

**ERA-AGE / Work package 1**

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**National Coordinator Report  
Italy**  
*Findings from the Data Gathering on  
Aging Research Programmes*

**Confidential**  
**For ERA-AGE Consortium Use Only**

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## Section 1

### Introduction

Aging is one of the major issues in the Italian research landscape because of the experienced long life expectancy and the high rate of older people within the total population. However, according to the evolution of the aging funded research's activities experienced during the last decade, the formal National Programme on Aging Research that was set up during the 90' has been replaced since 2000 by a critical mass of research projects or cluster of projects (often defined programmes) where ageing represented a cross-cutting theme.

The criteria adopted by the present National Coordinator report follow the ERA-AGE definitions and have been harmonized accordingly to ensure an adequate selection and collection of the projects in the National ERA-AGE database. The projects hereby included has taken into account the variety of the National modalities of past and current aging research funding.

The major actors in the Italian public research policy on aging are the Ministry for Education Universities and Research (MIUR) and the Ministry of Health. Italian research national policies are indicated in the 'Guidelines for Scientific Research and Technology of the Government' (drawn up by the Council of Italian Ministers).

MIUR provided funding specifically for aging research until 1998. The research was mainly aimed at funding basic and biomedical research ("Progetto finalizzato invecchiamento - Targeted Project on Aging").

At the moment, aging research is mainly funded (but not implemented) by the Ministry of Health according to the article 12 and 12 bis (DL n.502 of 1992 and DL n.229 of 1999) by mean a specific yearly call for proposals aimed at "targeted health research" (*Ricerca Finalizzata*) and at "current health research" (*Ricerca Corrente*) strictly oriented by the implementation of the National Health Plan-Piano Sanitario Nazionale (PSN) targets and objectives. The last PSN 2006-2008 is currently ongoing. Research projects are mainly devoted to the exploitation of public health research activities and public health applied research (also biomedical).

Regarding the Health Targeted Research "*Ricerca Finalizzata*" of the Ministry of Health, the following research institutes and institutions are involved in the implementation of the PSN and thus exclusively allowed to submit proposals for funding in the annual call: Istituto Superiore di Sanità (ISS), National Institute of Occupational Safety and Prevention (ISPESL); Regional health services agencies (ASSR); Institute of Zooprophyllactic Research (IZR); Scientific institutes for research, hospitalization and health care (IRCCS); Regions and Autonomous Provinces.

Regarding the Health Current Research "*Ricerca Corrente*" calls, Scientific Institutes for Research, Hospitalization and Health Care (IRCCS) only are allowed to submit proposals.

Depending on the specific needs related to the evaluation of aging-related issue the ISTAT (National Institute of Statistics), can be asked to perform, under direct governmental funding, population survey to monitor the aging-related variables in order to improve knowledge that can orient public health, social and economic initiatives.

The main public health research institutions in Italy are the Istituto Superiore di Sanità (National Institute of Health)-ISS and the Consiglio Nazionale delle Ricerche (National Research Council) -CNR.

According to the criteria adopted in the ERA-AGE work plan, the six research programmes selected for the compilation of this National Coordinator Report were included complying with the below listed domains:

- Two programmes represents research activities targeted on aging based on a selection of funded projects on strategic priority targets or specific themes of investigation;
- Two programmes are represented by funded activities carried out by two Scientific Institutes for Research, Hospitalization and Health Care-IRCCS involved specifically (or mostly) on aging research: the Italian National Institute on Aging (INRCA), Ancona and the Centro San Giovanni di Dio-Fatebenefratelli, Brescia;
- Two programmes are represented by funded activities carried out by the main National Public Health research institutions involved on aging research as part of a broader research programme: the National Institute of Health (ISS) and the National Research Council (CNR, the Branch for the Study on Ageing).

The information was gathered by interviews, by evaluating final reports and by internet. The selection was based on the type and size of the programmes and projects, ensuring a well balanced variety of programmes.

## Summary data on the six selected Aging Research Programmes

In the second stage of the data gathering the following six programmes were selected and surveyed:

- 1) Targeted project on aging-Progetto finalizzato invecchiamento
- 2) Alzheimer's disease Programme-Progetto Alzheimer
- 3) Italian National Institute on Aging –INRCA, Ancona
- 4) Centro San Giovanni di Dio-Fatebenefratelli, Brescia
- 5) Center on Aging, National Research Council (CNR), Padua
- 6) Istituto Superiore di Sanità (ISS), Roma

### **1) Targeted project on aging-Progetto finalizzato invecchiamento**

Scientific Director: Prof. Luigi Amaducci †

Dedicated Officer: Maria Lanzara

Funding Agency: Funded by Ministry for Education Universities and Research (MIUR) and other sources; implemented by National Research Council (CNR).

The programme ran from 1991 to 1998 and it is now closed. The programme has been evaluated.

Initiative designed as: Research programme

Total budget for the programme: 26 millions of Euros from MIUR. 213 operative units have been involved.

### **2) Alzheimer's disease programme-Progetto Alzheimer**

Scientific Director: Giovanni Zotta

Dedicated Officer: Bruno Campione

Funding Agency: Ministry of Health

Initiative designed as: Research programme

The programme ran from 2000 and it is now closed.

Total budget for the programme: 45 millions of Euros. It consists of 78 projects.

### **3) Italian National Institute on Aging - INRCA (Scientific Institute for Research, Hospitalization and Healthcare -IRCCS)**

Scientific Director: Prof. Claudio Franceschi (until December 2005)

Funding Agency: Ministry of Health, others.

Initiative designed as: Research programme

Total budget for the programme: The budget is allocated annually. From 1995 to now, the budget was about 44 millions of Euros (mainly by the Ministry of Health).

### **4) Centro San Giovanni di Dio-Fatebenefratelli, Brescia (Scientific Institute for Research, Hospitalization and Healthcare -IRCCS)**

Scientific Director: Paolo Maria Rossini

Funding Agency: Ministry of Health, Religious Order of St. John of God, others.

Initiative designed as: Cluster of projects under a sub-theme of aging as part of a broader research programme. This Institute is part of a network of 13 clinical and research centres throughout Italy, 6 of them having dedicated units for dementia.

