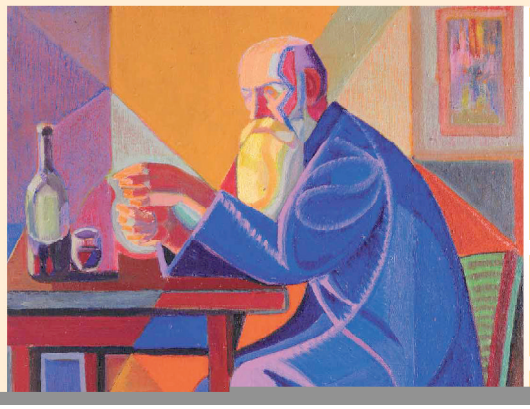
European Commission

Research Directorate General



Project Synopses

Interested in European research?

RTD info is our quarterly magazine keeping you in touch with the main developments (results, programmes, events etc.). It is available in English, French and German. A free sample copy or free subscription can be obtained from:

European Commission
Directorate-General for Research
Information and Communication Unit
B- 1049 Brussels
Fax: (32-2) 29-58220
E-Mail: research@cec.eu.int
Internet: http://europa.eu.int/comm/research/rtdinfo.htm/

European Commission
Directorate-General for Research – RTD- F-3 – Quality of Life and Management of Living Resources: The Ageing Population and Disabilities

Contact: Dr. Gesa Hansen
European Commission

B-1049 Brussels—Tel (32-2) 29-53977 -- Fax (32-2) 29-55365
Email: gesa.hansen@cec.eu.int

Oilpainting on front-page:
Fernand Mandeville, «Vieillard à l'étape»
(1948, Oil on canvas, Private collection)
Kindly provided by Antonio Guerci,
University of Genova, Italy
Co-ordinator of QLK6-2001-00108 (“Woldage”)

Pictures: Archives European Commission, DG RTD

European Commission

Project Synopses

Key Action 6
The Ageing population and disabilities
1999-2002

Prepared by Christel Jaubert and Alexandra Resch

Directorate-General for Research
5th Framework Programme
Quality of Life and Management of Living Resources

The presented project information is provided by the project co-ordinators.

Introduction

The ageing of Europe's population will be a crucial challenge for the 21st century. Society will be facing three major changes: first, increasing numbers of active older people demanding new social structures and opportunities; second, increasing numbers of disabled older people requiring new interventions and improved health and social care with resulting economic consequences; and third, complex economic, technological, organisational and social challenges involved in the ageing of society.

If society wants to benefit from these changes, innovative social, organisational and technological responses are needed.

Under the Fifth Framework-Programme for Research and Technological Development in the Quality of Life Programme, Key Action 6 on the "Ageing population and their Disabilities" was established to respond to these challenges. Community wide cross-sectoral multidisciplinary research, combining and integrating efforts in the biological, biomedical, psychological, economic and social fields are supported to promote the global objective: healthy ageing.

In the period from 1998 to 2002 over 170 million Euro have been comitted to support research in ageing relevant areas, with a total of 121 research and co-ordination projects being supported. The number of projects and the budget allocated to the different research areas covered by Key Action 6 can be found in Figures 1 and 2.

The present booklet is a compendium of all research and co-ordination activities supported by Key Action 6 from 1998 to 2002. It summarises the main features of the projects and it provides the Research Community, industries and all interest groups with information on each funded project.

Key Action 6 adopted a problem-solving approach, in which it aimed "to put research to work" in order to meet the challenges posed by both the ageing of individuals and the ageing of society. It aimed to do so by taking a well-balanced holistic approach towards the challenges of an ageing population. Impressive scientific results have been already achieved by some of the projects using this "holistic approach". However, the impact and the "spin-off" of these research activities can only be measured in the medium or long term.

A. Hoeveler
Head of Unit
"Ageing population" and "Poverty related diseases"
DG Research, Health Directorate
November 2002

Figure 1:

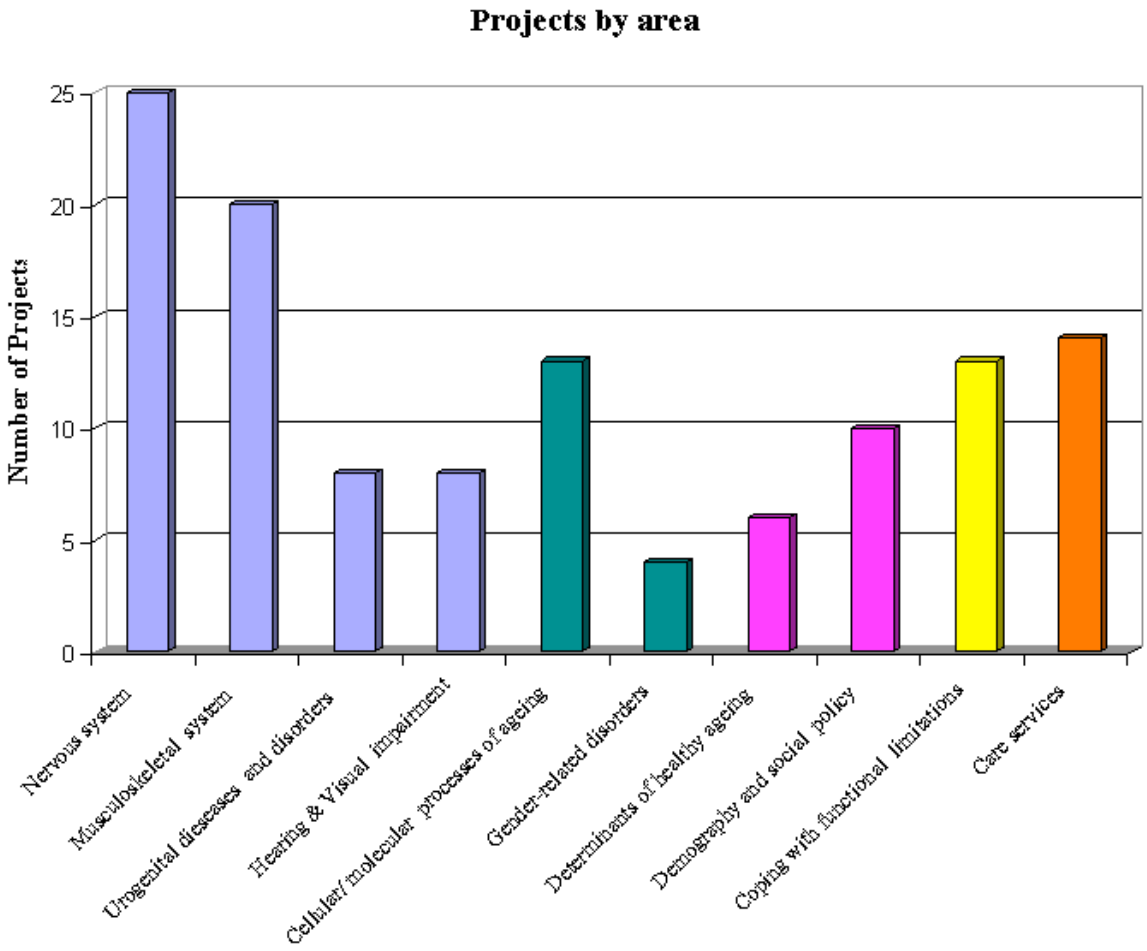
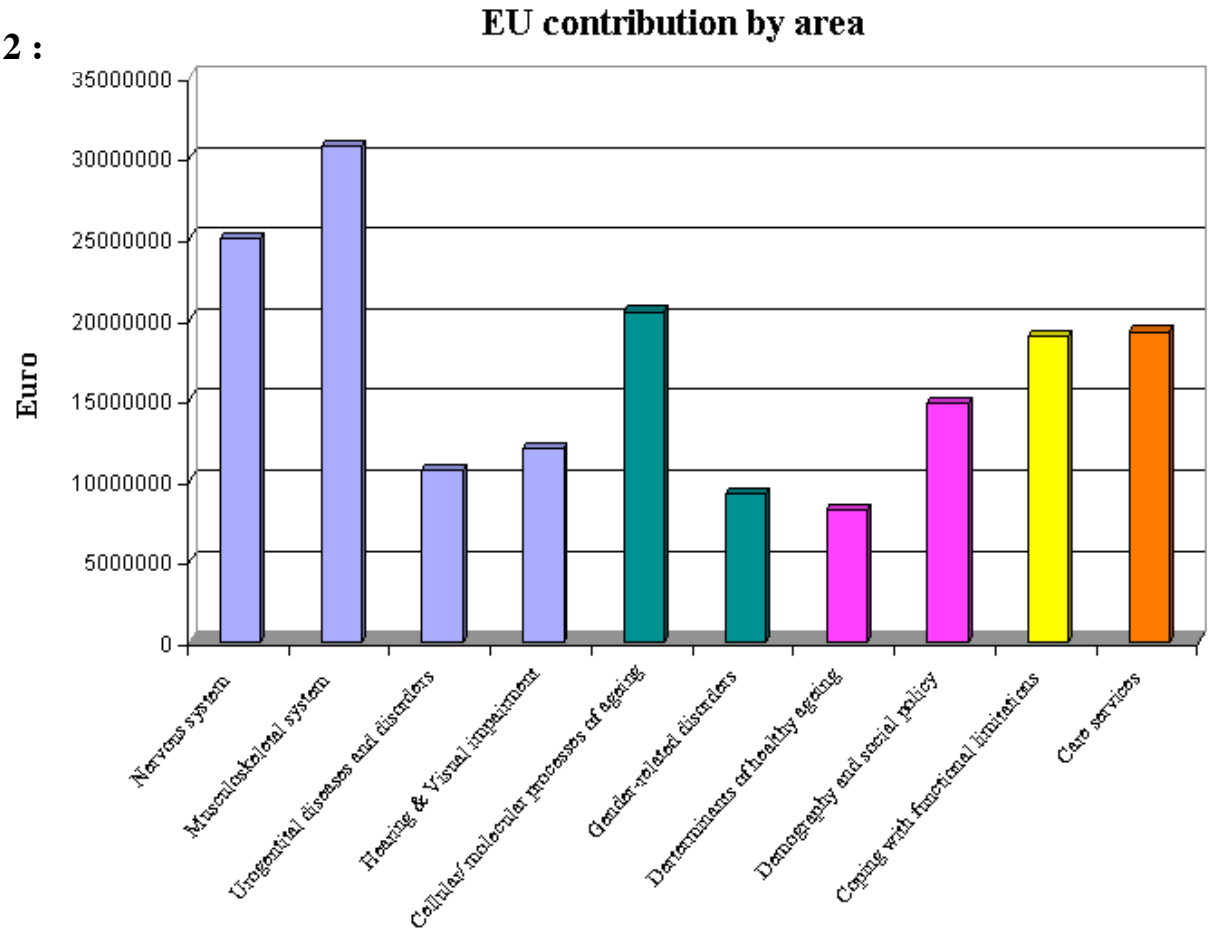


Figure 2 :



Quality of Life and Management of Living Resources (1998-2002)
Key Action 6: "The Ageing Population and Disabilities"

Introduction

Key Action 6 "The Ageing Population and Disabilities" aimed to put research to work to address the major challenges of an ageing population. Therefore Community wide cross sectoral multidisciplinary research has been carried out, combining and integrating efforts in the biological, biomedical, psychological, technological, economic and social fields. More specific objectives and deliverables were: To promote healthy ageing, by improving the understanding of the basic processes of physiological and molecular ageing, as well as the management of age-related illnesses and to cope better with disability and improving the basis for the policy and planning of social welfare systems.

The key action was organised into five action lines, which in turn contained different sub-areas:

Action line 6.1: Age-related illnesses and health problems

This action line focused on creating European added value in research of clinical significance for the early detection of, prevention or delay in onset of, treatment of and rehabilitation from age-related diseases and disorders of high morbidity among older people. In particular, it sponsored the co-ordination of research projects already funded at the national and international levels and the networking of research teams with the stakeholders in the research. Priorities identified were:

- Nervous system: stroke, Alzheimer's disease and other forms of cognitive impairment, depression, Parkinson's disease and peripheral neuropathies;
- Musculo-skeletal system: muscular atrophy, osteoporosis and degenerative joint diseases;
- Urogenital system: incontinence and prostate disorders;
- Other gender-specific health problems;
- Sensory systems: visual and auditory impairments;
- Pain.

Action line 6.2: Basic Processes of Physiological Ageing

This action line aimed at improving understanding of the basic biological processes of (normal) physiological ageing. It addressed in particular the question of why the human body becomes generally less proficient and more fragile as it ages and also more susceptible to disease, taking account of gender-related effects. The long-term goals are to strengthen the evidence base for public health strategies to promote healthy ageing and possibly to identify new routes for positive interventions in the ageing process. Priorities identified were:

- The basic cellular and molecular processes underlying the physiological process of ageing, but excluding the pathogenesis of specific diseases;
- Functional genomics as applied to human ageing, including interactions between genetic factors and environmental and behavioural factors;
- The genetic epidemiology of ageing, including cohort studies, in particular of the oldest old.

Action line 6.3: Demographic and social policy aspects of population ageing

As a basis for socio-economic policy and planning in the light of the expected demographic changes, this action line concentrated on predicting the evolution of pertinent characteristics of the ageing population and on examining the impact of population ageing on society. It also addressed the social determinants of healthy ageing and well-being in old age. Priorities identified were:

- Population studies aimed at predicting policy-relevant characteristics of an ageing population (including functional status, health and care status, dependency, housing and household status, economic status);
- Policy-relevant socio-economic studies on the impact of population ageing: (a) on the sustainability of social welfare systems, in particular health care and pensions; (b) on social cohesion and intergenerational relationships; (c) on social exclusion and inclusion; (d) on the participation of older workers in the labour market; and (e) on the development of the voluntary and community sectors;
- Studies of the social, economic, cultural and behavioural determinants of healthy ageing and of well-being in old age, including studies of the factors motivating older people to adopt healthy life styles.

Action line 6.4: Coping with functional limitations in old age

This action line supported the development and evaluation of technologies and systems designed to reduce the impact of disabilities on older people, to restore their functions and to mitigate the challenge to them of their social and physical environments. Priorities identified were:

- Technological products and systems contributing to greater mobility and less dependency, both inside and outside the home, including in the work-place;
- Caring and nursing products designed to support older people in their own homes;
- Improving postural stability and preventing falls;
- Technical aids to rehabilitation;
- Optimum forms of physical and/or cognitive exercise.

Action line 6.5: Health and social care services to older people

This action line aimed at contributing to the evolution of effective, efficient and user-friendly care services for older people, by supporting comparative evaluation and research into the organisation, delivery and planning of care. Priorities identified were:

- The efficiency, quality and user-acceptability of different modes of health and social care organisation and delivery (with particular emphasis on their interfaces);
- The role and needs of informal carers and of the voluntary sector, and their relation to the formal care sector;
- Health inequalities, including ethical issues associated with setting priorities for care provision to older people;
- Consequences of the vulnerability of older people: elderly abuse, violence and neglect;
- Arrangements to enable older people to stay in their own homes, particularly by extending domiciliary care, by integrating services at the local level, or by promoting different housing structures and living environments;
- Stimulating the capacity for self-care by older people;
- End-of-life and palliative care, including their ethical aspects.

Index of Projects by action line and area:

Action line 6.1: Age-related illnesses and health problems

Nervous system

Musculoskeletal system

Project Number QLK6-CT-	Acronym	Project Title	Page
1999-02024	MIAB	Mechanical integrity and architecture of bone relative to osteoporosis, ageing and drug treatment	72
1999-02034	Ageing Muscle	Investigation of mechanisms for maintenance and regeneration in the ageing muscle	74
1999-02072	Cytokines destr OA	Role of cytokines and growth factors in cartilage destruction in osteoarthritis (OA)	76
1999-02108	GENOSPORA	New genes and targets for osteoporosis	78
1999-02234	EPILA	Opioid treatment of chronic pain and inflammation in the locomotor system	80
2000-00139	NEW	Neuromuscular assessment in the elderly worker	82
2000-00417	PENAM	Pan-european network for ageing muscle	84
2000-00487	SPARE PARTS	Chondral and osseous tissue engineering	86
2000-00530	AGEING MUSCLE	Ageing-related muscle wasting: causes, prevention and reversal	88
2001-00323	BETTER-AGEING	Physical frailty and loss of functional independence in old age: the role of physical activity	90
2002-00491	NEMO	Network in Europe on male osteoporosis	92
2002-02243	OSTEODENT	The diagnostic validity of dental radiography techniques for identifying osteoporotic patients	94
2002-02288	OB-AGE	Obesity and disease in ageing	96
2002-02363	ADOQ	Advanced Detection of Bone Quality	98
2002-02440	3D-QCT of Osteoporotic Hip	Improvement of Hip Fracture Prediction in Osteoporotic Subjects by Low-Dose Volumetric QCT Assessment and Finite Element Analysis of the Proximal Femur	100
2002-2582	Eurodisc	Interverbal disc degeneration : interplay of age, environmental and genetic factors	102
2002-02629	GENEMOS	Genetic markers for Osteoporosis	104
2002-02700	JOINT SCAFFOLD	Development and clinical evaluation of bioreplaceable small joint prosthesis for the correction of destructed small joints in rheumatoid arthritis and osteoarthritis	106
2002-02710	FEMUS	Femur Ultrasound Scanner	108
2002-02285	ENIGMA	European Network for Investigating the Global mechanisms of Muscle Abnormalities In COPD	110

Urogenital diseases and disorders

Project Number QLK6-CT	Acronym	Projet Title	Page
2000-00064	HRI	Hypoxic renal injury	114
2000-00159	ProCure BioPharm	Prostate disorders: procurement of biomarkers and pharmaceuticals	116
2000-00271	Prostate Gene Therapy	Specific cytotoxic agents to treat prostate disorders in elderly males: targeted gene therapy	118

Hearing and Visual impairment

Action line 6.2: Basic Processes of Physiological Ageing

Cellular and molecular processes of ageing

Gender-related disorders

Action line 6.3: Demographic and social policy aspects of population ageing

Determinants of Healthy Ageing

Socio-economic impact

Action line 6.4: Coping with functional limitations in old age

Coping with functional limitations/ Technologies

Action line 6.5: Health and social care services to older people

Care services

SME-specific projects (CRAFT)

Abbreviations:

CA = Concerted Action (coordination action)
CM = shared cost combined research and demonstration project
CRAFT = SME specific shared cost measure "collaborative resaerch project"
CT = Contract
DM = Shared cost demonstration project
FP5 = 5th Framework Programme
KA6 = Key Action 6 "Ageing Population"
QoL = Quality of Life Programme
RS = Shared Cost research (R&D) project
SME = Small and medium sized enterprise
TN = Thematic Network Project (coordination action)

Area 6.1: Age-related illnesses and health problems

NERVOUS SYSTEM

Project number:	QLK6-CT-1999-02004
EC contribution:	€1,399,985
Duration:	36 months
Type:	RS
Starting date:	01/02/2000

Microglial activation in neurodegeneration in Alzheimer's disease: a therapeutical target ?

Abstract

Objectives:
Chronic microglial activation and release of toxic mediators in CNS could explain neurodegeneration in Alzheimer`s disease. On the other hand, there are indications for a beneficial role of microglia in this disease (e.g. phagocytosis of amyloid peptide). This multidisciplinary European cooperation aims to understand the mechanisms and significance of microglial activation in Alzheimer`s disease and to evaluate strategies of therapeutic intervention in microglial activation in vitro and in vivo.

Brief description:
In workpackage (WP) 1, the effects of amyloid peptide (Aβ) on microglial cells will be characterized. Thorough information about extent and kinetics of microglial activation by Aβ will be obtained by studies in vitro, in the living organism (in vivo-microdialysis experiments and studies in APP-transgenic mice) and in humans with Alzheimer`s disease (PET technique).

In WP2, the possible synergistic or inhibitory effects of "plaque-associated proteins" on microglial activation and the rate of neuronal Aβ synthesis will be investigated.

In WP3, the hypothesis that innate immunity receptors (e.g. the LPS receptor) are crucial for Aβ-mediated activation of microglial cells will be studied. Experiments in cells deficient for such receptors will be performed. In addition, the signal transduction mechanisms involved in cellular activation by Aβ will be analyzed in this WP.

In WP4, we will study the biological relevance of microglial activation on a) toxicity for contiguous neurons and b) the rate of neuronal synthesis of Aβ. Neuronal injury and increase of Aβ release in response to microglial activation will be analysed also in vivo (in vivo microdialysis experiments).

In WP5, based on the results of WP 1-4, we will finally investigate the therapeutic consequences of our previous experiments. Then, COX-1 and -2 inhibitors, anti-cytokine strategies, anti-LPS receptor directed strategies, interferon-γ, anti-mitotically active drugs and most importantly, further strategies that evolve from our experiments will be studied using our in vitro and in vivo models.

Keywords:
Alzheimer Disease – neuroinflammation – microglia - amyloid peptide

Co-ordinator
PD Dr. Klaus Faßbender
Klinikum Mannheim GmbH
Theodor-Kutzer-Ufer 1-3
68135 Mannheim
+ 49-621-383-2863
+ 49-621-383-2158
fass@neuro.ma.uni-heidelberg.de

Partners:

PD Dr. K. Fassbender, Department of Neurology Mannheim, University of Heidelberg, 68135 Mannheim, Theodor Kutzer Ufer 1-3, D- 68135 Mannheim,
Tel.: 0621-383-2863,
Email. Fass@neuro.ma.uni-heidelberg.de

Prof.Dr. Beatrix Grubeck-Loebenstein, Dr. Imrich Blasko, Institute of Medical Ageing Research, Austrian Academy of Sciences, Rennweg 10, 6020 Innsbruck, Austria, Phone: 0043-512-583919-12, Fax: 0043-512-583919-8
Email: Imrich.Blasko@oeaw.ac.at

Prof. Dr. Piet Eikelenboom, Vrieje Universitiy, Dept. of Psychiatry, Valeriusklinik Valeriusolein 9, Amsterdam, NL
Phone: 0031-20-5736666, Fax: 0031-20-5736687
Email: Piet.Eikelenboom@pca-znw.nl

Prof. Dr. Dr. h.c. Konrad Beyreuther, Dr. Tobias Hartmann, University of Heidelberg, Center of Molecular Biology, Im Neuenheimer Feld 282, 69120 Heidelberg, Germany
Phone: 0049-6221-546845, Fax: 0049-6221-545891
Email: beyreuther@mail.zmbh.uni-heidelberg.de

Dr. Pierluigi Baron and Dr. Lucia Meda, Dept. of Neurology, University of Milan, Via F Sforza 35, 20122 Milan (Milano) , Italy
Phone: 0039-025503-3853 / 3847, Fax: 0039-025503-3842
Email: neuromil@mailserver.unimi.it

PD Dr. Erich Gulbins, Dept. of Physiology, University of Tuebingen, Gmelinstraße 5, 72076 Tuebingen, Germany
Phone: 0049-7071-2972196, Fax: 0049-7071-293073
Email: gulbins@uni-tuebingen.de

Dr. Richard Banati, Imperial College of Science, Technology and Medicine, MRC Cyclotron Unit, Neuroimmunology Unit, 150 Du Cane Road W 12 O NN London, U.K.
Phone: 0044-181-383-3162, Fax: 0044-181-383-2229
Email: richardb@cu.rpms.ac.uk

Project number:	QLK6-CT-1999-02038
EC contribution:	€1,017,998
Duration:	36 months
Type:	RS
Starting date:	01/02/2000

An Investigation of the Mechanism of Action of Growth Hormone Secretagogues for Improving Body Composition and Quality of Life in the Aged.

Brief Description

The age-related decline in endocrine function plays an important role in many of the changes in body composition and brain function that form part of the ageing process. Our objective is to carry out studies in animals investigating how synthetic growth hormone secretagogues (GHS) act to improve body composition and brain function. Electrophysiological and neuroanatomical studies will determine how GHS interact with the brain pathways controlling growth hormone secretion, appetite and metabolism. Chronic GHS exposure will result in a new equilibrium of endocrine and CNS activity - we will study the consequences of long term GHS exposure on hypothalamic gene expression and body composition. Studies of GHS action in animals with deletions in specific genes will identify the key sites of action of these compounds. Studies in obese diabetic animals (ie with symptoms of syndrome X) will include effects of GHS agonists and antagonists on the progression of the disease. Finally, since GHS increase circulating levels of insulin-like growth factors, we will determine the effects of GHS in the central IGF system, that has a protective role against neurodegeneration

Keywords:
Growth Hormone Secretagogues, ageing, nervous system, cellular and molecular biology

Co-ordinator

DICKSON Suzanne
University of Cambridge
Dept. Physiolgy
Downing Street
CB2 3EG CAMBRIDGE - UK
United Kingdom
E-mail: sld20@cam.ac.uk
Tel.: + 44-1223-333 895
Fax: + 44-1223-333 840

Partners

Prof. Gareth Leng, University of Edinburgh, United Kingdom, gleng@srv4.med.ed.ac.uk
Dr. John-Olov Jansson, Gothenburg University, Sweden, JOJ@medic.gu.se
Dr.John Roemer, Novo Nordisk A/S, Bagsvard, Denmark, JORM@novonordisk.com
Dr. Julie Chowen, Hospital Nino Jesus, Madrid, Spain, jachowen@latinmail.com or endocrino@hnjs.insalud.es

Project number:	QLK6-CT-1999-02111
EC contribution:	€1,800,000
Duration:	48 months
Type:	RS
Starting date:	01/02/2000

Genetic and Behavioural risk factors for ageing-related coronary and cerebrovascular disease in Europe: A prosective interdisciplinary European multi-centre study

Abstract

GENERALE is a unique European multi-centre prospective epidemiologic follow up study concerning both genetic and behavioural/ environmental risk factors for ageing-related atherosclerosis and cardiovascular events, focusing on antioxidative defences which ageing. Atherosclerotic cardiovascular events, cause of death and disability in Europe, and their occurrence increase as the mean age of the population rises. In this study we use existing population cohorts with DNA collected from six European countries (Finland, Germany, Italy, the Netherlands, Norway and UK). We will assess the impact and interactions of the major known coronary risk factors and 200 gene mutations with regard to atherosclerotic progression and cardiovascular events in cohorts with >20,000 subjects. The findings can be used to strengthen the competitiveness of the European research community, gene diagnostic and ultrasound imaging industry and to promote public health in Europe by new methods for prevention.

Objectives:

The main objective of the GENERALE study is to investigate the population impact, synergisms and antagonisms and pathophysiologically mediating role of risk factors associated with:

1) common genetic defects and family history,
2) socio-economic status,
3) lifestyle factors,
4) obesity, glucose metabolism and blood pressure,
5) lipids, lipid peroxidation, antioxidants, pro-oxidants,
6) folate metabolism with regard to ageing-related atherosclerotic progression and the incidence of myocardial infarcts, also whether genetic defects in antioxidative defence systems will enhance the atherogenic effects of smoking, high fat, alcohol intake, obesity, diabetes, hypertension, hyperhomocysteinemia and hypercholesterolemia.

The second objective is the European comparison:

a) The prevalence of atherogenic gene mutations in different parts of Europe,
b) To what extent differences in CVD in Europe are attributable to this genetic variability.

The third objective is to validate methods of assessment of lipid peroxidation in the human body.

The GENERALE study is based on the use of existing prospective population cohorts of middle-aged and elderly men and women, of which DNA has been collected. The cohorts are from five European countries (Finland, Germany, Italy, Norway and UK), enabling comparisons between the North, Middle and South of Europe. The study cohorts include over 20,000 subjects, which provides for the first time ever a sufficient statistical power to test gene-environment interactions in Atherosclerotic progression and CHD.

Brief description

The study involve the follow-up of atherosclerotic progression, assessed noninvasively with B-mode ultrasonography, and the incidence of coronary and cerebrovascular events, recorded and classified using MONICA criteria. Similar ultrasonographic technologies and protocols are used in the participating countries. This study will compete with American ARIC study, but is superior owing to a longer follow-up (up to 10 years), more genetic and behavioural variability, larger risk

gradient between centres and advances in DNA technologies. As the follow-up has mostly already been competed, this study will provide results quickly, in four years, and relatively inexpensively giving the Europeans a competing advantage study will provide results quickly, in four years, and relatively inexpensively giving the Europeans a competing advantage.
The co-ordinating and data-analysis centre will be the Research Institute of Public Health, University of Kuopio, Finland, with extensive expertise in cardiovascular epidemiology, arterial ultrasound imaging and statistical methods in population studies. Prominent European genome centres (Edinburgh, Helsinki) will participate in genotyping. Phenotypic biomarkers of lipid peroxidation (hydroxy fatty acids, cholesterol oxidation products, isoprostanes) and DNA oxidation will be measured by leading European laboratories (Copenhagen, Edinburgh, Stockholm). Most of the participating centres have already collaborated earlier.
This will be the first truly prospective study of genetic etiology of ageing-related atherosclerosis and CVD, not suffering from selection and survival biases that flaw the results of retrospective case-control studies generally applied in genetic epidemiology.

Milestones and expected results:
Follow-up for events and atherosclerosis will be competed in 2001, genotypings and lipid peroxidation assays in 2002, and statistical analysis and reporting in 2003. Time table for results:
1) The prevalence of genetic polymorphisms in 2002,
2) The role of defence systems-related polymorphisms,
3) Effect modification by genes on the pathophysiologic role of risk factors,
4) The role of lipid peroxidation as mediator and modifier of effects of major risk factors
5) The role of genetic polymoprhisms and health habits in the European gradient in atherosclerotic
CVD in 2003.

Co-ordinator
Jukka T. SALONEN
University of Kuopio Research, Institute of Public Health
PO Box 1627
Harjulantie 1B
FIN-70211 KUOPIO
Tel: +358-17-162910
Fax: +358-17-162936
Mail: Jukka.salonen@uku.fi

Partners:
Prof. Gerry Fowkes
UNIVERSITY OF EDINBURGH
WOLFSON UNIT FOR PREVENTION
OF PERIPHERAL VASCULAR DISEASES
Scotland
e-mail : Gerry.Fowkes@ed.ac.uk
Dr. Eva Stensland-Bugge
UNIVERSITY OF TROMSØ
Intitute for Community Medicine
Norway
e-mail : Eva.Stensland-Bugge@rito.no
Prof. Juha Kere
University of Helsinki, Finish Genome Center, Finland
e-mail : Juha.Kere@helsinki.fi
Prof. Henrik Poulsen
RIGSHOSPITALET
Department of Clinical Pharmacology
Denmark
e-mail : henrikep@rh.dk
Dr. Jan Lüdemann
ERNST MORITZ ARNDT UNIVERSITY of GREIFSWALD
INSTITUTE OF EPIDEMIOLOGY AND SOCIAL MEDICINE
Germany
e-mail : luedem@mail.uni-greifswald.de
Dr. Francesco Rodeghiero
AZIENDA U.L SS N6" VICENZA"
Department of Hematology San Bortolo Hospital, Italy
e-mail : rodeghiero@hemato.ven.it
Dr. Jari Kaikkonen
Oy Jurilab LTD
Finland
e-mail: Jari.Kaikkonen@jurilab.fi
Dr. Ulf Diczfalusy
KAROLINSKA INSTITUTET HUDDINGE SJUKHUSET
DEPARTMENT OF MEDICAL LABORATORY SCIENCES
Sweden
e-mail : Ulf.Diczfalusy@chemlab.hs.sll.se

Project number:	QLK6-CT-1999-02112
EC contribution:	€1,580,000
Duration:	48 months
Type:	RS
Starting date:	01/01/2000

Interactions between oxidative stress and the activation of mitogenic signalling in Alzheimer´s disease

Objectives:

Interactions between oxidative stress as a major driving force of degeneration and the activation of mitogenic signalling as a critical trigger of neurodegeneration in Alzheimer´s disease (AD), modified by interactions and epistatic effects of AD-related genes will be studied. Research will be based on new models of the disease that allow to analyze the genetic, molecular and cellular mechanisms underlaying neurodegeneration, to identify molecular switches that critically determine the fate of a neuron after injury and to test potentially protective strategies.

Brief description:

The proposal presents a multidisciplinary approach on molecular and genetic factors that critically determine the pathomechanism of Alzheimer´s disease (AD) and related chronic neurodegenerative disorders. It combines expertise in molecular biology, genetics, neurochemistry, neuromorphology, neuropharmacology, neurophysiology and behavioural biology. Based on new models of the disease that will be validated by comparative studies with postmortem brain tissue of AD patients, proposed research will analyse the genetic, molecular and cellular mechanisms providing the basis for the pathomechanism of AD and develop and test potentially protective strategies.

Major areas of research that will be covered by the proposal are:

Processes of intercellular signalling (e.g. mediators of oxidative stress, AGEs, AGE-receptor RAGE, cytokines, growth factors, NO) and intracellular signalling (e.g. p21ras, MAP-kinase cascade) involved in the pathomechanism, their role and interactions during the process of neurodegeneration, mechanisms of intercellular and intracellular signalling involved in the process of initiation and self-propagation of neurodegeneration and identification of targets for therapeutic interventions.

Mechanisms of cell differentiation in neurons, their regulation and dysfunction (e.g. mechanisms of cell-cycle-dysregulation in differentiated neurons) in the process of neurodegeneration, their involvement in aberrant repair in AD and their implications in apoptosis and cell death (e.g. mechanisms of oxidative stress-mediated cell death, relationship between cell-cycle-activation and cell death), possibilities of potentially neuroprotective interference with mechanisms of differentiation, de-differentiation and cell-cycle-regulation.

Involvement of immune mechanisms in neurodegeneration, mediators and mode of activation and their relationship to oxidative stress, intercellular and intracellular signalling mechanisms and cell-cycle-dysregulation in neurons, strategies for inhibition.

Modelling critical aspects of the pathomechanism through cellular, tissue and animal models (double transgenic mice overexpressing CuZnSOD/APP; transgenic mice expressing permantely activated p21ras; chronically adrenalectomized rats - ADX-model; specific two chamber culture system to analyse the effects of Advanced Glycation Endproducts).

Identification of new gene-defects causing AD or increasing the risk and analysing the interactions and epistatic effects of AD-related gene defects), genotype-phenotype relationships, mechanisms and mode of actions of genetic risk factors to induce their pathophysiological effects.

Keywords:
Alzheimer´ disease – AD-related genes – Cell Cycle - Immune mechanisms - Mitogenic signaling – Neurodegeneration – Neuroprotection - Oxidative stress – Transgenic animals

Co-ordinator
Prof. Dr. Th. Arendt
Paul Flechsig Institute
Department of Neuroanatomy
University of Leipzig
Jahnallee 59
04109 Leipzig
Germany
Phone: + 49/341/9725721
FAX: + 49/341/2114397 e-mail: aret@server3.medizin.uni-leipzig.de

Partners
Prof. Dr. Y. Groner
Professor of Molecular Genetics
and Vice President
Prof. Menahem Segal
The Weizmann Institute
76100 Rehovot,
Israel
Phone: + 972 8 934 3972
FAX: + 972 8 934 4108
e-mail: lvgroner@weizmann.ac.il
e-mail: menahem.segal@weizmann.ac.il

Dr. G. Münch
IZKF-Neuroscience Group
University of Leipzig
Johannisallee 30a
04109 Leipzig
Germany
Phone: +49 931 9715945
FAX: +49 931 9715979
e-mail: mueg@medizin.uni-leipzig.de

Prof. Dr. F. F. Cruz-Sanchez
International Univers. of Catalonia
Institute of Neurological Sciences
Immaculada 22
E-08017 Barcelona
Spain
Phone: +34 93 254 18 16
FAX: +34 93 254 18 41
e-mail: fcruz@unica.edu

Prof. Dr. R. N. Kalaria
Newcastle General Hospital
CBV Path Group / MRC Unit
Westgate Road
NE4 6BE
Newcastle upon Tyne
UK
Phone: +44 191 273 5251
FAX: +44 191 272 5291
e-mail: r.n.kalaria@ncl.ac.uk

Prof. Dr A. Adem
Depart. of Clinical Neuroscience
Karolinska Institute
KFC
Plan 4
S-14186 Huddinge
Sweden
Phone: + 46 8 58 583885
FAX: + 46 8 58583880
e-mail: abdu_adem@hotmail.com

Prof. Dr. S. Sorbi
Department of Neurology and Psychiatric Sciences
University of Florence
Viale Morgagni 85
50134 Florence
Italy.
Phone: +39 055 4298 465
FAX: +39 055 4277 787
e-mail: SORBI@CESIT1.UNIFI.IT

Prof. Dr. H. Soininen
University of Kuopio
Department of Neurology
P.O. Box 1777
70211 Kuopio
Finland
Phone: 358 17 173 012
FAX: 358 17 173 019
e-mail: Hilkka.Soininen@uku.fi

Project number:	QLK6-CT-1999-02140
EC contribution:	€847,098
Duration:	36 months
Type:	RS
Starting date:	01/03/2000

Connectivity in language rehabilitation in stroke and dementia

Objectives:

The project uses complimentary techniques, including Magnetoencephalography (MEG), EEG, Positron Emission Tomography (PET), and Magnetic Resonance Imaging (MRI) and combines these for the study of functional specialisation of brain regions at different time scales with a new approach to study functional integration. Structural imaging modalities like diffusion tensor imaging will be used to investigate the anatomical basis of cortical connectivity in patients. New tools for data analysis will be developed, for which several of the healthy individual participants stand in as the major expert for this technique world-wide. These include deformation field based morphometry for an objective detection of subtle morphological differences, the use of anatomical informed basis functions to improve spatial resolution and techniques to assess the effective connectivity between brain regions by means of structural equation modelling of fMRI time-series and to assess the long distance synchronisation of human brain activity by time-variant coherence analysis

With the combination of these different techniques it will be possible to get a clearer picture of the spatio-temporal dynamics of language production and comprehension in stroke and the effects of learning and rehabilitation. The combination of these different brain mapping techniques, sophisticated analytical tools, different languages (English, Finnish, German, French, Italian, Dutch, Portuguese, Greek and Swedish) and unimpaired as well as impaired speakers and listeners, is unique. This task requires a wide variety of very different methodological and technical expertise, a profound neuroscientific understanding and access and experience in the rehabilitation of patients. Therefore, we chose for a multicentre approach which pools expertise from all over Europe in an unprecedented way.

Brief descricption

Theoretical work:
Development of diffusion tensor imaging to detect anatomical connections in language processing and its disruption, of anatomical informed basis functions to increase signal to noise and deformation field based morphometry to detect anatomical differences between groups
Description of effective connectivity in fMRI studies during language processing
Description of coherent EEG or MEG activities during language processing

Integration Work:
Standardisation and harmonisation of experimental designs
Data acquisition with the different methods (EEG/MEG; PET, MRI)
Data analysis
Clinical Work
Brain connectivity during language processing in fMRI or EEG/MEG in normal subjects
Brain connectivity during language processing in illiterates
Brain connectivity during language processing in stroke victims

Key words
Language – Recovery – Rehabilitation - Diagnoses/prognoses - Neurobiological correlates - Effective connectivity - Diffusion tensor imaging - Cost-efficiency

Co-ordinator

Prof. Dr. med. C. Weiller
Universitätsklinikum Hamburg-Eppendorf
Klinik und Poliklinik für Neurologie
Martinistr. 52
D- 20246 Hamburg
Phone : +49-40 42803 2770
Fax : +49-40 42803 6721
E-mail addresse(s) weiller@uke.uni-hamburg.de

Partners

Prof. C. Weiller, Universitätsklinikum Hamburg-Eppendorf UKE, Martinistraße 52, 20246 Hamburg, Germany
Phone: (49-40)42803-3770, Fax: (49-40)42803-6721, E-mail: weiller@uke.uni-hamburg.de

Prof. Dr. O. W. Witte ,Department of Neurology, Heinrich Heine Universität Düsseldorf HHU, Moorenstraße 5, 40225 Düsseldorf, Germany, Phone: (49-211)811-8977, Fax: (49-211)811-6611, E-mail: witteo@uni-duesseldorf.de

Prof. Dr. H. Witte , riedrich Schiller Universität Jena, Institut für Medizinische Statistik, Informatik u. Dokumentation, Jahnstraße 3, 07740 Jena, Germany, Phone: (49-3641)933195, Fax: (49-3641)933200, E-mail: iew@imsid.uni-jena.de

Cathy Price, Institute of Neurology, University College London ION UCL, Queen Square, WC1N 3BG London, United Kingdom, Phone: (44-171)829-8736, Fax: (44-171)278-5069, E-mail: c.price@ion.ucl.ac.uk

Prof. A. Castro-Caldas, Centro de Estudos Egas Moniz, Faculdade de medicina de Lisboa/ Universidade de Lisboa, AV. Prof. Egas Moniz, 1649-028 Lisbon, Portugal, Phone: 0035 1 21 790 1229, Fax: (351-1) 795 74 74, E-mail: ccneurol@esoterica.pt

Prof. F. Chollet, INSERM U. 455 Department of Neurology, Hospital Purpan, 31059 Toulouse, France, Phone: (33-5) 61 77 95 00, Fax: (33-5) 61 49 95 24, E-mail: chollet@purpan.inserm.fr

Prof. Dr. D. Perani , Fondazione Centro San Raffaele del Monte Tabor, Centro Ciclotrone/ PET, Via Olgettina 60, 20132 Milan, Italy, Phone: (39-02) 26432244, Fax: (39-02) 26415202, E-mail: danielap@mednuc.hsr.it

Prof. Dr. M. Ingvar, Karolinska Institute, Clinical Neuroscience, Karolinska Hospital, 17176 Stockholm, Sweden, Phone: (46-8) 51772000, Fax: (46-8) 344146, E-mail: martin@ingvar.com

Dr. R. Salmelin , Helsinki University of Technology HUT, Low Temperature Laboratory, P.O. Box 2200, Otakaari 3 A, 02015 HUT Espoo, Finland, Phone: (358-9) 4512950, Fax: (358-9) 4512969, E-mail: riitta@neuro.hut.fi

Prof. P. Hagoort , Max Planck Institute for Psycholinguistics, P.O. Box 310, Wundtlaan 1, 6500 AH Nijmegen, NL, Phone: (31-24) 3521911, Fax: (31-24) 3521213, E-mail: peha@mpi.nl

Prof. D. Popivanov , Institute of Physiology BAS, Department of Motor Control, P.O. Box I3I, Acad. G. Bonchev, Bl. 23, I II 3 Sofia, Bulgaria, Phone: (359-2) 705259, Fax: (359-2) 719109, E-mail: dapo@iph.bio.bas.bg

Dr. M. Kosmidis, Aristotle University of Thessaloniki, Department of Psychology, University Campus, 54006 Thessaloniki, Greece, Phone: (30-31) 997-308, Fax: (30-31) 997-384, E-mail: Kosmidis@psy.auth.gr

Project number:	QLK6-CT-1999-02173
EC contribution:	€898,789
Duration:	36 months
Type:	RS
Starting date:	01/02/2000

High frequency stimulation of the subthalamic nucleus: a therapeutic approach to Parkinson's disease

Objectives:

High frequency stimulation (HFS) of the subthalamic nucleus (STN) has become a promising therapeutic option for patients with advanced Parkinson's disease (PD) who have severe motor fluctuations under levodopa medication. This project aims at optimizing the use and improving knowledge about the functional effects and possible mechanisms of this treatment through investigations in PD patients and in experimental rat models of PD.

