

Specific information and key words on
“Health” in FP 7 - one of nine thematic themes determined for EU action
under the sub-programme “collaborations”

selected extracts from Annex I:

“Scientific and Technological objective, broad lines of themes and activities”
Proposal for a Council Decision (2005) concerning the specific programme “cooperation”

Activites

- **Biotechnology, generic tools and technologies for human health**

Developing and validating the necessary tools and technologies that will make possible the production of new knowledge and its translation into practical applications in the area of health and medicine.

– *High-throughput research*: new research tools to enhance significantly data generation and improve data and specimen (biobanks) standardisation, acquisition and analysis. (new technologies for: sequencing; gene expression, genotyping and phenotyping; structural genomics; bioinformatics and systems biology; other “omics”.)

– *Detection, diagnosis and monitoring*: to develop visualisation, imaging, detection and analytical tools and technologies for biomedical research, for prediction, diagnosis, monitoring and prognosis of diseases, and for support and guidance of therapeutic interventions. The focus will be on a multidisciplinary approach integrating areas such as: molecular and cellular biology, physiology, genetics, physics, chemistry, nanotechnologies, microsystems, devices and information technologies. Non- or minimally- invasive and quantitative methods and quality assurance aspects will be emphasised.

– *Innovative therapeutic approaches and interventions*: gene and cell therapy, regenerative medicine, transplantation, immunotherapy and vaccines, and other medicines. also addressed: Related technologies(advanced targeted delivery systems, implants and prosthetics, and non- or minimally-invasive technology-assisted interventions)

– *Predicting suitability, safety and efficacy of therapies*: to develop and validate the parameters, tools, methods and standards needed for safe and effective new biomedicines. Focus pharmacogenomics, in silico, in vitro and in vivo methods and models.

- **Translating research for human health**

– *Integrating biological data and processes: large-scale data gathering, systems biology.*

Large scale data gathering: to use high-throughput technologies to generate data for elucidating the function of genes and gene products and their interactions in complex networks: genomics; proteomics; population genetics; comparative and functional genomics.

Systems biology: Multidisciplinary research that will integrate a wide variety of biological data and will develop and apply system approaches to understand and model biological processes.

– *Research on the brain and related diseases, human development and ageing.*

Brain and brain-related diseases: to better understand the integrated structure and dynamics of the brain, to study brain diseases and search for new therapies. Brain functions, from molecules to cognition, neurological and psychiatric diseases and disorders, including regenerative and restorative therapeutic approaches.

Human development and ageing: to better understand the process of life-long development and healthy ageing. human and model systems, including interactions with factors such as environment, behaviour and gender.

– *Translational research in major infectious diseases: to confront major threats to public health.*

Anti-microbial drug resistance: focus: combining basic research on molecular mechanisms of resistance, microbial ecology and host-pathogen interactions with clinical research towards new interventions to reduce multi-drug resistant infections.

HIV/AIDS, malaria and tuberculosis: developing new therapies, diagnostic tools, preventive vaccines and chemical transmission barriers such as HIV microbicides.

Focus: Preclinical and early clinical research activities.

Emerging epidemics: pathogens with pandemic potential including zoonoses (e.g. SARS and highly pathogenic influenza).

– *Translational research in other major diseases.*

Cancer: Disease aetiology; identifying and validating drug targets and biological markers that aid in the prevention, early diagnosis and treatment; and assessing the effectiveness of prognostic, diagnostic and therapeutic interventions.

Cardiovascular disease: diagnosis, prevention, treatment and monitoring of heart and blood vessel diseases (including vascular aspects of stroke).

Diabetes and obesity: aetiologies of the different types of diabetes, and their related prevention and treatment. Obesity: multidisciplinary approaches including genetics, life style and epidemiology.

Rare diseases: Europe-wide studies of natural history, pathophysiology and on development of preventive, diagnostic and therapeutic interventions.

Other chronic diseases: focus: non-lethal diseases with a high impact on the quality of life at old age (functional and sensory impairment, rheumatoid diseases).

- **Optimising the delivery of health care to European citizens**

This activity aims at providing the necessary basis both for informed policy decisions on health systems and for more effective strategies of health promotion, disease prevention, diagnosis and therapy.

– *Enhanced health promotion and disease prevention:* to provide evidence for the best public health measures in terms of life styles and interventions at different levels and in different contexts. Focus will be on the wider determinants of health and how they interact at both the individual and community level (e.g. diet, stress, tobacco and other substances, physical activity, cultural context, socio-economic and environmental factors). In particular, mental health will be addressed in a life-course perspective.

– *Translating clinical research into clinical practice*

– *Quality, solidarity and sustainability of health systems;*