Total budget for the programme: The budget is allocated annually. From 1997 the budget was about 16 millions of Euros (mainly by the Ministry of Health).

### **5) Center on Aging, National Research Council (CNR), Padua**

Scientific Director: Prof. Gaetano Crepaldi

Funding Agency: Ministry of Health, National Research Council, Ministry for Education, Research and Universities, others.

Initiative designed as: Research programme

Total budget for the programme: The budget is allocated annually. From 1994 the budget was about 10 millions of Euros.

### **6) Istituto Superiore di Sanità (ISS)**

President: Professor Enrico Garaci

Funding Agency: Ministry of Health, others.

Initiative designed as: Cluster of projects under a sub-theme of aging as part of a broader research programme.

Total budget for the programme: The Ministry has funded to ISS hundred of projects in the area of aging with an overall budget during the last five years of aprox 25 millions of Euros directly managed by ISS mainly in collaboration with a National Network of Operative Units created following a formal agreement with the National Research Council (CNR) including Universities, Public Hospitals and Local Health Unit.

## Section 2

### 2.1 About the Programmes – Coordination, Evidence Based Practice, Commissioning, and Collaboration with other National Funders.

#### 1) Targeted project on aging-Progetto finalizzato invecchiamento

##### General information, Key aims and Objectives

The programme was the first major step forward in aging research in Italy. It has been activated on January 1991 and coordinated by the National Research Council (CNR). The programme closed on 1998.

Information was gathered by the interview method and using the conclusive reports. Age associated changes in physiological and social functions as well as the occurrence of diseases in these older italians has been documented under the rubric of five subproject areas: 1. Gerontobiology; 2. Longitudinal study on aging; 3. Aging and endocrine-metabolic diseases: pathogenesis; 4. Aging of the sensory sustem and cognitive processes; 5. The aging population: quality of the life and independence.

The core component of the programme was the Italian Longitudinal Study on Aging (ILSA). Some of the funded projects of this programme, after its deadline, received further financial supports from CNR or from other funded bodies (i.e. nearby 20 projects from CNR and ILSA study from ISS during the period 2000-2003). Particularly, a short description of the individual subprojects is given below:

1 *Gerontobiology*. Recent advances in cellular and molecular biology allow us to understand and, hopefully, to control the deleterious aspects of aging and to improve the quality of late life. Such a broad-side approach to the complexity of the biological processes of aging necessarily involved a number of research group with expertise in varied experimental methodologies.

2 *Longitudinal Study on Aging*. Studying of a population of about 6.000 subjects, aged over 65, in the different regions of Italy over five years of the project permitted the evaluation of the range of both physiological and pathological changes in the population, and the correlation of these with known as well as postulated risk factors for central nervous system, cardiovascular, and endocrine and metabolic disorders.

3 *Aging and endocrine-metabolic diseases: pathogenesis*. This project addressed the pathogenetic mechanisms that determine the most important endocrine and metabolic diseases of later life; diabetes mellitus, osteoporosis and dyslipidemias. Studies of reproductive and sexual changes with age in both women and men were included.

4 *Aging of the sensory system and cognitive processes*. In the project quantitative studies of visual changes with aging defined more rational use of mechanical and electronic audio-visual aids, particularly for reading. Secondly, a diagnostic strategy were developed and put in place to evaluate the hearing impairment of later life and to devise better interventions. Vestibular functions were assessed. An important component was to develop neuro-psychological and neuro-physiological tests to be used in studies of older persons and in individuals with cognitive impairments.

5 *The aging population: quality of the life and independence*. The factors that contribute to a high quality of life and maintenance of independent living for older people were examined. The insights gained from the examination of successful aging allowed us to develop strategies to counteract the main stresses that interfere with

functional autonomy, whether these be social, psychological, environmental or disease related.

### Coordination & Commissioning

It had a scientific director (Prof. Amaducci) with the role to oversee and guide the different phases of programme development and evaluation; coordinators, one for every subprojects (Prof.s G.Rotilio, G.Scarlatot, G.Pozza, C.Balacco Gabrieli and P.Carbonin) with the role to link the different projects inside each subproject area of research; coordinators for each of 213 projects to monitor programme implementation.

The programme was monitored by a board of experts composed by a Steering Committee (19 members) and a Users Platform (14 members) representative of a broad user community around aging and organisations who have an interest in the general field. There were occasional meetings of research teams and those on the policy side with the aim of engaging policy makers in the research over the duration of the initiative.

Monitoring was done by annual technical-scientific reports and by annual workshops. The workshops were organised to promote interaction between researchers and its structure was determined by the coordinator of each subprojects. All projects collaborated at the programme meetings. Some of them collaborated very closely. It was a sufficient level of synergy within the programme but there were some barriers for collaboration between different subprojects area as well as inside the same subproject due to the disparate nature of the programme.

The presidents of the Steering Committee (Prof.s G.Crepaldi and P.Strata respectively from the University of Padua and Torino) with the scientific director (Prof. Amaducci) had the role to make sure that the research grants were of the highest quality from the aging field. The users platform was involved when setting up its programmes and during the implementation.

The steering committee indicated the strategies for the dissemination of scientific results.

### Funding opportunities and additional resources

There were specific funding opportunities for young researchers such as the programme included many new scientists and research groups to the aging field.

The programme was not able to fund directly PhD as well as scholarships. However, within the programme, scholarships were funded by other sources, such as pharmaceutical industries. The programme funded a grant for research for each subprojects.

### Evidence based practice

The general objectives of the programme were mainly to create a multidisciplinary programme involving the main national units specialized on aging research and second, to produce results with an impact on policy and practice. The first aim was delivered dividing the programme in 5 subproject areas and then by networking process, for example a series of programme meetings to create synergy to the projects, director's visits to the projects, e-mail exchanges etc. Regarding the second aim, at the conclusion of the programme, the first such broad-based study in Europe, the Italian authorities had available documentation of the quality of life and



health of their older citizens. The feedback received from policy makers and practitioners about how useful these are have been very strong: the process of influencing policy and practice was delivered by including the main results from the programme in the National Research Programme priorities formulated from that time.