Brief description:

Clinical studies are dedicated first to the investigation of the best setting of stimulation parameters for the control of the cardinal motor symptoms of parkinsonism. The second objective is to evaluate the long term effects of the stimulation on cognitive functions in addition to motor scores. For this purpose PD patients are tested 1-4 years after surgery, under "off" and "on" STN HFS conditions, using a computerized motor screening test and a battery of neuropsychological tests selected on the basis to their sensitivity to PD and to levodopa withdrawal. The same tests are administered to other PD patients before surgery, under "off" and "on" levodopa medication conditions, and 3 months after surgery, under "off" and "on" STN HFS conditions, to compare the effects of STN HFS versus levodopa treatment.

As HFS has been developed to replace ablative surgery, the behavioural studies in experimental animals are conducted to analyse the effects of STN lesions and those of STN HFS in intact or parkinsonian rats using tasks assessing various aspects of motor and cognitive functions. The impact of STN HFS on STN neuron metabolic activity and outflow is investigated in experimental animals by means of in vivo microdialysis and in situ quantitative morphological approaches. The consequences of this stimulation on the functional alterations resulting from dopamine depletion in the basal ganglia structures are studied in parallel. Whether or not STN HFS can offer neuroprotection to dopamine neurons and influence dopamine metabolism and transmission is being investigated in a rat model of early PD (based on partial retrograde lesion of the nigrostriatal dopamine neurons) using neurochemical and morphological approaches. Finally, since the degeneration of dopamine neurons is progressive in the course of PD and since patients underwent long term levodopa medication before surgery, the possibility that the degree of dopamine loss and levodopa treatment may govern the therapeutic efficacy of STN HFS will be evaluated. For this purpose, the behavioural and cellular consequences of STN HFS will be compared between rats with partial or extensive dopaminergic lesion untreated or treated with levodopa.

Keywords:

Parkinson's disease - Subthalamic nucleus - Deep brain stimulation - Basal ganglia

Co-ordinator

Name	Dr L. KERKERIAN-LE GOFF
Department	Laboratoire de Neurobiologie Cellulaire et Fonctionnelle (LNCF)
Organisation	Centre National de la Recherche Scientifique (CNRS), Délégation Provence
Address	31, chemin Joseph Aiguier, 13402 Marseille Cedex 20.
Phone :	+ (33-4) 91 16 45 86…
Fax :	+ (33-4) 91 77 50 83…
E-mail:	kerkerian@lncf.cnrs-mrs.fr

Partners

Name:	M. SAVASTA, Dr
Organisation:	Institut National de la Santé et de la Recherche Médicale
Country:	France
e-mail:	Marc.Savasta@ujf-grenoble.fr
Name:	T.W. ROBBINS, Prof.
Organisation:	The Chancellor, Masters and Scholars of the University of Cambridge
Country:	United Kingdom
e-mail:	twr2@cus.cam.ac.uk
Name:	R. MORGENSTERN, Prof.
Organisation:	HUMBOLDT-UNIVERSITAET ZU BERLIN, Medizinische Falkultaet (Charité)
Country:	Germany
e-mail :	rudolf.morgenstern@charite.de

Project number:	QLK6-CT-1999-02178
contribution:	€1,706,355
Duration:	36 months
Type:	RS
Starting date:	01/02/2000

Network for Efficiency and Standardisation of Dementia Diagnosis

Objectives:

To improve and standardise the diagnosis of dementia at an early stage:
Use powerful and accurate functional imaging techniques, in particular positron emission tomography (PET) with 18F-2-fluoro-2-deoxy-glucose (FDG) as the current standard to assess the regional metabolic impairment that is characteristic for Alzheimer disease (AD).
Use this technique as an objective reference to improve and test the cost-efficiency of clinical tools for early and differential diagnosis of dementia.
Build a large FDG-PET data base of normal and dementia patients.

Brief description:

The project is a multicentre study that now involves 10 centres with a memory clinic and access to advanced brain imaging technology, in particular PET. It involves analysis of retrospective data and, in the second phase, a prospective study.
For analysis of retrospective data (641 cases, including normal controls, Alzheimer disease, mild cognitive impairment, depression, vascular dementia, dementia with Lewy bodies, and fronto-temporal dementia), which were collected in the first year, we used advanced quantitative image analysis techniques to establish FDG-PET diagnostic criteria. A high accuracy (95%) was achieved for the distinction between AD and normal controls. Even very mild cases of AD were identified with 84% sensitivity and 93% specificity. Discriminant analysis is used for distinction between AD and other types of memory impairment.
Prospective data recruitment has started in Feb. 2001. It will cross-validate clinical diagnosis and associated PET findings and identify the metabolic correlates of diagnostic clinical and neuropsychological findings. The relation between FDG-PET and other biological diagnostic markers will be investigated and FDG-PET will be compared with other imaging and electrophysiological modalities. Diagnostic algorithms will be developed and analysed with respect to cost-efficiency. Specific neurotransmitter systems (dopaminergic and cholinergic) will be investigated. Finally, the FDG-PET data base and associated diagnostic procedures will be made available to the scientific community.

Keywords:

Early diagnosis of Alzheimer disease – dementia – depression - mild cognitive impairment - functional brain imaging - positron emission tomography - cost efficiency - neuropsychological tests - prospective study.

Co-ordinator

Prof. Dr. Karl Herholz
Neurologische Universitätsklinik
Josel-Stelzmann-Str. 9
50931 Köln, Germany
Tel.: +49-221-4786133 Fax: +49-221-4726298
e-mail: karl.herholz@pet.mpin-koeln.mpg.de

Partners

Dr. Daniela Perani
INSTITUTE of NEUROSCIENCE and BIOIMAGING C.N.R.
IRCCS H S RAFFAELE
UNIVERSITA' di MILANO-BICOCCA
Via Olgenttina 60
20132 Milan, Italy
Tel.: +39-02-26432244 Fax: +39-02-26415202
e-mail: danielap@mednuc.hsr.it

Dr. Eric Salmon
Cyclotron Research Centre and Department of Neurology, Memory Clinic
University of Liège
B-30 Sart Tilman
4000 Liège, Belgium
Tel.: +32-4-366-2316 Fax: +32-4-366-2946
e-mail: salmon@pet.crc.ulg.ac.be

Dr. Jean-Claude Baron
INSERM Unit 320
Blvd. H. Becquerel
14074 Caen, France
Tel.: +33-231 470206 Fax: +33-231 470222
e-mail: baron@aries2.cyceron.fr

Prof. Dr. S. Sorbi
Dipartimento die Science Neurologiche e Psychiatriche
Universita degli Studi die Firenze
Viale Morgagni 85,
50134 Florence, Italy
Phone (39) 055 4298 465 Fax : (39) 055 4277 787
E-MAIL: SORBI@Cesit1.UNIFI.IT

Dr. Vjera Holthoff
Department of Psychiatry and Psychotherapy and Division of Neurobiology
University Hospital
Dresden University of Technology
Fletscherstr. 74
01307 Dresden
Tel.: +49-351-4582760 Fax: +49-351-4584324
e-mail: Vjera.Holthoff@mailbox.tu-dresden.de

Project number:	QLK6-CT-1999-02189
EC contribution:	€ 1,999,712
Duration:	48 months
Type:	RS
Starting date:	01/03/2000

Validation of single and multiple transgenic mice models for Alzheimer's disease

Objectives:

Fundamental research aimed at generating models for the molecular causes of Alzheimer's disease, and their in-depth analysis in vivo, i.e. transgenic and knock-out mice, and derived ex vivo systems. Transgenic mice are the "pre-clinical" models that allow invasive analysis of normal and deviating processes and interactions, at the molecular, cellular and tissue level. The models and the fundamental knowledge are needed to develop, test and optimise diagnostic and therapeutic procedures and novel drugs.

Brief description:

The approach is essentially based on "experimental genetics" to develop transgenic mouse strain(s) and cell-lines, in which the expression or the inactivation of a mutant or wild-type human gene provokes a stable phenotypical defect or a marker. We have generated a transgenic mouse strain that overexpress specifically in the central neurons the human mutant Amyloid Precursor Protein (APP[V717I]). This mouse strain recapitulates almost perfectly the amyloid pathology of Alzheimer's disease patients, i.e. the amyloid plaques in the brain parenchym and vascular amyloid angiopathy. Other human proteins involved or related to Alzheimer's disease, i.e. Presenilin1 (PS1), protein tau, ApolipoproteinE4 (ApoE4), ß-secretase (BACE) are additionally expressed in the central neurons in the brain of the APP transgenic mice by the use of recombinant DNA constructs or by viral vectors. The different single and multiple transgenic mice are further characterised and analysed by a multi-disciplinary approach to validate the models for the different pathogenic mechanisms in the neurodegenerative process in Alzheimer's disease.

Selected mouse strains with certified phenotypic characteristics of amyloid pathology are available and validated within the consortium. Parameters and test-systems include profiles of learning, memory, motivation, sensory and motor impairment, cognitive impairment. These are correlated to the molecular and neuropathological changes observed in the brain pre- and post-experiment.
The amyloid pathology is the major pathogenic mechanism and target to understand, therefore the APP [V717I] transgenic mice resulting from a preceding EEC-project, constitute the corner-stone of this consortium and is central to all its efforts. They are also the test-banks for developing, testing and refining viral vectors to deliver specified enzymes to the brain to define their potential for gene-therapy.

Keywords

Alzheimer – Amyloid - presenilin - transgenic mice - model-validation

Co-ordinator Fred VAN LEUVEN
Experimental Genetics Group (LEGT_EGG)
Dept. Human Genetics
K.U.Leuven - Campus Gasthuisberg O&N 6
3000 Leuven - Belgium
tel. +32 16 345 888
fax. +32 16 345 871
fredvl@med.kuleuven.ac.be

Partners

Benoit MARTIN
Lab. de Genetique, Neurogenetique et Comportement (FRE 2134)
3 B, rue de la Ferollerie
45071 Orleans Cedex 02 - France
tel. +33 2 3825 7980
fax. +33 2 3825 7979
bmartin@cnrs-orleans.fr

Christian HAASS
Ludwig-Maximilians University
Adolf Butenandt Institute of Biochemistry
Schillerstrasse 44
D-80336 München - Germany
tel. +49 89 5996 471
fax. +49 89 5996 415
chaass@pbm.med.uni-muenchen.de

Hans KRETZSCHMAR / Jochen HERMS
Institut für Neuropathologie
Marchioninistr. 17
81377 München - Germany
tel: +49 89 7095 4900
fax: +49 89 7095 4905
Hans.Kretzschmar@inp.med.uni-muenchen.de

Jacques MALLET
L.G.N. – CNRS – Bâtiment CERVI
Hôpital de la Pitié Salpêtrière
83, Boulevard de l'Hôpital
75013 Paris - France
tel.+33 1 42177 532
fax.+33 1 42177 533
mallet@infobiogen.fr

Project number:	QLK6-CT-1999-02203
EC contribution:	€1,215,000
Duration:	36 months
Type:	RS
Starting date:	01/02/2000

Targeting Astrocytes To Disrupt Inflammation-Neurodegeneration Coupling: Application To Alzheimer's Disease

Abstract

Increasing evidence supports the "inflammatory hypothesis" in Azheimer's Disease (AD) according to which neuronal damages in this age-related disease are caused not only by the fundamental pathology it-self but also by the local inflammatory response to it sustained by reactive glia. Recent findings demonstrate sophisticated interaction and integration between neurons and astrocytes, a major glial cell population in the brain. Inflammatory astrocytes undergo morpho-functional changes which may perturb neuron-astrocyte interaction and result in neuronal sufference. By identifying and targeting harmful pathways in inflammatory astrocytes we will define potential new therapeutic approaches to prevent, or delay, AD progression. This consortium combines complementary expertise to: a) assess the "inflammatory hypothesis of AD" and the role of astrocytes in transgenic models; b) identify targets of inflammation-neurodegeneration coupling in astrocytes; c) validate drug strategies against them; d) test these therapeutical strategies in AD transgenic.

Objectives:

The aims of the project are: to explore the hypothesis that local brain inflammation, sustained by reactive glia, participates in the neuropathology of AD, to understand the underlying cellular and molecular mechanisms in astrocytes; to design drug interventions directed against such mechanisms and to test their efficacy in transgenic models of AD. The final goal is to provide an original new strategy to prevent, or at least delay, the progression of neurodegeneration in AD. The overriding theme is "The age-related illnesses and health problems" addressed by studying AD. Cell communication in neuroscience will be studied by defining physiological and pathophysiological neuron-astrocytes interactions. Novel transgenic animal models of brain inflammation and AD will be generated or optimized. Defined drug strategies will be used to disrupt progression of degenerative brain disorders

Brief description:

A new and exciting view of the CNS is that neuronal physiology depends on the presence and properties of the bystander astrocytes. Members of this consortium have importantly contributed to the recent understanding of neuron-astrocyte integration. Changes occuring in astrocyte functions during inflammation are bound to modify physiological neuron-astrocyte interactions and start pathological inflammation-neurodegeneration coupling. Molecular steps involved in this cascade may be targeted in order to disrupt such coupling and protect neurons. This consortium proposes 10 workpackages to define and test drug treatments against inflammation-neurodegeneration coupling in astrocytes and apply them to transgenic animals of AD. Workplan is the following:

a) to study, at cellular and molecular level, the impact of inflammation on astrocytic properties and astrocyte-neuron interactions; b) to select molecules acting on the harmful mechanisms in astrocytes as well as strategies to deliver such molecules to reactive glia selectively; c) to test the "inflammatory hypothesis of AD" utilizing transgenic animal models, in particular an AD model combined with genetic manipulation of inflammatory mediators; d) to characterise cellular and molecular properties of reactive astrocytes in AD transgenic models and human AD brains; e) to test whether targeting inflammatory astrocytes in vivo delays the progression neurological and cognitive decline in AD transgenic models.

This consortium is composed by a main core of 4 glia specialists, complemented by a neuropathologist, a genetist and a research group from a pharmaceutical company. Thanks to this composition, the proposal plans to perform a large spectrum of investigations requiring multidisciplinary competences and techniques, which cannot be provided by single laboratories. This can only be achieved through tight collaboration and interaction within the consortium involving 5 EU states and 1 associated member. A new and exciting view of the CNS is that neuronal physiology depends on the presence and properties of the bystander astrocytes. Members of this consortium have importantly contributed to the recent understanding of neuron-astrocyte integration. Changes occuring in astrocyte functions during inflammation are bound to modify physiological neuron-astrocyte interactions and start pathological inflammation-neurodegeneration coupling. Molecular steps involved in this cascade may be targeted in order to disrupt such coupling and protect neurons. This consortium proposes 10 workpackages to define and test drug treatments against inflammation-neurodegeneration coupling in astrocytes and apply them to transgenic animals of AD. Workplan is the following:
a) to study, at cellular and molecular level, the impact of inflammation on astrocytic properties and astrocyte-neuron interactions; b) to select molecules acting on the harmful mechanisms in astrocytes as well as strategies to deliver such molecules to reactive glia selectively; c) to test the "inflammatory hypothesis of AD" utilizing transgenic animal models, in particular an AD model combined with genetic manipulation of inflammatory mediators; d) to characterize cellular and molecular properties of reactive astrocytes in AD transgenic models and human AD brains; e) to test whether targeting inflammatory astrocytes in vivo delays the progression neurological and cognitive decline in AD transgenic models.

Keywords:
Alzheimer's disease – astrocytes - brain inflammtion

Co-ordinator
Christian Giaume
INSERM U114
Collège de France
11 Place Marcelin Berthelot
75005 Paris France
Tel. :+33 144271222 Fax : +33 144271260
E-mail chrsitian.giaume@college-de-France.fr

Partners
Dr Andrea Volterra
Institute of Pharmacological Sciences
University of Milan
Via Balzaretti, 9
20133 Milan, Italy
Tel: 39 0220488206
Fax: 39 0229404961
Email: Andrea.Volterra@unimi.it

Prof. Pierre Magistretti
Institut de Physiologie
Université de Lausanne
7, Rue du Bugnon
CH-1005 Lausanne, Switzerland
Tel: 41 216925542
Fax: 41 216925503
Email: Pierre.Magistretti@iphysiol.unil.ch

Dr Giorgos Kollias
Biomedical Sciences Research Centre Alexander Fleming
Institute of Immunology
14-16 Al. Fleming Str.
Vari 166 72 Greece
Tel : 30 1 965 6310
Fax : 30 1 965 3934
Email : giorgio_kollias@hol.gr

Prof. Helmut Kettenmann
Neurowissenschaften
Max-Delbrück-Centrum für molekular Medizin
Robert-Rössle-Str.10
13125 Berlin Buch, Germany
Tel: 49 3094063325
Fax: 49 3094063819
Email: hketten@mdc-berlin.de

Dr Ann Kingston
CNS Research
Lilly Research Center, Eli Lilly and Co. Ltd.
Erl Wood manor
Windlesham, Surrey, United Kingdom
Tel: 44 1276 853547
Fax: 44 1276 853525
Email: KINGSTON_ANN@LILLY.COM

Prof. Orso Bugiani
Division of Neuropathologia
Istituto Nazionale Neurologico "Carlo Besta"
Via Celoria, 11
20133 Milano, Italy
Tel: 39 022394249
Fax: 39 0270839217
Email: neuropatologia@istituto-besta.it

Project number:	QLK6-CT-1999-02238
EC contribution:	€1,400,000
Duration:	36 months
Type:	RS
Starting date:	01/01/2000

The Fe65-APP-XII protein-protein interaction network: towards the generation of new molecular tools for Alzheimer's disease diagnosis and therapy

Objectives:

Deposition of amyloid beta peptide (Aβ) within the brains of Alzheimer's disease (AD) patients is believed to be central to the pathogenesis of AD. Aβ is derived by proteolytic cleavage from the precursor protein APP. Recently, two families of adaptor proteins, the Fe65s and X11s, have been shown to bind to APP and to significantly influence APP processing and Ab production. The objectives of the proposal are:
1) to generate transgenic mice in which Fe65 and X11a are over-expressed and mice in which the Fe65 and X11a genes have been ablated, in which to study the effects of Fe65 and X11a on APP processing.
2) to identify the binding partners of Fe65 and X11a, other than APP, and to determine their possible effects on Fe65 and X11a modulation of APP processing and Ab production.
3) to identify synthetic molecules that modulate Fe65/APP vs. X11a /APP binding and which might assist the future design of novel therapeutics for AD.
4) to determine whether the "molecular misreading" of the APP gene observed in AD also occurs for Fe65 and X11 genes, and to determine the consequences of any such Fe65 and X11 gene misreading on APP processing and Ab production.

Brief description:

Most of the experimental approaches of this proposal are based on the observation that, in cultured cells, Fe65 overexpression causes an increase of Aβ production while X11a overexpression leads to a stabilisation of APP and a consequent decrease of Aβ production. To study these phenomena in vivo, Aβ production and APP processing will be assayed in transgenic mice that overexpress Fe65 and X11a and in mice in which these genes have been knocked out.
Fe65 and X11a show the characteristics of adaptor proteins. The full complement of proteins binding to Fe65 and X11 will be determined by using the yeast two hybrid system and expression cloning methods with the protein-protein interaction domains of Fe65 and X11a used as "baits". The effects of the already known and of the newly discovered Fe65 and X11 interacting proteins on APP binding and on Fe65/X11a modulation of APP processing will then be investigated.
Synthetic peptides, based upon APP sequence, will be used to try to selectively disrupt Fe65-APP vs X11a -APP complexes.
To determine whether misreading of Fe65 and X11 genes occurs in AD, antibodies to Fe65 and X11 "+1 proteins" will be generated and used to probe normal and AD tissues for the presence of aberrant proteins. The presence of aberrant proteins and/or of antibodies directed against them will be evaluated in biological fluids of AD patients and in patients suffering from other types of dementia.
We have already obtained: i) founders of Fe65 transgenic mouse lines; ii) ES cell clones carrying the deletion of the Fe65 gene by homologous recombination; iii) vectors for the generation of X11 transgenic mice and X11 gene knock out mice; iv) antibodies against Fe65+1 and X11+1 proteins.
We demonstrated that: i) Fe65 is present both in the nucleus and in the cytoplasm and that APP regulates Fe65 nuclear translocation; ii) Fe65 interacts with Abl tyrosine kinase, which

phosphorylates and binds to APP through its SH2 domain; iii) X11 interacts with the copper chaperone for SOD1 and inhibits SOD activity.
Several ligands of Fe65 have been identified and are under study. We are currently developing procedures to interfere in vivo with Fe-X11/APP complexes. Antibodies directed against Fe65+1 and X11+1 are currently used to analyse the presence of these aberrant proteins in AD brains.

Keywords:

Alzheimer's disease - adaptor proteins - amyloid deposition - trangenic and KO mice

Co-ordinator

Tommaso Russo
DBBM – Dipartimento di Biochimica e Biotecnologie Mediche
Università degli Studi di Napoli Federico II
Via S. Pansini, 5 I-80131 Napoli, Italy
Phone:+390817463131
Fax:+390817463650
E-mail address: russot@dbbm.unina .it

Partners

Fred van Leeuwen
NIBR- Nertherlands Institute for Brain Research
Meibergdreef 33 1105 AZ Amsterdam.- The Netherlands
Phone: +31 20 5665510
Fax: +31 20 6961006
E-mail address: f.van.leeuwen@nith.knaw.nl

Christopher C.J. Miller and Declan McLoughlin
IOP - Department of Neuroscience
The Institute of Psychiatry
De Crespigny Park Denmark Hill
London SE5 8F, UK
Phone: + 0171 9193393
Fax: + 0171 7080017
E-mail addresses: chris.miller@iop.Kcl.ac.uk - spjudmm@iop.kcl.ac.uk

Luc Mercken
Aventis Pharma Neurodegenerative Disease Group
Aventis Pharma
Building Magendie
13, quai Jules Guesde
94403 Vitry – sur – Seine Cedex, France
Phone: +33 155713886
Fax: +33 155712324 - 0033155713653
E-mail address: luc.mercken@aventis.com

Project number:	QLK6-CT-2000-00179
EC contribution:	€1,392,373
Duration:	36 months
Type:	RS
Starting date:	01/01/2001

The Role Of Neurosteroids In Healthy Ageing: Therapeutical Perspectives

Objectives:

The partners have shown that the administration of neurosteroids can reverse age-related memory deficits and abnormalities of myelin sheaths. Use of neurosteroids could thus become part of strategies for successful ageing and rehabilitation, by administering selective neurosteroid compounds or by increasing the synthesis of endogenous neurosteroids using agonists of the mitochondrial benzodiazepine receptor (MBR).

Brief Description:

The project concerns preclinical research based on animal and cell culture models relevant to the ageing process of the nervous system.
Levels of neurosteroids are measured in the nervous system during ageing by gas chromatography - mass spectrometry, a new and extremely sensitive method. Levels of neurosteroids will be related to the expression of enzymes involved in their synthesis.
To reverse age-related memory deficits, we use stereotaxic infusion of neurosteroids and stimulation of their local synthesis with MBR ligands. The protective effects of neurosteroids on nerve cells and memory performance are studied after excitotoxic injury, to which the ageing brain is particularly sensitive. The mechanisms by which neurosteroids improve spatial memory performance and exert neuroprotective effects are examined, involving their influence on inhibitory GABAergic currents. The effects of neurosteroids on $GABA_A$ receptors are examined in slices of rat hippocampus, a brain region involved in memory. We try to find morphological correlates of ageing memory functions and the different actions of neurosteroids by quantifying GABAergic and non-GABAergic synapses in different parts of the hippocampus. These experiments are pivotal to an understanding of neurosteroid actions upon central nervous system function.
The breakdown of myelin sheaths is a reliable marker of the ageing brain and has been related to cognitive impairment. In addition, remyelination is considerably slowed in old rats. We examine whether the age-associated decrease in the rate of remyelination in the brain can be improved by treatment with neurosteroids or MBR ligands and whether neurosteroids and MBR ligands allow the age-related abnormalities of myelin sheaths in peripheral nerves to be reversed. The generation of transgenic mice provides the basis for studying the actions of neurosteroids and MBR ligands on the expression of myelin protein genes. These studies also provide important clues to the understanding of demyelinating neuropathies, which represent a serious problem in the elderly population.

Keywords:

Steroids - Pregnenolone - Progesterone - Pregnanediones - Prasterone - Testosterone - Estradiol - Mass Fragmentography - Learning - Neuroprotective Agents - Receptors - $GABA_A$ - Demyelinating Diseases - Brain Injuries - Nerve Regeneration - Aging.

Co-ordinator

Michael Schumacher / Françoise Robert
Inserm U488 - 80, rue du Général Leclerc
94276 Kremlin-Bicêtre – France
E-mail: schuma@kb.inserm.fr - robert@kb.inserm.fr

Tel: 33-1 49 59 18 95
Fax: 33-1 45 21 19 40

Partners

Willy MAYO

Robin Franklin

Jeremy LAMBERT / John A PETERS

Luis Miguel Garcia-Segura

Roberto C. MELCANGI

Ueli Suter

Arpad PARDUCZ

Industrial partner (Sanofi-Synthélabo)
Badia Ferzaz

Project number:	QLK6-CT-2000-00318
EC contribution:	€1,195,923
Duration:	36 months
Type:	RS
Starting date:	01/02/2001

Nicotine, Nicotinic Receptors And The Ageing Brain

Objectives:

To study whether polymorphisms in nAChR genes influence the rate of cognitive decline in the general population and if nAChR gene loci contribute to the risk of age-related dementias, 2. to characterise the molecular mechanisms of nAChR-related neuroprotection and neurodegeneration using animal model systems, 3. the preclinical development of new nicotinic agents for the therapy of age-related neurodegeneration and cognitive deficits.

Brief description:

The workplan includes :
1. The determination of the contribution of nAChR genes to cognitive decline in the elderly and in demented subjects, by means of the study of nAChR gene polymorphisms.
2. The study of the contribution of specific nAChR isoforms to brain ageing by means of gene targeting methods. Morphological, neurochemical, electrophysiological and behavioural parameters will be studied in nAChR subunit knock-out and knock-in mice during ageing.
3. The identification of new genes related to neurodegeneration induced by nAChR deficit, using subtraction libraries and differential screening techniques in nAChR subunit mutant mice. Attempts to identify human homologues of these murine sequences will be made using genomics databases available to the partner laboratories.
4. The study of the interaction between nAChR deficits and other pathogenetic factors active during ageing. Amyloidβ protein and glutamate receptor-mediated neurotoxicity will be studied in nAChR mutant animals. The influence of nAChR activation or deficit on brain trophic factor systems will be investigated.
5. The study of the influence of nAChR on programmed cell death and necrosis of neurones. The influence of nAChR on cell death will be studied in in vitro models of apoptosis. In parallel, apoptotic processes will be analysed in mice lacking specific nAChR isoforms.
6. Preclinical development of new nicotinic agents for age-related neurodegeneration and cognitive deficits. Development compounds arising from current research into nAChR ligands will be evaluated in the animal models of age-related deficits developped by the consortium.

Keywords:

Nicotinic acetylcholine receptors - gene polymorphisms - neurodegeneration - amyloid neurotoxicity - neurotrophic factors - apoptosis - knockout mice - age-related cognitive decline - novel nicotinic agents.

Co-ordinator

Prof. Michele ZOLI
Department of Biomedical Sciences, Section of Physiology
University of Modena and Reggio Emilia
via Campi 287
41100 Modena, Italy
E-mail: mzoli@unimo.it
Tel: +39 059 205 5354
Fax: +39 059 205 5363

Partners

Dr. David C. Rubinsztein, Department of Medical Genetics, Cambridge Institute for Medical Research, Hills Road, CB2 2XY, Cambridge, UK
tel +44 1223 762608, FAX +44 1223 331206, email dcr1000@cus.cam.ac.uk

Prof. Jean-Pierre Changeux, Laboratory of Molecular Neurobiology, Pasteur Institute, 28 rue du Docteur Rox, Paris CEDEX 15, France
tel +33 1 4568 8805, FAX +33 1 4568 8836, email jgex@pasteur.fr

Prof. Kjell Fuxe, Department of Neuroscience, Karolinska Institute, Berzelius väg 3, S-171 77 Stockholm, Sweden
tel +46 8 332163, FAX +46 8 337943, email Kjell.Fuxe@neuro.ki.se

Prof. Pierluigi Nicotera, Medical Research Council Toxicology Unit, Hodgkin Building, university of Leicester, Lancaster Road, PO BOX 138, LE1 9HN Leicester, UK
tel +44 116 252 5566, FAX +44 116 252 5616, email pn10@le.ac.uk

Dr. Olivier Bergis, Psychopharmacology, Sanofi-Synthelabo, 31 avenue Paul Vaillant-Couturier, BP 110, 92225 Bagneux Cedex, France
tel.: +33 1.45.36.21.50, Fax.: +33 1.45.36.20.70, email Olivier.Bergis@sanofi-synthelabo.com

Project number:	QLK6-CT-2000-00384
EC contribution:	€270,000
Duration:	36 months
Type:	TN
Starting date:	01/05/2001

Early pathogenic markers of slow neurodegenerative diseases

Objectives:

Age-related disorders of the nervous system such as Alzheimer's, Huntington's and Parkinson's disease, and transmissible encephalopathies caused by prions are associated with changes in the conformation of proteins expressed in nerve cells. These diseases share in common the formation of misfolded proteins and the accumulation of aggregates and deposits in brain.
The ultimate goal is to use detection of protein aggregates or other early markers in easily accessible tissues as early diagnostic, prognostic, and therapeutic indicators of neuronal disease in Parkinson's, Huntington's and prion disease. Using cell cultures, living animals and clinical materials, the main objectives of this proposal are: 1) To define the pathogenetic significance of protein misfolding and aggregation and, to identify and characterize concomitant changes in cell structure and metabolism as early signs of neurodegeneration; 2) To validate in accessible tissues such as blood, these early, biologically relevant markers as predicting the onset and progression of brain pathology; 3) To test pharmacological treatments using the validated markers.

Brief description:

This proposal includes basic molecular science and its translation to clinical application, especially with the development of pathogenetically relevant diagnostic markers. This is particularly relevant to 6.1 of the QoL Work Program of FP5, as it aims at reducing the impact of incurable, slowly progressing and disabling neurodegenerative disorders, by facilitating the development of treatments that reduce their morbidity by delaying their onset or halting their progression. The team's expertise includes cell and molecular biology, protein engineering, clinical neuropathology, and clinical neuroscience. We envisage 4 multidisciplinary Work Packages:
Cell culture models of slow neurodegeneration due to misfolded proteins.
Slow neurodegeneration due to misfolded proteins in animals.
Peripheral tissue changes due to misfolded proteins correlated to slow degeneration in the central nevous system.
Intervention in cell pathology caused by misfolded proteins.

The consortium will create model systems for Parkinson's, Huntington's and prion diseases using neuronal cells and transgenic mice. In these models, protein aggregate formation will be monitored in neurons. Changes in cell structure and biochemistry will be followed and defects in neural connections, transmitter release, neuronal firing and behavior examined. These changes will be related to the extent and nature of protein aggregate formation. The pathological findings will be correlated to changes in peripheral blood lymphocytes of mice and humans, as well as on muscle biopsies from affected patients. New pharmacological approaches to limit protein misfolding and inhibit development of cell pathology both in neurons and peripheral tissue will be developed. Modification of the peripheral early markers and, neuronal dysfunction and degeneration will be examined during the pharmacological treatments to validate the markers and possibly identify agents of therapeutic interest.

Co-ordinator

Patrik BRUNDIN (Professor of Neuroscience)
Departement of Physiological Sciences, Section for Neuronal Survival
U. LUND, WALLENBERG NEUROSCIENCE CENTER
BMC A10 221 84 LUND
Sweden
Tel : 46462220529
Fax : 46462220531
E-mail : patrik.brundin@neurol.lu.se

Partners :

Frederic Saudou,
Ph.D.Institut Curie - Section Recherche
UMR 146 CNRS - Bat 110
Centre Universitaire
91405 Orsay Cedex –
France
Phone: (33) 1 69 86 71 75
Fax: (33) 1 69 86 30 51
Email: Frederic.Saudou@curie.u-psud.fr

Prof. Adriano Aguzzi (MRCPath)
Institute of Neuropathology
University Hospital of Zürich
Schmelzbergstrasse 12
CH-8091 Zürich, Switzerland
Phone: +41-1-255 2107 or 255 2869
Fax: +41-1-255 4402
cellular: +41-79-320 1516
E-mail: adriano@pathol.unizh.ch

Prof. Pierluigi Nicotera M.D., Ph.D, Director
MRC Toxicology Unit,
Hodgkin Building,
University of Leicester,
P.O. Box 138,
Lancaster Road,
Leicester LE1 9HN - U.K.,
Phone: +44 116 252 5611,
Fax: +44 116 252 5616,
Email: pn10@le.ac.uk,

Prof. Anthony H. V. Schapira
University Department of Clinical Neurosciences
Royal Free and University College Medical School
Rowland Hill Street
London NW3 2PF – U.K.
Phone : +44-207-830 2012
Fax : +44-207-431 1577
Email : schapira@rfhsm.ac.uk

Project number:	QLK6-CT-2000-00446
EC contribution:	€600,000
Duration:	48 months
Type:	CA
Starting date:	01/03/2001

Impact of age-related brain white matter changes on transition to disability in the elderly. Leukoaraiosis and disability.

Objectives:

The main objective is to evaluate whether deep white matter changes, frequently detected on imaging (computed tomography or magnetic resonance) in the brain of aged individuals, is an independent determinant of the transition from a normal functional status to disability in the elderly. The role played by these changes in predicting death, dementia, gait impairment and cardiovascular events, all described in association with these images, will be also determined.

Brief description:

Eight hundred 65-84 years old subjects having brain images with white matter changes and showing no or mild disability will be enrolled and followed-up for 3 years.
These subjects will be identified in stroke centres, memory/dementia clinics, neurology/neurogeriatric departments and in random population cohorts.
Definitions of functional, clinical and brain imaging outcomes will be validated and harmonised in advance across the different national settings where the subjects will be enrolled.
Relative risks for the specified outcomes will be estimated in subjects with different severity of white matter changes, adjusting for confounding or modifying factors.
Progression of these changes will be followed-up on MRI images in relation to the variations in functional, including quality of life and clinical status.
At baseline and at yearly follow-up assessments data will be collected on: vascular risk factors; cardiovascular and neurological conditions; functional autonomy in the activities of daily living; quality of life; global and selective cognitive functions; behaviour; mood/depression; motor performance.
All the data collected by each enrolling centre will be electronically transmitted, and stored in a central database, checked in real time for completeness and quality, and analysed using methods of univariate and multivariate analysis.
The results are expected to provide information on causes of disability in the elderly, and indications on potential preventive strategies.

Keywords:
Ageing – disability - brain - white matter - changes.

Co-ordinator
Domenico Inzitari
Dipartimento di Scienze Neurologiche e psichiatriche
Università degli Studi di Firenze
Viale Morgani, 85 - 50134 Firenze - Italia
tel:+390554298460
fax:+390554298461
e-mail: inzitari@neuro.unifi.it

Partners

Timo Erkinjuntti MD, PhD
Memory Research Unit
Department of Clinical Neurosciences
Helsinki University Central Hospital
Haartmaninkatu 4 - 00290 Helsinki - FINLAND
Tel:+358-9 47172353
Fax: +358-9 47172352
e-mail: timo.erkinjuntti@huch.fi

José M. Ferro
Serviço de Neurologia
Centro de Estudos Egas Moniz
Hospital de Santa Maria - 1600 Lisboa - Portugal
Tel:+351-21 7974956
Fax:+351-21 7957474
e-mail: jmferro@jp.pt

Anders Wallin
Institute of Clinical Neuroscience
Goteborg University
Sahlgrenska Universitetssjukhuset
43180 Molndal
Sweden
Tel:+46-31 3432389
Fax:+46-31 7769055
e-mail: anders.wallin@ms.se

Chabriat Hugues
Department of Neurology
Hopital Lariboisiere
2 rue Ambroise Parè - 75011 Paris - France
Tel :+33-014 9952595
Fax : +33-014 9952596
e-mail : chabriat@ccr.jussieu.fr

Monique M.B. Breteler
Department of Epidemiology & Biostatistics
Erasmus University Medical School
P.O. Box 1738 - 3000 DR Rotterdam - The Netherlands
Tel: +31-10 408 7714
Fax: +31-10 408 9382

Julien Bogousslavsky
Service de Neurologie
Centre Hospitalier Universitaire Vaudois
CHUV BH13 - 1011 Lausanne - Switzerland
Tel:+41-21 3141230
Fax:+41-21 3141230
e-mail: julien.bogousslavsky@chuv.hospvd.ch

Franz Fazekas
Department of Neurology and MRI Institute
Karl-Franzens University
A-8036 Graz - Auenbruggerplatz 22 - Austria
Tel: +43-316 3852385
Fax: +43-316 325520
e-mail: franz.fazekas@kfunigraz.ac.at

Philip Scheltens
Department of Neurology
Academisch Ziekenhuis VU
De Boelelaan 1117 - P.O. Box 7057
1007 MB Amsterdam – The Netherlands
Tel:+31-20 4444444
Fax:+31-20 4440715
e-mail: p.sheltens@azvu.nl

Lars-Olof Wahlund
Karolinska Institute
Department of Clinical Neuroscience and Family Medicine
Division of Geriatric Medicine B-56
Huddinge University Hospital - S-14186 Huddinge - SWEDEN
Tel:+46-8 58585419
Fax:+46-858685482
e-mail: lars-olof.wahlund@ger.svso.sll.se

Michael G. Hennerici
Department of Neurology
University of Heidelberg
Klinikum Mannheim
Theodor-Kutzer-Ufer - D-68167 Manneheim - Germany
Tel :+49-621 3832885
Fax :+49-621 3833807
e-mail : hennerici@neuro.ma.uni-heidelberg.de

Gunhild Waldemar
Memory Research Unit
Rigshospitalet
Copenhagen University Hospital
Blegdamsvej, 9 – Copenhagen - 2100 Denmark
Tel: +45-35 453186
Fax: +45-35 453247
e-mail: rh4206@rh.dk

John O'Brien
Newcastle City Health Institute for the Health of the Elderly
Wolfson Research Centre
Newcastle General Hospital - NE4 6BE - United Kingdom
Tel:+44-191 2563323
Fax:+44-191 2195051
e-mail:j.t.o'brien@ncl.ac.uk

Project number:	QLK6-CT-2000-00502
EC contribution:	€709,500
Duration:	48 months
Type:	CA
Starting date:	01/03/2001

Neuroreceptor changes in mild cognitive impairment

Objectives:

The objectives of this project are to be able to pose an early diagnosis and a prognosis for the development of Alzheimer's disease. Mapping of brain receptor in normal aged individuals, in patients with mild cognitive impairment, and in Alzheimer's disease will be compared to neuropsychological and psychiatric measures to establish the relationship between these measures.

Brief description:

The early phase of Alzheimer's disease (AD) is manifested in a condition termed 'mild cognitive impairment' (MCI). MCI has recently become the subject of intensive investigations because earlier diagnosis of AD may allow for earlier intervention by, e.g., drug therapy. Currently, it is impossible to predict who of the patients with MCI later will convert into patients with AD.
This project involves investigations of normal elderly individuals as well as patients from memory clinic populations with MCI and AD. All subjects will in the single centres undergo the same complete neurological, neuropsychological and psychiatric evaluation. Blood testing and structural brain imaging with magnetic resonance imaging (MRI) will also be carried out. Positron emission tomography (PET) or single photon emission tomography (SPECT) will be used for mapping various brain neuroreceptor systems. Each centre has selected their individual receptor tracer ligand of probable relevance for MCI; these include five different markers. In some centres, previously validated methods such as cerebral glucose metabolism and cerebral blood flow measurements will be included. These measures will be compared to receptor distribution images. Since the collaboration is based upon a common protocol defining neuropsychological, neuropsychiatric and imaging criteria to be used by the individual partners a comparison between the mapping of the different receptor systems in the different centres is possible. Within the concerted action structure, a common platform for data exchange and a database for collection of relevant data will be constructed.
The final intention is to relate the findings from functional imaging with the clinical measures as well as the findings from functional imaging with progression rates and over-all prognosis. On the basis of these results, we will settle the diagnostic value of neuroreceptor imaging tools for an early diagnosis in the elderly patient with memory and/or emotional symptoms. Hopefully, we will also be able to point at new potential areas for drug development.

Keywords:

Alzheimers disease - mild cognitive impairment - neuroreceptors - positron emission tomography - neuropsychology - disease progression - magnetic resonance imaging - brain imaging.

Co-ordinator

Name	Gitte Moos Knudsen
Department	Neurobiology Research Unit 9201
Organisation	Rigshospitalet
Address	9 Blegdamsvej, DK-2100 Copenhagen, Denmark
Phone :	+45 3545 6720
Fax :	+45 3545 6713
E-mail addresse(s)	gitte@nru.dk

Partners

Adriaan Lammertsma
PET Centre
Free University Hospital
Amsterdam
The Netherlands
e-mail : aa.lammertsma@azvu.nl

Agneta Nordberg
Dept. of Neuroscience and Family Med.
Huddinge University Hospital
Sweden
e-mail : agneta.nordberg@cnsf.ki.se

Alfredo Postiglione
Clinical and Experimental Medicine
University 'Federico II'
Naples
Italy
e-mail: alfposti@unina.it

Project number:	QLK6-CT-2000-00661
EC contribution:	€543,634
Duration:	36 months
Type:	CA
Starting date:	01/03/2001

European Multiple System Atrophy Study Group

Objectives:

Taking advantage of the European lead in international multiple system atrophy (MSA) research the proposed European MSA study group (EMSA-SG) aims to establish a European MSA Registry (EMSA-R) as well as a Core Assessment Program for Interventional Therapy in MSA (CAPIT-MSA).
The CAPIT-MSA trial protocol will be designed and validated through the first prospective natural history study of European MSA patients.
During the natural history study EMSA-SG will facilitate future research into ecogenetics and molecular pathology of MSA by virtue of decentralized DNA and brain tissue banking.

Brief description:

Parkinson's Disease (PD) and/or MSA databases have been established by a number of centres participating in the project. Selected features of these will be combined to construct a novel MSA database for the purpose of patient recruitment, data acquisition and monitoring throughout the project and subsequent intervention trials.
CAPIT-MSA will be designed similar to previous EU sponsored concertation efforts in PD (CASIT-PD, Defer 1999) and Huntington's Disease (CAPIT-HD, Quinn 1996). CAPIT-MSA will comprise a novel set of EMSA-SG diagnostic criteria, a novel Unified Rating Scale (UMSARS) and additional investigations including autonomic function and urodynamic tests as well as structural and functional brain imaging.
The CAPIT-MSA protocol will be validated by a multicentre prospective natural history study of 120 MSA patients, recruited during the first year from 20 European University Hospitals. This study will generate prospective rates of disease progression in MSA, it will also identify important prognostic factors.
During the course of the natural history study EMSA-SG will coordinate decentralized DNA and brain tissue storage and processing in the participating centres according to standard protocols to facilitate future studies of ecogenetics and molecular neuropathology. Requests for DNA or brain tissue of patients dying with MSA will be reviewed by the EMSA-SG Steering Committee.

