

Summary Report of FUTURAGE National Consultation

Context

FUTURAGE is a European Commission Framework Program 7 (FP7) funded project to produce the definitive Road Map for ageing research in Europe for the next 10-15 years. It will reflect a multi-disciplinary perspective, based on a consensus between the key stakeholders. It is the most extensive consultation ever conducted in this field and will produce the most comprehensive formally grounded and scientifically credible Road Map which commands widespread support.

Four scientific themes have been selected to form the core of FUTURAGE, reflecting a broad approach to health and the importance of a multi-disciplinary focus of health and ageing. They are:

1. Biogerontology: biology, biomedicine and genetics.
2. Social and economic resources (including social support and care provision): sociology, economics, care science, philosophy and ethics.
3. Environments of ageing focusing primarily on the physical environment (housing, the role of neighborhoods, infrastructure, old and new technology including assistive devices, transport and the design of age-friendly community

environments at large): psychology, occupational therapy, sociology, architecture, social geography, urban planning, health and social policy, technology, engineering and design.

4. Healthy ageing and well being (physical and mental): health sciences, geriatric medicine, psychology.

Questionnaire

A questionnaire regarding these themes, their associated research priorities and the contribution of European collaboration to their development was sent to about 50 people, scientists from different domains with broad experience in age related research.

The following report is based on the answers received from respondents who filled in the submitted questionnaire.

Consultation question 1

The first consultation question enquired about the three main research priorities within the four major domains (biogerontology, social and economic resources, environments of ageing, healthy ageing). Some of the participants prioritized the four domains, thus selecting the three most important ones. Their options were: biogerontology, social and economic resources and healthy ageing (their order not being relevant in regard to their importance). Other went more in depth, singling out key themes within the four broader subjects:

For biogerontology:

- Longevity genetics
- Micro RNA at senescence
- Aging of the central nervous system
- Identification of the main pathologies and achieving consensus in regard to their treatment
- Holistic and integrative approach of aging mechanisms, insisting on research done on aging prevention and pathology prevention

- Personalized, predictive and preventive geriatric research
- Bioethics research
- Specific research (using IT&C instruments) needed for obtaining and maintaining bio-medical databases
- The effects of aging on
 - o The functionality of different organs
 - o The cognitive functions
 - o Muscular force
 - o Immunity
 - o Healing capacities of tissues and organs
- Determination of biological markers of aging
- Correlations between biological and chronological age
- Utilization of stem cells and neurotrophic and neurovegetative factors for the tissue regeneration and for the prevention of cerebral degenerative processes (Alzheimer, Parkinson, etc.)
- Aging genetics

For social and economic resources:

- Social integration of the elderly
- Access to medical facilities and assistance
- Social insurance system
- Research regarding the development of eHealth, Telecare and Intelligent Ambient Assistance Platforms
- Epidemiologic research focused on the elderly
- Research regarding the mathematic and informational modeling of aging and its associated pathologies
- Comparative research on the status of geriatrics specialized workforce
- Comparative research on recovering, reorienting and utilizing the remaining workforce of the elderly
- Development of public health policies
- The economic impact of demographic aging

Environments of ageing:

- Social
- Medical
- Psychological
- Holistic approach and integrative bio-medico-social approach of the relation organism-environment, with the purpose of detecting specific risk factors
- Comparative research on legal specifications regarding the elderly
- (Locally) Developing and implementing a National Long Term Assistance Program for the dependent elderly
- (Locally) Developing a Dialog Platform between the economic and politic decision factors, the NGOs employed in this area and the public and private actors evolved in the social and medical insurance field
- Occupational therapy
- Designing an infrastructure which will provide the necessary care taking services as well as assure an independent existence for people with multiple sensorial and motor deficits caused by aging
- An urban environment which is adapted to the needs of the elderly

Healthy ageing

- Prevention of depression and cognitive illnesses
- Prevention of invalidating diseases
- Population education
- Fundamental and applicative bio-medical and social research aimed at the prevention of age related pathologies
- Health care systems adapted to the specific pathologies of old age

Moreover, the importance of economic and social resources was emphasized.

Consultation question 2

The second consultation question made further enquires about research priorities asking if there were other fields requiring attention, besides the ones which had already been mentioned.