## **2) Alzheimer's disease Programme-Progetto Alzheimer**

### General information, Key aims and Objectives

The "Targeted research" (ricerca finalizzata) is mainly aimed at issues related with health, health planning, health system, health care and management biomedicine. It is agreed by the Minister of Health with the Minister of University, Education and Research in order to coordinate the activities performed.

The research activities are performed by the Regions and Autonomous Provinces, the Istituto Superiore di Sanità-ISS, the National Institute of Occupational Safety and Prevention-ISPEL, the Agency for the Health Regional Services-ASSR, the Scientific Institutes for Research, Hospitalization and Health Care-IRCSS and by the Institutes of Zooprophyllactic Research-IZS.

The topics on aging are mainly devoted to improve knowledge on aging determinants and on the influence of living factors and style of life on aging process.

The impact of aging on the health system organization is one more recent topic as well as the study of the impact on the health care system.

Furthermore since 2000 a specific interest has been solicited and priority research items have been developed and funded on Alzheimer Disease

([http://www.ministerosalute.it/ricsan/resources/documenti/Alz\\_altrienti.pdf](http://www.ministerosalute.it/ricsan/resources/documenti/Alz_altrienti.pdf) ).

The main drivers for the Alzheimer's disease programme were the needs of acquired a national scenario on aging population with cognitive impairments, to meet the needs of elderly with dementia's, their families and caregivers. There were three key requirements for the initiative: interdisciplinary approach, collaboration and acquisition of national knowledge on Alzheimer's disease in Italy.

### Coordination & Commissioning

The Ministry of Health, official funding body of the Programme, used the term "research project" rather than "research programme". It was defined as a group of studies that are coherent, that focused on a particular area and between them address the key research issues within that area. The Health Research Committee appointed by the Minister of Health acted as the scientific board on behalf of the funding agency: a member of the staff was appointed for technical coordination. The projects selected for funding and included in the programme were requested to produce an annual technical scientific report to the funding agency.

The call was open to any researchers but only in eligible institutions who could provide an application that dealt with those areas (Regions and Autonomous Provinces, the Istituto Superiore di Sanità-ISS, the National Institute of Occupational Safety and Prevention-ISPEL, the Agency for the Health Regional Services-ASSR, the Scientific Institutes for Research, Hospitalization and Health Care-IRCSS and by the Institutes of Zooprophyllactic Research-IZS).

All projects had their own local advisory committees.

### Funding opportunities and additional resources

The programme was not able to fund directly PhD. Each approved projects had a budget to fund grant for researchers.

### Evidence based practice

The projects were expected to have an health policy impact as they were outlined in order to provide specific evidences and experiences that could help to deal better with the needs for development of more efficient management of Alzheimer disease in terms of care and cure.

The programme provided new knowledge for prevention's strategic plans on Alzheimer's disease; the results has been used for a feasibility project on a national database on the prevalence and incidence of dementia's, and to focus on the efficacy of pharmacological and rehabilitative treatment's strategies.

## **3) Italian National Institute on Aging - INRCA (Scientific Institute for Research, Hospitalization and Healthcare -IRCCS)**

### General information, Key aims and Objectives

I.N.R.C.A. is the most important institute in the sector of ageing in Italy. It is a public body controlled by Ministry of Health and it has more than 1300 employee.

The gerontological and geriatric problems of the third age are being met scientifically through clinical, epidemiological and socio-economical studies which enhance the care activities carried out in the various centres of the Institute: Ancona, Appignano (MC), Cagliari, Casatenovo (CO), Cosenza, Fermo (AP), Genoa and Rome.

The Institute was founded in 1844 and since 1968 has been appointed as a scientific institute of national relevance (Scientific Institute for Research, Hospitalization and Healthcare –IRCCS).

Research carried out by the Institute aims at improving the quality of life of the elderly population and can be divided into three different sectors which are interconnected: 1. Basic research (Gerontological Department); 2. Applied clinical research (Geriatric Hospitals); 3. Socio-economical research (Socio-Economic centres).

The Institute's care services and the research activities are carried out in full respect of the personality and rights of the care-receivers and of the national and regional programme policies regarding this field.

It also promotes medical education and the training and updating of scientific and technical staff.

The main programme's key aims are to study epidemiology, prevention and care of age-related pathologies and disability and to propose, apply, test and verify the efficacy of new models of management and assistance.

The most important research projects are nowadays included into the following main lines: Prevention and care of disability and geriatric management; Geriatric oncology; Aging and longevity: biological, genetics-functional and environmental determinants of longevity and senescence; Aging and age related pathologies: biological, neuro-endocrino-immunological, genetics-functional and environmental determinants of the age-related pathologies and disability; Atherosclerosis and

cardiovascular complications; Aging and drug; Social, economic and psychological research on ageing; Nutrition and Ageing.

Research on social and psychological aspects is carried out either independently or with a multidisciplinary approach. It analyses also the needs of both the elderly and their families.

#### Coordination & Commissioning

Since January 1994 the Institute has been under the direction of a Special Commissioner nominated by the Minister of Health, as all of Scientific Institutes for Research, Hospitalization and Health Care-IRCCS. This situation will continue until the reorganization of the IRCCS is approved.

The research coordination is given to the Scientific Director, who manages the activities for the institutional purposes of Scientific Research. His role is multi-faceted being involved in the design of the whole programme, drawing up the tender document, helping to assess the applications, both at the outline stage and the full proposal, giving advice, comments and suggestions to the committee of the institute and to the main funders of the Institute.

The Medical Superintendent directs and coordinates the activities for health organization purposes.

The General Secretary is the responsible for I.N.R.C.A. administrative management.

#### Funding opportunities and additional resources

I.N.R.C.A. has a budget funded by Ministry of Health for covering the main research expenditures.

Moreover, I.N.R.C.A. looks for additional funds from EC, Ministry of Research (MIUR) or private companies.

#### Evidence based practice

The research outcomes of Scientific Institutes for Research, Hospitalization and Health Care-IRCCS (including I.N.R.C.A.) influence by definition the development of Italian Standards and Building Regulations on research, hospitalization and health care.

The I.N.R.C.A. multidisciplinary research on aging has relevance to the development of policy. Some findings of the projects might change the practice in improving healthy aging.