Key words:
Multiple system atrophy, Unified MSA Rating Scale, Natural History, DNA/Brain Bank

Co-ordinator:

Chief co-ordinator:
Prof. Werner Poewe, MD
Department of Neurology, University Hospital
Anichstrasse 35, A-6020 Innsbruck
Austria
Tel.: ++43/512/504-3850 Fax: ++43/512/504-3852
Email: werner.poewe@uibk.ac.at

Assistant co-ordinator:
Prof. Gregor Wenning, MD, PhD
Department of Neurology, University Hospital
Anichstrasse 35, A-6020 Innsbruck
Austria
Tel.: ++43/512/504-4292 Fax: ++43/512/504-3852
Email: gregor.wenning@uibk.ac.at

Partners:

Participant N°	Mailing address	Electronic address	Telephone N°	Fax N°
1	Prof. Dr. Werner Poewe University Hospital Innsbruck Department of Neurology Anichstrasse 35, A-6020 Innsbruck,	werner.poewe@uibk.ac.at	(43-512) 5043850	(43-512) 5043852
2	Dr. Erik Dupont Aarhus Kummunehospital Department of Neurology Norrebrogade 44 DK-8000 Aarhus C	erdup36@dadlnet.dk	45-89493282	45-86201789
3	Prof. Juha O. Rinne University of Turku Department of Neurology Institute of Clinical Medicine PO Box 52 FIN-20521 Turku		(358-2) 3336155	(358-2) 3336446
4	Prof. Francois Tison Centre Hospitalier Universitaire de Bordeaux Sevice de Neurologie/CHU de Bordeaux Avenue de Magellan F-33604 Pessac	ftison@neuro.u-bordeaux2.fr	(33-5) 56556420	(33-5) 56556815
5	Prof. Olivier Rascol Toulouse III University Laboratoire de Pharmacologie Faculte de Medecine 37 Allees Jules Guesde F-31073 Toulouse	rascol@cict.fr	(33-561) 145962	(33-561) 255116
6	Prof. Thomas Klockgether University of Bonn Department of Neurology Sigmund-Freud-Straße 25 D-53105 Bonn	klockgether@uni-bonn.de	(49-228) 2875736	(49-228) 2875024
7	Prof. Günther Deuschl Klinik für Neurologie Niemannsweg 147 D-24105 Kiel	g.deuschl@neurologie.uni-kiel.de	(49-43159) 72609	(49-43159) 72712
8	Prof. Wolfgang Örtel Philipps-University Marburg Department of Neurology Rudolf-Bultmann-Straße 8 D-35033 Marburg	oertelw@mailer.uni-marburg.de	(49-64212) 86279	(49-64212) 88955)

9	Prof. Thomas Gasser Ludwig-Maximilians-University Klinikum Großhadern Department of Neurology Marchioninistr. 15 D-81377 München	i-francke@verw.med.uni-muenchen.de	(49-89709) 52010	(49-89709) 52002
10	Prof. Nir Giladi Tel Aviv Sourasky Medical Center Movement Disorders Unit Department of Neurology 6, Weizmann Street IL-64239 Tel-Aviv	gabi@tasmc.health.gov.il	97236974433	97236974433
11	Prof. Giuseppe Meco University of Roma "La Sapienza" Department of Neuroscience Viale dell´ Universitá 30 I-00185 Roma	meco@uniroma.it	(39-06) 49914706	(39-06) 49914840
12	Prof. Cristina Sampaio Faculdade de Medicina de Lisboa Hopital Santa Maria Centro de Neurosciencias de Lisboa PT-1600 Lisboa	ccneurol@esoterica.pt	(351-21) 7901229	(351-21)7957474
13	Prof. Zvezdan Pirtosek University Medical Centre of Ljubljana Institute of Clinical Neurophysioloy Zaloska 2 SI-1525 Ljubljana	zvezdan.pitrosek@kclj.si	(386-61) 316152	(386-61) 302771
14	Prof. Eduardo Tolosa Universitat de Barcelona Hospital Clínic Department of Neurology Villarroel, 170 E-08036 Barcelona	samir@pcb.ub.es	(34-93) 4034572	(34-93) 4034510
15	Prof. Jose Berciano University Hospital "Marqués de Valdecilla University Hospital E-39008 Santander	neuro@humv.es	34942202520	34942202655
16	Prof. Sten-Magnus Aquilonius Uppsala University Department of Neuroscience University Hospital SE-75185 Uppsala	sten-magnus.aquilonius@neurologi.uu.se	4618665031	4618665027
17	Prof. Olle Lindvall University of Lund Department of Clinical Neuroscience,Division of Neurology Solvegatan 17 SE-22362 Lund	olle.lindvall@neurol.lu.se	4646173393	4646176528
18	Prof. Niall Quinn University College London Institute of Neurology Queen Square WC1N 3 BG London UK	n.quinn@ion.ucl.ac.uk	(44-171) 8298736	(44-171) 2785069

19	Prof. David J. Brooks The Imperial College of Sciences Technology and Medicine MRC Cyclotron Unit 150 DuCane Road W12 0NN London UK	dbrooks@cu.rpms.ac.uk	(44-171) 5945680	(44-171) 8237072
20	Prof. Peter Jenner King´s College London GKTSchool of Biomedical Sciences Neurodegenerative Disease Research Centre, Hodgkin Buildng, Guy´s Campus SE1 1UL London UK	peter.jenner@kcl.ac.uk	(44-171) 9558841	(44-171) 4073913
21	Prof. Pierre Pollak Centre Hospitalier Universitaire de Grenoble Sevice de Neurologie Manresa Road F-38043 Grenoble	pierre.pollak@ujf-grenoble.fr	(33-476) 765001	(33-476) 447740
22	Prof. Andrew Lees University of College London PDS Brain Research Centre Institute of Neurology 1 Wakefield Street WC1N 1 PJ London UK	pdsbrcaix-150.ion.ucl.ac.uk	(44-171) 8378370	(44-171) 2784993
23	Prof. Eran Blaugrund Teva Pharmaceutical Industries Ltd. Research & Development, CNS Section Kiryat Nordau IL-Netanya		9729863986	97298563778
24	Prof. Reinhard Horowski Schering Aktiengesellschaft Berlin Medical-Scientific Relations SBU Therapeutics Schering Müllerstr. 172 D-13342 Berlin	reinhard.horowski@schering.de	(49-30468) 15080	49-30468) 15080

Project number:	QLK6-CT-2001-00120
EC contribution:	€ 1,626,052
Duration:	36 months
Type:	RS
Starting date:	01/01/2002

Rehabilitation In Parkinson's Disease: Strategies For Cueing

Objectives:

RESCUE aims to provide: 1 Effect of different cue types on gait parameters during stable conditions and after contextual manipulation in Parkinson's Disease (PD). 2 Optimal rehabilitation cueing and self management strategies. 3 Optimal characteristics of a cueing device facilitating to enable subsequent technological development. 4 Long-term and clinical benefits of the novel cueing methods in the home environment of patients with PD.

Brief description:

Despite modern medical treatment, the walking disorders resulting from Parkinson's disease (PD) have a profound impact on the daily lives of sufferers and carers creating a spiral of immobility. RESCUE seeks to break this vicious circle by optimising, establishing and implementing a novel rehabilitation method. It will investigate the changes induced by auditory and visual cues on walking under various experimental conditions to determine which cues can best improve and sustain functional gait performance. By identifying the optimal behavioural and environmental strategies, it will promote self-management by patients and treatment by therapists. A prototype of a cueing device to be developed and tested complements the treatment package. RESCUE will test out the effectiveness of the optimised cueing package at home in the first randomised controlled clinical trial involving three EU centres, expert in this area. RESCUE will integrate knowledge into the best method for effective transfer and generalisation of cueing to activities of daily life enhancing the self-autonomy and quality of life of people with PD.
Phase I: Optimisation: Effectiveness and stability of visual and auditory cues on gait performance and identification of cognitive behavioural strategies and psychological, social and physical cost will be investigated in the laboratory and at home. Wash out periods will be defined, a portable prototype cueing device will be developed.
Phase II: Preparation: Guidelines will be developed for training patients at home. Physical therapists will be trained in the optimal cueing package and instrument. Independent observers will be trained.
Phase III: Generalisation: Efficacy of cueing package on functional gait will be investigated in a multi centre single blind cross-over randomised clinical trial (RCT) in the home.
Phase IV: Dissemination: Dissemination and duplication of optimal therapeutic strategies and self-management strategies to physical therapists in European countries as well as patient societies on Parkinson's disease. Production of educational packages and consensus conference. Guidelines for the use of a permanent cueing device and future developments.

Keywords:

Rehabilitation - Cueing - Auditory and visual stimuli - Cognitive behavioural strategies - Fatigue - Contextual factors - Parkinson's disease - Mobility - Physiotherapy - Self-management strategies - Transfer of effect - Prototype cueing device - Gait - Functional performance.

Co-ordinator

Institute of Rehabilitation
Hunters Moor Regional Rehabilitation Centre
Hunters Road
Newcastle upon Tyne
NE2 4NR
UK
Tel + Fax: +44 (0) 191 2195671
e-mail: rowena.plant@unn.ac.uk

Partners

David CHESSER
UNIVERSITY OF NORTHUMBRIA AT NEWCASTLE
INSTITUTE OF REHABILITATION
Hunters Moor Regional Neurological Rehabilitation
UK-NE2 4NR Newcastle upon Tyne

André OOSTERLINCK
KATHOLIEKE UNIVERSITEIT LEUVEN
DEPARTMENT OF REHABILITATION SCIENCES, KUL
(PROF. A. NIEUWBOER)
Tervuursevest 101
B-3001 Heverlee

Erik WOLTERS
UNIVERSITY HOSPITAL " VRIJE UNIVERSITEIT "
DEPT. PHYSICAL THERAPY & INSTITUTE OF FUNDAMENTAL AND CLINICAL HUMAN MOVEMENT SCIENCES
De Boelelaan 1117
NL-1081 HV Amsterdam

Project number:	QLK6-CT-2001-00170
EC contribution:	€1,092,020
Duration:	36 months
Type:	RS
Starting date:	01/01/2002

Collaborative Evaluation Of Rehabilitation In Stroke Across Europe

Objectives :

Rehabilitation of stroke patients is time consuming and expensive. The specific components of rehabilitation that affect outcome after stroke remain to be investigated. The aim of the proposed study is to compare the outcomes of stroke rehabilitation in four different rehabilitation centres across Europe. Differences in outcome will be related to amount and content of therapy, organisational characteristics and input of man-hours by the staff.

Brief Description :

In each centre the pattern of recovery of 120 consecutive stroke patients will be documented. Measurements will be performed on admission and at discharge, and at two, four and six months after stroke resulting in complete assessments on five occasions on approximately 480 patients.
Identification of differences in the provision of stroke services in the four centres will be based on time sampling of activities. An observation record will be used to register the activities, locations and social interaction of the patients on a random sample of 30 days in each centre.
Fifteen physiotherapy and 15 occupational therapy treatment sessions will be videotaped. The recordings will be made on 30 randomly selected days in the year. Video taping will be done on matched patients. The content of interventions will be logged to unveil the black box of physical and occupational therapy.
Analysis of the organisational characteristics of the different units providing rehabilitation requires the determination of the relative input of man-hours, the personnel and task characteristics for different patterns of organisation of stroke services and their respective relation to outcome.
The structural analysis will focus on management (pathway, planning, control system, etc.), task characteristics (standardisation of tasks, amount of formalism in organising the work), staff characteristics (level of specialisation of staff, structure of labour division, etc.) and physical environment (location, architecture, facilities, etc.). The data will be collected by quantitative and qualitative methods.
The pattern of recovery in the various centres will be compared. Case-mix will be used to control for the variation between patients treated in the four different settings. We will be able to identify which centre generates the best outcome. Multivariate analysis will be used to explore factors that contribute to the difference in outcome. The best clinical practice in stroke rehabilitation will be identified. The final goal is to improve the management of stroke rehabilitation and to reduce the level of long-term disability of stroke patients.

Keywords :

Stroke - rehabilitation - recovery - prediction - quality control - organisational management - best clinical practice - physiotherapy - occupational therapy - multidisciplinary approach

Co-ordinator

W. De Weerdt,
K.U.Leuven,
Faculty of Physical
Education and Physiotherapy,
Department of Rehabilitation Sciences,
Tervuursevest 101, B-3001 Leuven (Heverlee),
Belgium
E-mail: willy.deweerdt@flok.kuleuven.ac.be.
Tel: +32 16 32 91 16,
Fax: 32 16 32 91 92

Partners

Assistant Prof. Dr. H. Feys, K.U.Leuven, Faculty of Physical Education and Physiotherapy, Department of Rehabilitation Sciences, Tervuursevest 101, B-3001 Leuven (Heverlee), Belgium
Tel: +32 16 32 90 97, Fax: 32 16 32 91 92
hilde.feys@flok.kuleuven.ac.be.

Prof. Dr. F. Louckx, Vrije Universiteit Brussel, Faculty of Medicine and Pharmacy, Department of Medical Sociology, Laarbeeklaan 103, 1090 Brussel, Belgium
Tel: +32 2 477 47 20, Fax: +32 2 477 47 11
flouckx@gesg.vub.ac.be

Dr. M. Leys, Vrije Universiteit Brussel, Faculty of Medicine and Pharmacy, Department of Medical Sociology, Laarbeeklaan 103, 1090 Brussel, Belgium
Tel: +32 2 477 47 20, Fax: +32 2 477 47 11
mleys@gesg.vub.ac.be

Prof. Dr. N. Lincoln, University of Nottingham, School of Psychology, University Park, Nottingham NG7 2RD, Great Britain
Tel: +44 115 95 15 315, Tel: +44 115 95 15 307 (secr.), Fax: +44 115 95 15 324
nbl@psychology.nottingham.ac.uk

Dr. med. B. Selz, Bürgerspital Solothurn, Rehabilitation Centre of the Medical Department, CH-4500 Solothurn, Switserland
Tel: +41 32 627 44 00, Fax: +41 32 627 44 02
bselz_so@spital.ktso.ch

Dr. med. R. A. Schoenenberger Bürgerspital Solothurn, Medizinische Klinik, CH-4500 Solothurn, Switserland
Tel: +41 32 627 42 00, Fax: +41 32 627 42 04
rschoenenberger_so@spital.ktso.ch

Dr. med. W. Schupp, Fachklinik Herzogenaurach, Department of Neurology and Neuropsychology, In der Reuth 1, D-91074 Herzogenaurach, Germany.
Tel: +49 913 283 1033, mobile phone +49 172 647 6417, fax: +49 913 283 1030
info@fachklinik-herzogenaurach.de

Project number:	QLK6-CT-2002-02332
EC contribution:	€341,998
Duration:	48 months
Type:	CA
Starting date:	01/01/2003

European Stroke Prevention in Reversible Ischaemia Trial

Objectives:

The aim of ESPRIT is to compare the efficacy and safety of two new treatment modalities (A and B):
A) oral anticoagulation (INR 2.0-3.0) and
B) the combination of 30-325 mg acetylsalicylic acid and 400 mg dipyridamole daily with that of the standard treatment
C) 30-325 mg acetylsalicylic acid daily to find a more effective treatment in the secondary prevention for patients with cerebral ischaemia of arterial origin

Brief description:

Patients who have had a transient ischaemic attack or non-disabling ischaemic stroke of arterial origin have an annual risk of 7 to 12% for subsequent nonfatal stroke, nonfatal myocardial infarction or death (from all vascular causes) without treatment. The standard treatment acetylsalicylic acid (ASA) prevents only 13% of these events; this is far from ideal. ESPRIT is a randomised, international, multicentre trial in which three treatments are compared: a) AC (INR 2-3), b) ASA combined with dipyridamole c) ASA. The primary measure of outcome is the composite event 'nonfatal stroke, nonfatal myocardial infarction, death from all vascular causes or major bleeding complication', whichever occurs first. A total of 4500 patients will be enrolled.
Since cerebrovascular disease is one of the major European health problems, especially in the elderly, it is of utmost importance to look for more effective prevention than that by ASA. Data from secondary prevention trials in other cerebrovascular diseases suggest that oral anticoagulation (AC) or ASA combined with dipyridamole are more effective in the secondary prevention.
A more effective treatment will reduce disability, handicap and mortality and prevent loss of quality of life in many (especially elderly) patients.

Keywords:
stroke - secondary prevention - European - trial - cerebral ischaemia - TIA

Co-ordinator

Prof. Dr. J. van Gijn
University Medical Center Utrecht
Department of Neurology
PO Box 85500 Heidelberglaan 100
3508 GA Utrecht
The Netherlands
Tel: (31-30) 2507975
Fax: (31-30) 2542100
j.vangijn@azu.nl

Partners

Dr. A. Algra
Prof. Dr. P. Koudstaal
Dr. G. Venables
Dr. S. Ricci
Prof. Dr. D. Leys
Prof. Dr. B. Ringelstein
Prof. Dr. F. Aichner
Dr. G. Hankey
Prof. Dr. J. Bogousslavsky
Dr. G. Vanhooren
Dr. A. Chamorro
Prof. Dr. J. Ferro
Dr. C. Chen
Dr. N. Bornstein

Project number:	QLK6-CT-2002-02435
EC contribution:	€83,392
Duration:	36 months
Type:	CA
Starting date:	01/01/2003

Role of Zinc Metabolism in Alzheimer's Disease. Elaboration of New Strategy for Prevention and Therapy of Alzheimer's disease.

Objectives:

Refinement of research targets and task distribution between partners for collaborative research towards elaboration of a new therapeutic approach for Alzheimers disease on the basis of knowlege about zinc metabolism in the brain. Coordination of research activities and accumulation of results into a common database. Dissemination of research results and inclusion of new partners into research network.

Brief description:

Zinc plays important roles in development and functioning of the nervous system and its homeostasis is disturbed in many diseases, including Alzheimer's disease. Elevated level of zinc is neurotoxic and according to the latest results zinc may play a crucial role in aggregation of amyloid β peptides and formation of amyloid plaques characteristic for Alzheimers disease.
A present concerted action project will refine the research aims and functions and coordinate research between partners in the collaborative network towards understanding the fundamental principles of zinc metabolism in the brain and finding of key points of its regulation. The final aim of the research network is the elaboration of a new strategy and tools for prevention and therapy of Alzheimer's disease through normalization of zinc metabolism in the most critical regions of the brain.
Results of the concerted action project will be disseminated to community and industrial bodies during scientific meetings organized by consortium and through joint publications. New research centers and industrial bodies will be attracted into the research network.

Keywords:

Alzheimer's disease - amyloid plaques - zinc metabolism - metal chelation therapy.

Co-ordinator

Dr. Peep Palumaa
National Institute of Chemical Physics and Biophysics (NICPB), Akadeemia tee 23, 12618 Tallinn, Estonia
E-mail: peepp@staff.ttu.ee
Tel: +372 398 379
Fax: +372 703 662

Partners

Dr. Rannar Sillard
Karolinska Institutet, Department of Medical Biochemistry and Biophysics,
S-171 77 Stockholm,
Sweden
E-mail: rannar.sillard@mbb.ki.se
Tel: +46 8 728 7011
Fax: +46 8 319 497

Prof. Bernt Krebs
University of Münster, Institute of Inorganic Chemistry,
Wilhelm-Klemm Strasse 8,
DE-48149 Münster,
Germany
E-mail: krebs@uni-muenster.de
Tel: +46 8 728 7011
Fax: +46 8 319 497

Project number:	QLK6-CT-2002-02455
EC contribution:	€399,997
Duration:	48 months
Type:	CA
Starting date:	01/01/2003

Development of screening guidelines and clinical criteria for predementia Alzheimer's disease

Objectives:

The primary goal of the study is to reach an evidence-based European consensus on the identification of subjects with Alzheimer's disease (AD) in the predementia stage. The secondary goals of the project will be to develop diagnostic criteria for predementia AD in a clinical setting and screening guidelines for predementia AD in the general population.

Brief description:

Alzheimer's disease (AD) is one of the most common neurodegenerative disorders in Europe. The diagnosis of AD can presently only be made when a patient is demented. Tools for diagnosing patients with AD before they become demented, i.e. when they are in the predementia phase, are urgently needed. This will create the opportunity to start therapeutic interventions in an earlier phase than it is possible now. This will improve the quality of life of patients with AD considerably. The project consists of 2 parts. In the first part, clinical criteria for predementia AD will be developed for use in the second line clinical setting. In the second part, screening guidelines for predementia AD in the general population will be developed. The clinical criteria for predementia AD will be based on the pooled data from 15 prospective clinical studies that will collect markers of predementia AD in 800 subjects with mild cognitive complaints. The markers of predementia AD that will be used for the development of the criteria are demographic variables, medical history, the score on the Mini-Mental State Examination, the degree of functional impairment, performance on cognitive tests, the degree of medial temporal lobe atrophy, the apolipoprotein E genotype, the number of white matter lesions, and the concentration of β-amyloid and tau protein in cerebrospinal fluid. In addition, blood and CSF samples will be collected that can be used for future research on markers of predementia AD. The screening guidelines will be based on pooled data from 5 population-based studies that have collected baseline markers of predementia AD in non-demented elderly and follow-up data with respect to cognitive outcome. The markers of predementia AD that will be used for the development of the screening guidelines are demographic variables, medical history, the score on the MMSE, the degree of functional impairment, cognitive test performance, and the apolipoprotein E genotype.

Keywords:

Early diagnosis of Alzheimer's disease - predementia Alzheimer's disease - mild cognitive impairment

Co-ordinator

Prof.dr. FRJ Verhey
University of Maastricht
Institute of Brain and Behaviour
PO Box 616
6200 MD Maastricht
The Netherlands
E-mail: f.verhey@np.unimaas.nl
Phone: +31 43 3877537
Fax: +31 43 3875444

Partners:

IRCCS San Giovanni
Prof.dr. GB Frisoni
Laboratory of Epidemiology and Neuroimaging
Via Pilastroni 4
25125 Brescia
Italy

Karolinska Institutet
Prof.dr. L-O Wahlund
Department of Neurotec
Huddinge University Hospital
141 86 Huddinge
Sweden

Aristotle University of Thessaloniki
Prof.dr. M Tsolaki
Memory and Dementia Centre
3rd Department of Neurology
G. Papanicolaore General Hospital
57010 Thessaloniki
Greece

CHU La Grave-Casselardit
Prof.dr.B Vellas
Service de Médicine Interne et Gérontologie Clinique
170 Avenue de Casselardit
31300 Toulouse
France

University of Genoa
Prof.dr. G Rodriquez
Clinical Neurophysiology Service
Dept of Internal Medicine
Viale Benedetto XV 6
16132 Genoa
Italy

Kingshill Research Centre
Dr. R Bullock
Victoria Hospital
Okus Road
Swindon SN4 9PU
UK

"Carol Davila" University of Medicine and Pharmacy
Dr. L. Spiru
Ana Aslan Geriatics and Gerontology Department
Bucharest
Romania

Vrije Universiteit Medisch Centrum
Prof.dr. Ph Scheltens
Department of Neurology
PO Box 7057
1007 MB Amsterdam
The Netherlands

Institute National de la Santé et de la Recherche Medicinale INSERM E99-30
Dr. K Ritchie
BP 34493
34093 Montpellier cedex 5
France

CH Pellegrin
Prof.dr. J-M Orgogozo
Department of Neurology (2e étage)
Place Amélie Raba Léon
33076 Bordeaux
France

Fundació ACE. Institut Català de Neurociències Aplicades.
Dr. M Boade
C/Marquès de Sentmenat, 35-37
08014 Barcelona
Spain

Universität Frankfurt am Main
Dr. L Frolich
Oberarzt der Klinik für Psychiatrie und Psychotherapie I
Klinikum der Universität Frankfurt am Main
Heinrich-Hoffmannstr. 10
D-60528 Frankfurt am Main

Hopital Broca
Prof.dr. F. Forette
54/56 rue Pascal
75013 Paris
France

University of Kuopio
Prof.dr. H Soininen
Department of Neurology
Kuopio University Hospital
PO Box 1777
70211 Kuopio
Finland

Project number:	QLK6-CT-2002-02514
EC contribution:	€600,000
Duration:	48 months
Type:	CA
Starting date:	01/09/2002

European Carotid Stenting Network

Objectives:
To set up an European network of collaborating centres performing carotid stenting and surgery for the prevention of stroke, encourage harmonized clinical practice and standards for the investigation and treatment of carotid stenosis, and to carry out a randomised clinical trial within the network to compare the risks, benefits and economic value of carotid stenting and surgery.

Expected results:
The results of the randomised trial will show whether stenting or surgery is preferable in terms of safety, economics and patient acceptability for the treatment of carotid stenosis

Potential applications:
The dissemination of the knowledge and experience gained in the network of the procedures involved will inform the choice of doctors and health care funders in the EU when treating patients at risk of stroke due to carotid stenosis.

Brief description:

Stroke is a major cause of disability in the ageing population. Atherosclerotic carotid artery stenosis is an important cause of stroke, which can be prevented by carotid endarterectomy. However, endarterectomy requires an incision in the neck and carries a small risk of operative stroke. Stenting, a new endovascular method of treating carotid stenosis avoids some of the discomforts and complications of surgery. However, stenting also risks procedural stroke and may have an unacceptable risk of restenosis. Evidence is required to inform patients' doctors and providers in the EU when choosing between these treatments. We have therefore started an international randomised trial to compare the risks and benefits of stenting with endarterectomy. A European network of centres will harmonise stenting techniques, safeguard the safety of EU patients thus treated and ensure the trial results are generalisable throughout the EU.
Problem: To determine whether carotid stenting and endarterectomy are similar in terms of costs and benefits as treatments for carotid stenosis or whether one treatment has significant advantages.

Keywords:
Stroke - carotid stenosis - stenting – endarterectomy

Co-ordinator
Professor Martin M. Brown
Institute of Neurology
University College London
Box 6
National Hospital for Neurology & Neurosurgery
Queen Square
London WC1N 3BG, UK
Tel: +44 20 7829 8753
Fax: +44 20 7833 8613
e-mail: m.brown@ion.ucl.ac.uk

Partners

Professor J. Bogousslavsky
CHUV-13
University of Lausanne
Rue du Bugnon, 26
Lausanne
Switzerland, CH1011
Tel: +41 21 314 12 20
Fax: +41 21 314 12 31
e-mail: julien.bogousslavsky@chuv.hospvd.ch

Doctor A. Chamorro
S. de Neurologia
Hospital Clinico y provincial
Villrreol 170
8036 Barcelona
Spain
Tel: +34 93 227 5400 / +34 93 227 2212
Fax: +34 93 227 5414
Chamorro@medicina.ub.es

Doctor E. Kirsch
Medical Radiologie
Universtaetskliniken/Kantonsspital
Petersgraben 4, CH-4301 Basel
Switzerland
Tel: +41 61 265 49 12
Fax: +41 61 265 49 08
e-mail: ekirsch@ubbs.ch

Doctor H. Manninen
Department of Clinical Radiology
Kuopio University Hospital
Puijonlaaksontie 2
70210 Kuopio
Finland
Tel: +358 1717 3318
Fax: +358 1717 3341
e-mail: hannu.manninen@kuh.fi

Doctor HK. Van Walbeek
Onze Lieve Vrouwe Gasthuis
PO 95500
1090HM Amsterdam
Holland
Tel: +31 20 599 30 45
Fax: +31 20 599 38 45
e-mail: vwalbeek@worldonline.nl

Doctor G. Venables
Department of Neurology
Royal Hallamshire Hospital
Glossop Road
S10 2JF Sheffield
United Kingdom
Tel: +44 114 271 2197
Fax: +44 114 271 2441
e-mail: gvenables.clifton@stgeorges.nhs.uk.ac.uk

Professor N. Bornstein
Neurology Department
Tel-Aviv Sourasky Medical Cenre,
6 Weizmann Street,
64239 Tel-Aviv
Israel
Tel: +69 72 445
Fax: +69 72 442
e-mail: strokeun@tasmc.health.gov.il

Doctor A. Gil-Peralta
Servicio de Neurologia
Hospital Universitario Virgen de Rocio
41013 Sevilla
Spain
Tel: +34 9 5424 8187
Fax: +34 9 5424 78187
e-mail: Gilperal@cica.es

Professor T. Maetzsch
Department of Vascular Diseases
Malmo Universityhospital
SE-205 02 Malmo
Sweden
Tel: +46 40 33 80 69
Fax: +46 40 33 29 46
e-mail: thomas.matzsch@kir.mas.lu.se

Doctor Z. Milosevic
Clinical Radiology Institute
University Medical Centre
1000 Ljubljana
Slovenia
Tel: +386 1 522 34 21
Fax: +386 1 433 10 44
e-amil: zoran.milosevic@guest.arnes.si

Professor A. Bradbury
Department of Vascular Surgey
Birmingham Heartlands Hospital
B95SS Bordesley Green East
Birmingham
United Kingdom
Tel: +44 121 424 1633
Fax: +44 121 424 1633
e-mail: BradbuA@heartsol.wmids.nhs.uk

Doctor A. Clifton
Department of Neuroradiology
Atkinson Morley's Hospital
Copse Hill
SW20 ONE Wimbledon, London
United Kingdom
Tel: +44 20 8725 4191
Fax: +44 20 8725 4613
e-mail: andrew.clifton@stgeorges.nhs.uk.ac.uk

Project number:	QLK6-CT-2002-02583
EC contribution:	€1,699,922
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

Rapid Stroke Marker Detection via Immunosensors utilising Labeless Electrochemical and Resonant Mass Detection

Objectives:

The objective of this project is to develop an individually addressable array of labeless affinity biosensors for the rapid detection of biochemical markers for stroke, facilitating the rapid diagnosis essential for introduction of thrombolytic therapy. Labeless affinity address the problem associated with rapid diagnosis of stroke by allowing cost-effective (typically 10 EURO), rapid (in minutes), specific (using novel monoclonal antibodies and aptamers) and sensitive (ng-pg/ml), detection of stroke markers for use at the point-of-care.

Brief description:

The project aims at the development of a generic platforms for labeless tranduction of binding events. The particular application of the project is the labeless detection of biochemical markers for stroke so as to facilitate rapid diagnosis and subsequent introduction of appropriate therapy within the required 3 hours time frame. Novel biocomponents will be developed for detection of these biochemical markers, and further demonstration of the generic nature of the technologies to be developed will be realised via the use of antibodies and aptamers as capture biocomponents. Techniques for site-selective immobilisation of the biocomponents will be explored as will economic methods of producing microelectrodes. Following the ethos of the project, to have a successful commercialisable product, two technologies will be developed in parallel and are validated with the current gold standard of labeless detection, surface plasmon resonance. The two developed technologies will be evaluated and the technology exhibiting superior characteristics in terms of sensitivity, cost, applicability to mass-production, reproducibility and accuracy. Based on the outcome of this evaluation, a pre-production prototype will be developed and validated. This pre-production prototype will be clinically evaluated and a technology implementation plan drafted for post-project commercialisation. The consequences of the success of this project are immense. The rapid diagnosis of stroke, facilitating the intervention of thrombolytic therapy in the three-hours window following onset of stroke, will result in a massive decrease of unnecessary disability, morbidity and mortality and the associated economic burden. Additionally, the proposed multi-sensor arrays could be used by nursing-home staff, by homecarers, by the population themselves as well as by trained medical staff. Coupling the feasibility of the facile detection of stroke with a marketing campaign that highlights the need to treat strokes, as a condition requiring urgent medical treatment, could revolutionise the public perception of strokes.

Keywords:

Stroke diagnosis - Biosensors - Antibodies - Aptamers - Microelectrode arrays - Site-selective immobilisation - Resonant mass - Impedance - Labeless transduction of binding events

Co-ordinator

Dr. Olle Nilsson (Administrative co-ordinator)
Canag Diagnostics AB
Majnabbe Terminal Building
41455 Göteburg
Sweden
Tel: +46-31-857034
Fax: +46-31-857040
E-mail: olle.nilsson@canag.se

Partners

Dr. Ciara O'Sullivan (Scientific co-ordinator)
Bioengineering & Bioelectrochemistry Group
Department of Chemical Engineering
Universitat Rovira i Virgili
Avingudas Països Catalans, 26
Tarragona 43007
Spain
Tel: +34-977-558174
Fax: +34-977-559667
E-mail: ckosulli@etse.urv.es

Dr. Jan Castrop
Ecochemie BV, The Netherlands

Prof. Calum McNeil
University of Newcastle upon Tyne, UK

Dr. Andrew Campitelli
IMEC, Belgium

Prof. Jean-Jacques Toulmé
U-386 INSERM, France

Dr. Seamus Higson
UMIST, UK

Dr. Helen Berney
NMRC, Ireland

Prof. Juan Sahuquillo
University Hospital Vall d'Hebron, Spain

Dr. Mark Thompson
Microarray Ltd, UK

Project number:	QLK6-CT-2002-02645
EC contribution:	€499,864
Duration:	36 months
Type:	CA
Starting date:	01/11/2002

The Impact of treatment with Acetylcholinesterase Inhibitors on Europeans with Alzheimer's Disease (AD)

Objectives:

Acetylcholinesterase inhibitors (AChE I) have been shown to afford modest benefits on cognitive functioning in patients with AD. A systematic review by the Cochrane Collaboration states "the practical importance of these changes to patients and carers is unclear"
The primary objective of this study is to find clinical evidence for the global efficacy of AChE I treatment. The secondary aim is to develop a comprehensive picture of the natural history of AD in Europe.

Brief description:

This is a prospective 2 years observational cohort study, which will take advantage of the differences in prescription rates of AChE I across Europe. Patients will therefore be naturally predetermined to a treated or untreated group. Patients (n=1400) with AD will be recruited and reviewed 6 monthly. At follow up, well validated scales and questionnaires determining cognitive impairment, activities of daily living, behavioral disorders, dependency, caregiver burden, cost, and health care services use will be used. The primary outcome measure is a deterioration of one level on the "clinical dementia rating" scale (CDR). The study will be conducted within the setting of the European Alzheimer's Disease Consortium (EADC) which is a fully functional network of European centres of excellence specialised in AD.

Expected Results:

Clinical evidence for the global efficacy of treatment of AD with AChE I. This evidence may then be incorporated into European Guidelines for AD.
A better understanding of the natural history of AD, and identification of criteria necessary to improve the quality and cost effectiveness of AD patient care in Europe. This is important not only for health professionals but also for families and caregivers for whom questions of prognosis, duration, and severity are amongst the most important.
Potential Applications:
Incorporation of results into treatment guidelines for patients with AD aiming to improve and standardise patients treatment and therefore quality of life.
Answers to questions about prognosis, duration, and severity of the disease.
Europe wide epidemiological data which will have applications for health policy planning.

Keywords:

Alzheimers Disease – Dementia – Treatment - Acetylcholinesterase Inhibitors - Epidemiology

Co-ordinator

Emma Reynish
emma.armitage-reynish@wanadoo.fr

Website: http://www.alzheimer-europe.org/eadc

Partners

Vellas B
Service de Médecine Interne et Gérontologie
Clinique CHU La Grave-Casselardit
170 Avenue de Casselardit
31300-Toulouse
France
Tel: + 33 5 61 77 76 49
Fax: + 33 5 61 49 71 09

Pasquier F
Troubles cognitifs dégénératifs et vasculaires
CHU de Lille, Université de Lille 2,
Equipe d'acceuil
Clinique Neurologique
F-59037 Lille
France
Tel: + 33 3 20 44 57 85
Fax: + 33 3 20 44 60 28

Salmon E
Centre de Recherces du Cyclotron,
Unité Médicale
Université de Liège, Bât B30 – Sart Tilman
B-4000 Liège 1
Belgium
Tel: +32 4 366 23 16
Fax: +32 4 366 29 46

Michel JP
HUG, Belle Idée, Département de Gériatrie
Route de Mon Idée
CH-1226 Thônex-Genève
Tel: +41 22 305 65 00
Fax: +41 22 305 61 25

Dartigues JF
Neurologie, CH Pellegrin
Place Amélie Raba Léon
F-33076 Bordeaux cedex
Tel: + 33 5 57 57 15 02
Fax + 33 5 57 57 14 86

Olde-Rikkert
MGM,PO Box 9101
University Hospital Nijmegen, Department of Geriatric Medicin
NL- 6500 HB Nijmegen
Tel: + 31 24 36 16 778
Fax: + 31 24 36 17 408

Burns A
West Didsbury School of Psychiatry & Behaviourial Sciences
Withington Hospital
M20 8LR Manchester
United Kingdom
Tel: +44 1 612 914 831
Fax: +44 1 614 455 305

Frisoni G
IRCCS San Giovanni di Dio – Fatebenefratelli (FBF)
Laboratory of Epidemiology and Neuroimaging
Via Pilastroni 4
I-25125 Brescia
Italy
Tel: +39 030 35 01 361
Fax: +39 0 27 00 43 57 27

McKeith I
Wolfson Research Centre,
Institute for Ageing and Health
Newcastle General Hospital
Westgate road
NE4 6BE Newcastle upon Tyne
United Kingdom
Tel: +44 191 256 3018
Fax: +44 191 219 5071

Boada M
Fundació ACE
35-37 Carrer Marques de Sentmenat
E-08014 Barcelona
Tel: +34 93 430 4720
Fax: +34 93 419 3542

Kurz A
Technische Universitaet, Psychiatrische Klinik,
Möhlstrasse 26
D-81675 München
Tel: +89 41 40 4262
Fax: +89 41 40 4923

Forette F
Hôpital Broca
54/56, Rue Pascal
F-75013 Paris
Tel: + 33 1 44 08 35 02
Fax: + 33 1 44 08 35 10

Whalley L
University Medical Building, Forestbill,
University of Aberdeen,
Department of Mental Health
AB25 2ZD Aberdeen
Scotland, UK
Tel: 1224 68 18 18
Fax: 1224 40 36 12 ext 53881

Sinclair A
University of Warwick, Coventry,
Section of Geriatric Medicin and Gerontology
CV4 7AL Birmingham
United Kingdom
Tel: +441 216 278 266
Fax: +441 216 278 304

Scheltens P
PO Box 7057
Alzheimer Centre,
Vrije Universiteit Medical Center
NL-1007 MB Amsterdam
The Netherlands
Tel: 31 20 444 3222
Fax 31 20 444 0715

Touchon J
2 avenue Bertin Sans
UNC
F-34295 Montpellier Cedex 05
France
Tel: +33 4 67 33 60 29
fax +33 4 67 33 60 36

Robert P
Pavillon J
Hôpital Pasteur
30 avenue de la voie Romaine – BP69
F-6002 Nice Cedex 1
France
Tel: + 33 4 92 03 80 02
fax + 33 4 93 53 32 88

George J
Alzheimer Europe
145 route de Thionville
L-2611 Luxembourg
tel 352 29 79 70
fax 359 29 79 72

Winblad B
Huddinge Hospital,
Karolinska Institutet, Neurotec,B84
S-141 86 Stockholm
Sweden
Tel: 46 8 585 854 74
Fax: 46 8 585 854 70

Frolich L
Dept of Psychiatry,
University of Frankfurt
Heinrich-Hoffmannstr.10
D-60528 Frankfurt
Germany
Tel: 49 69 6301 7094
Fax 49 69 6301 5189

Ribera C
Department of Geriatrics,
Hopital Clinico San Carlos
c/ Prof Martín Lagos, S/N
E-28040 Madrid
Spain
tel +34 91 330 3306
Fax +34 91 330 3306

Erkinjuntti T
Department of Neurology,
Memory Research Unit,
University of Helsinki, PL 300
SF-00029 HUS
Finland
Tel: 358 40 5000 826
fax 358 9 4717 2352

Camus V
Etat de Vaud – SPC, BH 16
1011 CHUV,
Service Universitaire de Psychogeriatrie
CH-Lausanne
Switzerland
tel 41 21 314 11 12
fax 41 21 314 11 10

Salva A
Programa Vida als Anys,
Servei Catala de la salut, Ara sanitaria
Travessera de les Corts 131-159
E-8028 Barcelona
Spain
tel 34 934 33 50 22
fax 34 934 33 50 26

Werner HJ
EV. Krankenhaus Elisabethenstift,
Klinik Für Geriatrie
Landgraf Georgstr 100
D-64287 Darmstadt
Germany
Tel: 49 61 514 033 000
fax 49 61 514 033 009

Staehelin HB
Kantospital Basel, Hebelstrasse 2,
Geriatrische Universitats Klinik,
CH 4031 Basel, Switzerland
tel 41 612 65 29 54
fax 41 612 65 26 70

Costa-Tsolaki M
Despere 3, Thessaloniki 54621,
Greece
tel + 30 31 234 239
fax + 30 31 283 973

Smith D
Mansfield Road,
Oxford,
University Department of Pharmacology,
OX1 3QT, UK
Tel: 44 1865 271 883
fax 44 1865 271 882

Sjogren M
Gothenburg University
Institute of Clinical Neurosciences
S-431 80 Mölndal
Sweden
Tel: 46 31 343 2382
fax 46 31 776 9055

Leon Thal
University of california (San Diego)
department of neurosciences (0624)
9500 Gilmar drive
CA 92037-0624 USA
tel + 1 658 534 46 06

Waldmar G
Department of Neurology 6702,
Memory Disorders Research Unit
Rigshospitalet, N2082, Blegdamsvej 9,
DK-2100 Copenhagen, Denmark
Tel: 45 3545 2580
fax 45 3545 2446

Bullock R
Okus Road, Swindon SN1 4HZ, UK
Kingshill Research Centre,
Victoria Hospital,
SN1 4HZ, UK
Tel: 44 1794 437501
fax 44 1793 437521

Rodriguez G
University of Genoa, Viale Benedetto XV, 6,
Clinical Neurophysiology,
Dept of Internal Medicine,
I-16132 Genoa, Italy
Tel: 39 010 35 38 440
fax 39 010 35 37 573

Spiru L
Ploiesti Avenue, Geriatric Dpt
Institute Ana Aslan,
Bucharest
Romania
Tel: 401 236 0287
fax 401 236 0287

Serge Gautier
Suite 709 7015 Mac Leod Trail SW
C5R secretariat T2H 2K6
Calgary Alberta Canada
tel + 1 514 766 2010
fax + 1 514 888 4050

Project number:	QLK6-CT-2002-00296
EC contribution:	€81,774
Duration:	36 months
Type:	RS
Starting date:	01/02/2003

Obstacles and facilitators in diagnosing and managing early dementia in EU member status

Objectives :

This project aims to exchange experiences acquired in three RTD projects on early diagnosis of dementia and to make a research proposal based on these studies. The research proposal on obstacles and facilitators of diagnosis and management of early dementia will consider national circumstances. Therefore two workshops are needed to exchange national evidence, expertise and opinions. This exchange also enables EU member state to benefit from of each other's experiences. The exchange will contribute to the knowledge on which obstacles and facilitators are universal and which are country specific. The main objective of the workshops is the research proposal considering national circumstances. Specific additional objectives include: I) To document evidence on obstacles and facilitators. 2) To compare international methodologies, procedures and techniques to diagnose dementia and to educate GPs on dementia-related problems. 3) To compare internationaly the epidemiology of dementia, organisation of dementia health care and cultural norms regarding early dementia-related problems. 4) To document evidence on management of dementia-related problems and to exchange new developments.

Description of work

The project comprises two interrelated workshops
Workshop 1: A two day workshop on basic obstacles in early diagnosis and management of dementia and on interventions to be linked to these obstacles.
These themes will be addressed in separate workshops:

a) Workshop on obstacles and facilitators. International comparison of evidence and opinions on barriers or obstacles to diagnosis and management of early dementia. These may be related to attitude, knowledge or skills and to social and financial conditions. Some countries have evidence on barriers, other countries will rely on supposed barriers. This will provide the basis for the interview guide and the questionnaire on obstacles and facilitators to be used in the research proposal.
b) Workshop on methodologies.
International comparison of methodologies, procedures and techniques to diagnose dementia and to educate GPs on dementia-related problems. This will provide the basis for a toolkit of interventions which can be linked to obstacles. Obstacles in one state can be addressed by methodologies, procedures and techniques used in another state.
c) Workshop on dementia-related national circumstances. Internationally comparison of epidemiology of dementia, organisation of dementia health care (e.g. presence of memory clinics), and cultural norms regarding early dementia related problems.
d) Workshop on management of dementia-related problems. International comparison of evidence and exchange of new developments regarding management of patients' and caregivers' dementia-related problems.
e) Workshop on research methodology

Selection of procedures and methodology for the study: 1) to study obstacles and facilitators of early diagnosis and management of dementia and for example focus groups and semi-structured interview

Four months in between

1. Set-up network of GPs to be involved in the study
2. Writing of research proposal adapted to the information from the two workshop days.