While some of the respondents thought that the key themes already discussed covered all the most important areas of ageing research, others held the opinion that the list was incomplete and suggested further topics:

- Cellular and molecular endothelial-vascular mechanisms
- Neuron genesis and related processes
- Psycho-social integration of the elderly
- Practical aspects of scientific research
- Involving those social structures, financial resources and bodies appertaining to the states organizational system in order to stimulate a more responsible and active attitude towards the elderly and their quality of life
- Educating the population about all the aspects involved in maintaining a high quality of life at an advanced age
- Genetic aspects of ageing
- The impact of life style on longevity in specific environments
- The role of endocrine disruptors
- The effect of free radicals
- The role of diets
- The effect of stress and pollution
- The role of physical exercise
- Development of specific parameters for describing the quality of life of the elderly
- Development of programs which facilitate the transition to retirement
- Development of programs in order to involve the elderly in the community life

Consultation question 3

The third consultation questions asked the respondents to name those priorities which will benefit the most from European collaboration. Some of the respondents stated that all of them would equally profit from European collaboration, whereas other singled out only some of the topics already mentioned:

- Cellular and molecular endothelial-vascular mechanisms
- Neuron genesis and related processes
- Social organization and administration (mentioned by several respondents)
- Economic resources, (mentioned by several respondents)
- Legal specifications (mentioned by several respondents)
- Medical research
- Biogerontology
- Socio-economic resources

Furthermore, a list of research projects was provided in order to exemplify such priorities (**Appendix 1**)

Consultation question 4

The last question enquired about the necessary infrastructure underlying the proposed European collaboration. The respondents mentioned a large variety of facilities such as:

- IT system
- Biogerontological centre
- National excellence centre/network having the task of methodological coordination of the research and the education in this domain
- A nation network of research institutes involved in this field, coordinated by specialists and financed by open competition at an European level
- Normative structures
- Academic centers
- NGOs

- Local administration
- Communities
- Medical institutions which offer assistance to patients with chronic illnesses
- New centers dedicated to memory and aging research
- National and European Workgroups
- Clinical and preclinical evaluation of several categories of institutionalized elderly
- Mixed research teams
- Study points in specific areas
- Identifying key factors which should be further investigated and deciding about the necessary methodology
- Pan-European geriatrics research network
- Access to a shared data base which will facilitate the information exchange
- Development and modernization of existing research infrastructure
- Medical research centers and sociological institutes focused on the study and integration of economic, psychological and social aspects of aging
- A Romanian Society for Aging and Anti-aging therapy consisting of professionals from different fields

Moreover, it was added that further suggestions regarding infrastructure requirements can be made after the first preliminary results are obtained.

Appendix 1

THEME: LONGEVITY

1. *Research project.* **Lifespan: Genetic markers in human longevity and interaction with cancer risk in Romanian population**

Objectives:

- To define new genetic markers able to predict variability in aging process and life span and to understand major determinants of excessive longevity in Romanian population. At the clinical or phenotype level, attention is focused on population with extended longevity (centenarians) and molecular genetics of endocrino-metabolic alterations in hyperandrogenic women leading to increased risk for metabolic syndrome (MetS), cardiovascular complications (CV) and cancer.

The project is based on collaboration between Romania and France (Montpellier)

2. *Research project.* **Study of age-dependent endocrine tumors**

Objectives:

- Study of the prevalence of adrenal and pituitary non-functioning tumors in elderly, as compared to adult people.
- Study of genetic factors related to aging and longevity in patients with adrenal benign or malignant non-functioning tumors, as compared with control patients without adrenal tumors and with those with pituitary incidentalomas.
- Assessment of metabolic, cardiovascular and bone alterations in patients with adrenal benign non-functioning tumors, as compared to controls.

- Morphological, immunohistochemical and genetic characterisation of the surgically removed adrenal incidentalomas.

THEME: CARDIOMETABOLIC RISKS OF OBESITY IN AGED PEOPLE

3. *Research project:* Body composition in elderly people: adipocytes with altered metabolism

Objectives:

- The evaluation of body composition in aging subjects will allow a longitudinal follow-up for assessing the correlation between body composition and life span, mortality, cardiovascular events and quality of life parameters.

4. *Research project:* Sleep deprivation and sleep phases in elders as risk factors for obesity and diabetes mellitus

Objectives:

- Assessment of the correlations between sleep duration and quality, and the risk for obesity, pre-diabetes/diabetes mellitus and high blood pressure in subjects over 65 years of age. There will be also assessed the effects of effective continuous positive air pressure therapy for sleep apnea syndrome and the effects of sleep pills and sleep hygiene for insomnia on the same end points.

THEME: BONE RISK FACTORS

5. *Research project:* Hip fracture as risk factor for the active longevity in Romanian elderly

Objectives:

- To improve the quality of life in patients with age-related osteoporosis and hip fractures, to lengthen their active life-span and to decrease the healthcare costs.

- Establishment of the mortality rate, the survival rates and longevity after hip fracture in Romanian elderly
- The incidence of hip fractures in Romanian population
- Implementation of the Fracture Risk Assessment Tool (FRAX) in Romanian clinical practice

THEME: THE RISK OF IMPAIRED COGNITIVE BRAIN FUNCTIONS

6. *Research project:* Cognitive impairment in the elderly and prevention of neurodegenerative diseases onset

Objectives:

- Identification of persons with cognitive impairment and their longitudinal tracking.
- Identification and assessment of the individuals with mild cognitive deficit (Mild Cognitive Impairment, Vascular Cognitive Impairment).
- Identification and correction of the tracked organic factors
- Identification of genetic risk factors.