Translational research supports the geriatric management and clinical applications. They contribute to realize new models of care in the hospital, to match them with needs of elderly, to improve the recovery time and the adequacy of care at home and at hospital.

Life style studies are fundamental for information and prevention campaigns and for understanding the relation between everyday attitudes and diseases.

Moreover, social research aims to solve the main problems of elderly and their caregivers.

#### **4) Centro San Giovanni di Dio-Fatebenefratelli, Brescia (Scientific Institute for Research, Hospitalization and Healthcare -IRCCS)**

##### General information, Key aims and Objectives

The Scientific Institute "San Giovanni di Dio" (St John of God) is based in Brescia, Northern Italy. It was founded in 1880 and since 1996 has been appointed as a scientific institute of national relevance (Scientific Institute for Research, Hospitalization and Healthcare -IRCCS). It is funded by the National Health System as the national centre of excellence for Alzheimer's and psychiatric diseases. Its mission involves translational research, i.e. developing models that can be taken up by other Italian clinical centres.

Its staff of 20 physicians and psychologists treat 4500 persons with Alzheimer's or associated disorders yearly. More than 60 professional researchers work in the laboratories of genetics, neurobiology, neuroimaging, neuropsychophysiology, neuropsychology, ethics, epidemiology and telemedicine. More than 80 other researchers cooperate with the Brescia Institute from the other centres of the research network (Rome, Turin, Milan). Within this Institute there are laboratories for: Neurobiology & Bio-bank, Neurogenetics, Neuropharmacology, Neuro-psycho-physiology, Neuropsychology, Neuromorphometry, Epidemiology.

It is owned by the Fatebenefratelli, St. John of God Religious Order, the largest private health care group in the world. Fourteen hundred Brothers manage 389 health care activities in 49 countries of 5 continents. This Order is active in many EU countries such as Spain, France, Germany, Austria, Ireland, Poland, Hungary, and Slovenia. The Brescia Institute is coordinating 6 more centres for Alzheimer and Dementia owned by the Fatebenefratelli, making it the leading database for clinical research on Alzheimer's in Italy.

##### Coordination & Commissioning

The role of the scientific director is to discuss the priorities of the research areas, to focus on specific calls for proposal and on specific projects proposed by the research team of the institute. The scientific director also ensures that the research findings are fed into the policy process in a timely and accessible way. The final task is the coordination of a final programme report summarising the findings of all studies and outline the key policy messages.

##### Funding opportunities and additional resources

The Institute is part of a research network (AFaR-Associazione Fatebenefratelli per la Ricerca) which links 13 centres from northern (Turin) to southern (Palermo) Italy. This network is partly funded by the Fatebenefratelli Religious Order and partly from private agencies (i.e. Telethon, Cariplo Foundation, Telecom Italia) and public funds (Ministry of University, Ministry of Labour).

##### Evidence based practice

An example of evidence based practice is the creation of an Alzheimer's disease center for people with dementia. Research with dementia patients is leading to systems which can let them a greater degree of independence and confidence for longer whilst also supporting their caregivers. There have been new approaches in our center designed to care facilities. The feedback from the governmental agencies

has been fully positive, in that, for example the Institute was asked to disseminate daily centers for Alzheimer's disease at a national level and the initiatives of IRCCS including FBF are usually very important in helping policy makers to shape the policy thinking in this field.

The Institute has provided evidence of the usefulness of close links between policy makers and research projects developed inside IRCCS structures in that research results are immediately translated into nationwide care policy.

The projects concerned with sensory and cognitive impairment have generated unique information about the needs of specific groups of people which is invaluable to designers, who previously have had little design guidance, and for health workers for example, Occupational Therapists, who have to match the needs of individuals with recommendations about how their homes might be adapted.

## **5) Center on Aging, National Research Council (CNR), Padua**

### General information, Key aims and Objectives

The National Research Council (CNR) is a public organization founded on 1923. The activities of the organization are divided into macro areas of interdisciplinary scientific and technological research, concerning several sectors: biotechnology, medicine, materials, environment and land, information and communications, advanced systems of production, judicial and socio-economic sciences, classical studies and arts.

CNR is distributed all over Italy through a network of institutes aiming at promoting a wide diffusion of its competences throughout the national territory and at facilitating contacts and cooperation with local firms and organizations.

From the financial point of view, the main resources come from the State, but also from the market.

One of the most ambitious achievements issuing from the recent reshaping of the Research Network of the Italian National Research Council (CNR) was the constitution of the *Institute of Neuroscience* (IN) (see G.U., VI, issue 18, march 2, 2001). The Institute configures itself as a Laboratory without walls, similar to outstanding European and International Institutions. In this respect, the Institute groups a number of Laboratories (or Sections) distributed all over the country, but retain a central administrative and directive body. Thus, this organisation promote an intense and capillary participation to the local scientific and educational life of each Laboratory but, at the same time, stimulates synergistic interactions between projects developed in different Sections. The participating Structures are reputed, highly qualified Laboratories with a solid record in the study of Neuroscience that is addressed through specific, interdisciplinary approaches. The scientific interests and the technical skills range from the many aspects of cellular and molecular biology to the study of complex functional events, including behaviour and relevant human pathologies. The synergistic interactions between the ongoing researches is guaranteed by the many collaborations already established between groups working in different Sections. This is reinforced by an efficient program of periodical meetings and exchange of researchers. The Institute, which has its home place in Pisa, groups 3 other Sections localised in Milan, Padua and Rome and results from the fusion of these old CNR organs:

- Institute of Neurophysiology - Pisa
- Branch for the Study on Biomembranes - Padova
- Branch for the Study on Muscle Biology and Physiopathology - Padova
- Branch for the Study on Aging - Padova
- Branch for the Study on Cellular and Molecular Pharmacology - Milano
- Institute of Psychobiology and Psychopharmacology - Roma

*The Branch for the study on Aging*, directed by Prof. Gaetano Crepaldi since 1994, is located in the University of Padua, School of Medicine and it is the only institute on aging of CNR. Since its inception, the main mission of the Center is to plan, conduct and co-ordinate research on epidemiology of aging, health services utilization and age-associated metabolic disorders. In particular, several ongoing studies collect data on the health and socioeconomic status of older individuals and on their access and use of health services. One of the aims of the research conducted in the Center is to provide health policy makers with data relevant for the planning and the implementation of preventive and therapeutic interventions at the regional level in Veneto (North East of Italy). In collaboration with other CNR Institutes, governmental agencies and scientific organizations it develops protocols and instruments for studies of the elderly and organizes training and courses for investigators in the field of aging. Since the beginning, an intensive cross-national collaboration has been carried out with international agencies, such as the World Health Organization, the National Institutes of Health and the Center for Disease Control in the US, and several European Universities and scientific organizations in the field of dementia, osteoporosis, diabetes and cardiovascular disease.