Workshop 2: Two days workshop on agreement on research proposal
Suitability of research proposal for use in EU countries regarding content and procedures. The project is co-ordinated by a central co-ordinator and a project manager. Each of the separate workshops is co-ordinated by a working group member who provides guidance and is responsible for the deliverables of the workshop.

Co-ordinator :

Professor Dr. Grol Richard
University of Nijmegen
Centre for Quality of Care Research
PO Box 9101
Geert Grote Plein 21
6500 HB Nijmegen
The Netherlands
Phone : (31-24) 3615305
Fax : (31-24) 3540166
E-mail : r.grol@hsv.kun.nl

Partners :

Ir. A.M.C. Verstralen, University Nijmegen, Nijmegen, The Netherlands

Prof. Dr. André Oosterlinck, Katholieke Universiteit Leuven, Belgique

Dr. Steve Iliff, Royal Free end UCL Medical School, London, United Kingdom

Prof. Michael Wang, University of Hull, Hull, United Kingdom

Mrs. Teresa Orihuela, Fundaction Intras, Valladolid, Spain

Mr. Alfredo Fabello, Irccs Centro S. Giovanni Di Dio Fatebenefratelli, Brescia, Italy

Prof Dr Ramiro Verissimo, Psicologia medica [Medical Psychology Faculdade de Medicina do Porto, Porto, Portugal]

Dr. Jocelyne de Rotrou, Service de gérontologie clinique, Paris, France

Area 6.1: Age-related illnesses and health problems

MUSCULOSKELETAL SYSTEM

Project number:	QLK6-CT-1999-02024
EC contribution:	€1,199,998
Duration:	36 months
Type:	RS
Starting date:	01/01/2000

Mechanical Integrity and Architecture of Bone Relative to Osteoporosis, Ageing and Drug Treatment

Objectives:

Aetiology of osteoporosis is in general related to age and estrogen deficiency. The aim of the proposed project is 1) to set up a method to measure in vivo in animals, the change of bone architecture, 2) to establish by which mechanisms age and estrogen deficiency diminish the strength of bone and 3) to establish how drug treatment can repair diminished bone strength.
From a pure mechanical perspective bone fracture risk is controlled by three parameters: the amount of bone, the architecture of the bone and the quality of the bone matrix tissue. The separated effect of each of these three aspects will be determined using finite element computer models and mechanical testing at different hierarchical levels. This will improve current understanding of the factors involved in bone degeneration, microdamage and fracture and will enable better testing of new treatment methods to cure osteoporosis.

Brief description:

With current life expectancy, osteoporotic related fractures are a considerable health care problem. The precise anatomical changes which lead to diminished bone quality are unknown. Bone loss occurs within ageing and estrogen deficient patients and is generally measured by the amount of bone mass, which only partly explains the increased fracture risk. More accurate diagnoses can be made if bone quality is measured by geometry, architecture and matrix tissue properties also. However, these can not be measured in vivo, yet. The proposed project will use a newly developed micro-CT scanner to follow the architectural changes in the bones of animals as a function of ageing, estrogen deficiency and drug treatment. The mechanical consequences of architectural changes or matrix tissue changes will precisely be determined using computer models and micro mechanical testing. This will provide new information with respect to aetiology and osteoporosis treatment.

Keywords:

Ageing – Osteoporosis - Bone Fracture

Co-ordinator:

Dr. Harrie Weinans
Orthopaedic Research Laboratory
Erasmus University Rotterdam
P.O. Box 1738, 3000 DR ROTTERDAM, The Netherlands
+31 (0) 10 4087367
+31 (0) 4089415
E-mail addresse(s) weinans@ortho.fgg.eur.nl

Partners:

Dr. Harrie Weinans
Prof. Jan Verhaar
Orthopaedic Research Laboratory, Ee 1614
EUR: Erasmus University Rotterdam
P.O. Box 1738, 3000 DR ROTTERDAM, The Netherlands
Phone: +31 (0)10 4087367
Fax: +31 (0) 4089415
E-mail: weinans@ortho.fgg.eur.nl

Dr. Kevin O'Kelly
Dr. Patrick Prendergast
Dept. Of Mechanical Engineering
Trinity College, College Green, Dublin, Ireland
Phone: +353 1 6081367
Fax: +353 1 6795554
E-mail: okellyk@tcd.ie
Pprender@tcd.ie

Dr. Michel Dalstra
Prof. Ivan Hvid
Orthopaedic Research Laboratory
University Hospital Aarhus
Norrebrogade 44, building 1A, 8000 Aarhus C, Denmark
Phone: +45 89 49 4135
Fax: +45 89 49 4150
E-mail: mdalstra@odont.au.dk
i.hvid@mail.tele.dk

Ir. Erik Buelens
Dr. A. Sassov
Skyscan B.V.B.A.
Vluchtenburgstraat 3, 2630 Aartselaar, Belgium
Phone: +32 3 877 5705
Fax: +32 3 877 5769
E-mail: skyscan@skynet.be

Dr. Antwan Ederveen
Dr. Anton Rijnders
Department of Pharmacology
N.V. Organon
P.O. Box 20, 5340 BH Oss, The Netherlands
Phone: +31 412 661794
Fax: +31 412 662542
E-mail: A.Ederveen@organon.oss.akzonobel.nl

Prof. Dr. Dirk van Dijck
Prof. Dr. Nora de Clerck
Visielab & Microtomography
RUCA, University of Antwerp
Groenenborgerlaan 171, B2020 Antwerp, Belgium
Phone: +2 3 2180289
Fax: +32 3 2180326
E-mail: nodecle@ruca.ua.ac.be

Project number:	QLK6-CT-1999-02034
EC contribution:	€1,800,000
Duration:	36 months
Type:	RS
Starting date:	01/01/2000

Investigation on mechanisms for maintenance and regeneration in the ageing muscle: Development of guidelines, diagnostic tools and a view to therapies

Objectives:

The overall objectives are to evaluate:
Effects of ageing on a number of physiological and biochemical parameters of the muscle.
Muscle performance, repair and growth become less effective with increasing age.
Muscle fiber growth and repair are carried out by a stem cell, the satellite cell.
Calcium ion homeostasis and the process of electromechanical coupling is altered in ageing muscle.

Brief description:

Diminution in muscular performance is a major cause of disablement in old age.This loss appears to be a multi component phenomenon.We will investigate whether and which factors within the muscle itself are responsible for this decline.
Satellite cells are the only source for maintenance, growth and regeneration of muscle tissue.A major goal of our network is to determine changes in the behavior of the satellite cells during ageing (i.e. numbers, proliferative capacity in vitro and in vivo, myogenic program, calcium homeostasis). Important aspects of the contractile apparatus will be investigated as well. Most work will be performed on human tissue in a cooperation of outstanding basic scientists and clinical partners.
Tissue obtained from normal young and aged, exercised and sedentary old people, and for controls of hyperexercised athletes as well as people diseased with muscle wasting dystrophies will be characterized for frequency of satellite cells as well as biochemical features of the contractile apparatus.
Human satellite cells will be harvested from the biopsies and their proliferative capacity tested in vitro and in vivo, the latter by implantation and growth of human tissue in an animal. Trans-age transplantations in rats of extremely old muscle into young animals will be performed to understand the apparent superiority of a juvenile environment. Methods will be developed to biochemically quantify human proteins and human specific DNA in whole mouse muscle implanted with human myogenic cells. Combined with assessment of the presumed mitotic clock, the telomere, a diagnostic tool to predict the remaining capacity of muscle to grow, i.e. its trainability, will be obtained.

Keywords:
Muscle - Ageing - Human - Myoblasts - Satellite Cells

Co-ordinator

Name	Anton Wernig
Department	Department of Physiology
Organisation	University of Bonn
Address	Wilhelmstrasse 31, 53111 Bonn, Germany
Phone :	+49 228 287 2274
Fax :	+49 228 287 2208
E-mail addresse(s)	wernig@physio.uni-bonn.de

Partners

Name	Vincent Mouly
Department	URA CNRS 2115
Organisation	Universite Pierre et Marie Curie
Address	105 bd de l'hôpital, 75013 - Paris cedex 13, France
Phone :	+33 1 40 77 96 35
Fax :	+33 1 53 60 08 02
E-mail addresse(s)	mouly@ext.jussieu.fr

Name	Terry Partridge
Department	MRC Clinical Sciences Centre
Organisation	Imperial College School of Medicine
Address	Du Cane Road, London W12 ONN, Great Britain
Phone :	+44 20 8 383 8263
Fax :	+44 20 8 383 8264
E-mail addresse(s)	terence.partridge@csc.mrc.ac.uk

Name	Lars-Eric Thornell
Department	Department of Anatomy
Organisation	Umeå University
Address	Petrus Laestadius väg, 90187 Umea , Sweden
Phone :	+46-90-786 5142
Fax :	+46-90-786 54 80
E-mail addresse(s)	Lars-Eric.Thornell@anatomy.umu.se

Name	Ida Erzen
Department	Institute of Anatomy
Organisation	Medical Faculty
Address	Korytkova 2, 1000 Ljubljana, Slovenia
Phone :	+386 1-543-7312
Fax :	+386 1-543-7301
E-mail addresse(s)	ida.erzen@mf.uni-lj.si

Name	Kay Ohlendieck
Department	Department of Pharmacology
Organisation	University College of Dublin
Address	Fosters Avenue, Blackrock, County Dublin 4, Ireland
Phone :	+353 1 706 1503
Fax :	+353 1 269 2749
E-mail addresse(s)	kay.ohlendieck@ucd.ie

Name	Fabio Ruzzier
Department	Department of Physiology and Pathology
Organisation	University of Trieste
Address	via A. Fleming 22, 34127 Trieste, Italy
Phone :	+39 040 6767086
Fax :	+39 040 567 862
E-mail addresse(s)	ruzzier@univ.trieste.it

Project number:	QLK6-CT-1999-02072
EC contribution:	€1,799,999
Duration:	36 months
Type:	RS
Starting date:	01/04/2000

Role of Cytokines and Growth factors in cartilage destruction in Osteoarthritis (OA)

Objectives:

1 To identify therapeutic targets in various stages and forms of OA
2 To establish ways to interfere with the pathologic cartilage destruction in vitro
3 To establish therapeutic modalites in vivo

Brief description:

Cartilage specimens from defined conditions of human OA and kinetic stages of experimental OA will be analyzed for cartilage matrix damage and concomitant cytokine and growth factor expressions. This includes the identification of shifts in receptor expression for these mediators in defined sites in the articular cartilage, which are more or less susceptible to OA development. This will identify known and novel cytokine/growth factor targets and will validate the use of animal models for particular aspects of human OA.
Since IL-1 is an obvious mediator in cartilage destruction, but proper therapeutic inhibitors are not available yet, we will establish novel ways to block IL-1 action, through interference with the recently identified IL-1R accessory protein and kinases in down-stream events and analyse whether disturbances are present in OA at that level. This approach will yield novel antagonists. Apart from the use of blockers we will use existing and develop novel transgenic and knockout mice to investigate the role of cytokine/growth factor pathways in animal models of OA in knee and temporomandibular joints. At present it is unclear whether growth factors such as TGFβ are protective or pathogenic in OA cartilage damage. To evaluate this we have developed novel, specific inhibitors and will apply these to the in vitro and in vivo model systems, using adenoviral overexpression systems.
A final approach in cytokine blocking will be to enhance natural of individuals to optimize the level of autoantibodies to adverse cytokines. First a screening will be done in OA patients, to correlate levels of existing autoantibodies with disease progression. Next, novel ways to enhance autoantibodies by vaccination will be done in OA models, with ultimate application in OA patients.

Keywords:

Osteoarthritis - cytokines - growth factors - IL-1 - TGFβ - cartilage

Co-ordinator

Wim B van den Berg, PhD
Dept of Rheumatology
University Medical Center Nijmegen, 189
Geert Grooteplein Zuid 26-28
6500 HB Nijmegen, The Netherlands
tel: 31-24-361 6540
fax: 31-24-354 0403

Partners

Patrick Netter, PhD (Pnr 2)
UMR 7561 CNRS-UHP
Lab Pharmacologie
Faculte de Medecine
BP 184, F 54505 Vandoeuvre les Nancy cedex, France
Fax: 00 33 383 592621
Tel: 00 33 383 592622
E-mail: netter@facmed.u-nancy.fr

Michael Martin, PhD (Pnr 3)
Medi Hochschule Hannover
Molekularpharmakologie OE 5320
D-30623 Hannover, Germany
Fax: 00 49 511 532 4081
Tel: 00 49 511 532 4082
E-mail:Martin.Michael@MH-Hannover.de

Erella Livne, D Sc (Pnr 4)
Anatomy and Cell Biology
Fac of Med, Technion-Israel Inst of Technol
PO Box 9649
Haifa, Israel
Fax: 00 972 4829 5392
Tel: 00 972 4829 5391
E-mail: livne@tx.technion.ac.il

Carole Westacott, PhD (Pnr 5)
Dept of Pathology & Microbiology
University of Bristol, School of Medical Sciences
University Walk, Bristol BS8 1TD, UK
Fax: 00 44 117 928 7896
Tel: 00 44 117 928 8605
E-mail: Carole.Westacott@bristol.ac.uk

Klaus Bendtzen, MD (Pnr 6)
IIR 7521, Rigshospitalet Univ Hospital
DK-2200 N, Copenhagen, Denmark
Fax: 00 45 3545 7554
Tel: 00 45 3545 7548
E-mail: klausb@inet.uni2.dk
http://www.iir.suite.dk/IIRhome.htm

Tore Saxne, PhD (Pnr 7)
Dept of Rheumatology
Lund University Hospital
S-221 85 Lund, Sweden
Fax: 00 46 46 128468
Tel: 00 46 46 171627
E-mail: Tore.Saxne@reum.lu.se

Tore Saxne, PhD (Pnr 7)
Dept of Rheumatology
Lund University Hospital
S-221 85 Lund, Sweden
Fax: 00 46 46 128468
Tel: 00 46 46 171627
E-mail: Tore.Saxne@reum.lu.se

Barry Bresnihan, MD (Pnr 8)
Dept of Rheumatology
St Vincents University Hospital
Dublin 4, Ireland
Fax: 00 353 1269 3541
Tel: 00 353 1269 5033
E-mail: b.bresnihan@svcpc.ie

Martin Nicklin, PhD (Pnr 9)
Div of Molecular and Genetic Medicine
University of Sheffield
Royal Hallamshire Hospital
Sheffield S10 2JF, UK
Fax: 00 44 114 272 1104
Tel: 00 44 114 271 3261/3007
E-mail: m.nicklin@sheffield.ac.uk
http://www.shef.ac.uk/~mgm/staff/mjhn.html

Project number:	QLK6-CT-1999-02108
EC contribution:	€1,896,699
Duration:	36 months
Type:	RS
Starting date:	01/02/2000

New Genes and Targets for Osteoporosis

Objectives:

To provide an integrated understanding of the genetic mechanisms that underlay the pathophysiology of osteoporosis and to transfer this new knowledge to benefit the aging population. In particular to: 1) Identify new mutations leading to altered bone density. 2) Understand the action of estrogen receptors in bone. 3) Generate models of osteoporosis through gene targeting. 4) Contribute to understand the molecular regulation of bone homeostasis and 5) Develop new diagnostic tests and treatments.

Brief description:

To identify new mutations leading to altered bone density, we will take advantage of a large ENU mutagenesis screen which has been established at the GSF-Research Centre in Munich. A new screening for parameters involved in osteoporosis will be set up. To elucidate the molecular mechanism of bone homeostasis we will generate mice models in which key genes will be inactivated by homologous recombination by Drs. Owen, Charnay and Levi (London, Paris, Genova) who have already inactivated Cbfa1, Krox-20 and Dlx5. Conditional gene targeting mediated by cre-recombinase will be used to induce tissu-specific inactivation in bone of genes which would otherwise cause a lethal phenotype. The possibility that genes identified in animal models are responsible for human pathology will be checked by Dr. de Vernejoul in Paris. The regulation of genes important for bone "well-being" will be studied in vivo and in vitro in order to design pharmacological approaches to affect bone homeostasis. These studies will also produce very important tools to direct gene expression in bone. The mode of action of the Estrogen Receptor in bone will be studied by Dr. Frank Gannon at EMBL. This is an essential part of the work because of the known correlation between Estrogen Receptor activity and bone defects (as illustrated for instance with the onset of bone loss in post-menopausal women). New immunodiagnostic and DNA-based diagnostic assays will be developed by Dr. Kane at Galway, Ireland while an industrial partner will develop new therapeutic and preventive treatments for human osteoporosis. To disseminate our results we have agreed to communicate them on a regular basis to the International Osteoporosis Foundation (IFO), which reunites more than 70 National Osteoporosis associations. IFO might be the best possible platform to make our results available to the end users.

Keywords:

Osteoporosis – Genetics - Prevention.

Co-ordinator

Name	Giovanni Levi
Department	Unità di Morfogenesi Molecolare
Organisation	Istituto Nazionale per la Ricerca sul Cancro
Address	Largo Rosanna Benzi 10, 16132 Genova, Italy
Phone :	+39 010 5737224
Fax :	+39 010 5737224
E-mail	levi@cba.unige.it

Partners

Frank Gannon, EMBL, Germany, frank.gannon@embo.org

Marian Kane, National University of Ireland, Ireland, Marian.kane@ucg.ie

Gaetano Clavenna, Dompè SpA, Italy, clavenna@dompe.it

Martin Hrabe De Angelis, GSF, Germany, hrabe@gsf.de

Marie Christine de Vernejoul, INSERM, France, Christine.devernejoul@inserm.lrb.ap-hop-paris.fr

Patrick Charnay, INSERM, France, charnay@wotan.ens.fr

Dafna Benayahu, University of Tel Aviv, Israel, Dafnab@post.tau.ac.il

Michael Owen, Imperial Cancer Research Fund, United Kingdom, m.owen@icrf.icnet.uk

Andreas Teubner, Ingenium Pharma, Germany, teubner@ingenium-ag.com

Thomas Meyer, Lion bioscience AG, Germany, thomas.meyer@lionbioscience.com

Note: Dompè SpA is currently exiting the project: its place is being taken by

Roland Baron, Aventis Pharma, France, roland.baron@aventis.com

Project number:	QLK6-CT-1999-02234
EC contribution:	€1,874,483
Duration:	48 months
Type:	RS
Starting date:	01/02/2000

Opioid Treatment of Chronic Pain and Inflammation of the Locomotor System

Objectives:

The overall objective is to develop new pharmacological means of treating pain in degenerative and inflammatory disease of the locomotor apparatus. The project is an attempt to clarify the neuronal mechanisms in normal and pathologic conditions, to develop a new generation of opioid drugs and to test their therapeutical efficacy in adjuvant arthritis. The specific aims are to a) assess the expression and receptor characteristics of neuropeptides, representing nociceptive, anti-nociceptive and immune regulatory functions in bone, joints and muscle under normal and arthritic conditions, b) design, synthesise, pharmacologically characterise and experimentally test a new generation of opiates, which hypothetically combine potent anti-nociceptive and anti-inflammatory effects without the classical side effects.

Brief description:

The expression of neuronal mediators in the locomotor system will be assessed under normal and arthritic conditions. In rats, the degree of adjuvant arthritis will be assessed by X-ray, paw volume measurement, serum markers and nociceptive tests. Tissues from bone, joints and muscle will be analysed with regard to neuropeptide expression, opioid receptor characteristics and immunologic features. The morphologic (immunohistochemistry) and quantitative (RIA) analysis will entail SP, CGRP (nociceptive), ENK, DYN (anti-nociceptive), VIP, NPY, NA (vasoactive), IL-1 and CRF (immunoregulatory). Receptor binding assays will characterise δ, μ, κ- opioid receptors with regard to number, specificity and affinity.
In the design and synthesis of new analgesic and immunosuppressive opioids for chronic locomotor disorders, it is important to minimise the CNS effects, while retaining their actions in the periphery. Hypothetically, a) delta-receptor opioids, antagonists as well as agonists, are useful templates for the development of novel drugs with analgesic (agonists) and immunosuppressive (agonists/antagonists) properties without side effects. b) derivatives of the mu-selective agonist 14-methoxymetopon are highly potent analgesics with mild side effects, which can be modified to act selectively in the periphery.
Biochemical and pharmacological characterization of the new opioid compounds will focus on agonist/antagonist properties in ileum and vas deferens preparations, and binding characteristics in brain tissue. In vivo studies will include anti-nociceptive and behavioural tests, and assessment of gastrointestinal transit (constipation) and CO2 partial pressure (respiratory depression). The effect of the novel opioid drugs with regard to analgesia and immunosuppression in the periphery will be tested in rat adjuvant arthritis. Apart from in vivo assessment of nociception and degree of arthritis, tissues from bone, joints and muscle will be analysed with regard to neuropeptide expression and opioid receptor properties. Lymphoid and synovial tissue will be analysed for immunosuppressive effects.

Keywords:

Pain - inflammation - musculo-skeletal tissues - arthritis - neuropeptides - opiates

Co-ordinator

Andris Kreicbergs
Department of Surgical Sciences, Section of Orthopaedics
Karolinska Institutet
171 76 Stockholm, Sweden
Phone : +46-8-51772721
Fax : +46-8-51775778
E-mail : andris.kreicbergs@ks.se

Partners

Wolfgang Brandt
Plant Biochemistry Institute
Leibniz Institute Halle
Halle, Germany
e-mail : wbrandt@ipb-halle.de

Helmut Schmidhammer
Institute of Pharmacy, Department of Pharmaceutical Chemistry
University of Innsbruck
Innsbruck, Austria
e-mail : Helmut.Schmidhammer@uibk.ac.at

Susanna Fürst
Department of Pharmacology and Pharmacotherapy
Semmelweis University of Medicine
Budapest, Hungary
e-mail : FURZSU@net.sote.hu

Project number:	QLK6-CT-2000-00139
EC contribution:	€1,309,156
Duration:	36 months
Type:	RS
Starting date:	01/04/2001

Neuromuscular Assessment In The Elderly Worker

Brief description:

Neuromuscular (NM) problems reduce working ability of ageing workers, and increase cases of work loss and accidents. For this reason, elderly people throughout Europe are forced into early retirement and fail to be self- supporting. There is a need to identify and monitor work related NM disorders in order to a) reduce their consequences by monitoring the most vulnerable individuals, b) identify the determinants of NM ageing related to occupational conditions and c) evaluate methodologies for warning elderly workers when there is insufficient relaxation in vulnerable muscles. Preliminary results show the possibility of identification of NM problems through non invasive techniques, recently developed within the SENIAM and PROCID Concerted Actions, which can provide quantitative indices of NM performance. Substantial field tests and training initiatives are required to demonstrate that these techniques: a) can be used outside the research labs and may have a European market in the fields of ergonomics and occupational health and b) can be routinely used to monitor the relationship between occupational and NM system conditions in the working environment. Standardisation of methodology is needed and will be developed.

Keywords:

Aging workers, Neuromuscular system, Ergonomics, Electromyogrphy, Muscle fatigue

Co-ordinator

Michele PATRISSI – Roberto MERLETTI
Consorzio Per La Ricerca E La Educazione Permanente (Corep)
Corso Duca Degli Abruzzi 24
I-10129 Torino
e-mail : merletti@polito.it

Partners

Hermie HERMENS
Proessingh Research And Development
Roessinghsbleekweg 33
NL-7522AH Enschede
e-mail : h.hermens@rrd.nl

Francesco BENVENUTI
Istituto Nazionale Ricovero E Cura Anziani
Dipartimento Di Geriatria, Laboratorio Di Fisiopatologiae Riabilitaziome Del Movimemto
Viale Michelangiole 41
I-50125 Firenze
e-mail : francesco.benvenuti@inrca.it

Otto M. PAULSEN, H. CHRISTENSEN
National Institute Of Occupational Health
Department Of Physiology National
Institute Of Occupational Health,
Lerso Parkalle 125
DK-2100 Copenhagen
e-mail : ks@ami.dk / hc@ami.dk

Roland KADEFORS
National Institute For Working Life / West
Tankegaangen 4
Se-40272 Göteborg
e-mail : roland.kadefors@niwl.se

Juergen KESSLER, Catherine DISSELHORST KLUG
Forschungsgesellschaft Fuer Biomedizinische Technik
Helmholtz -Institute For Biomedical Engineering At The Aachen University Of Technology
Pauwelstrasse 20
D-52074 Aachen
e-mail : disselhorst-klug@hia.rwth-aachen.de

Thomas Laeubli
Swiss Federal Institute Of Technology ,
Institute Of Hygiene And Applied Physiology
Clausiusstr. 25 ETH-Zentrum
CH-8092 Zürich
e-mail : Laeubli@iha.bepr.ethz.ch

Mario CAMOS
SIRIO AUTOMAZIONE S.R.L.
Via Simioli, 70
I-10098 Rivoli (TO)
e-mail : sirioaut@ipsnet.it

Claudio ORIZIO
Universita' Degli Studi Di Brescia,
Dipartimento Di Scienze Biomediche E Biotecnologie
Valsabbina, 19
I-25123 Brescia
e-mail : orizio@med.unibs.it

Project number:	QLK6-CT-2000-00417
EC contribution:	€1,356,997
Duration:	36 months
Type:	RS
Starting date:	01/03/2001

Pan-European Network For Ageing Muscle

Objectives:

There are three main objectives:
a) Evaluate to what extent healthy ageing and lack of muscle usage with age contribute to loss of muscle mass and function in the elderly.
b) Optimise muscle training regimens to counteract loss in muscle mass, with special emphasis on the value of eccentric contractions.
c) Evaluate whether intake of special nutrients can attenuate muscle damage and augment the muscle repair process as well as the exercise stimulus when performing muscle training.

Brief Description:

The project is divided into three phases. Phase I will see the development of three nutritional supplements: 1) antioxidant product, 2) bovine colostrum product, and 3) protein product as well as an evaluation of three different exercise models in young and old people. The exercise forms are strength training to induce muscle hypertrophy, including resistance (eccentric) cycling exercise. The latter causes muscle damage and allows the study of repair processes. Muscle biopsies will be analysed for the influence of ageing on respiratory and leg muscles and of exercise on leg muscle force and power with a special focus on growth factors such as IGF-1 and a number of key cytokines. In Phase II, the ability of these nutritional supplements to amplify the exercise-induced responses on muscle growth factors and repair mechanisms in old people will be evaluated in randomised placebo-controlled designs. Phase III will use the information from Phase II, and the most potent nutritional supplement and the best training mode, i.e. the one causing the largest exercise stimulus will be applied in a multi-centre study of old subjects. Leg and respiratory muscle training will be the interventions, and muscle mass, strength, and ADL-functions will be end-point measures of efficiency of the applied regimen. Moreover, muscle force per unit area will be determined at the single muscle fibre level and we will particularly evaluate how large the differences are, when comparing skeletal muscle fibre types in relation to velocity and tension in old individuals and to what extent elderly people respond to training. At the whole-body level isometric and isokinetic dynamotry, and magnetic resonance imaging will be used to identify accurately changes in whole muscle volume. In addition, in all three Phases there will be a mechanistic approach using molecular and immunological techniques to identify growth factor and cytokine responses and the stimuli for evoking these responses.

Keywords:

Skeletal muscles - elderly lack of muscle usage - loss of muscle mass - eccentric versus concentric contractions - antioxidants - colostrum - proteins - training response - immune response - local growth factors - gene expression

Co-ordinator

SALTIN Bengt
Rigshospitalet (University Hospital)
The Copenhagen Muscle Research Centre, sect. 7652
9, Blegdamsvej
DK-2100 Copenhagen Ø, Denmark
Tel : +45 35457621
Fax : +45 35457634
e-mail: cmrc@rh.dk

Partners

SJOBERG Lars-Borje
Semper Foods AB
Research and Quality Department
Stockholm, Sweden
e-mail : lars-borje.sjoberg@arla.se

GOLDSPINK Geoffrey
University College London
Department of Anatomy & Development Biology
Royal Free & University College Medical School
London, UK
e-mail : goldspink@rfhsm.ac.uk

GEA GUIRAL Joaquin
Institut Municipal d'Investigació Mèdica (IMIM)
Unitat de Recerca Respiratòria i Ambiental
Barcelona, Spain
e-mail : 86625@imas.imim.es

BOTTINELLI Roberto
Università degli Studi di Pavia
Instituto di Fisiologia Umana
Pavia, Italy
e-mail : r.bottinelli@unipv.it

Project number:	QLK6-CT-2000-00487
EC contribution:	€1,866,344
Duration:	36 months
Type:	RS
Starting date:	01/04/2001

Chondral And Osseous Tissue Engineering

Objectives:

Development of cartilage and bone in vitro. Development of their transplantation in vivo. Development of guided tissue regeneration. Use of biodegradable fixation devices. Development of microsurgical tissue transfer. Clinical application for joint resurfacing (osteoarthritis), treatment of large cranial bone defects and severe open tibial fractures.

Brief description:

The project is transnational (5 EU countries), multidisciplinary, and involves both producers and users. It includes:
1) In vitro: Autologous chondrocytes, periosteal-derived and autologous stromal marrow stem cells are isolated, and expanded in a novel co-culture environment involving controlled oxygen tension. Novel scaffolds made of biodegradable biocompatible polymers (polyglycolide, polylactide, their copolymers, tyrosine polymer and bioactive glass and its lactide-composite) are used in the construction of cartilage and bone. In some experiments, growth factors may be used. The quality and characteristics of the obtained constructs are determined. Model bone/cartilage defects in experimental animals (rats, rabbits, sheep and pigs) will be studied. Biodegradable materials will also be used as barrier membranes for guided tissue regeneration.
2) Tissues constructed in vitro are transplanted as autogenous grafts. In other series, perichondrial or periosteal grafts/flaps are used with biodegradable scaffolds to develop bigger tissue grafts used to treat cartilage and bone defects as microvascularised flaps. Novel biodegradable fixation devices will be used to stabilise these grafts. Biodegradable devices containing biologically-active agents (e.g. antibiotics), will be developed. Bio-prosthesis will be also developed. The quality of tissues produced, and healing of the treated cartilage and bone defects will be evaluated using microradiography, histology, electron microscopy, biochemistry (e.g. DNA content, labelled collagens and proteoglycans, mass spectrometry, chromatography), histochemistry (e.g. the immunoperoxidase method using well-characterised monoclonal antibodies) and also X-ray, CT and MRI. Data will be handled using specific data capture program.
3) Clinical application at the end of the project, with the most successful methods will be applied as a pilot study in few patients depending on the results of the experimental phase and availability of cases. Indications include resurfacing in degenerative joint disease (osteoarthritis), to treat rheumatoid small joints, to treat large craniofacial bone loss, and free flaps are used to treat severe open tibial fractures, etc.

Keywords:

Ageing - Biodegradable polymers - Bone - Cartilage - Co-culture - Coping - Data capture - Disabilities - Regeneration - Resurfacing - Microsurgery - Osteoarthritis - Oxygen tension - Perichondrium - Periosteum - Prosthesis - Rheumatoid - Self-reinforced - Tissue-engineering.

Co-ordinator

WARIS Timo
Division of Plastic Surgery
Department of Surgery
Oulu University Hospital
Kajaanintie 52 A
FIN-90221 Oulu, Finland.

Tel.: +358 8 315 2316
Fax: +358 8 315 2485
e-mail: timo.waris@oulu.fi

Partners

Dr T Waris, Dr N Ashammakhi
Oulu

Prof. P Törmälä
Tampere

Prof. E Muller, Dr C Gaissmaier
Tuebingen

Prof. M Nincovic
Innsbruck

Dr E Arnaud
Paris

Prof. P Ebbesen
Aarhus

Prof. E Toft
Mesibo

Project number:	QLK6-CT-2000-00530
EC contribution:	€1,827,210
Duration:	36 months
Type:	RS
Starting date:	01/01/2001

Ageing-Related Muscle Wastong: Causes, Prevention and Reversal

Objectives:

This proposal establishes ATRONET, whose aim is to understand the reasons for atrophy in ageing muscle and the mechanisms by which it can be reversed. Expected outcomes of the work are a) definition of changes occurring in ageing muscle that cause atrophy, b) indications of how individuals may vary in their propensity to ageing-related muscle weakening, c) an improved understanding of the potential routes to mitigation of ageing-related muscle weakening.

Brief Description:

The project commences with determination of the cellular changes occurring during ageing-related muscle atrophy. Human and rodent muscle samples from adult and poorly or successfully ageing individuals will be analysed for changes in multinucleate muscle fibre nuclear domain size, nuclear number, fibre number and capacities of associated mononucleate myogenic cells (satellite cells). These studies will determine what cellular events require explanation at the molecular level.
ATRONET will examine a series of rodent models of muscle fibre size control in order to select suitable models for further examination. Chief among these are a unique collection of genetically-modified mice with altered fibre size. Animals showing fibre size changes akin to those in ageing will be used subsequently.
Five lines of work will then determine the molecular mechanisms underlying muscle fibre size control. First, events intrinsic to the fibres will be examined, focussing on the signal transduction pathways recently demonstrated to control fibre size in vivo in rodents. Early markers of fibre size change will be established. Second, the transcription factor targets of signalling involved in size changes will be identified, Third, the effect of neural activity and how it impinges on the signalling pathways will be studied, in order to understand how best might size changes be reversed, for example by exercise. The effects of fibre activity and fibre stretch will be distinguished. Fourth, we will examine of the changing properties of satellite cells, their contribution to ageing-related muscle wasting and their potential reversal by treatment with growth factors or other agents. Fifth, the role of extracellular matrix in regulating muscle fibre size, modulating the effects of growth factors and affecting satellite cell and fibre behaviour will be analysed.
These studies will identify a) potential sites of mis-regulation in ageing individuals, b) potential routes for preventative or restorative measures and c) potential sources of individual variation in ageing prognosis.

Keywords:

Muscle - innervation - weakness - wasting - exercise - satellite cell - myonuclei - fibre size - extracellular matrix - electrical activity - mechanical stretch - bedrest - transgenic mice

Co-ordinator

HUGHES Simon
4th Floor South, New Hunt's House
Guy's Campus
King's College London
London SE1 1UL, UK

fax: 44 20 7848 6550
e-mail: simon.hughes@kcl.ac.uk

Partners

Schiaffino, Stefano
CNR Center of Muscle Biology & Physiopathology,
Department of Biomedical
Sciences, University of Padova,
Viale G. Colombo 3,
35121 Padova, Italy
schiaffi@civ.bio.unipd.it

Muñoz-Canoves, Pura
Pura Munoz
Institut de Recerca Oncologica
Hospital Duran i Reynals
Aut. Castelldefels km 2,7
08907 Barcelona
Spain
pmunoz@iro.es

Lomo, Tjere
Terje Lømo
Institute of Neurophysiology
University of Oslo, Norway
P.O.Box 1104, Blindern, 0317 Oslo, Norway
terje.lomo@basalmed.uio.no

Larsson, Lars
Noll Physiological Research Center
101
Pennsylvania State University
University Park, PA 16802-6900, USA
lgl5@psu.edu

Carmeliet, Peter M.D., Ph.D
Associate Professor, Adjunct Director
Center for Transgene Technology & Gene Therapy
Campus Gasthuisberg O & N
Herestraat 59
Leuven, B-3000 Belgium
Peter.Carmeliet@med.kuleuven.ac.be

Project number:	QLK6-CT-2001-00323
EC contribution:	€1,602,561
Duration:	36 months
Type:	RS
Starting date:	01/01/2002

Physical Frailty And Loss Of Functional Independence In Old Age: Determinants And Adaptations To Physical Activity

Objectives:

BETTER-AGEING aims to investigate the causes of frailty of the human motor system from whole body performance to single muscle fibre level, and the impact of an innovative 12-month physical activity programme on frailty prevention, well being and daily functioning.

Brief Description:

Fitness of the motor system is the limiting factor determining the ability of independent living until death. Indeed, even amongst the "healthy" old, it is musculo-skeletal frailty that is the limiting factor. Hence a major effort to understand and mitigate the phenomenon of frailty seems imperative for maintaining mobility inside and outside the home, postural stability (and thus the prevention of falls), the ability for self-care, well being and social inclusion.
The project BETTER-AGEING will therefore investigate the causes and reversibility of frailty in old age using a 12-month physical activity programme, specifically designed to increase muscle mass and strength, enhance postural stability and locomotory competence in a healthy European population aged 70+ years.
Specifically, the Partners of the BETTER AGEING Research Consortium seek to provide answers to the following questions: 1) What are the exact causes for muscle weakness in old age? 2) How much of the loss of strength and power is due to age-related muscle atrophy (sarcopenia) and how much to alterations of motor control? 3) Why is muscle weakness in old age contraction-specific? Is this due to a contraction-specific deficit in activation or is it just due to muscular factors? 4) Why are senile muscle fibres intrinsically weaker than young ones? 5) How much of the alteration in muscle strength and power in old age is due to changes in the muscle per se and how much to changes in tendon mechanical properties? 6) What are the implications of changes in muscle-tendon structure, muscle metabolism and motor unit recruitment on locomotory function and relative energy cost? 7) How do changes in motor system structure, function and control explain decrements in performance in common daily activities? 8) What is the degree of recovery of motor function, in its various expressions, induced by physical training? Are these reflected by an actual improvement in the perceived state of well-being and daily functioning?

In summary, BETTER-AGING will improve our understanding of the mechanisms involved in normal ageing and also in those with a history of falling by providing new information on 1) the causes and functional consequences of frailty of the very old, and 2) the improvement of motor function, whole body performance and psychosocial factors as a result of innovative, targeted exercise regime through exercise.

Keywords:

Ageing - frailty - sarcopenia - muscle weakness - muscle function - muscle contraction - falls - muscle fibres - motor control - skeletal muscle oxidative metabolism - exercise tolerance - strength - power - physical activity - daily activities - independence - well being - quality of life

Co-ordinator

Professor NARICI Marco
Active Life Span Research Laboratory,
Centre for Biophysical and Clinical Research into Human Movement (CRM)
Department of Exercise and Sport Science,
Manchester Metropolitan University, Alsager Campus
Hassall Road, Alsager, ST7 2HL
UNITED KINGDOM

Tel.: (44-161) 247 5659
Fax: (44-161) 247 6375
e-mail: m.narici@mmu.ac.uk

Project Manager:

Dr BIRCH Karen
Centre for Biophysical and Clinical Research into Human Movement (CRM)
Department of Exercise and Sport Science,
Manchester Metropolitan University, Alsager Campus
Hassall Road, Alsager, ST7 2HL
UNITED KINGDOM

Partners

Prof. Roberto Bottinelli, Istituto di Fisiologia Umana, Universita' di Pavia, Italy.
e-mail: roberto.bottinelli@unipv.it

Prof. Jacques Duchateau, Laboratory of Biology, Universite' Libre de Bruxelles, Belgium.
e-mail: jduchat@ulb.ac.be

Prof. Jacques Van Hoecke, Groupe Analyse du Mouvement, UFR STAPS, Universite' de Bourgogne, France.
e-mail: vanhoeck@u-bourgogne.fr

Dr Olga Rutherford, and Prof. Di Newham, Divisions of Physiology and Physiotherapy, King's College London, University of London, United Kingdom.
e-mail: olga.rutherford@kcl.ac.uk

Prof. Bruno Grassi, Dipartimento di Scienze e Tecnologie Biomediche, Universita' degli Studi di Milano, Milan, Italy.
e-mail: Bruno.Grassi@unimi.it

Dr Paolo Capodaglio, Servizio di Fisiatria Occupazionale ed Ergonomia, Salvatore Maugeri Foundation, Pavia, Italy.
e-mail: pcapodaglio@fsm.it

Prof. Ken Fox, Department of Exercise and Health Sciences, University of Bristol, United Kingdom.
e-mail: K.R.Fox@bristol.ac.uk

Project number:	QLK6-2002-00491
EC contribution:	€599,722
Duration:	36 months
Type:	TN
Starting date:	01/01/2003

Network in Europe on Male Osteoporosis

Objectives:

To focus and to co-ordinate ongoing relevant European research initiatives on male osteoporosis (OP). To achieve major progress in the identification of men at high risk for osteoporotic fracture. This includes characterisation of men at high risk, definition of tools for risk assessment (i.e. clinical risk factors, physical bone assessment techniques, biochemical and hormonal markers, genetic markers). Assessment of these tools and the conditions for their implementation.

Brief description:

Fractures are frequent in elderly men and carry a heavy burden in terms of mortality, morbidity and irreversible loss of quality of life and autonomy. However, male osteoporosis (OP) has been a neglected problem. Presently, there is no adequate evidence base for rational management of male OP and no consensus on diagnosis or treatment. In this context, NEMO will address the identification of men at high risk for fracture, the key to substantial progress in the management of male OP. The strength of the network lies in its multidisciplinary approach and the ability to take advantage of large European study cohorts. Expected achievements are a full characterisation of men at risk and assessment of tools for their identification with definition of conditions for optimal implementation. The results will be integrated in an outcome model that is broadly applicable to clinical risk assessment and modelling of effectiveness and economical impact of management strategies in male OP.

Keywords:

Osteoporosis - bone fracture - men - ageing - risk assessment - risk factors - epidemiology - bone absorptiometry - quantitative ultrasound - bone turnover - hormones - heredity - environment - gene polymorphism - bone micro-architecture

Co-ordinator

Jean M. Kaufman
Dpt Endocrinology 9K12IE
University Hospital Ghent
De Pintelaan 185
B-9000 Gent
Belgium
Phone : +32 9 240 21 30
Fax : +32 9 240 38 17
e-mail : jean.kaufman@rug.ac.be

Partners

Name	Organisation	Country	e-mail
Cyrus Cooper (partner 2)	Medical Research Council Environmental Epidemiology Unit	United Kingdom	cc@mrc.soton.ac.uk
Jonathan Reeve (partner 3)	The Chancellor, Masters & Scholars of the University of Cambridge	United Kingdom	cc@mrc.soton.ac.uk
Juliet Compston (partner 4)	University of Cambridge School of Clinical Medicine	United Kingdom	jec1001@cam.ac.uk
Claus Glüer (partner 5)	Christian-Albrechts-Universitaet zu Kiel	Germany	glueer@rad.uni-kiel.de
Pierre Delmas (partner 6)	Institut National de la Santé et de la Recherche Médicale	France	delmas@lyon151.inserm.f
MC de Vernejoul (partner 7)	Institut National de la Santé et de la Recherche Médicale	France	christine.devernejoul@inserm.lrb.ap-hop-paris.fr
André Uitterlinden (partner 8)	Erasmus University Rotterdam	The Netherlands	uitterlinden@endov.fgg.eur.nl
Daniel Chappard (partner 9)	University of Angers	France	daniel.chappard@univ-angers.fr
Olof Johnell (partner 10)	Lund University	Sweden	olof.johnell@orto.mas.lu.se
Adolfo Diez-Perez (partner 11)	Institut Municipal d'Investigacio Mèdica	Spain	ADiez@imas.imem.es
Sergio Ortolani (partner 12)	Instituto Auxologico Italinao	Italy	ortolani@auxologico.it
Paul Lips (partner 13)	Vrije Universiteit Medical Center	The Netherlands	P.Lips@azvu.nl
Carlo Gennari (partner 14)	University of Siena	Italy	gennari@unisi.it
Steven Boonen (partner 15)	Katholieke Universiteit Leuven	Belgium	steven.boonen@uz.kuleuven.ac.be
René Rizzoli (partner 16)	Hôpitaux Universitaires de Genève	Suisse	rizzoli@cmu.unige.ch
Jan Stepan (partner 17)	Charles University	Prague (Czech Republic)	JSTEPAN@mbox.vol.cz
JP Devogelaer (partner 18)	Université Catholique de Louvain	Belgium	devogelaer@ruma.ucl.ac.be
Daniel Navid (partner 19)	International Osteoporosis Foundation	France	dnavid@osteofound.org
John Kanis (partner 20)	University of Sheffield	United Kingdom	mbeneton@compuserve.com

Project number:	QLK6-CT-2002-02243
EC contribution:	€1,427,349
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

The diagnostic validity of dental radiography techniques for identifying osteoporotic patients

Objectives:

To compare dental methods of osteoporosis assessment using ROC analysis. The first objective is to recruit 600 women in the 45-55 year age group and perform 'gold standard' bone densitometry of the hip and spine using DXA. Subjects will also undergo panoramic and intraoral dental radiography. The radiographs will be subjected to a battery of established and novel analyses, ranging from simple qualitative assessments to complex computer-aided diagnosis. The final objective will be to relate these radiographic data, alone or in combination with simple clinical risk assessment tools, to the bone densitometry data and perform ROC analysis to identify the optimal technique for diagnosis of osteoporosis.

