, on the incidence, prevalence, and age of onset of metabolic disorders.
- Each project to focus on a particular geographical region.

Target regions: Africa, Asia, Latin America, Mediterranean area

PLUS:

Programme-level cooperation: foreseen with Australia, Mexico, New Zealand

and possibly other countries



Work Programme 2011

2.4.3 – Diabetes and obesity

HEALTH.2011.2.4.3-4 **Genetic and environmental factors in obesity and/or diabetes in specific populations.**

Impact:

- **To guide lifestyle intervention programmes, including but not limited to diet and physical activity**
- **Findings to be relevant for populations, both in their home countries and immigrant populations in Europe and throughout the world.**
- **Novel genetic and other risk factors for diabetes and obesity will be identified and lead to improved diagnosis and treatment and novel therapeutic targets.**
- **Cooperation between the selected projects and with other projects from selected third countries will ensure a global impact beyond the populations studied.**



Programme Level Cooperation

- Launch of the pilot action
- **Conference on Global diabetes research**
- **February 2012 (tbc), Brussels**

- **High level international conference, on policy and science level**
- **EU funded and NON-EU funded projects, funding agencies, leading scientists in the field**

- **Launch of the global research cluster, including:**
 - implementation of the cluster: roundtable on governance, parallel thematic workshops for coordination of EU funded and Non-EU funded international projects and possible future projects stemming from programme-level cooperation
 - parallel kick-off meetings of FP7 funded projects.



Thank You For Your Attention !