#### Coordination & Commissioning

A scientific director is appointed by the CNR headquarter and can be a University Professor or a CNR employee. The director is in charge of overseeing the planning and implementation of all research projects and to outline the priorities of the research areas. The team is composed by researchers (3 full time, 5 part time and 10 with temporary contracts) who work on specific projects, mainly multidisciplinary-epidemiological projects and clinical trials, and by 3 administrative assistants. The research projects are mainly multicentric, and therefore the major role of the center is to coordinate the field work, to analyse the data collected and to disseminate the results.

#### Funding opportunities and additional resources

The CNR provides only a small percentage of the research budget of the Aging Branch (5%). All research projects are supported by grants obtained in public competitions (Ministry of Health and education, EU Commission, regional research targeted projects, etc.) or by private corporations (pharmaceutical companies, private foundations, etc)

#### Evidence based practice

All the activities performed by the CNR-Aging Branch aim to translate on public health interventions and health services' implementation for older citizens, or to provide the scientific background for improving the profile of care for the elderly

## **6) Istituto Superiore di Sanità - ISS**

### General information, Key aims and Objectives

The ISS is funded by the Minister of Health. Under Article 12 of the Italian Legislative decree (D.L.vo 502/1992), finance for research and action in the territory coherent with the objectives of the National Health Plan, is allocated directly to the Institute from the National Health Fund. Since year 1934, the year of its foundation, the Institute is one of the key managers of health related aspects of research in Italy.

The ISS enjoys scientific, organizational, administrative and accounting independence and is subject to monitoring by the Ministry of Health. It undertakes research funding, management and training functions in relation to public health in Italy. Currently ISS acts as a coordinator of public health-related aging research at the national level in collaboration with the National Research Council-CNR (formal agreement). It also co-ordinate the projects once they are funded after national calls for proposals or according to collaborative research actions.

The Institute collaborates with the Minister of Health in preparing and implementing scientific and health planning countrywide. It promotes programmes of national interest consistent with the objectives of the National Health Plan, with tasks of technical guidance and co-ordination, in the field of health protection and promotion, in collaboration with the Regions and with local hospital authorities and health boards of the National Health System, as well as with public and private sector organisations of national importance. ISS promotes programmes of research, projects and clinical trials of national interest and international level. ISS also actively promotes knowledge transfer and implementation, ensuring that knowledge is exchanged between all relevant stakeholders (health researchers, health professionals, patients/consumers and the general public). ISS is the scientific advisory body of the National Health System in Italy, namely of the Ministry of Health, the Regions and the Local Health Unit. The ISS is monitored by law by the Ministry of Health but is independent from a scientific, administrative and organization point of view. The ISS acts as an intermediary between policy, research and practice. The ISS is organized in 7 Departments and 3 National Centres devoting national as well as international research activities in collaboration with all the main health organizations such as World Health Organization, US National Institute of Health, CDC and favouring the cooperation with many Countries worldwide. The funding of the ISS is public namely coming from the budget of the Ministry of Health or from other governmental, public and private funding.

Aging research represents one of the priority area with an high level programme of activities funded by Ministry of Health. Most of the funded researches are usually managed by ISS and include: longitudinal studies on aging, aging and age care in local contexts and in the different caring structures for old people, forecasting of elderly health costs, nutrition and aging, cognitive functions and cognitive impairments, disabilities in old age, health determinants of healthy aging, early diagnosis of Alzheimer disease and dementia, clinical trials for Alzheimer disease therapy, aging and memory, the study of transition of mild cognitive impairment to dementia and its determinants, genetics of elderly. The list of the funded research is available on the Ministry of Health WEB pages (only Italian) at [www.ministerosalute.it](http://www.ministerosalute.it).

A formal cooperation has been set up between ISS and CNR involving Universities, Public Hospitals and Local Health Unit. The format of this cooperation can be found on the WEB site <http://www.dcas.cnr.it/aging2k/aging2k.htm>.

### Coordination & Commissioning

The President, the legal representative of the Institute, is appointed (for five years) by a decree of the President of the Italian Republic under the proposal of the Minister of Health and the Council of the Ministries following a Parliament consultation.

### Evidence based practice

All the activities performed by the ISS find an immediate outcome in implementation of strategies, activities and objectives in the public health field. The pivotal role of the ISS as the scientific and technical body of the National Health System allow a constant reciprocal exchange of information and practice between research and public health in term of health planning and management.

## **2.2 Planning, reviewing and selecting projects**

### **1) Targeted project on aging-Progetto finalizzato invecchiamento**

The programme has been approved by the Committee of Ministers for Economic Planning (CIPE) on June 1989, a sign of the social and political impact that the growing proportion of older persons in the population has on the life of nations. The multiannual strategically planned programme call highlighted five topic priority areas: 1. Gerontobiology, 2. Longitudinal study on aging, 3. Aging and endocrine-metabolic diseases: pathogenesis; 4. Aging of the sensory system and cognitive processes and 5. The aging population: quality of the life and independence.

The call for proposals was addressed to public research institutions such as CNR, national institute of health (ISS), Scientific Institute for Research, Hospitalisation and Healthcare (IRCCS) and Universities.

The applicants were asked to submit a full proposal. Each proposal was reviewed by two peer reviewers appointed by the scientific director. There were 793 proposals received and 213 (27%) were funded. The proposals were chosen on the basis of scientific excellence, policy and service relevance, feasibility and value for money.

It involved a vast number of both basic and clinical investigators with an interest in aging research from the CNR laboratories and research groups in the Universities together with the collaboration of local and regional authorities as well as important contributions from the private sector (scholarships for researchers from 15 pharmaceutical enterprises). For the selection of the projects the steering group shares the responsibility to maximising the possibility that research was transferred into practice.