Brief description

Osteoporosis is a major European health problem. Diagnosis is primarily by dual X-ray energy absorptiometry (DXA) but access to this is limited in the European Union. Dental radiography is readily available; radiographs can be used as an indicator of low bone density. We aim to investigate the efficacy of dental radiographic indices in identifying patients with low bone density. We will recruit 600 perimenopausal women who will undergo bone densitometry to establish their osteoporosis status, and dental radiography. Dental radiographs will be assessed qualitatively and quantitatively using manual and comupterised methods to deliver a range of radiographic data. The validity of each radiographic index in diagnosis of osteoporosis will be measured using ROC analysis. This will allow us to devise recommendations to dentists on appropriate criteria for referral to medical colleagues for bone densitometry.

Problem:

How might radiographic and clinical information be used by dentists to identify patients at risk of osteoporosis?

Expected results:

To provide the best dental method of radiographic and clinical risk assessment for those patients most at risk of osteoporosis.

Potential applications:

By developing and assessing the diagnostic value of dental radiographic (and combined radiographic and clinical) methods in identifying subjects at risk of having osteoporosis, it is likely that dentists may be able to facilitate better access to accepted osteoporotic diagnostic procedures (DXA) for those patients at high risk of bone fractures.

Project web-site:

This will be important in the future as part of our dissemination strategy.

Keywords:

osteoporosis – bone - dental radiography

Co-ordinator

Professor Keith Horner
Radiology dept.,
University Dental Hospital of Manchester,
Higher Cambridge Street,
Manchester M15 6FH, UK
Tel: +44 161 275 6640
Fax: +44 161 275 6840
e-mail: Keith.Horner@man.ac.uk

Partners

Dr. Christina Lindh
Malmö University,
Faculty of Odontology,
Department of Oral Radiology,
SE-205 06 Malmö, Sweden
Tel: +46 40 6658411
Fax:: ++46 40 6658549
e-mail: christina.lindh@od.mah.se

Dr. Anastasia Mitsea
Dept. Oral Diagnosis and Radiology,
Dental School, University of Athens,
Thivon 2, Athens 115-27, Greece.
Tel and Fax: +30 10 779 5875
e-mail: amitsea@dent.uoa.gr

Dr. Reinhilde Jacobs
Oral imaging Center,
School of Dentistry, Oral Pathology and Maxillofacial Surgery
Kapucijnenvoer 7, B-3000 Leuven, Belgium.
Tel: +32 16 33 24 10
Fax: +32 16 33 24 84
e-mail: reinhilde.jacobs@med.kuleuven.ac.be

Professor P. van der Stelt
Department of Oral Radiology,
Academic Centre for Dentistry (ACTA),
Louwesweg, Amsterdam,
The Netherlands
Tel: +31 20 5188 262
Fax: +31 20 5188 480
e-mail: pvdstelt@acta.nl

Project number:	QLK6-CT-2002-02288
EC contribution:	€2,486,493
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

Obesity and disease in ageing

Objectives:

To identify differences between white adipose tissue (WAT) depots and biomarker(s) for the development of age related obesity, type 2 diabetes and cardiovascular disease (CVD) and evaluate the effects of CLA plus n-3 PUFA (conjugated linoleic acid and polyunsaturated fatty acids) supplementation on these and the somatotrophic axis in humans and animal models of differing adiposity. Also to elucidate the cellular mechanisms underlying leptin "insensitivity".

Brief description:

The principle aims of this project are to evaluate a novel prognostic/diagnostic biomarker for susceptibility to age related obesity and associated diseases and to also evaluate a non-conventional, natural therapeutic agent (CLA plus n-3 PUFA) in the amelioration of these conditions. To fulfil these aims we will define the mechanism underlying obesity related type 2 diabetes and CVD in human dietary supplementation studies, diet induced obese rodents, spontaneously low body fat rats and cell cultures transfected with epitope tagged leptin receptors. Diet induced obesity in rodents closely mirrors obesity in the human, which is strongly influenced by diet composition, but is polygenic in nature, while the spontaneously low body fat rat has increased longevity and a healthy senescence, providing us with a model for the very lean individual. The transfected cells will allow us to study leptin receptor regulation at the cellular level. Using these models we will test the contention that leptin receptor desensitisation/down-regulation together with low serum adiponectin levels lead to ectopic lipid deposition and together form the key components in the development of obesity related type 2 diabetes and CVD. Thus, in the human we will measure leptin receptor expression on circulating monocytes and serum leptin and adiponectin levels to provide potential peripheral prognostic/diagnostic biomarkers. Pancreatic β cell function/insulin resistance and cardiovascular fitness (heart rate variability) will also be tested and the effects of CLA plus n-3 PUFA supplementation on all these parameters will be evaluated. In the rodent models cardiomyocyte, pancreatic β cell, hypothalamic neurone, somatotroph and WAT depot function will be measured with varying adiposity and with CLA plus n-3 PUFA supplementation. Regulation and function of the leptin receptor will be elucidated in transfected cells and in tissues from the rodent models defined above and in human monocytes.

Keywords:

Age related obesity - cardiovascular disease - type two diabetes - insulin insensitivity - leptin receptor function - adiponectin - receptor regulation

Co-ordinator

Dr Lynda WILLIAMS
Rowett Research institute
Molecular physiology group
Greenburn Rd
UK-AB21 9SB BUCKSBURN- ABERDEEN
Phone: +44-1224716682
Fax: +44-1224716686
E-mail: L.Williams@rri.sari.ac.uk

Partners

Lipid and Cell Biology and Human Nutrition Units
Rowett Research Institute
Aberdeen

Professor Bo Ahrén
Department of Medicine
Lund University
Malmö, Sweden.

Professor Robert Bonvallet
UCBL UMR 5123
Université Claude Bernard
Lyon 1, France

Professor Paul Trayhurn
Department of Medicine
University of Liverpool
Liverpool, UK

Professor Nigel Bunnett
Departments of Surgery and Physiology
University of California
San FranciscoUSA

Dr Gerard Morel
CNRS UMR 5123
Université Claude Bernard
Lyon 1, France.

Professor Carlos Diéguez
Department of Physiology
Faculty of Medicine
Santiago de Compostela, Spain

Dr Judy Buttriss
British Nutrition Foundation
London, UK

Project number:	QLK6-CT-2002-02363
EC contribution:	€556,954
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

Advanced Detection of Bone Quality

Objectives:

Beside bone density, bone architecture and quality are main factors to assess the fracture risks and the evolution of osteoporosis. The objective of the ADOQ project is to evaluate the benefits of 3D peripheral Quantitative Computer Tomography linked to finite element analysis compared to the actual methods based only on bone density.

Brief description:

The objective of ADOQ is to demonstrate the benefit of measurements based on the 3DpQCT technique to evaluate bone quality. Four 3DpQCT systems will support a multi-centre clinical study performed in five clinical centres. The systems will enable in-vivo examinations of the distal human radius and the tibia with a resolution of 100*100*100 μm. Measurements will be associated to finite element analysis to determine bone mechanical properties. The clinical study will be realised on an average of 1500 persons with the objective of:
Defining normative data for bone architecture: reference data of 3DpQCT measurements in the radius and the tibia will be collected on a population aged from 20.
Demonstrating the contribution of structure to the fracture risk independently of the bone mineral density as measured by DEXA.
Evaluating the effects of physical activities on bone architecture as a prevention mean and as a support to treatment: in a cross sectional study performed at the age when peak bone mass is achieved, ADOQ intends to evaluate the effects of intense physical activity on peripheral bone macro and micro architecture, comparing weight bearing and non weight bearing sports.
Evaluating the effects of decreased physical activity: the study will aim at evaluating the influence of reduced muscle power on bone architecture in case of hemi- or paraplegia on bone structure, as well as evaluating the bone structure changes after peripheral fractures.
Identifying thresholds based on architectural and densitometric parameters to better detect patients at higher risk of osteoporosis and osteoporotic patients at higher risk of fracture.
Obtaining normative data on a population representative of astronauts and demonstrate the potential of 3DpQCT to foresee and monitor bone loss of astronauts before and after a space flight.

Keywords:

Older people - elderly - ageing - public health - diseases - clinical survey - osteoporosis - bone - bone architecture - bone microarchitecture - medical imaging - micro-computed tomography - bone quality - finite element analysis - effects of exercise - space flight.

Co-ordinator

MEDES
Executive Director L. BRAAK
Institut de Médecine et e Physiologie Spatiale
1, avenue Jean Poulhes
31403 Toulouse
France
Phone: +33 5 34 31 96 12
Fax: +33 5 34 31 96 01
E-mail: Laurent.braak@medes.fr

Audrey Berthier
Same address & Fax
Phone: +33 5 34 31 96 03
E-mail: audrey.berthier@medes.fr

Partners

ETH
Pr. Peter Rüegsegger
Switzerland

SCANCO
Dr. Bruno Koller
Switzerland

University of Cambridge
Pr. Jonathan Reeve
England

University of St Etienne
Pr. Christian Alexandre
France

University Hospital Geneva
Pr. Rene Rizzoli
Switzerland

University Hospital Benjamin Franklin
Free University Berlin
Pr. Dieter FELSENBERG
Dr. Jörn RITTWEGER
Germany

European Space Agency
Dr. Roger Binot
The Netherlands

Project number:	QLK6-CT-2002-02440
EC contribution:	€1,399,714
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

Improvement of Hip Fracture Prediction in Osteoporotic Subjects by Low-Dose Volumetric QCT Assessment and Finite Element Analysis of the Proximal Femur

Objectives:

To develop and optimise, in term of radiation and image quality, a volumetric 3D quantitative computed tomography (QCT) image analysis of the cortical and trabecular bone mineral density distribution as well as geometrical parameters of the proximal firmer
To create and validate finite elements models of the proximal femur. Final goal is to improve fracture risk prediction in highly exposed subjects.

Brief description:

The project is split into three parts:
Determination of an optimal volumetric CT acquisition protocol. The best compromise between image quality and reduced radiation dose will be found. Image quality and radiation dose will be analysed by phantom and cadaver scans. Effective dose assessment will be calculated theoretically and will be verified by cadaver measurements. A semi-anthropomorphic phantom with realistic geometry, BMD, cortical thickness and volume values will be manufactured. For image analysis, an off-line PC-based workstation will be developed. The reproducible determination of analysis volumes of interest and geometrical parameters will be ensured by an anatomical co-ordinate system attached to the femoral neck.
In-vitro QCT analysis of excised femurs and subsequent bio-mechanical testing will be used to correlate volumetric BMD and geometrical parameters with bone strength. Forty excised femurs will be investigated. Volumetric parameters assessed will include BMD along the neck and the shaft axis, cortical thickness, cross-sectional moments of inertia, and length of the neck axis. The value of these parameters in fracture risk prediction will be assessed in a group of 120 elderly female patients.
Personalised FE models based on subject specific QCT data will be developed to improve the individual fracture risk prediction. With another type of models (parameterised), virtual loading schemes and influence of hip geometry on fracture risk will be studied. Both models types will be validated using the bio-mechanical tests of the excised femurs. The results of the models will also be used to optimise the analysis of the QCT measurements. Individual FE analysis will finally be performed in 10 patients to assess bone strength.

Keywords:

Osteoporosis - Quantitative Computed Tomography - Hip - Fracture - Finite element models - Bone - Bone Mineral Density

Co-ordinator

Prof. LAREDO Jean-Denis
Service de Radiologie Ostéo-Articulaire
Hôpital LARIBOISIERE
2, rue Ambroise Paré
75475 PARIS cedex 10, FRANCE
phone : (33-1) 49 95 61 77
fax : (33-1) 49 95 86 99
email : jean-denis.laredo@lrb.ap-hop-paris.fr

Partners

Assistance Publique des Hôpitaux de Paris et Laboratoire de Radiologie Expérimentale, Faculté de Médecine Lariboisière-Saint-Louis, Université Paris VII
Pr LAREDO Jean-Denis
Dr BOUSSON Valérie
Mme BERGOT Catherine
Dr Caroline PARLIER-CUAU
Dr ROQUEPLAN François

University of Medical Physics, University of Erlangen, Germany
Dr ENGELKE Klaus
Dr SCHMIDT Bernhard
Prof. KALENDER Willi

University of Manchester, England
Prof. ADAMS Judith E.
Dr SELBY Peter
Dr O'NEILL Terry

Laboratoire de Biomécanique, Ecole Nationale des Arts et Métiers, UPRESA CNRS 8005, PARIS, France
Prof LAVASTE François
Prof SKALLI Wafa
Dr MITTON David
Mr LE BRAS Anthony

Project number:	QLK6-CT-2002-02582
EC contribution:	€2,082,620
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

Intervertebral Disc Degeneration: Interplay Of Age, Environmental And Genetic Factors

Objectives:

Our aim is to determine the influence of genetics, environment and age on intervertebral disc degeneration. We will assay blood samples from a twin-study, from back pain patients and from pain-free controls for gene-polymorphisms associated with disc degeneration. We will also examine disc tissue and cells from the patients. We will examine data from these studies to determine how genetic factors affect the behaviour and integrity of disc tissue and cells.

Brief description:

The project will focus on age/gene/environment interactions in two groups of subjects. The first are subjects of a classic twin study comparing groups of monozygotic and dizygotic twin pairs discordant for the known major environmental risk factors for back pain. Their degree of disc degeneration will be monitored by MR imaging. The second group consists of back pain patients and their partners. Blood samples will be taken from both groups and assayed for disc-degeneration linked polymorphisms and for markers of cellular senescence. Tissue samples will be obtained from back pain patients undergoing routine surgical removal of their intervertebral discs for treatment of pain or deformity. Nutrient transport into the discs of these patients will be measured using needle microelectrodes to monitor nitrous oxide and oxygen levels. A sample and blood data base will record anonymous details of the patients such as age, sex, diagnosis, disc level, treatment, details of surgical specimen removed. The disc samples will be assessed histologically for degeneration and cell senescence. Samples will then be sent as appropriate for other assays. Biophysical properties of matrix macromolecules will be related to turnover measured by aspartic acid racemization. Tissue mechanical properties will be related to macromolecule degradation. The effect of matrix degradation on angiogenesis and neural ingrowth in a culture model will be determined. Cellular responses to mechanical and nutritional stress will be measured and the signalling cascades which are involved will be investigated. The information on the relationship between degeneration-linked polymorphisms and matrix and cellular properties will be used to develop a diagnostic grading scheme which can be used clinically. Novel 'risk genes' are likely to be identified and the aetiopathological of disc degeneration should be better understood..

Keywords:

Intervertebral disc - gene polymorphism - disc degeneration - twin study - MRI - back pain - proteoglycan - aggrecan - collagen network - angiogenesis - neural ingrowth - intracellular signalling - mechanotransduction - - cellular mechanics - cell senescence - cellular repair.

Co-ordinator

Dr JPG Urban,
Physiology Laboratory
Oxford University,
Parks Rd,
OXFORD OX1 3PT, UK
Tel +44 1865 272509
Fax +44 1865 272469
email: jpgu@physiol.ox.ac.uk

Partners

Professor A Maroudas
Technion- Israel Institute of Technology

Dr Sally Roberts
Robert Jones and Agnes Hunt Orthopaedic & District Hospital NHS Trust

Dr Cornelia Neidlinger-Wilke
Universitat Ulm, Medizinische Facultat

Professor Tapio Videman
University of Helsinki

Dr. Dimitrios Kletsas
National Centre for Scientific Research 'Demokritos

Dr Jacques Huyghe
Technische Universiteit Eindhoven

Project number:	QLK6-CT-2002-02629
EC contribution:	€3,000,000
Duration:	48 months
Type:	RS
Starting date:	01/01/2003

Genetic Markers For Osteoporosis

Objectives:

Fractures related to osteoporosis account for a significant disease burden in Europe and this is set to increased in the near future. Since genetic factors play an important role in the pathogenesis of osteoporosis, identification of osteoporosis risk alleles represents a prime focus for research effort. This could provide new tools for risk assessment and identify novel biological pathways to be targeted for intervention. Association analysis of candidate gene polymorphisms is the most powerful approach to quantify risk conferred by genes which predispose to osteoporosis, because of the polygenic nature of the disease and the small contribution of individual alleles. We shall study genetic determinants of osteoporosis in several large European cohort studies, allowing accurate quantification of risk-allele effects and meta-analysis of sub-groups based on ethnicity, age, sex and other clinical endpoints. The long term objective to increase understanding of the pathogenesis of osteoporosis and to identify genetic markers which can be used to help target preventative measures such as lifestyle modification and drug treatments more effectively.

Brief description:

The research program will apply novel tools related to genomics, genetics, bio-informatics, and statistical analysis to establish a collection of osteoporosis risk alleles. The program strategy is focussed on identifying novel risk alleles through several approaches and on testing existing risk alleles, in relation to aspects of osteoporosis (bone mineral density (BMD), bone loss, fracture, gene-nutrient interaction, response to hormone replacement therapy (HRT). The proposal combines excellent resources to perform such studies with >20.000 subjects by meta-analyses of the data, organisation of meetings, and workshops. Several closely related workpackages will be carried out:

1.Genotyping of already recognised candidate gene polymorphisms, in population studies involving perimenopausal women and older men and women.

2.A large collection of osteoporosis pedigrees will be used to compare linkage- vs. association analysis of osteoporosis risk genes.

3.Novel approaches in molecular and statistical analysis of multiple polymorphisms in a single gene (haplotyping) will be used for polymorphism evaluation.

4.We will identify polymorphisms of (novel) bone genes, implicated in rare monogenic bone diseases and analyse these in relation to osteoporosis in populations.

5. We will seek novel genetic determinants of bone mineral density by using linkage disequilibrium mapping to study loci syntenic to those which regulate BMD in mice. The resulting genes will be further investigated in association studies as described above.

6.Meta-analyses of genotype data in all populations will be performed to accurately quantify the risk estimates of risk alleles and perform sub-group analysis based on age, gender, ethnicity, and endpoint including fracture, BMD, and bone loss.

7.We will study the influence of dietary calcium intake on the effect of osteoporosis risk alleles among different European countries.

8.We will determine if there is a genotype-dependent response-to-treatment with hormone replacement therapy in women.

Keywords:
Osteoporosis - genetic analysis of complex traits – ageing - bone disease – diagnostics

Co-ordinator

Dr. André G. Uitterlinden
Genomic Laboratory
Room Ee 575
Department of Internal Medicine
Eramus University Rotterdam
mail: PO Box 1738, NL-3000-DR Rotterdam
street: Dr. Molenwaterplein 50, NL-3015 GE Rotterdam
The Netherlands
Tel: +31-10-4087573
Fax: +31-10-4089461
Mobile: +31-(0)6 53769076
Email: uitterlinden@endov.fgg.eur.nl

Partners

Prof.dr.Stuart H. Ralston
Bone Research Group, University of Aberdeen Medical School
United Kingdom

Dr. Bente L. Langdahl
Department of Endocrinology & Metabolism, Aarhus University Hospital
Denmark

Prof. Dr. Maria Luisa Brandi
Sezione di Reumatologia, Nefrologia e Cefalee,
Dipartimento di Medicina Interna, Universita' degli Studi di Firenze
Italy

Dr. Jonathan Reeve
Bone Research Group (MRC), Department of Medicine,
University of Cambridge
United Kingdom

Dr. Simon Bennett
rogramme Director, Oxagen Ltd
United Kingdom

Dr. Wim van Hul
Department of Medical Genetics, University of Antwerp
Belgium

Prof.Dr. John P.A. Ioannidis
Department of Hygiene & Epidemiology,
Medical School, University of Ioannina
Greece

Prof. Dr. Adolfo Diez-Perez
Department of Internal Medicine & Infectious Diseases
Hospital del Mar, Autonomous University of Barcelona
Spain

Project number:	QLK6-CT-2002-02700
EC contribution:	€662,692
Duration:	36 months
Type:	DM
Starting date:	01/01/2003

Development and clinical evaluation of bioreplaceable small joint prosthesis for the correction of destructed small joints in rheumatoid arthritis and osteoarthritis.

Objectives:

The objective of the demonstration project "JOINT SCAFFOLD" is to develop and demonstrate the performance and efficiency of a new bioresorbable joint implant (a "scaffold") in a large clinical study in Europe, in order to transfer rapidly the novel prosthesis from the primary development to the clinical practice. The new implant is designed to Osteoarthritis and Rheumatoid Arthritis elder people, with small destructed joints in fingers and toes. The project is based on strong preliminary scientific research and clinic results.

Brief description:

Bioreplaceable MCP-joint prosthesis is a new concept in joint surgery. The concept of bioreplaceable joint scaffold has been invented by two partners of this consortium in collaboration. Using the modern biomaterials technology, a new prosthesis is developed to prevent the harmful effects of silicone and to provide a method, which reliably corrects the deformities, and gives a potential permanent functional result in MCP-arthroplasty. The new prosthesis is only a temporary support in the joint until the spacer is bioabsorbed and replaced by the new fibrous-like tissue cushion. By using bioabsorbable materials, the long term foreign-body reactions caused by the wear debris of implant can be avoided. When using bioreplaceable prosthesis there will be no revisions due to the broken prosthesis and after healing patients are allowed to use their hands without load restrictions.
This new implant that overcomes the problems with currently used silicone prosthesis, i.e. the swanson implant, consists in highly porous cylindrical scaffolds made of fibres (filaments) for small joints, which enables on- and in- growth of tissue.
Preliminary first limited clinical studies with promising results need to be confirmed in a large scale study in Europe in the framework of a demonstration project. This demonstration project gathers partners from different profiles: industry, researchers, regulatory agency and above all, clinicians.
The implant is posed on fingers and toes joint of elderly Osteoarthritis and Rheumatoid Arthritis patients.

Keywords:

Joint surgery, MCP, arthroplasty, finger, toe, small joint, bioabsorbable, replaceable, implant, prosthesis, scaffold, clinical study, Osteoarthritis, Rheumatoid Arthritis.

Co-ordinator:

Prof. Pertti Törmälä
Tampere University of Technology - Institute of Biomaterials
PO BOX 589
Korkeakoulunkatu 6
33101 Tampere - Finland
Phone: +358 3 365 2536 or +358 3 3434 599
Fax: 358 3 365 2250
e-mail: pertti.tormala@tut.fi

Partners:

Dr Matti Lehto
Tampere University Hospital, Finland.

Mr Pertti Viitanen
Bionx Implants Ltd, Finland.

Dr Feza Korkusuz
Middle East Technical Univeristy, Turkey.

Dr Philippe Kopylov
Lund University Hospital, Sweden.

Dr Burkhard Mai
Orthopaedische Klinik Kassel, Germany.

Prof. Antonio Landi
Azienda Ospedaliera Policlinico, Italy.

Project number:	QLK6-CT-2002-02710
EC contribution:	€546,774
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

Femur ultrasound scanner

Objectives:

Osteoporotic fracture incidence might be remarkably reduced if an accurate diagnosis of bone fragility is available. We will develop a new quantitative ultrasound (QUS) device for direct measurements at the proximal femur in vivo. Multiple QUS parameters will give a more comprehensive assessment of bone fragility, including aspects of density, structure, and material properties, exceeding the potential of radiological density measurements (e.g. DXA).

Brief description:

First in vitro studies at the partner institutions demonstrated the feasibility of ultrasound measurements at the femur and the potential of 3D rendering of a bone surface. We will further develop the three methods, surface rendering, ultrasound transmission and backscatter, to design and construct a prototype QUS scanner for assessment of femoral bone status. 3D surface rendering technique will enable us to find the optimal position of the ultrasound transducers for transmission and backscatter measurements relative to the bone precisely and consistent in all patients.
In the first phase the three centres will expand their development work to refine the methods for direct precise measurements at the proximal femur. According to know how and experience one participating centre will develop the methods for surface depiction, another centre will develop ultrasound transmission techniques and the third will develop ultrasound backscatter methods. In the second phase the three methodologies will be combined in one device, a research prototype for in vitro and in vivo measurements. This device will offer the potential of well-defined and precise positioning of the ultrasound transducers using the three-dimensional image of the bone. Transmission and backscatter measurements will provide a variety of parameters for the estimation of bone quality parameters, for instance bone density and bone structure. In the third phase this prototype for comprehensive assessment of bone status of the proximal femur will be used in an in vitro and an in vivo study to demonstrate the potential of this new device for the prediction of femoral fractures and monitoring of osteoporotic subjects. Dividing up these tasks reflects the knowledge and recent progress in these issues in the single centres. Subsequent commercialisation should enable strong progress in the diagnosis and monitoring of osteoporotic diseases and a remarkable decrease in the costs of osteoporotic fractures.

Keywords:

Quantitative ultrasound of femoral bone - acoustical surface rendering of bone -
ultrasound transmission measurement - ultrasound backscatter measurement - acoustical structure assessment of trabecular bone

Co-ordinator

Claus Glüer
Christian-Albrechts-Universitaet zu Kiel
Germany
E-mail: glueer@rad.uni-kiel.de

Partners:

Project number:	QLK6-CT-2002-02285
EC contribution:	€1,402,505
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

European Network for Investigating the Global mechanisms of Muscle Abnormalities In COPD

Objectives:

To evaluate the effect of COPD and its treatments, on physiological function, metabolic abnormalities and inflammation in the respiratory and peripheral muscle of patients with COPD. To develop an animal model of these muscles. To conduct pilot studies to assess the value of repetitive magnetic stimulation for the training of limb muscle and of an anti-oxidant nutritional supplement in patients with severe COPD

Brief description:

Technical expertise in the fields of muscle biopsy and physiological measurement will be shared between the partners. Using these techniques physiological aspects of respiratory and locomotor muscle function will be evaluated in patients with COPD and in age matched control subjects in 3 member states and 1 pre accession state. In the same patient population biopsy specimens will be obtained for analysis with regard to the impact of COPD on metabolic function and inflammation and redox imbalance. These same techniques will be used to evaluate the effects of acute exercise, pulmonary rehabilitation, lung volume reduction surgery and home mechanical ventilation. A novel magnetic coil capable of repetitive stimulation without overheating will be developed. This coil will be subjected to clinical evaluation to obtain pilot data with regard to therapeutic efficacy. An animal model of redox imbalance will be developed. This model will be used to evaluate the comparative efficacy of N-acetyl-cysteine and a novel anti-oxidant compound. The results of this study will be used to perform a pilot study of anti-oxidant therapy in patients with Chronic Obstructive Pulmonary Disease. As well as data collection, important additional goals of the study are transfer of technology and knowledge within members of the partnership as well as potential clinical and commercial application of the results

Keywords:

Chronic Obstructive Pulmonary Disease - muscle - diaphragm - quadriceps - biopsy - magnetic nerve stimulation - redox imbalance - pulmonary rehabilitation - home mechanical ventilation - nutritional supplementation - repetitive magnetic stimulation

Co-ordinator

Dr Michael Polkey
Respiratory Muscle Laboratory
Royal Brompton Hospital
National Heart & Lung Institute
Fulham Road
London SW3 6NP, UK
Phone +44 20 7351 8058
Fax +44 20 7351 8939
E-mail m.polkey@rbh.nthames.nhs.uk

Partners

Professor J Gea
Fundacio IMIM (Institut Municipal d'Investigació Mèdica)
Barcelona. Spain

Professor A Schols
Department of Pulmonology of the
University hospital Maastricht & the Pulmonary Rehabilitation
Centre Hornerheide
Netherlands

Professor P Sliwinski
Institute Of Tuberculosis And Lung Diseases (ITLD)
ul. Plocka 26, 01-138 Warsaw
Poland

Dr JB Galdiz
Hospital de Cruces. Bilbao
Spain

The Magstim Company
Carmarthenshire
Wales, United Kingdom

Area 6.1: Age-related illnesses and health problems

UROGENITAL DISEASES AND DISORDERS

Project number:	QLK6-CT-2000-00064
EC contribution:	€1,044,004
Duration:	36 months
Type:	RS
Starting date:	01/01/2001

Hypoxic renal injury

Objectives:

Dysregulation of NO/O_2^- occurs in association with ischemia reperfusion and promotes acute tubular necrosis. The objectives of the project are to know: 1) What causes dysregulated NO/O_2^- formation; 2) Its impact on signal transduction mechanism related to apoptosis/ necrosis; 3) Protective principles (related to NO/O_2^-) as a result of preconditioning regimes; and 4) The efficacy of pharmacological agents in preventing injury.

Brief description:

Acute renal failure (ARF) is a very common disease affecting the ageing population. In ARF, the relative contribution of necrosis and/or apoptosis associated with the development of ischemia/reperfusion injury possibly depends on the severity of the initiating insult. It is known that the renal content of xanthine and adenosine changes with ischemia, as a consequence of ATP breakdown. The fact that adenosine may enhance NO release, whereas xanthine serves as a substrate for xanthine oxidase and thus promotes superoxide generation, predicts that different concentrations of xanthine versus adenosine (according to the period of ischemia) modulate the rate of NO versus O_2^- production.
First, we will define the impact of initiating factors (inappropriate balance of xanthine/adenosine and NO/O_2^-) on signal transduction mechanisms that provoke necrosis and/or apoptosis in the process of I/R in animals and hypoxia/ reoxygenation in cell culture.
Second, we will determine whether protective responses in isolated cells and animals associated with preconditioning are mirrored by an altered production of the above mentioned parameters or their cross-talk because it is known that protective responses of preconditioning are closely associated with a defined balance of these parameters.
Third, we will apply pharmacological strategies during progression of I/R injury in animals and hypoxia/ reoxygenation in cells to attenuate necrotic and/or apoptotic responses.
The methodology to be employed in order to achieve the objectives comprises cell culture experiments, isolated organs, and animal experiments. Besides analysing the formation of NO and O_2^- (Griess reaction, redox-sensitive dyes) it is mandatory to determine the levels of xanthine and adenosine. Conditions of hypoxia/ reoxygenation will be simulated in cell culture as well as in animals. State of the art methods will be used to determine parameters of apoptosis/ necrosis (i.e. caspase activation) in all experimental systems. Established tools are used to follow activation of transcription factors (EMSA and histochemistry) and pharmacological inhibitors will be tested and verified in animals and cell culture.

Keywords:

Acute renal failure, renal ischemia reperfusion, anoxya reoxygenation, preconditioning, xanthine, adenosine, nitric oxide, superoxide, apoptosis, necrosis, caspases, HIF-1, NF-κB, NOS inhibitors

Co-ordinator

Georgina Hotter
Department of Medical Bioanalysis,
Instituto de Investigaciones Biomédicas de Barcelona Consejo Superior de Investigaciones Científicas (CSIC)
Rosselló 161, 7ª planta,
08036 Barcelona,
Spain
Tel: + 34-93-3638334
Fax: +34-93-3638301
e-mail: ghcbam@iibb.csic.es

Partners

Bernhard Brüne
University of Kaiserslautern
Germany
e-mail: BRUENE@rhrk.uni-kl.de

El-Nasir Lalani
Imperial College School of Medicine
United Kingdom
e-mail: e.lalani@ic.ac.uk

Thierry Hauet
Université de Poitiers
France
e-mail: ThHauet@aol.com

Project number:	QLK6-CT-2000-00159
EC contribution:	€1,105,754
Duration:	48 months
Type:	RS
Starting date:	01/02/2001

Prostate disorders: procurement of biomarkers and pharmaceuticals

Objectives:

Prostate disorders are a growing major socio-economic challenge because of our ageing population. We will identify changes in gene expression and proteins in prostate disorders. These changes will be used to develop diagnostic/ prognostics biomarkers and therapeutics for the painful and debilitating disorders of the prostate.

Brief description:

New biomarkers and therapeutics for prostate disorders will have a major socio-economic impact. The disorders are debilitating, painful and incurable in their advanced stages. They affect a large proportion of men, are increasing in frequency with the ageing population and are a growing health-care cost burden. Proven performers from clinical, scientific and industrial backgrounds will undertake goal-orientated research. Human samples will be used, to avoid problems due to model systems. Alterations in expression will be detected by proprietary and established technologies, validated, and used to develop clinical markers and new treatments for prostate disorders. The project implicates new SMEs, presents opportunities for investors and job creation, and has the potential for continued growth. Different types of prostate samples will be used, which are normal, benign or malignant. They will be analysed for changes in RNA quality and quantity and alterations in proteins. The results obtained by our three approaches, and others that are publicly available (e.g. CGAP on the world-wide-web), will be compared. Candidate genes will be chosen on the basis of their propensity for the development of biomarkers and pharmaceuticals. They will be analysed in model systems and on archival prostate samples, to validate their importance. These analyses will draw on the different complementary strengths in the network. Validated genetic alterations will then be available to develop diagnostic kits and high throughput screens for pharmaceuticals, with the help and comprehensive expertise of our corporate partners.

Keywords:

prostate disorders, benign prostatic hyperplasia, BPH, prostate cancer, biomarkers, therapeutic targets.

Co-ordinator

Bohdan WASYLYK.
Institut de Génétique et de Biologie Moléculaire et Cellulaire, CNRS, INSERM, ULP,
Rue Laurent Fries, BP 163
67404 Illkirch cedex, France.
Phone: +33 3 88 65 34 11.
Fax: +33 3 88 65 32 01 …
E-mail: boh@igbmc.u-strasbg.fr

Partners

Laurent BRACCO
ExonHit Therapeutics
France
e-mail: bracco.laurent@exonhit.com

Andrew CATO
Forschungszentrum Karlsruhe
Institute of Genetics
Germany
e-mail: andrew.cato@igen.fzk.de.

Helmut Klocker
Department of Urology
University of Innsbruck
Austria
e-mail: helmut.klocker@uibk.ac.at.

Michael Cahill
ProteoSys Germany
e-mail: michael.cahill@proteosys.com

Moshe Oren and Varda Rotter
The Weizmann Institute of Science Israel
e-mail: moshe.oren@weizmann.ac.il
e-mail: varda.rotter@weizmann.ac.il

Jack Schalken
University Hospital Nijmegen
The Netherlands
email: J.Schalken@uro.azn.nl.

Project number:	QLK6-CT-2000-00271
EC contribution:	€1,732,787
Duration:	36 months
Type:	RS
Starting date:	01/06/2001

Specific Cytotoxic Agents to Treat Prostate Disorders in Elderly Males: Targeted Gene Therapy as an Alternative to Conventional Treatments

Objectives:

This projects aims to develop systems, which will precisely target gene therapy into human prostate cancer tissue. Tissue enhanced transcriptional control sequences, which drive the expression of genes in a secretory organ like prostate will be exploited to achieve one level of targeting. A detailed knowledge of the cell surface characteristics of prostate epithelium and the changes that occur in cancer, will also be used to target attachment of gene therapy vectors, focusing the therapy into the tumour cells, while sparing normal tissue.

Brief description:

Prostate cancer will shortly become the leading cause of cancer mortality in the European male population. At present there is no effective therapy for metastatic androgen independent tumours. This project aims to exploit the state of the art in the generation of recombinant viral vectors, to produce safer gene therapy agents for the treatment of human prostate cancer in its most dangerous form. To achieve this aim, by means of gene therapy that can be applied intravenously, improvements in both the safety and specificity of tumour targeting will be necessary.
This will be achieved by engineering prostate specificity into the vectors firstly by driving therapeutic gene expression from prostate-specific promoters, and secondly by modification of viral cell trophisms to engineer preferential attachment to cancer cell surfaces. Novel techniques to minimise or eliminate anti-viral vector immune responses will also be investigated.
The optimisation of therapeutic gene strategies will provide a further prostate cancer-targeting element. Cytotoxic gene expression, prodrug activation and immuno-therapy are all available in the collaborating centres.
The consortium also has available a number of unique in vitro and in vivo model systems of human and animal prostate cancer, which will be used to provide a better pre-clinical testing regime for the targeted vectors prior to Phase I clinical trials in prostate cancer patients.
Singly targeted viruses will be examined for optimum specificity, safety and expression in these ex vivo systems, and various combinations of multiply targeted viruses will be tested comparatively in the different centres, using a common set of indicator genes, model systems and analysis parameters to achieve a true comparison.
The ultimate aim is to design better clinical trials and to bring the technology into the clinic for the benefit of prostate cancer sufferers in the shortest possible time, while minimising the risk of adverse treatment-induced side effects.

Keywords:

Gene therapy, Prostate Cancer, Transcriptional targeting, Virus vectors, In vitro cell models, Adenovirus, HIV, Baculovirus

Co-ordinator

Prof Norman J Maitland
YCR Cancer Research Unit, Department of Biology
University of York
York, YO10 5YW, UNITED KINGDOM
Phone: +441904 432872
Fax: +441904 432615
E-mail njm9@york.ac.uk lch7@york.ac.uk

Partners

Dr Chris H Bangma
Academic Hospital and Erasmus University Rotterdam
The Netherlands
e-mail: bangma@urol.azr.nl

Prof Patrice Mannoni
Department of Therapie Cellulaire et Genique
France
e-mail: Patrice.mannoni@efs.sante.fr

Prof Thomas H Totterman
Clinical Immunology Division, Rudbeck Laboratory
Sweden
e-mail: Thomas.totterman@klinimm.uu.se

Dr Philippe Berthon
Urogene S.A.
France
e-mail: p.berthon@urogene.com

Project number:	QLK6-CT-2000-00280
EC contribution:	€1,136,508
Duration:	36 months
Type:	RS
Starting date:	01/02/2001

Polymer-Virus Hybrid Vectors for Safe and Efficient Gene Therapy of Prostate Cancer

Objectives:

To demonstrate non-destructive surface modification of type 5 adenovirus with hydrophilic synthetic polymers and to characterise the composition of the coated viruses so-formed.
To optimise the polymer surface coating in order to completely abrogate normal binding of the adenovirus to its receptor (CAR) and prevent recognition by anti-adenovirus antibodies.
To introduce targeting ligands onto the surface of the coated virus, in order to restore recognition of prostate cancer-associated receptors, and promote cellular internalisation into receptor-positive cells.
To design the coating polymer for triggered intracellular release in order to maximise transgene expression within target cells.
To modify the polymer coating to inhibit binding of serum proteins and rapid clearance of the virus from the bloodstream, promoting extended circulation and effective access of the virus to disseminated target prostate cancer cells in vivo.
To combine all of these advances in formation of a vector capable of targeting prostate cancer cells (or tumour-associated endothelial cells) in vivo, following intravenous or intraperitoneal injection, and achieving useful therapeutic efficacy.
To establish preclinical data providing justification for clinical assessment of the targeted vector.

Brief description:

This project will develop a "stealth" virus, capable of evading neutralising antibodies and infecting specifically target cells, notably prostate cancer cells. The stealth virus is made by reacting hydrophilic polymers on to the surface of adenoviruses, chemically modifying their phenotype. This layer of polymer will prevent the binding of neutralising antibodies, simultaneously preventing the virus from binding to and infecting via its normal cellular receptor. Linkage of ligands to the external virus surface then permits re-targeting to appropriate receptors, such as receptors associated with prostate and bladder cancer cells.

Keywords:
Adenovirus-polymer coating-stealth virus-targeted vector-prostate cancer

Co-ordinator

Dr. Leonard W. Seymour
Department of Clinical Pharmacology
Oxford University
Radcliffe Infirmary
Woodstock Road
UK-OX2 6HE OXFORD
Tel: +44-1865-22 49 86
Fax: +44-1865-22 45 38
E-mail: len.seymour@clinpharm.ox.ac.uk

Major Subcontractor

Dr. Kerry Fisher
Hybrid Systems Ltd
UK
e-mail: fisherk@cancer.bham.ac.uk

Partners

Dr. Karel Ubrich
Institute of Macromolecular Chemistry
Academy of Sciences of the Czech Republic
Czech Republic
e-mail: ulbrich@imc.cas.cz

Dr. Angels Fabra
Institut de Recerca Oncologica
Hospital Duran y Reynals
Spain
e-mail: afabra@iro.es

Project number:	QLK6-CT-2000-00565
EC contribution:	€2,164,896
Duration:	36 months
Type:	CM
Starting date:	01/02/2001

Oestrogens and age-related urogenital diseases: basic and clinical approaches

Objectives:

Effects of estrogens and phytoestrogens on age-related urogenital diseases will be studied. Benign prostate hyperplasia and carcinoma in males, urinary incontinence in both sexas are in the focus of interest. Molecular biologic, animal experimental as well as clinical studies will be performed.

Brief description:

1/3 of Europeans are over 55 years old, when conditions such as endometrial cancer, vaginal dryness, benign prostatic hyperplasia, prostate cancer and urinary incontinence are common, with increased healthcare costs and reduction in quality of life and mobility. The lack of oestrogens appears causally linked to the development and progress of such diseases. (E)UROESTROGEN(E)S aims to promote the development of selective estrogen receptor modulators (SERMs) with reference to phyto-SERMs. 5 partners at 4 universities belong to the European thematic network EUROSTERONE, with excellent laboratory infrastructure and access to patients. The research will lead to concepts for clinical trial and well-tolerated phyto-SERMs beneficial in the human urogenital tract. This will both aid the ageing population and be of great socio-economic impact throughout Europe.

Keywords:

estrogens - prostate - urinary bladder

Co-ordinator

Prof. Dr. W. Wuttke
Division of Clinical and Experimental Endocrinology,
Dept. of Obstetrics and Gynaecology, University of Göttingen
Robert-Koch-Str. 40
Phone : +49-551-396714
Fax : +49-551-396518
e-mail: ufkendo@med.uni-goettingen.de

Partners

W. Wuttke
University of Göttingen
Germany
e-mail: ufkendo@med.uni-goettingen.de

V. Christoffel
Bionorica Arzneimittel GmbH
Neumarkt
Germany
e-mail : Volker.Christoffel@bionorica.de

J.M. Fitzpatrick and R.W.G. Watson
University College Dublin
Ireland
e-mail : research@profsurg.iol.ie

J-A. Gustafsson and S. Mäkelä
Huddinge University Hospital
Sweden
e-mail : sari.makela@prevnut.ki.se

H. Klocker and G. Bartsch
University of Innsbruck
Austria
e-mail : helmut.klocker@uibk.ac.at

R-H. Ringert and P. Thelen
University of Göttingen
Germany
e-mail : pthelen@gwdg.de

B. Sheppard
University of Dublin
Ireland
e-mail : bshepprd@tcd.ie

Project number:	QLK6-CT-2000-00602
EC contribution:	€1,399,997
Duration:	36 months
Type:	RS
Starting date:	01/06/2001

Molecular Mechanisms of Androgen Resistance in Prostate Cancer

Objectives:

Prostate carcinoma is the second highest cause of cancer death in men in industrialised countries. No really efficient treatment exists for the late, metastatic stages. Androgens and the androgen receptor play a pivotal role in this disease but hormone ablation therapy usually only works for a limited time. It is planned to study the molecular mechanisms underlying the progression to the hormone-refractory stage in order to identify new drugable targets.

Brief description:

Increasing evidence documents the essential role of the androgen receptor in the generation and growth of prostate carcinoma, even in late, androgen-independent stages. However, the mechanisms involved are still poorly characterised. In order to decipher the pathways implicated in this disease, tumour tissue originating from prostate tumor patients with different gradings will be obtained and thoroughly analysed. Genes that are differentially regulated in human prostate tissues, healthy or diseased, will be identified by the chip technology which allows the comparison of over 8.000 different transcripts in parallel. The results will be validated using several approaches, depending on the genes identified. Crosstalk with the androgen receptor signalling pathway will be analysed in detail, especially with regard to the role of growth factors. The interaction of protein partners with the androgen receptor will be analysed by several techniques, including two-hybrid methods. The impact of these interactions on androgen receptor function will be assessed in prostate cancer cell lines. Mutagenesis studies will be performed to identify receptor and co-factor regions important for the interactions. The role of phosphorylation and post-translational modifications in androgen receptor function will be studied. Finally the protein/DNA interactions responsible for the selective control of androgen target genes will be studied in detail. These complementary approaches should allow the selection of novel targets suitable for compound development in order to find new ways to treat therapy-resistant prostate carcinoma.

Keywords:

prostate cancer - androgen receptor signalling - gene expression profiling

Co-ordinator

Dr. B. Haendler
Experimental Oncology
Schering AG
D-13342 Berlin, Germany
Phone : +49 30 468 12669
Fax : +49 30 468 18079
E-mail address: bernard.haendler@schering.de

Partners

Prof. A. Brinkmann
Erasmus University
Rotterdam
The Netherlands
e-mail: Brinkmann@endov.fgg.eur.nl

Prof. O. Jänne
University of Helsinki
Finland
e-mail: olli.janne@helsinki.fi

Prof. R. Hofmann
Philipps University Marburg
Germany
e-mail: wachtel2@post.med.uni-marburg.de

Project number:	QLK6-CT-2001-00218
EC contribution:	€1,688,932
Duration:	36 months
Type:	RS
Starting date:	01/01/2001

On Asymmetry in Sphincters: The role of functional asymmetry of sphincter innervation in incontinence

Objectives:

The main objective of the project is to gather knowledge about pelvic floor asymmetry and its role in development, severity, diagnosis, treatment, and prevention of incontinence: a) Quantification of asymmetry in healthy subjects and in major patient subgroups with incontinence. b) To correlate asymmetry (by type and degree) to age and age-related changes in pelvic floor functions as assessed by functional diagnostic testing. c) To identify risk groups predisposed to become incontinent at higher age. d) To provide a scientific basis to treat incontinence by applying surface EMGmeasurement to routine diagnosis and therapy systems. e) To develop a clinical strategy (algorithm) to deal with incontinence especially in the elderly.

Brief description:

The project comprises 14 work packages, of which 2 are administrative, 6 are clinical, and 6 technical in nature. Initially, we will develop prototype hard and software tools, especially anal and vaginal/urethral EMG probes, which allow to record non-invasively individual motor units from each side of the pelvic floor muscles (based on surface-EMG technology) and to identify individuals with significant asymmetric sphincter muscle innervation. Subsequently, these tools will be applied to measure pelvic floor innervation and its symmetry/ asymmetry in subgroups of patients with urinary and/or fecal incontinence, as identified in major medical subspecialties (urology, gynecology, gastroenterology, surgery) in different countries in Europe. Furthermore, probe and system validation will be performed in patients in whom selective stimulation of left and right dorsal sacral roots is possible after sacral root stimulator implantation. Finally, in women undergoing childbirth the risk of developing incontinence after pelvic floor trauma is assessed and related to the existence and degree of asymmetric sphincter innervation. Surface EMG measurement will finally be used to develop easy-to-use clinical diagnostic and therapeutic system (based on biofeedback) for routine use, especially in the elderly.

Keywords:

incontinence – anal – urogenital - pelvic floor - innervation – asymmetry – surface EMG – biofeedback

Co-ordinator

Prof. Dr. Paul Enck
Department of General Surgery
University Hospitals Tübingen
Waldhörnlestr. 22, 72072 Tübingen, Germany
Phone : +49-7071-2981102
Fax : +49-7071-295142
E-mail: paul.enck@uni-tuebingen.de

Partners

Dept. of Urology
University Hospitals Medical Center
Nijmegen
The Netherlands
e-mail: j.heesakkers@uro.azn.nl

Dept. of Gynecology
Krankenhaus Belin-Neukölln
Berlin
Germany
e-mail: hfranz@KHNK-Berlin.de

Digestive System Res.Unit
University Hsopitals Vall d`Hebron
Barcelona
Spain
e-mail: azpirozf@hg.vhebron.es

COREP - Dip. di Electtronica
Politecnico di Torino
Torino
Italy
e-mail: merletti@polito.it

Standard Instruments GmbH
Karlsruhe
Germany
e-mail: standard-instruments@t-online.de

Best Medical International b.v.
Enschede
The Netherlands
e-mail: dijkman@best-medical.nl

Project number:	QLK6-CT-2002-02174
EC contribution:	€288.522
Duration:	36 months
Type:	CA
Starting date:	01/01/2003

Contrast Enhanced Ultrasound Imaging In The Diagnosis And Treatment Of Prostate Cancer

Objectives:

To co-ordinate and disseminate the research in the field of contrast enhanced ultrasound imaging in the diagnosis and treatment of prostate cancer.
To increase the knowledge about the use of contrast-enhanced ultrasound imaging, and to determine its role in the diagnosis, biopsy guidance, treatment and follow-up of prostate cancer.

Brief description:

Prostate cancer is the most common cancer in the elderly men. About 80% of all cases are diagnosed after the age of 65, and it has a major impact on the Quality of Life. Accuracy of the current diagnostic tools available to detect prostate cancer is disappointing low.
This concerted action approached the improvement in diagnosis and treatment of prostate cancer by the co-ordination and dissemination of the currently performed research of the partners in the field of contrast enhanced ultrasound imaging. This action will for the first time bring together the best European groups working in this field. All partners already have made a substantial contribution to the clinical research in this field during the last years. This action will co-ordinate these contributions to reach a critical mass, and will disseminate the results to the professionals, the industry and the users.
A possible continuation and expansion of the research during and after the end of this concerted action is one of key-topics of this action.

Keywords:

Prostate cancer - Contrast agents - Ultrasound

Co-ordinator

Dr. Hessel Wijkstra
Department of Urology, 426
University Medical Center
Geert Grote Plein 16
P.O. Box 9101
6500 HB Nijmegen
The Netherlands
phone: (31-24)3616719
fax: (31-24)3541325
email: h.wijkstra@uicbme.azn.nl

Partners

Dr. Ferdinand Frauscher
Universitatskliniken
Innsbruck
Austria

Dr. Jean-Yves Chapelon
INSERM U556
Lyon
France

Dr. Martin Blomley
Imaging Sciences Department
London
United Kingdom

Area 6.1: Age-related illnesses and health problems

HEARING AND VISUAL IMPAIRMENT

Project number:	QLK6-CT-1999-02094
EC contribution:	€1,673,004
Duration:	36 months
Type:	RS
Starting date:	01/02/2000

Prevention of visual disability in elderly European populations: a multi-centre study of risk factors for cataract and macular degeneration

Objectives:

The main objectives of the proposal are to identify lifestyle and environmental determinants of macular degeneration in the European setting with a particular focus on solar radiation and diet. The secondary objectives are to establish the health burden of this condition in different European countries and measure its impact on health-related quality of life

Brief description:

The study design is a multi-centre case-control study nested within a population based prevalence study. The study is being carried out in seven centres throughout Europe. Centre locations span a 27° latitude from south to north Europe covering a nearly three-fold gradient of UVR. In each centre, a representative sample of 1000 individuals over the age of 65 is invited to participate in a study which includes an eye examination and an interview with a fieldworker for risk factor assessment and vision-related quality of life. Risk factor assessment includes individual measures of lifetime outdoor exposure, current and past smoking and alcohol intake, and intakes of anti-oxidant vitamins measured both by dietary questionnaires and from blood samples. 20 ml of blood is taken in subdued light and sent immediately in an ice igloo by courier to a local laboratory for initial storage at -70 ° C and then transported to the laboratory of Professor Ian Young (Queens University Belfast) for analysis of antioxidant vitamins: ascorbate, α and λ tocopherol, retinol, α, β carotene, lycopene, lutein and xeathanin. Buffy coats are extracted and stored for future genetic analyses. The eye examination by trained staff includes visual acuity and fundus image capture using digital photography. The digital images are sent to Professor de Jong in Rotterdam for grading of age-related macular degeneration using internationally accepted classification systems. Data on ambient levels of solar UVR (UVB and UVA) will be combined with the personal exposure histories from the questionnaire to calculate life-time ocular exposure to solar UVR for each individual. The data from the seven centres will be pooled and analysed using multi-level modelling to estimate the risks associated with each of the exposures at both the group and centre level. The study is designed to have adequate power to examine the study hypotheses and to investigate possible interactions between antioxidant levels, smoking and UVR.

Keywords:

Age-related macular degeneration, epidemiology, risk factors, UVR, antioxidants, smoking

Co-ordinator

Professor Astrid Fletcher
Epidemiology & Population Health
London School of Hygiene & Tropical Medicine
Keppel St London WC1 E 7HT, UK
Phone: +44 207 927 2253/4
Fax: +44 207 580 6897
e-mail: astrid.fletcher@lshtm.ac.uk

Partners

Professor Graham Bentham
University of East Anglia, Norwich, England
e-mail: g.bentham@uea.ac.uk

Professor Usha Chakravarthy
The Queen's University of Belfast, Northern Ireland
e-mail: u.chakravarthy@qub.ac.uk

Professor P.TVM de Jong
Erasmus University Rotterdam, Netherlands
e-mail: p.dejong@ioi.knaw.nl

Dr Mati Rahu
Institute of Experimental and Clinical Medicine, Tallinn, Estonia
e-mail: rahum@ekmi.ee

Professor J.H. Seland
University of Bergen, Bergen, Norway
e-mail: johan.seland@oye.uib.no

Professor G. Soubrane
Universitaire De Creteil, Universite de Paris-Val de Marne, France
e-mail: soubranegisele@europost.org

Professor N.T. Stangos and Dr. F Topouzis
Aristotle University of Thessaloniki, School of Medicine, Greece
e-mail: ophthalm@med.auth.gr
e-mail: ftopouzis@otenet.gr

Professor L.Tomazzoli
University of Verona, Italy
e-mail: laura.tomazzoli@univr.it

Professor J. Vioque
Universidad Miguel Hernandez, San Juan de Alicante, Spain
e-mail: vioque@umh.es

Professor Ian Young
The Queen's University of Belfast,
Northern Ireland,
e-mail: i.young@qub.ac.uk

Project number:	QLK6-CT-2000-00569
EC contribution:	€549,901
Duration:	36 months
Type:	CA
Starting date:	01/04/2001

Neuroprotection in the retina

Abstract

In the ageing population, the morbidity from blinding retinal neurodegenerations belongs to the most feared limitations of life quality. Blindness occurs in the main conditions i.e. glaucoma, ischemic diabetic retinopathy and age related macular degeneration as a consequence of both specific and common pathways leading to retinal cell, mainly neuronal, loss. The global objective of PRORET is therefore the development of therapeutic strategies aiming at blocking the cell death process triggered by genetic mutations or the ischemic process. The scientific and technical objectives of the PRORET project are:
to identify and characterise factors and mechanisms involved in retinal degenration as a basis for the development of rational therapeutic approaches ; to design methods for therapeutic intervention and, as a perquisite, for further develop models for retinal degeneration.

Objectives:

The strategies termed under "neuroprotection" aim at limiting or preventing cell death. Such treatments can operate either directly on the degenerating cells or by acting on surrounding cells. Since cell death is mainly occurring through apoptosis we will particularly target this common pathway to find general neuroprotective strategies. The objective is to generalise and fully understand recent promising findings and screen new potential molecules on in vitro and in vivo models obtained through the cluster. Delivery system for applying molecules or cells to the retina will be developed in parallel to molecule screening. New neuroprotective strategies are expected to reach clinical trials during the course of this project.
The objectives are: to identify and characterise factors and mechanisms involved in retinal degeneration as a basis for development of therapeutic approaches; to design methods for therapeutic intervention and, as a perquisite, to further develop models.

Brief description:

Since cell death is occurring by apoptosis in these diseases, potential drugs and trophic factors that interfere upstream or directly with this process will be considered. Prominent targets belong to the apoptotic cascade e.g. caspases (3,4). Also we recently showed that neurotrophic factors and a $Ca^{2}+$ channel blocker and a neurotrophic factor can postpone photoreceptor degeneration in the rd mouse. The first aim is to understand the molecular basis for these neuroprotective properties in order to identify or design more powerful molecules. The second aim results from the great heterogeneity of the disease is to generalise the neuroprotective properties trophic factors to other in vivo and in vitro models. In parallel, a systematic cloning strategy is initiated to isolate the trophic element implicated in the survival of cones. We need to gather and develop a panel of in vitro, in vivo models in order to assess the neuroprotective properties of potential molecules. We developed the culture of adult retinal neurones from the mammalian and human retina, that can be used to establish in vitro models of retinal dystrophy and ischemia. Animal models like the rds mouse rhodopsin (rho-/-) will be used to validate the neuroprotective treatment on other in vivo models with mutations in different genes than the rd mouse. Similarly, models of ischemia will be generated by partners 2 and 5. PRORET intends to improve drug or molecule delivery system to the

retina.These delivery system would enable to provide a constant concentration of the molecule during a long period and target the molecule to the retina with respect to systemic injections.
This includes delivery by iontophoresis or non-viral gene transfer. The paracrine effects of transplanted photoreceptors will be further assessed on new animal models. Gene transfer may enable to promote long standing expression of trophic factors (GDNF) in the retina.

Keywords:
Neuroprotection – Retina – Degeneration

Co-ordinator
José SAHEL
Laboratoire de Physiopathologie Cellulaire et Moléculaire de la Rétine
Institut National de la Santé et de la Recherche Médicale
1 place de l'Hôpital – Médicale A – PO Box 426 – 67091 STRASBOURG Cedex
Phone: +33 3 90 24 34 28
Fax: +33 3 88 11 63 41
E-mail: sahel@neurochem.u-strasbg.fr

Partners
Prof. Manuel VIDAL-SANZ
Facultad de Medicina - Universidad de Murcia
Campus de Espinardo
Laboratorio de Oftalmologia Experimental
Dpto. Oftalmologia, Otorrinolaringologia
Y Anatomia Patologica
30100 MURCIA
Spain
Ofmmv01@um.es

Prof. Theo VAN VEEN
Wallenberg Retina Center
Department of Ophthalmology
Lund University Hospital
BMC B13
Klinikgatan 26
22184 LUND
Sweden
Theo.van_Veen@oft.lu.se

Dr. Marius UEFFING
Ludwig Maximilians Universität
Institut of Human Genetics
GSF Research Center
Ingolstädter Landstrasse I
85764 Neuherberg
Germany
marius.ueffing@gsf.de

Dr George LAMBROU
NOVARTIS Ophthalmics Research
Klybeckstrasse Gate 15
4002 BASEL
Switzerland
george.lambrou@pharma.novartis.com

Project number:	QLK6-2002-00151
EC contribution:	€1,790,006
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

Oculomotor Function and Self-Motion Perception in the Elderly

Objectives :

The objectives of the project are to sharpen movement detection skills in the elderly in order to prevent falls during walking and to improve their vehicle driving performance. Improvement in movement management will benefit either one of the initial shortcomings, i.e., the essential problems facing the elderly are basic movement detection and perception shortcomings. These will attempted to be remedied via complementary sensory enhancement, strengthening of anticipatory behaviour, ergonomic vehicle and road designs and improvement in visual kinetic aids, as well as fall prevention/driving performance cross-training.

Brief description:

An increasing number of elderly citizens are mainstreaming today in everyday life. For the elderly, as for the younger, mobility is an essential component of their quality of life. This project examines physiological, pathophysiological, behavioural and anatomical factors in humans and non-human primates to describe psychological and organic deficits leading to shortcomings in movement perception in the elderly and in patients. Experimental situations will simulate obstacle appearance while walking and vehicle driving situations under kinetic conditions, i.e., with the need to react within a given time frame. Human symptoms will be re-elaborated in comparable experiments in microlesioned and older non-human primates. The results will be used to propose and develop ergonomic training and rehabilitation programs to prevent falls in the elderly and to prolong their skills in vehicle driving. The programs will emphasise active and anticipatory behaviour rather than passive avoidance measures with the aim to allow the growing population of senior citizens in the European Union to retain their individual mobility and thus be able to continue to lead a fulfilling and satisfactory life.

Keywords:

Aging – moving - driving

Co-ordinator

Werner GRAF
Centre National De La Recherche Scientifique (Cnrs) - Délégation Paris Michel-Ange
Lab. Physiologie De La Perception Et De L'action (Umr 7124),
Collège De France
11, place Marcelin Berthelot
75231 Paris Cedex 05
France
Tel: +33144271630
Fax: +33144271382
e-mail: werner.graf@college-de-france.fr

Partners

Gabriella UGOLINI
Centre National De La Recherche Scientifique (Cnrs), Délégation Ile-De-France Sud, Lab. Virologie Moléculaire Et Structurale. (Upr9053), F
e-mail: gabriella.ugolini@gv.cnrs-gif.fr

Frank BREMMER
Philipps-Universitaet Marburg, Neurophysik, Cognitive Neuroscience, D
e-mail: frank.bremmer@physik.uni-marburg.de

Peter THEIR
Eberhard-Karls-Universitaet Tuebingen, Neurology Hospital, Cognitive Neurology, D
e-mail: thier@uni-tuebingen.de

Jaak DUYSENS
University Of Nijmegen, Dept. Medical Physics And Biophysics, Nl
e-mail: j.duysens@mbfys.kun.nl

Project number:	QLK6-2002-00214
EC contribution:	€1,250,419
Duration:	36 months
Type:	RS
Starting date:	01/05/2002

Age-Related Macular Degeneration : "Assessment and optimisation of macular function with special regard to reading and motor control"

Objectives:

The increasing number of AMD patients requires new approaches to assess macular function, specially those functions relevant for everyday tasks will be considered such as reading and motion control. The project plans to develop and evaluate new tests for early detection of AMD, assessment of macular function by psycho-physical and electrophysiological methods, optimisation of macular function, a standardised data aquisition, sensitive monitoring and a European standard test battery for a low vision examination.

Brief description:

Age-related macular degeneration (AMD) is a disorder of high morbidity in Europe and will be an increasing problem in the next decades. The main objective of the proposal is the development of tools for testing and optimising macular function, which consider the disabilities caused by AMD, mainly disability of reading and motion control, in order to maintain or restitute these functions and therefore quality of life. These tools will provide a high sensitive monitoring of preventive and therapeutic measures (screening for early detection and assessing residual function). These include psychophysical tests (e.g. contrast sensitivity, parafoveal letter recognition, figure/ground interaction, reading); eye movement recording with an eyetracker during fixation, reading, motion perception and exploration; assessment of fixation by Scanning Laser Ophthalmoscope (SLO); objective measurements by multifocal ERG linked with SLO for fixation control. The project will provide new knowledge about macular function and disabilities in AMD, which will be used for training. A test set will be established for a European standard for clinical low vision examination.

Keywords:

macular degeneration - reading disability - European standard test set

Co-ordinator

Prof. Dr. SUSANNE TRAUZETTEL-KLOSINSKI
University Of Tuebingen, University Eye Hospital
Department Of Pathophysiology Of Vision And Neuroophthalmology
Schleichstrasse 12-16
72076 TUEBINGEN
Germany
Tel : 4970712983700
Fax : 497071295164
E-mail : susanne.trauzettel-klosinski@uni-tuebingen.de

Partners

University College London
Institute Of Ophthalmology
UK

Division Of Visual Rehabilitation
Moorfields Eyehospital London
UK

Institut National De La Santé Et De La Recherche Médicale, Cerveau Et Vision
Inserm Unité 371
Bron (Lyon), F

University Hospital Of Turku
Department Of Ophthalmology
Low Vision Clinic
Finland

Sensomotoric Instruments Gesellschaft Fuer Innovative Sensorik Mbh
Research Division
Teltow (Berlin), D

Project number:	QLK6-CT-2001-00385
EC contribution:	€1,631,713
Duration:	36 months
Type:	RS
Starting date:	01/01/2002

Neuroprotection in the retina

Abstract

In the ageing population, morbidity from blinding retinal neurodegenerations represents the most feared limitation of quality of life. The predominant causes of blindness, i.e. glaucoma, ischemic diabetic retinopathy and age related macular degeneration, occur as a consequence of both specific and common pathways leading to retinal cell, mainly neuronal, loss. The global objective of PRO-AGE-RET is therefore the development of therapeutic strategies aiming at blocking the cell death process occurring in these retinal pathologies. The scientific and technical objectives of the PRO-AGE-RET project are to identify and characterise factors and mechanisms involved in retinal degeneration as a basis for the development of rational therapeutic approaches; to design methods for therapeutic intervention; and, as a perquisite, to further develop models for retinal degeneration.

Objectives:

PRO-AGE-RET aims to prevent retinal cell death. We will identify general neuro- protective strategies through targeting apoptosis, widely implicated in death. We showed that neurotrophic factors, $Ca^{2}+$ channel blockers and receptor antagonists can postpone photoreceptor and/or ganglion cell degeneration in relevant animal models. The objective is to fully explore these promising findings and screen new molecules on in vitro and in vivo models circulating between member laboratories. Delivery systems for administering molecules or cells to the retina will be developed in parallel to molecular screening. New neuroprotective strategies are expected to reach clinical trials during the course of this project. The objectives are hence: 1) to further develop and circulate in vivo and in vitro models for retinal degeneration; 2) to caracterise mechanisms involved in retinal degeneration as a basis for development of therapeutic approaches; 3) design methods for therapeutic intervention.

Brief description:

Elucidating the mechanisms of cell death or rescue and screening potential neuroprotective molecules will first be performed in vitro, including adult mammalian and human retinal neurones and retinal explants. Candidate molecules will then be tested on in vivo models, the diversity of which reflects disease heterogeneity. Transgenic models of photoreceptor degeneration and experimental glaucoma inducing ganglion cell death are being generated in member laboratories. Since these models will be
circulated, protocols for their morpho-functional characterisation will be rapidly standardised. To assess functional effects of different therapeutic strategies, clinical techniques (eg. multifocal electroretinograms) will be adapted to small rodents. The increased sensitivity of this technique should
provide information on regional rescue as may occur with transplantation or viral injections. We will likewise adapt the confocal ophthalmoscope to visualise retinas of small animals. Since several neurotrophic factors have been found to be neuroprotective in member laboratories, their fields of application will be defined with the different in vitro and in vivo models. Their signalling pathways in specific retinal populations will be investigated by molecular cell biology and proteomics.

Calcium channel blockers which were found to be neuroprotective on photoreceptors, will be tested on different animal models to define their therapeutic fields of application and pharmacological profiles. The success of therapeutic strategies relies on both drug efficacy and delivery. PRO-AGE-RET therefore also intends to improve drug or molecule delivery to the retina. In contrast to systemic injections, these delivery systems provide constant doses over long periods, and permit targeting of molecules to the retina. These approaches include iontophoresis of pharmacological agents, non-viral gene transfer and cell encapsulation for in situ neurotrophic factor production.

Keywords:
Photoreceptor – Ganglion cells – Cell death & rescue

Co-ordinator

José SAHEL
Laboratoire de Physiopathologie Cellulaire et Moléculaire de la Rétine
Institut National de la Santé et de la Recherche Médicale
1 place de l'Hôpital – Médicale A – PO Box 426 – 67091 STRASBOURG Cedex
Phone : +33 3 90 24 34 28
Fax : +33 3 88 11 63 41
E-mail : sahel@neurochem.u-strasbg.fr

Partners

Prof. Manuel VIDAL-SANZ
Facultad de Medicina - Universidad de Murcia
Campus de Espinardo
Laboratorio de Oftalmologia Experimental
Dpto. Oftalmologia, Otorrinolaringologia
Y Anatomia Patologica
30100 MURCIA
Spain
e-mail : Ofmmv01@um.es

Dr. Marius UEFFING
Ludwig Maximilians Universität
Institut of Human Genetics
GSF Research Center
Ingolstädter Landstrasse I
85764 Neuherberg
Germany
e-mail : marius.ueffing@gsf.de

Prof. Neville OSBORNE
University of Oxford
Nuffield Laboratory of Ophthalmology
Walton Street
OX2 6AW OXFORD
UK
e-mail : neville.osborne@eye.ox.ac.uk

Prof. David HUNT
University College London
Institute of Ophthalmology
11-43 Bath Street
LONDON EC1V 9EL
UK
e-mail : d.hunt@ucl.ac.uk

Prof. Eberhart ZRENNER
University Eye Hospital Tuebingen
Dept. Of Pathophysiology of Vision and Neuroophthalmology
Schleichstrasse 12-16
72076 TUEBINGEN
Germany
e-mail : ezrenner@uni-tuebingen.de

Prof. Theo VAN VEEN
Wallenberg Retina Center
Department of Ophthalmology
Lund University Hospital
BMC B13
Klinikgatan 26
22184 LUND
Sweden
e-mail : Theo.van_Veen@oft.lu.se

Dr George LAMBROU
NOVARTIS Ophthalmics Research
Klybeckstrasse Gate 15
4002 BASEL
Switzerland
e-mail : george.lambrou@pharma.novartis.com

Dr. Elena VECINO
Universidad del Pais Vasco
Dept. Biologia Cellular E Histologia
Barrio Sarriena, S/N
48940 LEIOA
Spain
e-mail : gcpvecoe@lg.ehu.es

Prof. Peter HUMPHRIES
Trinity College Dublin
Dept. Of Ocular Genetics
Lincoln Gate
DUBLIN 2
Ireland
e-mail : phumphrs@tcd.ie

Dr. Joël CROUZET
NEUROTECH
Bâtiment Genopole-Industries
4 rue Pierre Fontaine
91000 EVRY
France
e-mail : j.crouzet@neurotech.fr

Project number:	QLK6-CT-2001-00279
EC contribution:	€2,256,710
Duration:	36 months
Type:	RS
Starting date:	01/01/2002

CORTICAL VISUAL NEUROPROSTHESIS FOR THE BLIND

Objectives:

Visual impairment is included in the 10 most prevalent causes of disability in Europe. The project aims to develop prototypes in the field of visual rehabilitation and to demonstrate the feasibility of a cortical neuroprostheses, interfaced with the visual cortex, as a means through which a limited but useful visual sense may be restored to profoundly blind people.

Brief Description:

While the full restoration of vision seems to be impossible, the discrimination of shape and location of objects could allow blind subjects to 'navigate' in a familiar environment and to read enlarged text, resulting in a substantial improvement in the standard of living of blind and visually impaired persons. Experiments will be designed to study population encoding of colour and luminance information in the retina and to develop a bioinspired system, which serves as part of a real-time neuroprosthetic test platform for processing visual information. Reconfigurable multichannel neurostimulators (128 channels) able to drive different current injections and waveforms through high impedance electrodes will be designed and developed as well as a multichannel transcutaneous power and data radiofrequency link to the intracortical microelectrodes. The safety and efficacy of permanent charge injection through multiple intracortical electrodes into cerebral cortex will be studied using histopathological and physiological techniques. We will use non-invasive transcranial magnetic stimulation (TMS), MRI and fMRI to study the degree of remaining functional visual cortex in blind subjects and to develop a systematic methodology for non-invasive investigation of the functional organisation of the occipital cortex in blind subjects. The results from this project will provide information regarding neuroprosthesis not presently available, as well as new information about the plastic changes in the adult nervous system, which has implications for rehabilitative training and device development. If we can understand more about the fundamental mechanisms of neuronal coding, and to safely stimulate nervous system, there will real potential to apply this knowledge clinically. Although we are still a long way from a perfect visual prosthesis, the success of the cochlear implant seems very promising also for this neurotechnological application.

Keywords:

Neuroprosthesis, Retina, Multielectrode recordings, Visual pathways, Intracortical microstimulation, Blind, Visual information processing, Visual rehabilitation, Visual prosthesis.

Co-ordinator

FERNANDEZ Eduardo
Instituto de Bioingenieria
Facultad de Medicina.
Universidad Miguel Hernandez
03550 San Juan (Alicante), SPAIN
Tel: 00 34 965 91 9439
Fax: 00 34 965 91 9434
e-mail: e.fernandez@umh.es

Partners

Josef Ammermüller
Department of Biology AG Neurobiology
Carl-von-Ossietzky Universität Oldenburg
Postfach 2503
26111 Oldenburg, GERMANY
Tel: 00 441 798 3420
Fax: 00 441 798 3423
e-mail: josef.ammermueller@uni-oldenburg.de

Peter Ahnelt
Dept. Physiology. Med. School
Scwarzspanierstr, 17
University of Vienna
A1090 Vienna, AUSTRIA
Tel: 00 43 1 4277 62345
Fax: 00 43 1 4277 9623
e-mail: peter.ahnelt@univie.ac.at

Lyle Borg-Graham
Centre National de la Recherche Scientifique
Unite de Neurosciences integratives et computationnelles
Gif sur Yvette, 91198, FRANCE
Tel: 00 33 1698 23 272
Fax: 00 33 1698 23 333
e-mail: lyle@cogni.iaf.cnrs-gif.fr

Francisco Pelayo
Departamento de Arquitectura y Tecnologia de Computadores
Facultad de Ciencias. Campus de Fuentenueva
18071 Granada, SPAIN
Tel: 00 34 958 240581
Fax: 00 34 958 248993
e-mail: fpelayo@ugr.es

Pierre Rabischong
Faculte de Medicine de Montpellier
Boulevard Henri IV, 5
34000 Montpellier, FRANCE
Tel: 00 33 467 04 68 19
Fax: 00 33 467 04 67 00
e-mail: Rabischong@aol.com

Francisco García
Biomedical Technologies S.L.
Ronda Vall d'Uxo, 125
03205 Elche (Alicante), SPAIN
Tel: 00 34 966 66 22 59
Fax: 00 34 966 66 10 40
e-mail: r+d@biomedical-technologies.com

Moises Piedade
Instituto de Engenharia de Sistemas e Computadores
Investigacao a Desenvolvimento em Lisboa
Signal Processing Systems
Rua Alves Redol, 9
P1000-029 Lisboa, PORTUGAL
Tel: 00 351 21 3100245
Fax: 00 351 21 3145843
e-mail: msp@inesc.pt

Project number:	QLK6-CT-2002-00331
EC contribution:	€2,701,852
Duration:	48 months
Type:	RS
Starting date:	01/02/2003

Identification of environmental and genetic risk factors for Age Related Hearing Impairment

Objectives:

The general aim of this project is the identification of genetic and environmental risk factors contributing to age related hearing loss (ARHI). We will collect DNA and clinical and audiological data from 4800 patients and controls from 7 EU countries. Environmental risk factors will be identified by statistical analysis of clinical and environmental data. Susceptibility genes will be identified by DNA analysis (linkage and association studies).

Brief description:

Patients, controls and family-based samples are collected by the 8 clinical partners. Our patient collection will include 1600 sporadic patients, 1600 normal hearing controls, and 1200 persons belonging to families containing at least two ARHI patients from 7 different EU countries, plus 400 patients and controls from the Saami (the Lapps in Northern Finland). A person is considered affected if, upon audiologic testing, the pure-tone average is at least 1 standard deviation above the age and sex-average median. A person is included as a control if he/she belongs to the better hearing half of the population. All patients and controls fill in a standardised questionnaire (in their native language) on clinical history and putative environmental risk factors for ARHI. The results of the questionnaire are fed into a database. Classical statistics (univariate and multivariate analysis) will be applied to elucidate the influence of environmental variables on ARHI.
The genetic analysis comprises genome searches on the Saami samples and the samples from the affected families, to identify candidate regions for susceptibility to ARHI. The databases from the Human Genome Project will indicate which genes (positional candidates) are located within each of the candidate regions. Additional candidate genes will be generated by constructing and analysing inner ear specific cDNA libraries. Among the positional candidates, a selection will be made to prioritise the genes that are known or suspected to have a function in the inner ear. Subsequently, a case-control association study will be performed using Single Nucleotide Polymorphisms (SNPs) analysis on the selected genes. Genes showing putative association with ARHI will be further analysed with a more dense set of SNPs, to identify the variations that significantly increase ARHI susceptibility.
Finally, the results from the genetic study and the environmental questionnaire will be integrated by modern computing technology (including neural networks and genetic algorithms). This will result in an ARHI model, which will enable us to formulate precise guidelines for the prevention of ARHI in the future.

Keywords:

case-control - presbycusis - ageing - questionnaires - epidemiology - association study - genome search - computing - prevention - single-nucleotide polymorphism - susceptibility gene - non-parametric linkage analysis - quantitative trait - complex disorder - multifactorial

Co-ordinator

Prof. Dr. Guy Van Camp
Department of Medical Genetics
University of Antwerp
Universiteitsplein 1, B-2610 Antwerp, Belgium
Tel.: (32 3) 820 25 85
Fax: (32 3) 820 25 66
E-mail: gvcamp@uia.ua.ac.be

Partners

Michael Bille
Copenhagen
Denmark

Hannie Kremer
Nijmegen
The Netherlands

Markus Pfister
Tuebingen
Germany

Eva Orzan
Padova
Italy

Martti Sorri
Oulu
Finland

Ilmari Pyykkö
Tampere
Finland

Paul Van de Heyning
Antwerp
Belgium

Dafydd Stevens
Cardiff
United Kingdom

Thomas Wienker
Bonn
Germany

Project number:	QLK6-CT-2002-02494
EC contribution:	€81,600
Duration:	36 months
Type:	CA
Starting date:	01/01/2003

Photoreceptor Dynamics in Age-Related Macular Degeneration. Consequences for early diagnosis

Topic:

The earliest changes in the photoreceptors caused by age-related macular degeneration

Objectives:

It is the purpose of the concerted action to elucidate the basic physiological processes involved in ARM/AMD. The participants will study the early changes in photoreceptor driven signals owing to ARM/AMD. This changes will be studies at different levels: the photoreceptor themselves, the retina, the visual cortex and at the perceptual level. It is anticipated that a better understanding of these processes will lead to improved clinical diagnosis and therapy of the patients.

Brief description:

The project will concentrate upon the implementation of new fundusreflectometrical, electrophysiological and psychophysical techniques for diagnosing ARM/AMD and advance the understanding of the involved pathophysiological mechanisms. This will be achieved by implementing new stimulation techniques, that enable selective stimulation of different photoreceptor types. The project is aiming at a complete description of the signals in each photoreceptor type and their mutual interactions at different retinal illuminances and temporal frequencies using electrophysiological techniques such as the recordings of electroretinograms and the visual evoked potentials. Furthermore, psychophysical tests of photoreceptor dynamics will be developed. The results from these studies will be used to further advance the available techniques to study more physiological and psychophysical properties of the healthy and diseased retina. The comparative study with the same technique in age matched normal and ARM/AMD patients will allow to draw conclusion upon the basic physiological mechanisms leading to ARM/AMD. Finally, the integrity of the photoreceptors themselves is studied by measuring the 'Stiles-Crawford effect' with a fundusreflectometrical technique. This is a non-invasive, objective and reliable technique to measure whether the internal organisation of the photoreceptors is still in tact or not. Fundusreflectometry can also be used to measure the density of the macular pigment.

Keywords:

ageing - macular degeneration - photoreceptors - electroretinography - psychophysics - visual evoked potentials - fundus-reflectometry.

Co-ordinator

Dr. Jan Kremers.
University of Tübingen Eye Hospital,
Dept. of Experimental Ophthalmology,
Röntgenweg 11,
72076 Tübingen,
Germany.
e-mail: kremers@uni-tuebingen.de
Tel.: +49 (0)7071 29 85031
Fax: +49 (0)7071 29 5777

Partners

Dr. Ian Murray
University of Manchester Institute of Science and Technology
Dept of Optometry and Neuroscience,.
PO Box 88, Manchester M60 1QD, UK
Tel.: +44 (0)161 200 3862
Fax: +44 (0)161 200 3862
e-mail: ian.murray@umist.ac.uk

Dr. Neil Parry
Vision Science Centre,
Manchester Royal Eye Hospital,
Oxford Road, Manchester M13 8WH, UK
Tel.: +44 (0)161 276 5571
Fax: +44 (0)161 276 5642
e-mail: neil.parry@man.ac.uk

Prof. Arne Valberg
Norwegian University of Science and Technology (NTNU),
Dept. of Physics, Section of Biophysics,
N 7491, Trondheim, Norway.
Tel.: +47 (0)7359 8373
Fax: +47 (0)7359 1852
e-mail: arne.valberg@phys.ntnu.no

Prof. Dirk van Norren
University Medical Center Utrecht
Dept. of Ophthalmology,
P.O. Box 85500, 3508 GA Utrecht, The Netherlands
Tel.: +31 (0)30 250 7907
Fax: +31 (0)30 250 5417
e-mail: d.vannorren@oogh.azu.nl

Area 6.2: Basic Processes of Physiological Ageing

CELLULAR AND MOLECULAR PROCESSES OF AGEING

Project number:	QLK6-CT-1999-02237
EC contribution:	€1,799,811
Duration:	36 months
Type:	RS
Starting date:	01/03/1999

Prevention of iron storage disease in the ageing population

Objectives:

1. Guidelines for screening for haemochromatosis in the general population. 2. Guidelines for patient referral for genotyping. 3. Improved clinical awareness of iron storage disease in the ageing population. 4. Evidence for the contribution of haemochromatosis or carrier status in the following conditions present in the ageing population: cardiac disease, arthritis, arthropathy and hip joint disease, endocrinopathy and osteoporosis, liver disease, diabetes, Alzheimer's disease and cardiovascular disease. 5. The role of modifier genes and other genetic loci involved in iron storage disease.

Brief description:

Many members of the Consortium have already actively collaborated and the work put forward in this proposal is based on our earlier work. New collaborations are underway. We are exploiting our wide expertise in the field of iron overload, in particular hereditary haemochromatosis (HHC). This disease is one of the most common genetic disorders in European populations. The majority of HHC is due to homozygosity of the C282Y mutation in the HFE gene, with contributions from the H63D mutation. The disease is easily treatable although frequently diagnosed after irreversible tissue damage has occurred.

We are continuing to recruit and analyse patient samples to provide us with a large database of information allowing us to compare the results from different parts of Europe. We are increasing the awareness of the disease and so encouraging early diagnosis. A large survey on 20000subjects will provide the data on which to base screening strategies. We are pooling biochemical data (transferrin saturation and ferritin concentration), as well as genetic and clinical data from the different centres resulting from the phenotype/genotype studies. Many samples are referred to the different centres for genotyping based on a suspected diagnosis of HHC. Awareness of HHC now means that some clinicians refer samples unnecessarily for genotyping. As it is not clear what are the best parameters on which to base the decision to genotype we need to define guidelines for such referrals.

We are examining too the role that heterozygosity for either the C282Y or H63D mutations play in Alzheimer's disease, arthropathy, osteoporosis and cardiomyopathy. Experiments using transgenic mice will be performed to look at the role of modifier genes and their role in HHC. Compilation of our results will allow us to determine the nature of other loci involved in determining iron overload.

By developing protocols for HHC screening we will be able to improve the health of the ageing population in Europe by preventing tissue damage due to iron overload.

Keywords:

Iron overload-haemochromatosis-genetics

Co-ordinator

Dr. Kathryn Robson
MRC Molecular Haematology Unit
University of Oxford
Weatherall Institute of Molecular Medicine
John Radcliffe Hospital
Headington, Oxford OX3 9DS
UNITED KINGDOM
Phone: +44 1865 222 379
Fax : +44 1865 222 500
E-mail : kathryn.robson@imm.ox.ac.uk

Partners

Professor J. Rochette
CHU et Université Jules Verne de Picardie, France
e-mail: jacques.rochette@mailx.u-picardie.fr

Dr. M-P. Roth
UPCM-CNRS, France
e-mail: roth@cict.fr

Professor C. Camaschella
Università di Torino, Italy
e-mail: clara.camaschella@unito.it

Professor M. Worwood
University of Wales College of Medicine, United Kingdom
e-mail:worwood@cardiff.ac.uk

Dr. W.M. Rosenberg
University of Southampton, United Kingdom
e-mail: wmr@soton.ac.uk

Dr. A. P. Walker
University College London, United Kingdom
e-mail: a.walker@rfc.ucl.ac.uk

Professor V. David
UPR41CNRS, France
e-mail: vdavid@univ-rennes1.fr

Professor P. Gasparini,
Baschirotto Institute for Rare Diseases, Italy
e-mail: pgasparini@hotmail.com

Professor T. M. Cox
University of Cambridge, United Kingdom
e-mail: jbg20@medschl.cam.ac.uk

Dr. J. Crowe
Mater Misericordiae Hospital, Ireland
e-mail: giunit@mater.ie

Project number:	QLK6-CT-1999-02002
EC contribution:	€1,733,951
Duration:	36 months
Type:	RS
Starting date:	01/02/2000

Role Of Oxidative Dna Damage And Repair In Ageing

Brief Description:

Principal molecular mechanisms underlying human ageing are unknown. Basic molecular understanding is required before therapeutic intervention can be applied to prevent the degenerative diseases associated with ageing. Such intervention will be required to meet the medical, social and economical challenges posed by a major increase in the percentage of old people in Europe. A major theory of ageing suggests that oxidative modifications of DNA increase with age. This theory will be tested by advanced chemical, molecular and biochemical analysis, by development and studies of new transgenic mouse models and by molecular characterisation of human premature ageing syndromes. The studies include detailed investigation of DNA repair processes, and their relation to transcription and to specific molecular ageing processes.

Keywords:

Ageing - oxidative DNA damage - molecular biology

Co-ordinator

SEEBERG Erling
Dept. of Molecular Biology Institute of Medical Microbiology
University of Oslo
The National Hospital
N-0032 OSLO
NORWAY
Tel.: + 47-2307-4059
Fax: + 47-2307-4060
E-mail: e.c.seeberg@labmed.uio.no

Partners

Prof. Henrik Enghuse Poulsen, Rigshospitalet, University Hospital Copengagen / Denmark

Prof. Jan Hoeijmakers, Erasmus University Rotterdam / The Netherlands

Prof. Jean-Marc Egly, Centre National de la Recherche Scientifique / France

Prof. Vilhem A. Bohr, University of Aarhus / Denmark

Prof. Anthony Linnane, Centre for Molecular Biology and Medicine, Melbourne / Australia

Project number:	QLK6-CT-1999-02031
EC contribution:	€945,000
Duration:	42 months
Type:	TN
Starting date:	01/02/2000

Immunology And Ageing In Europe

Objectives:

To define and manipulate age-associated changes in human T cell immunity. To this end, this thematic network will co-.ordinate research on basic cellular and molecular mechanisms underlying human T lymphocyte ageing in a longitudinal model of specific ageing processes. T cell clones will be produced in a central facility and distributed to members for identifying and validating age-associated changes in a multidisciplinary, quality-controlled fashion using a workshop approach with central data analysis. Characteristics jointly identified as relevant to the ageing process in vitro will be validated in vivo using the unique donor materials of the participants. Manipulation to influence immuno-senescence in vitro will be tested with a view to intervention in vivo. The interdisciplinary synergistic interactions of the participants will enable the identification of the critical cellular and molecular changes underlying T cell senescence and begin to develop interventions to ameliorate these changes.