### **2) Alzheimer's disease Programme-Progetto Alzheimer**

### **3) Italian National Institute on Aging –INRCA, Ancona**

### **4) Centro San Giovanni di Dio-Fatebenefratelli, Brescia**

### **5) Center on Aging, National Research Council (CNR), Padua**

### **6) Istituto Superiore di Sanità (ISS), Roma**



At National level, for programmes funded by the Ministry of Health, the commissioning process had two stages. In the first stage, the National Commission of Health Research (Commissione Nazionale per la Ricerca Sanitaria) evaluates if the proposals met the following criteria: relevance and transferability into National Health Services of results. In the second round, projects are selected and funded according to the following criteria: scientific validity and originality, congruity of methodology in relation to objectives, link to other projects on the same scientific areas; scientific excellence of the scientific groups of the operative units; adequacy of available resources; extent of transferability into National Health Services; added scientific values of proposed research activities.

The applicants are formally asked to submit a full proposal.

### **2.3 The National Context of the Programmes**

The National Health System (NHS) operates at different levels, from research to care. The NHS is made up of bodies and organs at different institutional levels, each contributing to reaching the objectives for the protection of public health. The Ministry of Health ([www.ministerosalute.it](http://www.ministerosalute.it)) is the central organ of the NHS, having as its tasks the orientation and planning in matters of health, as well as the definition of objectives for the improvement of the health conditions of the population. The Ministry of Health, together with the National Health Council, the Istituto Superiore di Sanità-ISS, the National Institute of Occupational Safety and Accident Prevention, the Agency for Regional Health Care Services and the National Institutes for Scientific Research, prepares the National Health Plan (*Piano Sanitario Nazionale-PSN*), a three-year action programme that defines health targets and allocates funding to the 21 Regions. At the moment the PSN 2006-2008 is being implemented. From 1994 National Health Plan explicitly introduced health promotion in the repertoire of intervention

The government aims to increase social policy action for people that are non self-sufficient, especially the elderly, and who represent an increasingly critical element of society. Said action will take the form of a new system of organising and integrating services with the aim of rationalising the use of available resources.

The financial commitment required to set up a specific fund for non self-sufficiency is obviously quite substantial. Therefore an assessment of the various existing possibilities of obtaining the financial resources needed to set up said fund is necessary. The possibility of introducing a special charge must also be considered with the aim of involving all citizens in the social inclusion problems this category has to deal with and relieve families from a particularly burdensome commitment, also from a financial point of view, which in today's world seems to be left exclusively up to them. Particularly, the PSN indicates as priority plans to develop integration between social and health action, promote personal action to support daily homecare, develop the network of residential and semi-residential facilities and implement the accessibility and diffusion of new technology to support the most difficult situations.

## **2.4 Interdisciplinary and Multidisciplinary Research**

Nearly all the programmes have been targeted at interdisciplinary research. In most cases interdisciplinary collaboration has been essential and obligatory and the topics (but not the priority areas) are prescribed or decided by the researchers in relation to the ones they wanted to study.

## **2.5 Ethical Issues**

### **Targeted project on aging-Progetto finalizzato invecchiamento**

CNR has a local bioethical committee.

### **Alzheimer's disease programme-Progetto Alzheimer**

There are several ethical issues for the projects that involve older people with memory loss and sometimes it was difficult to get ethical approval from the ethics committees. Each projects had their local ethics committees. In general, for clinical projects involved demented patients, subjects with severe cognitive impairment or dementia, or illiterate, written informed consent were obtained from their relatives or caregivers.

### **Italian National Institute on Aging –INRCA, Ancona**

I.N.R.C.A. has instituted since 2000 a bio-ethical committee called CE (Comitato di Etica). Its functions, principles, members, rules are available at <http://www.inrca.it/BIOETICA/bioetica.html>.

The committee is composed by 13 members from different working areas. They give consultancy on ethical and legal aspects of research activities. In accordance with the current national and international laws and recommendations, it analyses protocols, clinical cases, bioethical issues and draw up guidelines.

Moreover, users have to sign a written informed consent when the research requires involvement of subjects and their families or caregivers.

### **Centro San Giovanni di Dio-Fatebenefratelli, Brescia**

The institute has a local ethical committee called "CEIOC" (comitato etico delle istituzioni ospedaliere cattoliche) operating for a number of Catholic hospitals in Brescia. At <http://www.fatebenefratelli.it/s.giovanni> readers can find a description of the ethical committee including functions, principles, rules, guidelines and list of members (including Statistician, Clinical Pharmacologist, Lawyer, Medico-Legal expertise, Bio-Ethicician). Members of the committee hold meetings on a monthly basis to analyse research protocols, clinical cases, to draw up guidelines, for training and dissemination activities on bioethical issues. Regarding training, CEIOC assigns a yearly scholarship for young researchers. A library specialized on bioethics is also in place and maintained by ethics committee personnel.

### **Branch on Aging, National Research Council (CNR), Padua**

All projects are submitted to the ethical committee of the Teaching Hospital in Padua and/or to local ethical committees in each participating centers to the research projects.

### **Istituto Superiore di Sanità (ISS), Roma**

The ethical committee (EC) of the ISS is nominated by the president of the Institute. It is composed of 13 members from different thematic research areas mostly not employees of the institute. Each of them are nominated for 3 years. The aims are to give consultancies and opinions on ethical aspects of research activities carried out in the institute. Furthermore, the EC of the ISS has the role of approving and monitoring experimental clinical projects according to the current laws. The EC of the ISS is inside the register of the ethical committee made by the National Observatory of the Clinical Experimentation (OsSC) of the Italian Agency of Drugs (AIFA).

## **2.6 Involvement of Users**

### **Targeted project on aging-Progetto finalizzato invecchiamento**

The users platform was involved when setting up projects and during their implementation. The focus was on the policy and practice dimension so the idea was to try to make the programme as policy and practice friendly as possible. Therefore it meant that the focus was on the user spectrum in the policy and practice area.

### **Alzheimer's disease programme-Progetto Alzheimer**

The projects had not required to involve users.