Keywords:

Ageing, Intervention, Immunosenescence, cellular and molecular biology.

Co-ordinator

PAWELEC Graham
Professor of Experimental Immunology
Tübingen Ageing and Tumour Immunology Group (TATI)
Section of Transplantation Immunology and Immunohaematology
University of Tübingen Medical School
Zentrum für Medizinische Forschung, ZMF
Waldhörnlestrasse 22
D-72072 TÜBINGEN
GERMANY
Tel.: + 49-7071-298 2805
Fax: + 49-7071-295567
e-mail: graham.pawelec@uni-tuebingen.de

Partners

Dr. Yvonne BarnettUniversity of Ulster, Department of Biomedical Sciences, Cromore Road, Coleraine BT52 1SA, Northern Ireland. Tel. (44-1265) 324 627; Fax (44-1265) 324 965. Yvonne.barnett@ulst.ac.uk

Dr. Carol Brayne, University of Cambridge, Department of Community Medicine, Institute of Public Health, Forvie Site, Robinson Way, Cambridge CB2 2SR, England. Tel. (44-1223) 330 334; Fax (44-1223) 330 330. carol.brayne@medschl.cam.ac.uk

Prof. Rita Effros, University of California at Los Angeles, Department of Pathology and Laboratory Medicine, 10833 Le Conte Avenue, Los Angeles, CA 90095-1732, USA. Tel. (1-310) 825 0748; Fax (1-310) 206 0657. Reffros@mednet.ucla.edu

Prof. Amiela Globerson, The Multidisciplinary Center for Research on Ageing, Ben Gurion University of the Negev, IL-84105 Beer Sheva, Israel. Tel. (972-8) 934 3995; Fax (972-8) 934 4165. amielag@bgumail.bgu.ac.il

Prof. Beatrix Grübeck-Loebenstein, Austrian Academy of Sciences, Institute for Biomedical Ageing Research, Department of Immunology, Rennweg 10, A-6020 Innsbruck, Austria. Tel. (43-512) 5839 1914; Fax (43-512) 5839 198. Beatrix.Grubeck@oeaw.ac.at

Dr. Erminia Mariani, Istituti Ortopedici Rizzoli, Laboratorio di Immunologia e Genetica, Via di Barbiano 1/10, I-40136 Bologna, Italy. Tel. (39-51) 6366 803; Fax (39-51) 6366 807. Marianie@alma.unibo.it

Dr. Julie McLeod, University of the West of England, Faculty of Applied Sciences, Coldharbour Lane, Bristol BS16 1QY, England. Tel. (44-117) 344 2531; Fax (44-117) 976 3871. Julie.mcleod@uwe.ac.uk

Dr. Kalliope Sekeri-Pataryas, National Center for Scientific Research "Demokritos", Institute of Biology, P.O. Box 60228, Ag. Parakevi, GR-15310 Athens, Greece. Tel. (30-1) 651 3021; Fax. (30-1) 651 0594. Ksek@mail.demokritos.gr

10. Dr. Arne Akbar, University of London, Department of Clinical Immunology, Royal Free and University College Medical School, Pond Street, London NW3 2OG, England. Tel. (44-171) 794 0500 x 3268; Fax (44-171) 431 0879. Akbar@rfhsm.ac.uk

11. Dr. Richard Aspinall, University of London, Imperial College, Department of Immunology, 369 Fulham Road, London SW10 9NH, England. Tel. (44-181) 746 5993; Fax (44-181) 746 5997. R.aspinall@ic.ac.uk

12. Prof. Carlo Bartoloni, Universita Cattolica del Sacro Cuore, Istituto di Medicina Interna e Geriatria, Largo Gemelli 8, I-00168 Rome, Italy. Tel (39-6) 310 54911; Fax (39-6) 355 07155. C.bartoloni@rm.unicatt.it

13. Prof. Peter Berverley, The Edward Jenner Institute for Vaccine Research, High Street, Compton, Newbury, Berks RG20 7NN, England. Tel. (44-1635) 577904; Fax (44-1653) 577901. Peter.beverley@jenner.ac.uk

14. Prof. Benjamin Bradley, University of Bristol, Division of Transplantation Sciences, Building 11 Zone A, Southmead Health Services, Westbury-on-Trym, Bristol BS10 5NB, England. Tel. (44-117) 959 5340; Fax (44-117) 950 6277. Ben.bradley@bris.ac.uk

15. Prof. Calogero Caruso, University of Palermo, Section for Cellular and Molecular Pathology, Department of Pathobiology, Corso Tukory 211, I-90134 Palermo, Italy. Tel. (39-91) 655 5911; Fax (39-91) 655 5933. Marcoc@unipa.it

16. Dr. Richard Faragher, Department of Pharmacy and Biomolecular Science, University of Brighton, Lewes Road, Brighton BN2 4GJ, England. Tel. (44-1273) 600900; Fax (44-1273) 679333.R.g.a.faragher@bton.ac.uk

17. Prof. Farzin Farzaneh, King´s College London, Department of Molecular Medicine, The Rayne Institute, 123 Coldharbour Lane, London SE5 9NU, England. Tel. (44-171) 848 5900; Fax (44-171) 733 3877. Farzin.farzaneh@kcl.ac.uk

18. Prof. Claudio Franceschi, University of Bologna, Department of Experimental Pathology, Via S. Giacomo 12, I-40126 Bologna, Italy. Tel. (39-51) 209 4738; Fax (39-51) 209 4747. Clafra@kaiser.alma.unibo.it

19. Dr. Dan Grandér, Karolinska Institutet, Department of Oncology-Pathology, Cancer Center Karolinska R8 03, SE-171 76 Stockholm, Sweden. Tel. (46-8) 728 6587; Fax (46-8) 318406. Dan.grander@cck.ki.se

20. Dr. David Hughes, Institute of Food Research, Diet, Health and Consumer Science, Norwich Research Park, Colney, Norwich NR4 7UA, England. Tel. (44-1603) 255 345: Fax (44-1603) 255 237. Davida.Hughes@bbsrc.ac.uk

21. Dr. Eugenio Mocchegiani, Italian National Research Centers on Ageing, Immunology Center, Via Birarelli 8, I-60121 Ancona, Italy. Tel. (39-71) 800 4216; Fax (39-71) 206 6791. E.mocchegiani@inrca.it

22. Prof. Roberto Paganelli, Department of Internal Medicine and Sciences of Ageing, University "G. d'Annunzio"via dei Vestini 13, I-66013 Chieti, Italy. Tel. (39-347) 1656298; Fax (39-0871)-3554145. rpaganel@phobos.unich.it

23. Dr. Jonathan Powell, Unilever UK Central Resources Ltd., Unilever Research Colworth, Cell Biology and Physiology Unit, Colworth House, Sharnbrook, Bedford MK44 1LQ, England. Jonathan.powell@unilever.com

24. Dr. Edmond Remarque, Leiden University Medical Centre, Section of Gerontology and Geriatrics, P.O. Box 9600, Albinusdreef 2, 2300 RC Leiden, The Netherlands. Tel. (31-71) 526 6605; Fax (31-71) 524 8159. E.remarque@thuisnet.leidenuniv.nl

25. Prof. Dr. Lothar Rink, Institute of Immunology, RWTH-Aachen, University Hospital, Pauwelsstr. 30, D-52074 Aachen, Germany. Tel. (49-241) 808 0208, Fax (49-241) 808 2613. LRink@klinikum.rwth-aachen.de

26. Dr. Manfred Schmolz, Experimental & Diagnostic Immunology (EDI) GmbH, Markwiesenstr. 55, D-72770 Reutlingen, Germany. Tel. (49-7121) 434 103; Fax (49-7121) 491 074. edigmbh@cs.com

27. Prof. Josef Smolen, University of Vienna, Division of Rheumatology, Department of Internal Medicine III, Waehringer Guertel 18-20, A-1090 Vienna, Austria. Tel. (43-1) 40400 4300; Fax (43-1) 404000 4331. Smj@2me.khl.magwien.gv.at

28. Prof. Rafael Solana, University of Córdoba, Department of Immunology, Hospital Reina Sofia, Ave. Menedez Pidal s/n, ES-14004 Córdoba, Spain. Tel. (34-957) 217532; Fax (34-957) 217532. Rsolana@uco.es

29. Prof. Anders Wikby, University College of the Health Sciences, Department of Natural Science and Biomedicine, P.O. Box 1038, Barnapsgatan 39, SE-551 11 Jönköping, Sweden. Tel. (46-381) 35101; Fax (46-381) 17620. Anders.Wikby@hhj.hj.se

30. Dr. Per Thor Straten (ex Prof. Jesper Zeuthen), Danish Cancer Society, Institute of Cancer Biology, Strandboulevarden 49, DK-2100 Copenhagen, Denmark. Tel. (45-35) 257500; Fax (45-35) 257721. Ps@cancer.dk

31. Prof. Sudhir Gupta, Basic and Clinical Immunology, University of California, Irvine, CA 92697, USA. Tel.(1-949) 824-5818; Fax (1-949) 824-4362. sgupta@uci.edu

32. Dr. Daniela Frasca, University of Miami School of Medicine, Department of Microbiology and Immunology1600 NW 10th Ave, Miami, FL 33136, USA. Tel (1-305) 243-6040; Fax (1-305) 243-5522. Danielafrasca@aol.com, DFrasca@med.miami.edu

33. Prof. Elissaveta Naumova, Central Laboratory of Clinical Immunology, University Hospital "Alexandrovska"1 Georgy Sofiisky Street, 1431 Sofia, Bulgaria. Tel. (35-92) 952 6104; Fax (35-92) 981 8946. Immun@medun.acad.bg

34. Prof. Támás Fülöp, Jr., Université de Sherbrooke, Centre de recherche en gérontologie et gériatrie, Institut Universitaire de Gériatrie, 1036, Belvedere Sud, Sherbrooke, Québec, Canada J1H 4C4. Tel. (1-819) 829-7131; Fax (1-819) 829-7141. tfulop@ courrier.usherb.ca

Project number:	QLK6-CT-1999-02071
EC contribution:	€1,574,023
Duration:	36 months
Type:	RS
Starting date:	01/02/2000

Identification And Characterisation Of Genes Controlling Longevity And Ageing In An Animal Model.

Brief Description:

An understanding of the molecular and physiological mechanisms that cause ageing is essential for the rational intervention of age-related disease. Simple model systems that exhibit ageing provide and economical means to obtain this understanding. Our objective is to determine the genes and physiological mechanisms that cause ageing in Caenorhabditis elegans with a view to targeting processes that underlie age-associated disease in humans. This will be achieved by an extensive, interdisciplinary analysis of a series of genetic variants that exhibit greatly slowed rates of ageing resulting in life span increases of up to 300% (Age mutants). This analysis will reveal both regulatory mechanisms that control ageing rate and downstream mechanisms that constitute the molecular and physiological causes of ageing. We predict that many of the mechanisms we uncover will be universally linked to ageing in all animals and that consequently the targeting of these mechanisms will ameliorate age-related disease or postpone its onset.

Keywords:

Ageing, gene, nematode, molecular biology, animal model

Co-ordinator

VANFLETEREN Jacques
Universiteit Gent
Department of Biology
Ledeganckstraat 35
B-9000 GENT
Belgium
E-mail: Jacques.vanfleteren@rug.ac.be
Tel.: + 32-9-264 52 12
Fax: + 32-9-264 87.93

Partners

Dr. David Gems, University College London Institution Inc. / United Kingdom
david.gems@ucl.ac.uk
Dr. Adam Antebi, Max-Planck-Gesellshaft, Berlin / Germany
antebi@molgen.mpg.de
Dr. Ann Burnell, National University of Ireland, Maynooth / Ireland
ann.burnell@may.ie
Dr. Gordon Lithgow, Victoria University of Manchester / United Kingdom, as till 31/07/2001 (relocalized to the Buck Institute, CA, USA)
Prof. Thierry Bogaert, Devgen N.V., Zwijnaarde / Belgium
thierry.bogaert@devgen.com
Dr. M. Munoz Ruiz, Universidad Pablo de Olavide de Sevilla / Spain, as from 01/08/2001
mmunrui@dex.upo.es

Project number:	QLK6-CT-1999-02187
EC contribution:	€1,536,763
Duration:	36 months
Type:	RS
Starting date:	01/01/2001

Age-Related Changes In Learning And Memory: Neural Cell Adhesion Molecules, Associated Carbohydrates And Ligands

Brief description:

The aim of our joint study is to investigate the roles of the neural cell adhesion molecules, NCAM and L1, in aged rodents with regard to the efficacy of acquisition, retention and recall of learned tasks versus that in young and adult animals. We wish to examine the contribution of the two molecules to synaptic plasticity using LTP in vitro and learning paradigms in vivo in wild type and transgenic animals. We also wish to characterise the functional properties of sub-domain fragments of these molecules including their cognate ligands and carbohydrates in modifying learning and memory. Further, we wish to identify novel ligands of NCAM and L1 by means of rational design and combinatorial chemistry and to evaluate of such ligands to preserve and promote the capacity for learning at old age and under stress

Keywords:

Ageing, learning, memory, regeneration, neural cell, adhesion molecules, ligands, cellular biology

Co-ordinator

SCHACHNER Melitta
Zentrum für Molekulare Neurobiologie
Universitaet Hamburg
Martinistrasse 52
D-20246 HAMBURG
Germany

Tel.: + 49-40-428 036 246
Fax: + 49-40-428 036 248
e-mail: melitta.schachner@zmnh.uni-hamburg.de

Partners

Elisabeth Bock
Institute of Molecular Pathology
Protein Laboratory, Panum Institute
3C Blegdamsvej
DK 2200 Copenhagen
Phone: +45 35327334
Fax: +45 35360116
e-mail: Bock@plab.ku.dk

Ciaran Regan
Department of Pharmacology,

University College Dublin,
Belfield,
Dublin 4,
IRELAND
Phone: +353 1 7061557
Fax: +353 1 2692749
e-mail: Cregan@macollamh.ucd.ie

Geneviève Rougon
UMR-CNRS 6156 NMDA
Institut de Biologie du Développement (IBDM)
Case 907, Parc Scientifique de Luminy
F-13288 Marseille Cedex 9
Phone: +33 4 9126 9348
Fax: +33 4 9126 9748
e-mail: rougon@ibdm.univ-mrs.fr

Carmen Sandi
Departamento de Psicobiologia
Universidad Nacional de Educación a Distancia
Apartado no. 60.148
Ciudad Universitaria s/n
28040 Madrid
Spain
Phone: +34 91 398 6203
Fax: +34 91 398 6287
e-mail: csandi@psi.uned.es

Claus Schafer-Nielsen
Schafer-N
Fruebergvej 3
DK 2100 Copenhagen
Phone: +45 39273800
Fax: +45 39273801
e-mail: peptides@schafer-n.com

Project number:	QLK6-CT-1999-02193
EC contribution:	€1,552,990
Duration:	36 months
Type:	RS
Starting date:	01/02/2000

THE ROLE OF PROTEASOME IN HUMAN AGEING: IMPLICATIONS FOR ANTI-AGEING STRATEGIES

Brief Description:

Accumulation of damaged proteins is a hallmark of ageing. Proteasome is the main proteolytic system in charge of damaged protein degradation within the cell. Recent data on human keratinocytes and dermal fibroblasts have shown that proteasome alterations may be responsible for the age-related drop of quality in cellular proteins. Our project is a concerted attempt to understand this phenomenon, and to find appropriate handles to keep it under control. We will analyse the expression of genes coding for proteasome subunits and proteolytic activity. We will use phage-display and antibodies to identify age-associated modifications in cellular proteins. We will construct human cellular model systems to investigate the role of proteasome in senescence and apoptosis. Finally, we will develop a test to screen substances for their potential effects on age-related proteasome alterations

Keywords:

Ageing, proteasome, gene, cellular senescence

Co-ordinator

FRIGUET Bertrand
Laboratoire de Biologie et Biochimie Cellulaire du Vieillissement
EA 3106 Université Paris 7 - Denis Diderot –
Case Courrier 7128
Couloir: 33-23 1er étage
2, Place Jussieu
F-75251 PARIS cedex 05
FRANCE
Tel.: + 33-1-442 782 34
Fax: + 33-1-442- 782 34
e-mail: bfriguet@paris7.jussieu.fr

Partners

Prof. B. Clark, University of Aarhus / Denmark
Prof. C. Franceschi, University of Bologna / Italy
Dr. E. S. Gonos, National Hellenic Research Foundation, Athens / Greece
Prof. Y. Milner, The Hebrew University of Jerusalem / Israël
Dr. A. J. Rivett, University of Bristol / United Kingdom
Dr. O. Toussaint, University of Namur (FUNDP), Namur / Belgium

Project number:	QLK-CT-2000-00054
EC contribution:	€1,800,000
Duration:	36 months
Type:	RS
Starting date:	01/01/2001

Testing The Mitochondrial Theory Of Ageing

Objective:

The mitochondrial theory of ageing proposes that the accumulation of somatic mutations in mitochondrial DNA (mtDNA) during life results in a progressive decline in energetic function and eventual cellular and organismal degeneration. We propose to test this idea directly, by engineering a mtDNA mutator that will be expressed in various model systems, including yeast, cultured human cells and the fruit fly Drosophila. The phenotypic consequences of an enhanced mtDNA mutation rate will be evaluated on cellular and physiological function gene expression, senescence and lifespan.

Brief Description:

Mitochondrial DNA mutator strains will be created in the various biological model systems to be used, based on the expression of a defective mitochondrial DNA polymerase (POLG) enzyme, lacking proof-reading exonuclease activity. The mutator polymerase gene will be engineered by in vitro mutagenesis and re-introduced, e.g. into cultured cells or Drosophila embryos, using standard transfection and microinjection methods, yielding transformed lines expressing the mutator. The rate and pattern of accumulation of mtDNA mutations will be evaluated in the various model systems, to confirm that the mutator works, and to measure the altered dynamics of somatic mutation of mtDNA. The phenotypic effects of an enhanced rate of mtDNA mutation will then be investigated at the cellular and organismal levels via methods appropriate to each model system. In yeast, genetic crosses will be used to test roles of other genes and parameters in the phenotypic expression of the mtDNA mutator, and effects of the mutator on vegetative lifespan will be measured. In mammalian cells, we will evaluate effects on respiratory phenotype, cell viability and senescence. Susceptibility to agents inducing DNA damage, respiratory stress and apoptosis will also be investigated, as well as a variety of physiological parameters of ageing. Global effects on gene expression related to ageing will be studied using hybridization to cDNA microarrays. In flies, effects on lifespan over many generations, and under various types of stress, will be evaluated. Interactions with other mitochondrial functions and the tissue-specificity of observed phenotypes will be tested using appropriate genetic crosses. The major results expected will be a detailed profiling of the effects of an enhanced mtDNA mutation rate on cellular and organismal phenotype, gene expression patterns and overall lifespan, in key model systems relevant to biological ageing.

Keywords

mitochondrial DNA - somatic mutation - gene expression - biological models

Co-ordinator

JACOBS Howard Trevor
Institute of Medical Technology
FIN-33014 University of Tampere
Finland
Phone/Fax: +35832157731
e-mail: howy.jacobs@uta.fi

Partners:

Dr Nils-Göran Larsson (Karolinska Institute, Stockholm, Sweden)

Prof Rafael Garesse (Universidad Autonoma de Madrid, Spain)

Prof Françoise Foury (Université Catholique de Louvain, Belgium)

Prof Jan Törnell (Astrazeneca R&D Mölndal, Sweden)

Project number:	QLK6-CT-2000-00616
EC contribution:	€2,196,143
Duration:	36 months
Type:	RS
Starting date:	01/10/2001

Molecular Mechanisms Of Senescence And Ageing

Objectives:

The major goal of the current application is to determine the major factors governing ageing at the cellular level in vitro and in vivo. We will clarify the role of programmed cell death in cellular and organismal ageing. We will attempt to design new strategies for the diagnosis and treatment of age-related dysfunctions in experimental animals and humans.

Brief Description:

We will try to identify new genes, which are related to replicative senescence in vitro. To establish a cause-effect-relationship for selected senescence-associated genes, it is planned to over-express candidate genes in young cells and study consequences for their phenotype. It is also planned to abrogate the function of candidate genes in senescent cells and thereby override the senescent phenotype. Furthermore, the expression and function of a defined set of genes, implicated in cellular growth regulation and in the regulation of cell death, will be analysed during in vitro ageing. We will analyse expression and function of these genes at various levels, including transcription, post-transcriptional control, and a biochemical determination of gene function. We will also identify new cellular genes that are capable to break the senescent phenotype at M1 or M2 stage. Besides genes that are acting in the so far unknown senescence pathways, we also anticipate to identify upstream regulators and downstream effectors of the p14(ARF) and p16(INK4A) senescence-inducing pathways. In a complementary approach, genes and gene products that are involved in transcriptional regulation of these genes will be characterised. Finally, we will address the question which of the changes observed in the cell culture models are relevant for ageing in vivo. To this end, the expression and function of selected senescence-associated genes will be determined in biopsies; these biopsies are available from an already existing bank of skin and vascular biopsies that have been obtained from young and old healthy volunteers, as well as in clinical samples from patients with intrinsic or extrinsic skin ageing, biopsies from patients with vascular disease of various grades, and fibroblasts taken from patients with premature ageing syndromes, i.e. Werner syndrome and Down syndrome. These experiments will allow to discriminate age-dependent alterations that occur in cell culture only from those alterations which occur in a similar way in aged human beings.

Keywords:

senescence - cell cycle regulation - apoptosis - premature ageing syndromes - longevity - cDNA screening - gene identification - skin ageing - arteriosclerosis - fibroblasts - endothelial cells - human ageing - gene expression profiling

Co-ordinator

JANSEN-DUERR Pidder
Institute for Biomedical Ageing Research
Austrian Academy of Sciences
Rennweg 10
A - 6020 Innsbruck/Austria
Tel.: +43 512 583919 28
Fax: +43 512 583919 8
e-mail: p.jansen-duerr@oeaw.ac.at

Partners

Dr. Jiri Bartek, Danish Cancer Society, Copenhagen/Denmark
Email: bartek@biobase.dk
Tel.: +45 3525 7329
Fax: +45 3525 7721

Dr. Efstathios Gonos, National Hellenic Research Foundation, Athens /Greece
Email: sgonos@eie.gr
Tel.: +30 1 7273756
Fax: +30 1 7251827

Prof. Nicholas La Thangue, Prolifix Ltd.Abingdon/UK
Email: n.lathangue@prolifix.co.uk
Tel.: +44 1 235 443737
Fax: +44 1 235 835557

Dr. Maarten van Lohuizen, The Netherlands Cancer Institute, Amsterdam/Netherlands
Email: lohuizen@nki.nl
Tel.: +31 20 512 2030
Fax: +31 20 512 2011

Prof. Karin Scharffetter-Kochanek, Universität zu Köln, Köln/Germany
Email: karin.scharffetter@uni-koeln.de
Tel.: +49 221 478 6591
Fax: +49 221 478 5949

Dr. Manuel Serrano, National Center of Biotechnology, Madrid/Spain
Email: mserrano@cnb.uam.es
Tel.: +34 91 585 4702
Fax: +34 91 372 0493

Dr. Roberto Testi, University of Rome „Tor Vergata“, Rome/Italy
Email: tesrob@flashnet.it
Tel.: +39 06 7259 6503
Fax: +39 06 7259 6505

Project number:	QLK6-CT-2001-00175
EC contribution:	€1,576,657
Duration:	36 months
Type:	RS
Starting date:	01/01/2002

Mechanisms of ageing in extracellular matrices

Objectives :

During the ageing process, the changing structure, composition and properties of extra-cellular matrices such as tendon, skin, blood vessels, etc., reflects a gradual change in expression by matrix-forming cells. The mechanisms controlling this change in expression are not at all understood. The proposed work aims to (1) provide knowledge on the mechanisms controlling the ageing process in extra-cellular matrices, (2) differentiate the effects of 3 hypothetical pathways by which matrix-producing cells alter their expression with age, and (3) to formulate strategies to manipulate of cell activity which could form the basis of anti-ageing strategies. Anti-ageing strategies to be investigated will include ultrasound, cell transplants, protein expression, and novel drugs.

Brief description

Three hypotheses are presented as to what makes matrix-forming cells change their expression in ageing tissue:
1. Ageing extra-cellular matrices show gradual and accumulating differences in structure, composition and properties due to a basic difference between the processes of matrix tissue formation and of matrix tissue turnover and remodelling evident as a change in the expressed protein profile, or proteosome.
2. Ageing represents gradual and accumulated injury repair responses to either overt or sub-critical damage in the matrices, and age induced mRNA changes detected by transcriptome.
3. Ageing arises from progressive changes in the magnitude or nature of the mechanical signals passed from the matrix into the matrix-forming cells, or a changing sensitivity of the transduction of these signals.

The work is divided into 3 work-packages, each designed to test one hypothesis. Differences in structure, composition and molecular packing in young versus mature tendon will be related to expression of both anabolic and catabolic products from young and old matrix-forming cells to test (1). The expression of anabolic and catabolic products from young and old matrix-forming cells in response to sub-cri tical and severe mechanical injury will be examined to test hypothesis (2). The response of young and old matrix forming cells to mechanical stimulation and their expression of cell surface transduction molecules will be examined to test hypothesis (3). Cell expression in pathological tissue and abnormal tissue (gene knock out models) will also be studied to deduce mechanisms of age-related changes.

Arising from the knowledge gained in terms of each putative mechanism, we propose to finish the work with preliminary formulations of possible ways in which matrix-forming cell expression could be manipulated in order to combat age-related degradations in extra-cellular matrix properties and to combat age-related diseases of matrix tissues.

Co-ordinator :

Professor Purslow Peter

University of Stirling
Department of Biological Sciences
FK9 4LA Stirling
United Kingdom

Phone: (44)1786467783
Fax: (44)1786464994
E-mail: p.p.purslow@stir.ac.uk

Partners :

Prof. Grete Bretelsen, Den Kongelige Veterinaer og Landbohoejskole, Frederiksberg, Copenhagen, Denmark

Ms. Linda Polik, University of Stirling, Stirling, United Kingdom

Mr. Geraint Jones, University of Wales, Cardiff, United Kingdom

Ms. Liz Fay,The Victoria University of Manchester, United Kingdom

Mr. Bernard Delaux ,Institut national de la recherche agronomique, St Genes-Champanelle, France

Project number:	QLK6-CT-2001-00310
EC contribution:	€1,901,355
Duration:	36 months
Type:	RS
Starting date:	01/01/2002

Functional Genomics And Proteomics In Human Molecular Gerontology And Geriatrics (Development Of Ad Hoc Microarrays, Diagnostic Applications And Molecular Screening)

Objectives:

Human gerontology is entering the post-genomic era where amounts of genomic data must be transformed into functional information. We shall clarify the role of genes previously discovered to be associated with ageing in the process of successful (longevity without overt diseases) and unsuccessful ageing (pro-inflammatory status, age-related diseases, disabilities) by functional genomics and proteomics. We shall develop and exploit a reliable multi-functional microarray.

Brief Description:

In this project we shall clarify the role of genes previously discovered to be associated with ageing in the process of successful (longevity without overt diseases) and unsuccessful ageing (pro-inflammatory status, age-related diseases, disabilities) by applying advanced functional genomics and proteomics on complementary in vitro models of human ageing, and on cells from centenarians and patients struck by major age-related diseases. With an SME we shall develop and exploit a reliable multi-functional microarray 'SeneChip' suitable for molecular gerontology in vivo and in vitro, and for diagnostic in geriatrics, to evaluate the pro-inflammatory status of patients, particularly those at high risk for impending disability, and their morbidity and chance for survival after stressful conditions (surgical operations). Moreover Senechips shall be commercialised for helping the development of novel cosmeceuticals/anti-ageing drugs.
The objectives of this project “Functionage” are :
To find the functions of genes recently identified as being associated with human ageing.
To identify and find the functions of novel proteins, interacting with the products of these genes or not, in different models of human ageing, namely by proteomics analyses.
To assess their contribution to successful or unsuccessful ageing by using an existing collection of biological samples from healthy centenarians and patients struck by major age-related diseases.
To find out the molecular mechanisms of stress induced premature senescence and to test whether it occurs in vivo.
With an SME, to develop a reliable multi-functional microarray 'SeneChip' for molecular gerontology and for diagnostic to evaluate the pro-inflammatory status and morbidity of geriatrics patients at risk for impending disability. Senechips will be commercialised for helping the development of novel cosmeceuticals/anti-ageing drugs.

Keywords:

gene function - human ageing - diagnostic - functional genomics - proteomics - centenarians - in vitro - pro-inflammatory status - cosmeceuticals

Co-ordinator

Olivier Toussaint

University of Namur (FUNDP)
Unit of Cellular Biochemistry & Biology
Rue de Bruxelles, 61
B-5000 Namur BELGIUM
e-mail: olivier.toussaint@fundp.ac.be
Fax: + 32 81 724135
Phone: + 32 81 724132
http://www.fundp.ac.be/urbc

Partners

Brian F.C. Clark
University of Aarhus
Dept. of Molecular and Structural Biology
Gustav Wieds Vej 10
8000 Aarhus C
clark@biobase.dk

Professor Claudio Franceschi
INRCA Direzione Scientifica
Via S. Margherita 5
60100 Ancona
Italy
c.franceschi@inrca.it

Dr. Efstathios S. Gonos
National Hellenic Research Foundation
Institute of Biological Research and Biotechnology
48 Vas. Constantinou Ave., Athens 11635
Greece
tel.: +30-1-7273756
FAX: +30-1-7251827
e-mail: sgonos@eie.gr

Professor Jose Remacle
Advanced Array Technology SA (AAT)
Rue du seminaire, 22
B-5000 Namur BELGIUM
aatinfo@aat-array.com
http://www.aat-array.com

Project number:	QLK6-CT-2001-00332
EC contribution:	€1,292,985
Duration:	36 months
Type:	RS
Starting date:	01/01/2002

Towards The Maintenance Of Tissue Elasticity For Healthy Ageing

Objectives:

The control of elastic fibre assembly and remodelling holds the key for healthy ageing through the maintenance of dynamic elastic tissues (blood vessels, skin, lungs, elastic cartilages) and the treatment of many age-related disorders or poor repair processes. Specific aims of this project are to identify mechanisms at the molecular and cellular levels leading to 1) the synthesis of elastic fibre components (elastin, fibrillins, microfibrillar-associated glycoproteins) and their three-dimensional organisation in the extra-cellular matrix, and 2) elastic fibre disorganisation in human tissues.

Brief Description:

The programme comprises 4 complementary workpackages : in WP1, elastic fibre changes will be compared in human samples, in young and old wild or genetically-deficient rodents, by immunocytochemistry, ultrastuctural and biochemical analysis, and related to physiological/ biomechanical parameters. Using several rat strains, the search for specific genes that define the elastin quantity in the aorta will be carried out as well as the analysis of the differential gene expression in aortic cells from these rat strains, in treated versus untreated smooth muscle cells and fibroblasts, in skin equivalent versus dermal equivalent models. WP2 will tackle the three-dimensional structure and assembly of the elastic fibre, from individual structural domains to interactions of elastin and fibrillins with other elastic fibre components. WP3 will focus on the emerging family of lysyl oxydases, enzymes that confers to elastin and collagen their elastic properties and tensile strength, respectively. The aim is to identify the elastin-specific lysyl oxydase and its activation mechanism. This WP will also focus on the regulation of the elastin and lysyl oxydase genes, and the identification of factors and corresponding signal transduction pathways that may be activated in the main elastic-fibre-producing cell types, myofibroblasts and smooth muscle cells. These cells and skin-equivalent model will be used to test the effects of cytokines and potential therapeutic drugs on the co-expression of the two genes. WP4 will identify the proteinases involved in elastic fibre degradation using normal and pathological human samples, and corresponding animal models; elastin and fibrillin fragments produced in tissues will be characterised. This will lead to the rational design for docking site antibodies or peptide mimics which will be used to inhibit elastic fibre degradation in ageing skin and aorta. The results should lead to new ways to sustain elastic fibre function, to stabilise and regenerate elastic fibres during ageing and age-dependent elastic tissue disorders by understanding the mechanisms that govern the well-controlled assembly of funtional elastic fibres, controlling the cross-linking pathways that determine the property of elastic fibres, encouraging the neosynthesis of funtional elastic fibres, and preventing elastic fibre degeneration in old patients.

Keywords:

Elastin - fibrillins - microfibrillar-associated glycoproteins (MAGP) - lysyl oxydases (LOX) - elastic fibers - elastases - matrix metalloproteinases (MMP) - tissue inhibitors of matrix metalloproteinases (TIMP)

Co-ordinator

JACOB Marie Paule
INSERM U460
UFR de Médecine Xavier Bichat
16, rue Henri Huchard
75870 PARIS Cedex 18
France.
e-mail: jacob@bichat.inserm.fr
Tel: 33 (0) 1 44 85 61 53
Fax: 33 (0) 1 44 85 61 57

Partners

DANIEL-LAMAZIERE Jean Marie

DI DONATO Armando

FAURY Gilles

GAUGUIER Dominique

KIELTY Cay

RONCHETTI Ivonne

SOMMER Pascal

TAMBURRO Antonio

Project number:	QLK6-CT-2002-02258
EC contribution:	€1,096,560
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

Ageing and the biological clock in the brain

Objectives:

The objective of the present project is to decipher basic cellular and molecular processes that underlie disturbances in the control of biological rhythms of an individual during ageing. In mammals, the suprachiasmatic nucleus (SCN) plays a role of biological clock and offers unique potentials for studies of ageing phenomena at the cellular and molecular level that can be correlated to a distinct function, the regulation of biological rhythms, which undergoes major changes with ageing to deteriorate the quality of life. Despite the clinical evidence that disturbances in biological rhythms disrupt the life of elderly people, little is known about the molecular, cellular and functional changes occurring in the SCN during ageing. In the proposed project the Partners will study changes of factors intrinsic to the neurons in the SCN as well as extrinsic factors in humans and experimental systems. The latter includes effects on the SCN by cytokines that increase in the blood and the brain in aged individuals.

Problem:
Disturbances in sleep patterns and biological rhythms is a problem that increases with ageing

Aims:
To analyse molecular, cellular and functional changes in the pacemaker in the brain for biological rhythm in aged humans and experimental animals

Expected results:
Establishment of factors both within the biological clock and from the environment that causes the disturbances in sleep patterns

Potential applications:
Know-how methods for treatment of a disabling condition with ageing

Keywords:

Ageing - Biological clock - Cytokines - Nervous system - Hypothalamus

Co-ordinator

Krister Kristensson
Department of Neuroscience
Retzius väg 8, Karolinska Institutet
Stockholm, 171 77 Sweden.
E-mail: krister.kristensson@neuro.ki.se
Telephone: 46-8-728 7825
Fax: 46-8-325 325

Partners

Marina Bentivoglio

Department of Morphological and Biomedical Sciences, Section of Anatomy and Histology, University of Verona, Strada Le Grazie 8, Verona, 37134 Italy
Phone: (39-045)-8027 158
Fax: (39-045)-8027 163
e-mail: marina.bentivoglio@univr.it

Fabienne Aujard
Centre National de la Recherche Scientifique UMR 8571, Laboratoire d'Ecologie Générale, 4 avenue du Petit Château, Brunoy, 91800 France.
Phone : (33-1)-60 47 92 37
Fax: (33-1)-60 46 81 18
E-mail: fabienne.aujard@wanadoo.fr

Howard M. Cooper
INSERM U371, Cerveau et Vision,18 Avenus Du Doyen Lépine
Bron, 69675 France
Phone: (33-472)-91.34.69
Fax: (33-472)-91.34.61
e-mail: cooper@lyon151.inserm.fr

Project number:	QLK6-CT-2002-02283
EC contribution:	€1,414,377
Duration:	36 months
Type:	RS
Starting date:	29/01/2002

T cell immunity and ageing

Objectives :

T-CIA will network EU laboratories from Universities and Industry, together with one NAS member to focus on biomarker discovery for monitoring immune ageing in vivo. Normal physiological ageing processes as opposed to results of underlying disease will be studied separately in males and females by comparing samples from young and old, healthy and less healthy, in longitudinal studies and cohorts characterised by genetic epidemiology. In this way, proteomic, genomic, genetic or functional biomarkers will be identified which are informative for the T cell ageing process. Interventions in vitro will provide clues for exploiting novel agents in vivo to slow down or reverse immunosenescence. The objectives are to recommend strategies to measure immunosenescence in vivo, assess its clinical relevance and contribute to prevention and reversal.

Description:

Each partner will provide samples and data to a central facility (CF) which will catalogue and redistribute them for analysis. Each partner will thus receive a wider variety of materials than available from their own resources, and, reciprocally, each sample will be assessed by a much wider variety of techniques than available in one centre. Data will be returned to the CF for analysis and correlation with clinical status and other donor information, particularly the genetic epidemiology data generated by one of the partners. Biomarkers informative for age-associated changes must not be influenced by disease and should also be observed in in vitro culture models. The degree to which they are influenced by gender will be assessed. Interventions which are beneficial in vitro should be reflected at the level of such biomarkers. This project will test the hypothesis that such biomarkers do indeed exist and can be exploited for monitoring levels of immunosenescence in vivo, allowing identification of persons who might benefit from that category of interventions found to be advantageous in vitro. The project thus consists of three components: 1) collection of samples, generation of T cell clones, cell and data banking, redistribution of samples, data gathering and analysis (at the CF); 2) biomarker discovery at the genomic, proteomic and functional levels; 3) testing novel interventions in vitro. The CF will provide cell and data storage capacity and manage the logistics of sample distribution, data collection and collation, and will organise meetings for discussion of these matters. The CF will also act as a training centre for young scientists from the other partners, and as a clearing house to mediate placements within the consortium. Interactions with a large ongoing 5th Framework Thematic Network co-ordinated by the present applicant will be encouraged to generate synergistic interactions going beyond this single RTD project.

Keywords:

Ageing, T-lymphocytes, Intervention

Co-ordinator

Prof. Pawelec Graham

Eberhard-Karls-Universität Tübingen
Center for Medical Research, ZMF
Waldhörnlestr. 22
D – 72072 Tübingen
Phone : (49-7071)2982805
Fax : (49-7071)295567
E-mail : graham.pawelec@uni-tuebingen.de

Partners

Prof. Birgitta Lundgren-Linqvist, Hälsohögskolan AB, Jönköping, Sweden,
Prof. Enrique Aguilar Benitez de Lugo, Universidad de Córdoba, Córdoba, Spain
Prof. Elissaveta Naumova, Medical University Hospital "Aleksandrovska" EAD, Sofia, Bulgaria
Dr. Stuart Granger, Unilever UK Central Resources Ltd., Bedford, United Kingdom
Prof. Claudio Franceschi, University of Bologna, Ozzano Emilia, Bologna, Italy
Prof. Graham Pawelec, Eberhard-Karls-Universität Tübingen, Tübingen, Germany
Dr. Anne-Marie Patton, University of Ulster, Coleraine, United Kingdom

Area 6.2: Basic Processes of Physiological Ageing

GENDER-RELATED DISORDERS

Project number:	QLK6-CT-2000-00736
EC contribution:	€153,564
Duration:	36 months
Type:	RS
Starting date:	01/03/2001

Burden of disease in old age

Objectives:

The main aim of this network is to help the better usage of existing data resources and to explore the information gaps in understanding of the disablement process. The early modifiable predictors of disability will be addressed from different perspectives. These include physiological, hereditary vs. environmental, gender and life-span approaches. Recommendations for good practice will be given. The need for a new collaborative cross-national study on the disablement process will be evaluated.

Brief description:

A network of centres representing recognised expertise in ageing research and previously established cross-sectional and longitudinal studies with up to 35 years of follow-up will be formed. The new cross-sectional studies involved in the network employ up-to-date methodology in capturing the most essential levels of the disablement process. They will enable hypothesis-building analyses to be carried out. The participating longitudinal studies are a unique data resource. They will enable hypotheses to be tested in prospective analyses. Using data from previously established studies will make it possible to examine whether earlier life influences will have an effect on the health and functional capacity of older people. The use of pre-existing data from the network studies will make it possible to capture the stability of and change in various modifiable exposures (such as physical activity, body weight and smoking) and their effect on age-related health outcomes. The twin studies in the network will provide important material for testing the relative contributions of hereditary vs. environmental components to the variability in the disablement process and other health outcomes. The network will also study, why some people with similar disease are functionally independent while others suffer from a heavy burden of disease and are in need of care. The network participants will exchange researchers, data, expertise and produce collaborative publications. A background document describing the participating studies will be produced. Based on the analyses carried out evidence-based policy recommendations and recommendations for good practice will be given. The need for a new comparative cross-national study focusing on the disablement process and burden of disease in old age will be evaluated. If further collaborative research is deemed necessary a proposal for a new study with internationally harmonised and standardised data collection procedures will be suggested.

Keywords:

Burden of disease in old age - disablement process - previously established cross-sectional and longitudinal studies - twin studies - hereditary and environmental influences - modifiable exposures - collaborative publications - evidence-based policy recommendations

Co-ordinator

Prof. Eino Heikkinen
The Finnish Centre for Interdisciplinary Gerontology
University of Jyväskylä
P.O. Box 35 (L), 40351 Jyväskylä, Finland
Phone : +358 14 260 2166
Fax : +358 14 260 2011
e-mail address: heikkine@pallo.jyu.fi

Partners

No partners are involved in the project, but instead the project has members who have agreed to carry out project work with membership agreement documents.

Prof. Shah Ibrahim
University of Bristol
Department of Social Medicine
United Kingdom
e-mail: Shah.Ebrahim@bristol.ac.uk

Prof. Marianne Schroll
Bispebjerk Hospital
Geriatirisk Klinik
Denmark
e-mail: ms09@bbh.hosp.dk

Dr. Luigi Ferrucci
National Institute of Research and Care on Aging (INRCA)
Geriatric department
Italy
e-mail: FERRUCCI@dada.it

Prof. Stig Berg
Hälsohögskolan i Jönköping
Institutet för Gerontologi
Sweden
e-mail: stig.berg@hhj.hj.se

Dr. Taina Rantanen
University of Jyväskylä
The Finnish Centre for Interdisciplinary Gerontology
Finland
e-mail : taina@maila.jyu.fi

Advisory member:
Prof. Jack M. Guralnik
National Institute on Aging, National Institutes of Health
United States
e-mail :guralnij@gw.nia.nih.gov

Project number:	QLK6-CT-2000-00338
EC contribution:	€1,399,489
Duration:	36 months
Type:	RS
Starting date:	01/01/2001

EARLY DEVELOPMENT OF OVARIAN FOLLICLES – TIMING OF MENOPAUSE IN WOMEN

Objectives:

Identification of the role of anti-müllerian hormone (AMH), growth and differentiation factor-9 and –9B (GDF9/9B) in the selection of primordial follicles in the ovary. The production of AMH, GDF9 and GDF9B. The development of assays for AMH, GDF9 and GDF9B. The relation of AMH, GDF9 and GDF9B levels and ovarian functioning with age. The effects of AMH, GDF9 and GDF9B on ovarian functioning in vivo and in vitro. The identification of genes regulated by AMH, GDF9 and GDF9B.