### **Italian National Institute on Aging –INRCA, Ancona**

Users are often involved in national and european researches. Usually, a sample is selected with specific characteristics, if appropriate. In accordance with the objectives of the project, users can be older people, caregivers, relatives, professionals. They can play different roles (evaluators, advisors..).

The respect of ethical issues (privacy, moral aspects..) is a fundamental principle in the user's involvement.

### **Centro San Giovanni di Dio-Fatebenefratelli, Brescia**

### **Center on Aging, National Research Council (CNR), Padua**

The projects do not usually involve users, but very often press releases or press conferences to disseminate results of the studies reach the overall population and the researchers are at disposal for any further documentations or information required by the general population.

### **Istituto Superiore di Sanità (ISS), Roma**

The projects are not usually required to involve users but they can be invited to participate where appropriate.

## **2.7 Dissemination and Implementation of the Programme and Project's Findings**

All programmes share a responsibility to maximising the possibility that research is transferred into practice. Most of the programmes have not an implementation strategy set up at the beginning. All programmes end with an overview report

written by the scientific director, with further dissemination activities, such as a national conference or regional seminars, being organised as necessary. Some programmes have links with television, radio and newspapers. It is very important that policy staff have the benefit of the advice of researchers in how to interpret the findings and this can often prove to be a difficult task for researchers.

### **Targeted project on aging-Progetto finalizzato invecchiamento**

The steering committee indicated the strategies for the dissemination of scientific results. The dissemination process was funded. Each project was expected to have its own dissemination strategy built in. This was a requirement but there was not a dissemination plan integrated into the programme. The final report is publicly available on the programme website for free as well as the lists of all publications in national and international journals. Dissemination included refereed journals, books and conference papers.

### **Alzheimer's disease programme-Progetto Alzheimer**

There is no implementation plan for the projects as a whole; individual projects are required to contribute to a joint dissemination strategy. There were not a website informing on events, opportunities or list of publications with the main results. The dissemination process was funded. Scientific publications were under the responsibility of the research teams.

### **Italian National Institute on Aging –INRCA, Ancona**

Generally, each project has a dissemination plan which involves different phasis of the research.

Scientific publications in national and international journals, books and conference papers are an important part of dissemination activities.

I.N.R.C.A. holds conferences and seminars where the main research findings are shown and where researchers can talk to each other about their progress as well as to inform the policy side/ministers about the outcome. Additional seminars/meetings may be held with policy makers on topics of particular timelines or sensitively.

I.N.R.C.A. provides an yearly research book that includes a final balance of scientific productions divided for each of 5 research areas. Each list of publications has a synthesis of results and of the outcome of the research. Programme findings and the main publications are also publicised on the website. Non-academic dissemination includes a wide range of written publications and training materials.

### **Centro San Giovanni di Dio-Fatebenefratelli, Brescia**

The institute produces more than 60 authoritative scientific papers yearly, all published in international journals and summing up over 300 points of impact factor yearly. The AFaR network produces 80 other papers yearly with about 450 points of impact factor yearly. Most of the publications (>70%) are dedicated to brain aging and dementia.

In the institute website and the research network ([www.afar.it](http://www.afar.it)) is available the list of scientific published reports. Programme findings are made public through the website even if the implementation and dissemination is not an institutional strategy

of the institute. Dissemination focuses both on academic and non-academic audiences.

### **Center on Aging, National Research Council (CNR), Padua**

The main tools for dissemination of the results are:  
Scientific papers in peer-reviewed journals, non-academic written documentation on the main results of the projects, organization and participations to national and international training courses and conferences.

### **Istituto Superiore di Sanità (ISS), Roma**

The Institute serves as a major source of information relating to public health and biomedicine in Italy through online connections to national and international scientific databases and data banks. It also serves as the national reference centre for MEDLARS (MEDical Literature Analysis and Retrieval System), a comprehensive international data bank coordinated by the US National Library of Medicine (NLM). ISS produces numerous publications, including a quarterly peer-reviewed journal, technical reports, a monthly newsletter describing the Institute's major research activities, and a national epidemiological bulletin. A major instrument for dissemination is represented by public domain institutional web sites ([www.iss.it](http://www.iss.it)). The Institute plans, implements and evaluates training activities in a wide variety of areas, with courses designed to address the needs of the National Health Service. It develops and tests innovative training methods, including web-based distance learning. Training is provided for various categories of professionals; methods range from short courses and hands-on workshops to more structured and formal courses at national and international level. The topics addressed include health service management and evaluation, epidemiology and biostatistics, training methods, laboratory techniques, diseases control and priority public health issues, and health promotion. It also organises congresses, conferences, workshops and seminars for national and international participants on fundamental public health issues linked to its institutional activities and research. These events are often organised in cooperation with international organisations such as the European Union, specialised UN Agencies and non-governmental organisations with which the Institute maintains close relations.

## **2.8 Evaluation of the Programme**

Most of the programmes funded at a national level are evaluated by the National Commission of Health Research (Commissione Nazionale per la Ricerca Sanitaria).

The main activities of the National Commission of Health Research are the following:

- a) to elaborate the National Health Research Plan and to propose initiatives for planning either national scientific research and international ones;
- b) to select research projects, to monitor health research initiatives and to evaluate the diffusion of results;
- c) to give consultancies and technical supports;
- d) to propose research areas for "current research" for Scientific institutes for Research, Hospitalization and Health Care (IRCCS) taking into consideration the

priority objectives of the National Health Plan and of the National Scientific Research Plan; to give technical supports for the call for “targeted research”.

It is composed by the President (the Minister of Health) and a Vice President;

- 8 representatives of the main scientific research institutions (Istituto Superiore di Sanità (ISS), National Institute of occupational safety and prevention (ISPESL), regional health services agency (ASSR), general direction for Health prevention of the Ministry of Health, general direction of the veterinary health and foods of the Ministry of Health, representatives of public and private Scientific Institutes for Research, Hospitalization and Health Care (IRCCS) and of institutes of Zooprophyllactic Research (IZS);

- 15 regional representatives;

- 15 representatives of the Ministry for Education Universities and Research.

The same people who worked with the programme are not responsible for evaluating it. Receipt of different tranches of project funding usually is dependent on the research team responding to any concerns raise by officials or reviewers. Usually, social impact is not evaluated. The evaluation reports are not publicly available.

## **2.9 The Future Funding of the Programme**

Programmes have their fixed timescale. Extensions without financial supports are approached very often. New financial support for individual projects, not organized into the same programme, are funded by an yearly call for proposal from the Ministry of Health according to the priorities identified by the three year National Health Plan strategy and objectives.

## **2.10 International Collaboration – including international funding cooperation**

### **Targeted project on aging-Progetto finalizzato invecchiamento**

The programme did not fund international collaboration. Within the programme only the Italian based researchers were funded.

For the majority of the projects international standardized methodology and tools validated at national levels have been adopted. The programme, mainly with the ILSA study, was part of the Expert Advisory Panel on Health and Aging; some operative units from the subproject 5 were involved in the international research group INTERRAI for the multidisciplinary validation of instruments to be used for home care and nursing home; ILSA study represented Italy for the following European Concerted actions: EURODEM, EUROPARKINSON, ECSTROKE-EUROSTROKE and Monitoring Neurological Diseases in Europe.

### **Alzheimer’s disease programme-Progetto Alzheimer**

The programme did not fund international collaboration. Within the programme only the Italian based researchers were funded.

### **Italian National Institute on Aging –INRCA, Ancona**

With respect for its institutional autonomy the Institute widely collaborates with other institutions, both at a national and international level in the field of ageing. For example, I.N.R.C.A. has collaborated with The Institute of Neuropathology of University of Basel, gerontology research centres of the Universities of Kiev, Tampere, Berlin, Bialystok, Bruxelles and Atene, and with the European Office for Aging and Rehabilitation of WHO.

A special attention is given to European networks; INRCA has been partner in many projects funded by EC (5 FP, 6 FP) and nowadays is co-ordinator of ZINCAGE project (6 FP) including 17 centres of excellences from different European countries.

In the website of I.N.R.C.A., there is a detailed report of national and international collaborations. For more details see <http://www.inrca.it/RICERCA/ricerca1.html>.

I.N.R.C.A. also promotes medical education and the training and updating of scientific and technical staff.

### **Centro San Giovanni di Dio-Fatebenefratelli, Brescia**

The Institute cooperates with other institutions, both at a national and international level. International cooperative projects involve over 40 research institutions in Europe and America. A selection follows. United Kingdom: the Wellcome Department of Imaging Neuroscience in London (J Ashburner and K Friston), the Dementia Research Group in London (N Fox), the Institute of Psychiatry at King's College in London (P McGuffin). Sweden: NEUROTEC, Karolinska Institute (B Winblad). Finland: Department of Neurology, University of Kuopio in Kuopio (H Soininen); PET Centre, University of Turku in Turku (J Rinne). Belgium: Department of Neurology, University of Liege in Liege (E Salmon). Denmark: Department of Neurology, University of Copenhagen in Copenhagen (G Waldemar). The Netherlands: the Alzheimer Center in Amsterdam (Ph Scheltens). France: Institute of Geriatrics, University of Toulouse in Toulouse (B Vellas). Germany: the Department of Human Genetics, Universitätsklinikum Hamburg-Eppendorf in Hamburg (U Finckh), the Institute of Human Genetics in Muenchen (T Meitinger). Switzerland: the Department of Psychiatry Research, University of Zurich in Zurich (RM Nitsch, A Papassotiropoulos, and C Hock). Spain: the Unit of Experimental Neuropathology, University of Barcelona (T Gomez-Isla). United States and Canada: the Alzheimer's Disease Center, Department of Psychiatry, University of Texas at San Antonio (JC Soares), the Department of Psychiatry, Western Psychiatric Institute and Clinic, University of Pittsburg School of Medicine, Pittsburg (M Soloff), and the Lab Of NeuroImaging at the UCLA in Los Angeles (P Thompson and J Mazziotta); the Human Cortical Physiology Section, NINDS, Bethesda (LG Cohen), the Harvard University in Boston (JH Growdon), the Montreal Neurological Institute, McGill University in Montreal (L Collins). Japan: the Graduate School of Pharmaceutical Sciences, University of Tokyo (T Iwatsubo).

### **Branch on Aging, National Research Council (CNR), Padua**

*International collaborations:* Vrije Universiteit Amsterdam, Institute for research in extramural medicine, The Geriatric Institute of Education and Research, Kaplan Medical Center, Israel, University of Tampere, School of Public Health; Karolinska Institutet, Department of Medical Epidemiology, Centro Universitario de Salud Pública, Madrid, Institute of Experimental and Clinical Medicine, Department of Gerontology Problems, Center for Gerontology and Rehabilitation Kalvariju, Vilnius,

Jagiellonian University, Collegium Medicum, School of Public Health, Health promotion Unit, Krakow, Poland

Charles University and Institute of Postgraduate Medical Education, Department of Geriatric and Medicine and Gerontology, Praha, Czech Republic, School of Public Health, University of Athens

*National collaborations:* Istituto Superiore di Sanità, Ospedale di Schio, Unità di Geriatria, Schio (Vi), Dip. Patologia Cerebrovascolare-INRCA, Fermo, Ospedale Malpighi, Unità di Geriatria, Bologna, Universities, GPs and private organizations.

### **Istituto Superiore di Sanità (ISS), Roma**

The Institute plans, implements and evaluates international health projects, ranging from cooperative research and development projects to humanitarian assistance. Humanitarian and technical assistance is provided in close collaboration with the Italian Ministry of Foreign Affairs, various UN Agencies and the World Bank. Several members of the Institute serve on panels of experts for the Fund as well as on other international committees and commissions. The main International collaborations are with the National Institute of Aging, NIH, Bethesda; the European Commission (Nutrage, Eurodem, Europarkinson, ECstroke, CLESA, ect); the Charitè-University of Medicine, Berlin; the Johns Hopkins University, Baltimore.

At National level, in the quality of technical and scientific body of the National Health System, ISS devotes most of its activities in orienting, coordinating and supervising research and public health activities of local health units and of regional health services. The main scientific collaborations are with the National Research Council (CNR), with Geriatric Departments of all National Universities and with Scientific Institute for Research, Hospitalization and Healthcare –IRCCS.