Brief Description:

Menopause is a major milestone in the ageing process in women. The cessation of ovarian function causes the almost complete absence of female sex steroid hormone production by the ovaries in postmenopausal life. Consequently, before and after the menopausal transition very different physiological hormonal regimens prevail, which have a major impact on healthy ageing of women and their quality of life. Since the age of menopause affects the length of the period of postmenopausal life, it is of utmost importance to describe the process of menopause and to identify predictors to monitor the timing of menopause. Menopause is caused by the exhaustion of the follicle stock in the ovary, and the efficiency by which primordial follicles are recruited into the growing pool of follicles is one of the main determinants of the age at which menopause occurs. This project aims at understanding the role of anti-müllerian hormone (AMH), growth and differentiation factor-9 and -9B (GDF9, GDF9B) in primordial follicle loss.
AMH, GDF9 and GDF9B have each been implicated in the regulation of early follicular growth. They are members of the large superfamily of transforming growth factor ß (TGFß)-like growth and differentiation factors. An important consideration in the choice of these factors is their specificity toward the ovary.
In the first stages of the project efforts will be focussed on the development of tools. In the middle stages the endeavours will be geared more to the in vitro and in vivo physiological studies, while in the last stages of the project the efforts will concentrate toward the screens of AMH, GDF9 and GDF9B regulated genes which may serve as monitors of healthy ageing in women.

Keywords:

Ovary - menopause

Participant 1 (Co-ordinator)
Dr. Axel P.N. Themmen
Dept Endocrinology & Reproduction
Erasmus University Rotterdam
P.O. Box 1738
3000 DR Rotterdam
(The Netherlands)
Tel: +31-10-4087340
Fax: +31-10-4089461
themmen@endov.fgg.eur.nl

Participant 2
Dr. Olli Ritvos
Dept Bacteriology and Immunology
University of Helsinki
Haartman Institute
P.O. Box 21, Haartmaninkatu 3
FIN-00014 HELSINKI
(Finland)
Tel: +358-9-191-26744
Fax: +358-9-191-26382
olli.ritvos@helsinki.fi

Participant 3
Dr. Nigel Groome
School of Biological and Molecular Science
Oxford Brookes University
Gipsy Lane
Headington
OXFORD OX3 0BP
(United Kingdom)
Tel: +44-1865-483294
Fax: +44-1865-484053
npgroome@brookes.ac.uk

Participant 4
Dr. Juhani Jänne
Professor of Biotechnology
A.I. Virtanen Institute
University of Kuopio
P.O. Box 1627
FIN-70211 KUOPIO
(Finland)
Tel: +358-17-163049
Fax: +358-17-163025
janne@messi.uku.fi

Project number:	QLK6-CT-2000-00499
EC contribution:	€1,530,360
Duration:	36 months
Type:	RS
Starting date:	01/01/2001

Sleep Disorders In Menopausal And Postmenopausal Ageing Women: Prevalence, Biological Mechanisms, Animal Models, Social Aspects, Treatment And Prevention.

Objectives:

The objective of the proposal is to clarify why menopausal and postmenopausal women suffer from a considerable number of sleep disorders that adversely affect their quality of life and their efficacy in daily performance, and how these disorders can be treated. The problem is divided into the following aspects, each addressed in a work package: 1) What kind of sleep disorders ageing women suffer from, 2) Do the changes in the sleep quality correlate with changes in hormonal levels in the course of ageing, 3) Do the changes in sleep quality correlate with changes in the circadian system in the course of ageing, 4) How vulnerable are ageing women to sleep loss, 5) What is the role of the GABAergic system in sleep disorders of ageing women, 6) How can we treat sleep disorders in ageing women.

Brief Description:

Based on focus group interviews, a sleep questionnaire that is specifically suited for studies of sleep disorders in ageing women will be developed and validated for social epidemiological research. The questionnaire will assess the prevalence and type of sleep disorders, as well as the psychosocial and health status of women over 30 years. The sociological data from focus group interviews and the sleep questionnaire, will assist to interpret biomedical data. Their integration will provide the basis for prevention strategies and treatment of sleep disorders in ageing women.

Oestrogen, progesterone, prolactin, melatonin and growth hormone levels will be correlated with sleep quality in menopausal women. Hormone profiles of women with satisfactory sleep will be compared to those who have sleep disorders verified by polysomnography. Sleep will be investigated in gene targeted mice lacking specific hormones. The data will provide the basis to evaluate possibilities of hormone therapy. The ability of ageing women to recover from the effects of prolonged wakefulness will be investigated in sleep deprivation experiments, and their capacity to obtain deep sleep will be evaluated.

The decreasing sensitivity to light in the course of ageing may be associated with disturbed circadian rhythms. Light-induced melatonin suppression will be tested in normal women and compared with women suffering from sleep disorders verified by polysomnography. The data will be used as the basis for planning light therapy and melatonin treatment to alleviate sleep disorders in ageing women. In addition, hormone replacement therapy will be evaluated. Analysis of women's hormonal status will be related to the type and severity of sleep disorder and/or circadian rhythm disorder and will precede the treatments. The results of these experiments will serve to formulate treatment recommendations for sleep disorders in ageing women.

Keywords:

Ageing - actigraphy - women - benzodiazepine - focus group - GABA - hormone therapy - knockout - light therapy - melatonin - menopause - microdialysis - oestrogen receptor - orexin - polysomnography - restless leg syndrome - sleep deprivation - sleep disorder - sleep quality - sleep questionnaire

Co-ordinator

PORKKA-HEISKANEN Tarja (Stenberg), M.D., Ph.D.
Institute of Biomedicine, University of Helsinki
PO Box 9, 00014 University of Helsinki, Finland

Tel.: 358-9-191 25317
Fax: 358-9-191 25307
E-mail: porkka@cc.helsinki.fi

Partners

Sara Arber, PhD ; Prof.
Department of Sociology, University of Surrey
Guildford,Surrey GU2 5XH, UK
tel: 44-(0)1483-876973; fax: 44-(0)1483-259551
e-mail: s.arber@soc.surrey.ac.uk

Myriam Kerkhofs, PhD
Sleep Laboratory Vesale Hospital, Free University of Brussels
Route de Gozee 706, Brussels, 6110 Montigny-le-Tilleul, Belgium
tel: 32-71-295 193; fax: 32-71-295 226
e-mail: mkerkhof@ulb.ac.be

Thomas Pollmächer, M.D., PhD., Prof.
Dep. of Neuroendocrinology, Max-Planck Institute of Psychiatry
Kraepelinstrasse 2, Munich 80804, Germany
tel: 89-30622 283; fax 89-30622 200
e-mail: lancel@mpipsykol.mpg.de

Debra J. Skene,. PhD, Prof
School of Biological Sciences
University of SurreyGuildford GU2 5XH, UK
tel: 44 (0)1483 25 9706; fax: 44 (0)1483 576 978
e-mail: d.skene@surrey.ac.uk

Irene Tobler PhD, Prof.
Institute of Pharmacology, University of Zurich
Winterthurerstr. 190, CH-8057 Zurich
tel : 41 (0)1 635 59 57, fax : 41 (0)1 635 57 07
e-mail: tobler@pharma.unizh.ch

Päivi Polo-Kantola, MD, PhD.,
Department of Physiology
University of Turku
Kiinamyllynkatu 10, Turku, Finland
Tel : 358 333 7575
e-mail : paivi.Polo-kantola@tyks.fi

Project number:	QLK6-CT-2001-00258
EC contribution:	€6,027,747
Duration:	87 months
Type:	RS
Starting date:	01/01/2002

European Male Ageing Study: Prevalence, Incidence And Geographical Distribution Of Symptoms Of Ageing In Men, And Their Endocrine, Genetic And Psychosocial Correlates

Objectives:

The proposed study aims to assess the impact of an ageing-related decline in endocrine anabolic functions on the health status in elderly men. The hypothesis is that regional and inter-individual variability in dysfunctions, body composition and health outcomes in ageing men can be explained by different rates of decline in anabolic hormones, which are in turn influenced by epigenetic and/or genetic factors.

Brief Description:

A cross-sectional survey of a random population sample of 4800 community-dwelling apparently healthy men aged 40-79 years in 12 different areas of Europe will be undertaken to determine baseline hormonal and clinico-physiological status together with assessment of some key predictor variables. These men will then be followed prospectively for 5 years to determine their changes in both hormonal and general health status.
Participating centres: - Manchester (England) Co-ordinating, Malmo (Sweden), Tartu (Estonia), Lodz (Poland), Szeged (Hungary), Leuven (Belgium), Santiago de Compostela (Spain) and Florence (Italy).
Each of the 8 centres will recruit 400 men (100 in each decade after 40 years) from the random sample of community registers (with an additional 200 men from ethnic minority communities in Manchester) and collect the following data either in- home or in-hospital.
Clinical - demographic, co-morbid condition, medications, nutrition, physical activity, ageing male symptoms, physical functioning (SF-36), moods, cognition, sexual dysfunction, prostatism score; Physiological - fat and fat-free mass by physical anthropometry (height, weight, regional circumferences and skinfold thickness) and bone density by ultrasound of the heel; Hormones – Testosterone, sex hormone binding globulin, free testosterone, bioavailable testosterone, oestradiol, bioavailable oestradiol, Dihydrotestosterone, Dehydroepiandrosterone sulphate, LH, Variant LH and FSH, insulin, insulin–like growth factor-1 and its binding protein 3, leptin, parahormone, thyroxine, thyroid stimulating hormone; Polymorphisms in selected genes - androgen receptor, oestrogen receptor a, vitamin D receptor, aromatase, steroid 17a hydroxylase/17-20 lyase, 5? reductase 2, sex hormone binding globulin, LH ?, LH receptor and FSH Receptor.
All will be repeated in the same subjects 5 years later (except DNA analyses).

Keywords:

Ageing - ageing men - testosterone - androgens - hormones - muscle function - frailty - osteoporosis - bone ultrasound - fractures - body composition - cognition - mood dysphoria - sexual dysfunction - prostate - nutrition - secular trends - regional variation - quality of life

Co-ordinator

WU Frederick
Department of Medicine (Endocrinology)
Manchester Royal Infirmary
Victoria University of Manchester
Oxford Road, Manchester
M13 9WL, England
Tel: 00441612766330.
Fax: 00441612768019
e-mail: frederick.wu@man.ac.uk

Partners

Dr Aleksander Giwercman
Scanian Andrology Centre
Malmo University Hospital
Ing. 71, 6th floor
SE-205 02 Malmo
Sweden
leksander.giwercman@kir.mas.lu.se

Dr Margus Punab
Andrology Unit
United Laboratories of Tartu University Clinics
Puusepa 1A
Tartu 50406
Estonia
argus.Punab@kliinikum.ee

Professor Krzysztof Kula
Department of Andrology and Reproductive Endocrinology
Institute of Endocrinology
Sterling Str 3
Medical University of Lodz
Lodz 91-425
Poland
kula@csk.am.lodz.pl

Dr Gyorgy Bartfai
Department of Obstetrics, Gynaecology and Andrology
PO Box 427
Semmelweis 1
Albert Szent-Gyorgy Maedical University
Szeged 6725
Hungary
FOLDESI@obgyn.szote.u-szeged.hu

Mr Herman Borghs
Department of Andrology and Endocrinology
Centre for Metabolic Bone Diseases
Herestraat 49
Catholic University of Leuven
Leuven 3000
Belgium
Herman.Borghs@uz.kuleuven.ac.be

Professor Felipe Casaneuva
7 Department Medicina – Laboratorio de Endocrinoloxia molecular
Fac. Medicina
San Francisco s/n
Campus Historico
Universidade de Santiago de Compostela 15782
Spain
meffcasa@usc.es

Professor Gianni Forti
Andrology Unit
Department of Clinical Physiopathology
University of Florence
Viale Pieraccinin 6
50139 Florence
Italy
g.forti@dfc.unifi.it

Mr J Finn
ARC Epidemiology Unit
Manchester University Medical School
Oxford Road
Manchester
M13 9PT

Area 6.3: Demographic and social policy aspects of population ageing

DETERMINANTS OF HEALTHY AGEING

Project number:	QLK6-CT-2000-00211
EC contribution:	€799,257
Duration:	42 months
Type:	RS
Starting date:	01/03/2001

A Multi-Disciplinary Approach To Healthy Ageing And Its Determinants In 11 European Countries

Objectives:

Changes in and determinants of usual and healthy ageing in terms of mortality and morbidity outcomes as well as in terms of physical, psychological, cognitive, and social functioning will be investigated in 11 European countries. Special attention will be given to differences in the above-described relationships between Northern and Southern European populations.

Brief Description:

For 11 European countries the participants will bring in data on about 7600 subjects, collected in the period 1959-2000. The data are collected by means of physical examinations, blood sampling, interviews, questionnaires and death certificates. Data on indicators of healthy ageing (mortality, morbidity, self-perceived health, physical functioning, psychological functioning, cognitive functioning, social functioning) will be extended by information on determinants, e.g. socio-demographic factors, biological risk factors and lifestyle factors. The work in the context of the present proposal can be divided in the following tasks:

Construction of two databases: 1) on biological determinants of healthy ageing concerning the European cohorts of the Seven Countries Study, 2) on data of the FINE and SENECA Study relating to indicators and socio-demographic and lifestyle determinants of healthy ageing.

Investigation of age, period and cohort analyses of blood pressure, cholesterol, BMI and heart rate in the general population and a healthy subgroup of men followed up from 40 to 99 years of age. Also the impact of these changes on coronary heart disease, stroke and all-cause mortality will be studied (Seven Countries Study).

Investigations of gender-specific interrelationships between dietary factors and their impact on healhty ageing (self-perceived health, psychological and cognitive functioning and mortality) in persons aged 70-99 in European countries. Special attention will be given to dietary patterns, nutrients, biomarkers of nutrient intake and nutritional status (FINE and SENECA study).

Investigations of gender-specific age-related changes in and determinants of functioning in people aged 65-99 in European countries (FINE and SENECA study).

Reporting in peer reviewed journals and to the EU. Based on a workshop with participants and health policy makers a final report will be prepared containing the most relevant results. This report will also be made available as an Internet site to support health policy makers.

Keywords:

Healthy ageing - blood pressure - cholesterol - BMI - heart rate - coronary heart disease - stroke - diet - physical functioning - psychological functioning - cognitive functioning - social functioning - socio-demographic factors - prospective study - international study

Co-ordinator :

Prof.dr.ir. D. Kromhout
National Institute of Public Health and the Environment
P.O. Box 1, 3720 BA Bilthoven, The Netherlands
Tel.: + 31 30 2743319. Fax: + 31 30 2744474. E-mail: Daan.Kromhout@rivm.nl

Partners :

Prof.dr. W. Van Staveren
Wageningen Agricultural University, Division of Human Nutrition & Epidemiology
Bomenweg 4, 6703 HD Wageningen, The Netherlands
Tel.: 31 317 482533. Fax: 31 317 482782. E-mail: wya.vanstaveren@staff.nutepi.wau.nl

Prof. A. Menotti
Cardioricerca, Associazione per la Ricerca Cardiologica
Via Adda 87, 00/98 Roma, Italy
Tel.: 39-06-8543109. Fax: 39-06-8553568. E-mail: menottia@tin.it

Prof. dr. A. Nissinen
National Public Health Institute, Department of Epidemiology and Health Promotion
Mannerheimintie 166, FIN-00300, Helsinki, Finland
Tel.: 358-9-47448336. Fax: 358-9-4744833. E-mail: aulikki.nissinen@ktl.fi

Dr. S. Giampaoli
Instituto Superiore di Sanita, Laboratory of Epidemiology and Biostatistics
Viale Regina Elena 299, I-00161 Roma, Italy
Tel.: 39 06 499 02985. Fax: 39 06 493 87069. E-mail: sgiamp@iss.it

Prof. A. Kafatos
University of Crete, School of Medicine, Department of Social Medicine
P.O. Box 1393, Voutes-Stavrakia 71110, Iraklion-Crete, Greece
Tel.: 3 081 394595. Fax: 3 081 394604. E-mail: kafatos@med.uch.gr

Prof. F. Fidanza
Universita Degli Studi di Perugia, Dipartimento di Medicina Interna e Scienze Endocrine e Metaboliche
Casella Postale 333, 06100 Perugia, Italy
Tel.: 39 097 4905236. Fax: 39-075-5853904. E-mail: nutrsegr@unipg.it

Prof. J.A. Amorim Cruz
National Institute of Health, Nutrition Research Centre
Avenida Padre Cruz, 1699 Lisbon, Portugal
Tel.: 351 1 757 7070. Fax: 351 175 90441. E-mail: cen.cna@insarj.pt

Dr. M. Ferry
Centre Hospitalier de Valence, Service de Geriatrie
179 av Marechal Juin, BP 831, 26953 Valence Cedex 9, France
Tel.: 33 4 75 757553. Fax: 33 4 75 757398. E-mail: mferry@ch-valence.fr

Prof. G. Enzi
University of Padova, Department of Medical and Surgical Sciences
Via N. Giustiniani 2, 35100 Padova, Italy
Tel.: 39 049 821 2170. Fax: 39 049 821 2170. E-mail: enzi@ux1.unipd.it

Prof. G. de Backer
University Hospital, Department of Public Health
De Pintelaan 185, B-9000 Gent, Belgium
Tel.: 32 9 240 3621. Fax: 32 9 240 4994. E-mail: guy.debacker@rug.ac.be

Prof. M. Schroll
Bispebjerg Hospital, Department of Geriatric Medicine, Medical Centre
Bispebjerg Bakke 23, 2400 NV Copenhagen, Denmark
Tel.: 45 35 31 2723. Fax: 45 35 31 3975. E-mail: ms09@bbh.hosp.dk

Prof. J.L. Schlienger
Hopital de Hautepierre, Service de Medicine Interne et Nutrition
Avenue Molière, 67098 Strasbourg Cedex, France
Tel.: 33 3 88 127597. Fax: 33 3 88 127596. E-mail: Jean-Louis.Schlienger@chru-strasbourg.fr

Prof.dr. O. Moreiras-Varela
Universidad Complutense de Madrid, Facultad de Farmacia, Department of Nutrition
Ciudad Universitaria s/n, 28040 Madrid, Spain
Tel.: 34 91 394 1809. Fax: 34 91 394 1732. E-mail: moreiras@farm.ucm.es

Prof. A. Brzozowska
Warsaw Agricultural University, Department of Human Nutrition
Nowoursynowska str 166, 02-787 Warsaw, Poland
Tel.: 48 22 847 8741. Fax: 48 22 847 0012. E-mail: brzozowska@alpha.sggw.waw.pl

Project number:	QLK6-CT-2000-00320
EC contribution:	€1,929,770
Duration:	36 months
Type:	RS
Starting date:	01/05/2001

The Measurement Of Quality Of Life In Older Adults And Its Relationship To Healthy Ageing

Objectives :

To review the existing literature and measures on quality of life and healthy ageing in older adults. To adapt the existing WHO measure of quality of life, the WHOQOL, for use with older adults. To use the adapted WHOQOL in a study of healthy ageing. To consider the relationship between healthy ageing and a variety of lifestyle, psychological, and cultural factors.

Brief Description :

The first main aim of the research will be to develop a reliable and valid measure of quality of life for older adults. An existing measure that has been developed simultaneously across a wide range of cultures, the WHO's WHOQOL, will be adapted for use with older adults. This process will include an initial collection of focus group information from older adults, their carers, and relevant professionals, in 17 different participant groups. The focus group information will be used to devise a pilot Older Adults WHOQOL. Data will then be collected from 300 older adults in each centre and the data will be used to test the psychometric properties of the pilot measure. A revised version of the measure will then be included in field trials. The second main aim of the research will be to use the Older Adults WHOQOL in a cross-cultural study of healthy ageing. This study will examine a variety of characteristics of healthy ageing that include lifestyle factors (such as diet and exercise), psychological factors, family and other social factors, and cultural factors. Of particular interest will be the examination of attitudes to ageing in different cultures and how these impact on different aspects of quality of life such as psychological and physical health, and personal and spiritual values. Taken together, the research programme will provide a reliable and valid cross-cultural measure of quality of life in older adults that can be used in a variety of normative population, policy evaluation and clinical outcome studies. The programme will also offer guidelines on healthy ageing and quality of life that should impact on policy making and research in this area.

Keywords :

Quality of Life - Healthy Ageing - Attitudes to Ageing - Cultural Factors - Measurement.

Co-ordinator

POWER Mick
Dept of Psychiatry
University of Edinburgh
Royal Edinburgh Hospital
Edinburgh EH10 5HF
UK
e-mail: mj@srv1.med.ed.ac.uk
Tel: +131 537 6578
Fax: +131 537 6760

Partners

Prof. Suzanne Skevington – University of Bath, Bath, UK:
e-mail: S.M.Skevington@bath.ac.uk

Prof. M. Angermeyer – University of Leipzig, Leipzig, Germany:
e-mail: kilr@server3.medizin.uni-leipzig.de

Dr. Ramona Lucas – Remote Data Entry Systems, Barcelona, Spain :
e-mail: 18350rlc@comb.es

Prof. Per Bech – Frederiksborg General Hospital, Hilleroed, Denmark :
e-mail: pebe@fa.dk

Dr. Alain Leplege – INSERM, Paris, France :
e-mail: Alain.Leplege@wanadoo.fr

Dr. Eva Dragomirecka – Prague Psychiatric Centre, Prague, Czech Rep :
e-mail: dragomirecka@pcp.lf3.cuni.cz

Prof. Lajos Kullmann – National Institute for Medical Rehabilitation, Budapest, Hungary :
e-mail: kullmlaj@elender.hu

Dr. Mary Kalfoss – MSH College, Oslo, Norway :
e-mail: Mary.Kalfoss@c2i.net

Prof. Anita Molzahn – University of Victoria, Victoria, Canada :
e-mail: amolzahn@uvic.ca

Prof. Helen Herrman – University of Melbourne, Australia :
e-mail: graemeeh@unimelb.edu.au

Dr. Don Bushnell – Health Research Associates Inc., Seattle, USA :
e-mail: bushnell@hrainc.net

Dr. Marianne Amir – Ben-Gurion University of the Negev, Beer-Sheva, Israel :
e-mail: mamir@bgumail.bgu.ac.il

Dr. Miyako Tazaki – Science University of Tokyo, Tokyo, Japan :
e-mail: tazaki@rs.kagu.sut.ac.jp

Dr. Rudger Krech – World Health Organization, Copenhagen :
e-mail: rkr@who.dk

Prof. Martin Eisemann – Umea University, Umea, Sweden :
e-mail: bjorn.nygren@nurs.umu.se

Prof. Ji-Qian Fang – Sun Yat Sen University of Medical Sciences, Guangzhou, China :
e-mail : fangjq@gzsums.edu.cn

Project number:	QLK6-CT-2001-00128
EC contribution:	€1,157,325
Duration:	36 months
Type:	RS
Starting date:	01/01/2002

European Challenge For Healthy Ageing

Objectives:

The "European Challenge for Healthy Ageing" project aims at improving the criteria to define frailty, that is emerging as a major characteristic of elderly people. The project will then develop two quantitative indexes ("Frailty index" and "Functional Activity Index") that will express the degree of frailty and activity level in elders. In addition, a correlation of the "Frailty index" and the "Functional Activity index" with the genetic variation will be studied. The project includes also a plan to disseminate the results throughout Europe among organisations operating with elders.

Brief Description:

Frailty is emerging as a major characteristic of elderly people. It is characterised by an impending disability and high risk of morbidity and mortality. The relative impact of environment and genetics on frailty is presently unknown. The "European Challenge for Healthy Ageing" project will address this question by taking advantage of the results emerged from studies in human longevity. It will be characterized by a completely new experimental design. In fact, to avoid the problems connected with the classical association studies (such as the diversity of environmental conditions, social classes across short geographical distances and so on) we will use a set of intrafamily comparisons as well as interfamily comparisons. In particular, a sample of pairs of first cousins whose parents are born between 1890 and 1905 and are either concordant or discordant with respect to the longevity trait will be recruited. In addition, if possible, alive parent will be recruited too. The recruitment will be carried out in populations from Italy, France and Denmark, where genetic and environmental history are known and documented. All the individuals enrolled in the study will be analysed for gerontological parameters that can be correlated with the health status. All the information will be then analysed to develop quantitative synthetic measure of frailty and activity level ("Frailty index" and a "Functional activity index"). The DNA of the recruited individuals will be extracted and a set of genes that are involved in stress response will be analysed (APOE, HRAS1, HSP gene family, IL6, Sirt gene family, TH). The purpose of this step is to evaluate the relevance of this important class of genes in the quality of ageing. New algorithms will be developed to explore the correlation between health status indexes and genotypes of the stress responder genes. Within the project time the dissemination of the results among the organisations dealing with elders will be carried out.

Keywords:

Ageing, Centenarians, Frailty, discordant sib pairs, concordant sib pairs, intrafamily comparisons, interfamily comparisons.

Co-ordinator

DE BENEDICTIS Giovanna
Dipartimento di Biologia Cellulare,
Università della Calabria
Ponte Pietro Bucci
87036 Rende- Italy
Email: g.debenedictis@unical.it
Tel: 39 0984 492932
Fax: 39 0984 492911

Partners:

Prof. Claudio Franceschi
Università di Bologna, Centro Interdipartimentale L. Galvani.
Via Tolara di Sopra, 50,
Ozzano Emilia, BO
E-mail: clafra@alma.unibo.it
Tel. 39 051 2094743
Fax. 39 051 2094747

Mr. Jean Marie Robine
Centre Régional de Lutte contre le Cancer
Val d'Aurelle, Parc Euromédecine,
34298 Montpellier cedex 5, France
E-mail: robine@valdorel.fnclcc.fr
Tel. 33 467 613043
Fax. 33 467 613047

Prof. Bernard Jeune
Institute of Public Health, University of Southern Denmark
Sdr. Boulevard 23A,
DK-5000 Odense C, Denmark
E-mail: bjeune@health.sdu.dk
Tel. 45 65503036
Fax. 45 65906938

Prof. Anatoli Yashin
Max Plank Institute for Demographic Research,
Doberaner Strasse 114
Rostock, Germany
E-mail: yashin@demogr.mpg.de
Tel. 49 381 2081106
Fax 49 381 208 1169

Project number:	QLK6-CT-2001-00241
EC contribution:	€425,135
Duration:	36 months
Type:	RS
Starting date:	01/01/2002

The Role Of Diet On The Longevity Of Elderly Europeans- A Study In The Context Of The European Prospective Investigation Into Cancer And Nutrition.

Objectives:

The objectives of the study are the identification of an optimal overall dietary pattern for the elderly Europeans and the development of a nutrition score that will describe this pattern. The project will also evaluate the proximity of the dietary patterns of the European population to the optimal diet, identify the influence of socio-demographic factors on diet, assess the necessity for and nature of dietary advice and the feasibility of altering existing dietary habits.

Brief Description:

Most causes of death and disability among the elderly have strong nutritional components. The project aims at identifying dietary patterns of elderly that maximises longevity and their socio-demographic determinants.
Data on diet, medical history, somatometry and socio-demographic characteristics for 4000 Europeans, from Denmark, France, Germany, Greece, Italy, Netherlands, Sweden and the UK, aged 65 or more will be transferred from the EPIC databank to the coordinating centre. In this databank for the elderly, mortality data already recorded at IARC will also be transferred and incorporated. The project, based on the above information, will assess the extent to which the dietary habits affect the health of elderly Europeans.
Dietary patterns in various European regions will be identified and their socio-demographic determinants will be examined. An optimal nutrition score for the elderly will be determined based on food group intakes that best predict longevity. The dietary patterns of the elderly in the various European regions will be compared with the identified optimal diet allowing assessment of the proximity of their diet to the described one. Analysis of diet in relation to various causes of mortality will also be performed.
Finally, results on the necessity and nature of dietary advice for the elderly in various European regions will be elaborated. Information material in lay language will be prepared and made available to elderly people and those who care for them.

Keywords:

Nutrition – elderly - longevity

Co-ordinator

TRICHOPOULOU Antonia
National and Kapodistrian University of Athens, School of Medicine
Department of Hygiene and Epidemiology
75 Mikras Asias Street
115 27 Athens, Greece
E-mail: antonia@nut.uoa.gr
Tel: (30-1) 7488042
Fax: (03-1) 7488902

Partners

Collaborator	Institution	Email address
Dr. Elio Riboli	International Agency for Research on Cancer (IARC)	riboli@iarc.fr
Dr. Kim Overvad	Aarhus University- Department of Epidemiology and Social Medicine (Aarhus University)	ko@soci.au.dk
Dr. Heiner Boeing	German Institue of Human Nutrition (DifE)	boeing@www.dife.de
Dr. Salvatore Panico	University of Naples- Dipartment di Medicina Clinica e Sperimentale (ATENA)	spanico@unina.it
Dr. Paolo Vineis	University of Torino- Department of Biomedical Sciences and Human Oncology (UNITO)	Paolo.vineis@unito.it
Dr. Rosario Tumino	Ragusa Cancer Registry (RTRG)	rtumino@tin.it
Dr. Petra HM Peeters	Julius Centre for General Practice and Patient Oriented Research (UMCU)	p.h.m.peeters@jc.azu.nl
Dr. Göran Berglund	Lund University, University Hospital MAS, Department of Medicine (UMAS)	Goran.Berglund@medforsk.mas.lu.se
Dr. Timothy Key	University of Oxford- Imperial Cancer Research Fund, Cancer Epidemiology Unit (ICRF)	Tim.Key@cancer.org.uk
Dr. Domenico Palli	Centro per lo Studio e la Prevezione Oncologica (CSPO)	d.palli@cspo.it
Dr. Bas Bueno-de-Mesquita	National Institute of Public Health and the Environment- Department of Chronic Disease Epidemiology (RIVM)	HB.Bueno.De.Mesquita@rivm.nl
Dr. Françoise Clavel-Chapelon	Institut National de la Santé et de la Recherche Médicale- Unité de Recherches en Epidémiologie des Cancers (INSERM)	Clavel@igr.fr

All other EPIC centers contribute data and scientific expertise to the EPIC-Elderly project, without financial obligation on the part of the project.

Project number:	QLK6-CT-2001-00280
EC contribution:	€1,660,936
Duration:	24 months
Type:	RS
Starting date:	01/01/2002

Ageing Well: European Study Of Adult Well-Being

Objectives:

ESAW shall produce a European Socio-Cultural Model for Ageing Well which estimates the direct causal contribution of five key components (physical health and functional status, mental efficacy, life activity, material security and social support) along with personal characteristics and culture to the outcome variable ageing well. It shall support domestic and international policy development, and guide the delivery of professional care and services to older people across Europe.

Brief Description:

ESAW shall conduct a parallel study simultaneously in six countries. A population sample of between 2000-2400 people will be drawn in each country. Face-to-face interviews shall be conducted by trained interviewers using a structured interview schedule. Data from each country shall be amalgamated into a European data set. The data shall be analysed to produce seven reports which shall recount the status of older people in Europe. Five reports shall focus on physical health and functional status, mental efficacy, life activity, material security and social support. These reports shall highlight differences between and within countries in the situation of older people especially with regard to age, educational levels and gender. A sixth report shall examine cultural differences between the countries in terms of their political structure, welfare and health services. LISREL modelling shall provide the evidence to produce the seventh report which shall summarise the European Socio-Cultural Model for Ageing Well in terms of the impact of the five domains on the outcome variable representing ageing well.
The study is broken down into three phases. In Phase 1 each country shall translate the survey instrument, train interviewers and select the community sample of older people. Phase 2 represents the data collection and preparation phase. Phase 3 shall consist of data analysis, writing and dissemination (including a European conference). To stimulate discussion about Ageing Well in the European context a 2-day conference will be held in Sweden in the 24th month to report the findings from ESAW to a diverse European audience.

Keywords:

ageing well - socio-cultural model - policy-making - gerontological education - professional care - physical health - functional status - mental efficacy - life activity - material security - social support

Co-ordinator

WENGER G. Clare
University of Wales
Centre for Social Policy Research and Development
Institute of Medical and Social Care Research
Ardudwy
Holyhead Road - WALES
UK- LL57 2PX Bangor
E-mail: g.c.wenger@bangor.ac.uk
Tel: +44 1248 382226
Fax: +44 1248 382229

Partners

Dr. Vanessa Burholt, Centre for Social Policy Research and Development, Institute of Medical and Social Care Research, University of Wales, Bangor, United Kingdom
Email: v.burholt@bangor.ac.uk Tel: +44 1248 382596 Fax: +44 1248 382229

Dr. Germain Weber, Department of Psychology, University of Vienna, Universitaetsstrasse 7, A-1010, Vienna, Austria
Email: germain.weber@univie.ac.at Tel: +43 4277 47897 Fax: +43 4277 47899

Dr. Frans Thissen, Faculteit der Maatschappij – en Gedragswetenschappen
Amsterdam Study Centre for the Metropolitan Environment , Univeristeit van Amsterdam, Nieuwe Prinsengracht 130, Amsterdam, 1018VZ, The Netherlands
Email: F.Thissen@frw.uva.nl Tel: +33 20 525 4282 Fax: +33 20 525 4051

Dr. Giovanni Lamura, Department of Gerontological Research, Istituto Nazionale Riposo e Cura Anziani, V.S. Margherita 5, Ancona, 60124, Italy
Email: g.lamura@inrca.it Tel: +39 071 800 4797 Fax: +39 071 35941

Professor Ingalill Rahm Hallberg, Department of Nursing, Lund University, PO Box 197, SE 2221 00, Lund, Sweden
Email: Ingalill.Rahm_Hallberg@omv.lu.se Tel: +46 46 222 1932 Fax: +46 46 222 1935

Professor Dr. Dieter Ferring, Centre Universitaire de Luxembourg, Section de Psychologie, 162, A, Avenue de la Faiencerie, L-1511, Luxembourg
Email: ferring@cu.lu Tel: +352 4666 44 646 Fax: +352 4666 44 215

Project number:	QLK6-CT-2001-00334
EC contribution:	€2,188,374
Duration:	36 months
Type:	RS
Starting date:	01/01/2002

Enabling Autonomy, Participation, And Well-Being In Old Age: The Home Environment As A Determinant For Healthy Ageing

Objectives:

The main aim of the ENABLE-AGE project is to examine the home environment as a determinant for autonomy, participation and well-being in very old age in a longitudinal perspective. More specifically, e. g. to explore country specific housing-related societal support as represented in personal situations; to provide an update of housing policies and legislation; to provide a home assessment standard methodology; to provide policy recommendations in housing issues across the EU.

Brief Description:

The novel scope of this project is to explicitly consider subjective and objective person-environment relationships as important determinants to healthy ageing, in a European perspective. A macro level update on housing policies (the ENABLE-AGE Update Review) will support the project process, integrated with the knowledge generated by the ENABLE-AGE Survey Study (N=2000) and the ENABLE-AGE In-Depth Studies (N=200). A wide range of well-proven measurements will be administered at home-visits with very old people, randomly sampled in five partner countries. The design is longitudinal, comprising two measurement points (T1 and T2) with a one-year interval. For the qualitative ENABLE-AGE In-Depth Studies, 200 in-depth interviews followed by consultation interviews with a sub-sample (n=60) will be effectuated. The synthesis of results from the different parts of the project will provide the basis for producing a Home Assessment Methodology Package and policy recommendations and guidelines in housing policies for use across the EU.

Results will concern national and comparative data sets and reports at T1 and for T2-T1, the Home Environment Assessment Package, final reports and scientific publications presenting new knowledge on transactional processes involving objective and subjective housing circumstances as determinants for healthy ageing in terms of autonomy, participation, and well-being, especially as they concern very old people. Furthermore, the results will support theoretical development within the field. The results will be disseminated at scientific as well as practical levels in order to underfeed the provision of updated housing policies and service provision across Europe.

Keywords:

activity - ADL - environmental assessment - functional health - housing accessibility - home assessment - housing policies - well-being.

Co-ordinator

Division of Occupational Therapy
Department of Clinical Neuroscience
Lund University (LU)
P. O. Box 157
SE-221 00 LUND, Sweden
E-mail: siw@arb.lu.se
Phone: +46 46 222 19 40,
international administrative officer: +46 46 222 19 60,
E-mail: emu@arb.lu.se
Fax: +46 46 222 19 59,

Partners

CR 2: Dr. Frank Oswald
German Centre for Research on Ageing (DZFA), University of Heidelberg, Germany
Oswald@dzfa.uni-heidelberg.de

CR 3: Dr. Andrew Sixsmith
Department of Primary Care, University of Liverpool (UL), United Kingdom
Sixsmith@liv.ac.uk

CR 5: Dr. Zsuzsa Széman
Insitute of Sociology, Hungarian Academy of Sciences (HAS), Budapest, Hungary
Szemanzs@elender.hu or h9585sze@ella.hu

CR 6: Dr. Signe Tomsone
Academic School of Occupational Therapy (ASOT), Medical Academy of Latvia, Latvia
Signet@mail.navigators.lv

Assistant Contractor:
AC 4: Dr. Judith Sixsmith
Department of Psychology and Speech Pathology, Manchester Metropolitan University (MMU), Manchester, United Kingdom
j.sixsmith@mmu.ac.uk

Area 6.3: Demographic and social policy aspects of population ageing

SOCIO-ECONOMIC IMPACT

Project number:	QLK6-CT-1999-02161
EC contribution:	€500,000
Duration:	36 months
Type:	CA
Starting date:	01/01/2000

Socioeconomic determinants of healthy ageing: from description to explanation

Objectives:

The general aims of the project are:
- to provide a comprehensive description of socio-economic differences in health expectancy among the elderly in different European countries;
- to contribute to the explanation of these differences, by looking at risk factors, at specific diseases, and at accumulation of disability and selection by mortality over the life-course.

Brief description:

Throughout the European Union, socio-economic factors are important determinants of healthy ageing: persons with a higher socio-economic status not only live longer, but also spend a smaller portion of their life-time with disability. This phenomenon offers good opportunities for identifying specific factors, which promote successful ageing. This project therefore aims to describe socio-economic differences in health expectancy among the elderly in 11 European countries, and to contribute to the explanation of these differences.

This study will be performed on the basis of the following data sources: (i) survey data on the prevalence of disability, diseases and risk factors, available in 11 participating countries; (ii) census follow-up data on mortality by cause-of-death, available in 11 participating countries; (iii) longitudinal studies of disability and mortality occurring in the same individuals, available in at least 3 participating countries. All data will be cross-classified by age, gender and educational level. Data-sets will be prepared according to common specifications, and sent to the co-ordinating centre for centralised data-analysis.

For each country and gender, the following analyses will be performed:
Cross-tabulation of disability-prevalence and mortality by educational level and age among the elderly (60+);
For each educational group, calculation of health expectancy (i.e. life expectancy, total/with/without disability) from age 60;
Cross-tabulation of disease- and risk factor-prevalence and of cause-specific mortality by educational level and age among the elderly;
Calculation of the contribution of specific diseases and causes of death to educational differences in health expectancy among the elderly;
Calculation of the effect of accumulation of disability and selection by mortality at younger ages to educational differences in health expectancy among the elderly.

The results are expected to increase our understanding of how socio-economic factors promote healthy ageing and postpone the onset of disability. This knowledge is important for the development of policies leading to a compression of morbidity, and for an accurate prediction of the future size and nature of the ageing population.

Keywords:

Ageing - Health expectancy - Socioeconomic factors

Co-ordinator

Prof. Dr. Johan P. Mackenbach (general co-ordinator)
Dr. A.E. Kunst (daily co-ordinator)
Department of Public Health
Erasmus University Rotterdam
PO Box 1738,
3000 DR Rotterdam
The Netherlands
phone +31 10 408 7714
fax +31 10 408 9449
mackenbach@mgz.fgg.eur.nl
kunst@mgz.fgg.eur.nl

Partners

Dr. E. Lahelma, University of Helsinki, Finland, eero.lahelma@helsinki.fi
Prof. Tapani Valkonen, University of Helsinki, Finland, tapani.valkonen@helsinki.fi
Dr. O. Lundberg, Stockholm University, Sweden olle.lundberg@social.ministry.se
Prof. D. Vågerö/ Dr. Ö. Hemström, Stockholm University, Sweden, dvagero@sociology.su.se
Dr. J.K. Borgan/Dr. E. Skretting Lunde, Division for Health Statistics, Oslo, Norway, jkb@ssb.no
Dr. E. Dahl, Fafo Institute for Applied Social Science, Norway, espen.dahl@fafo.no
Dr. N. Rasmussen, Danish Institute for Clinical Epidemiology, Copenhagen, Denmark, nkr@dike.dk
Dr. O. Andersen, Danmarks Statistic, Copenhagen, Denmark, oan@dst.dk
Dr. E. Grundy, London School of Hygiene and Tropical Medicine, UK, emily.grundy@lshtm.ac.uk
Dr. A. Donkin, Office for National Research, London, UK, angela.donkin@ons.gov.uk
Dr. D.J.H. Deeg, Free University Amsterdam, Netherlands, djh.deeg@scw.vu.nl
Dr. H. van Oyen, Scientific Institute of Public Health, Brussels, Belgium, vanoyen@iph.fgov.be
Dr. P Deboosere / Dr. S. Gadeyne, Free University Brussels, Belgium, patrick.deboosere@vub.ac.be
Dr. E. Cambois, INSERM Equipe Démographie et Santé , France, cambois@valdorel.fnlclcc.fr
Dr. G. Desplanques, INSEE Department of Demography, Paris, France, guy.desplanques@insee.fr
Prof. H. Noack, Universität Graz, Austria, horst.noack@kfunigraz.ac.at
Mr.Dr. J. Kytir, Austrian Academy of Sciences, Vienna, Austria, kytir@oeaw.ac.at
Dr. G. Costa, Laboratorio di Sanita Publica, Piemonte, Italy, cemdoc@tin.it
Dr. F. Grigoletto, University of Padua, Italy, fg@ux1.unipd.it
Dr. E. Regidor, Madrid University, Spain, eregidor@msc.es
Dr. C. Borrell, Institut Municipal de Salut, Barcelona, Spain, cborrell@imsb.bcn.es

Project number:	QLK6-CT-2000-00038
EC contribution:	€1,395,841
Duration:	36 months
Type:	RS
Starting date:	01/02/2000

Research action for improving elderly workers safety, productivity, efficiency and competence towards the new working environment

Objectives:

The overall aim is to promote the health, working capacity, and well-being of ageing employees by a series of cost-effective methods and work policies.
It is intended a) to develop reliable assessment criteria, strategies, and tools to evaluate existing work models, b) to develop new work models so as to improve the productivity, safety, and work satisfaction of elderly workers, and c) to propose policies for improving the older workers' position on the labour market.

Brief Description:

To begin with, existing studies and work models will be assessed, and the key problems of elderly workers extracted from these studies. Based on these findings, new work models as well as criteria and tools for their assessment will be developed. Thereafter, two laboratory studies, extensive questionnaire studies in three countries, and a number of on-site work interventions are planned in six companies. At the end of the project, guidelines on work organisation for elderly workers, vocational training schemes for elderly workers, best-practice examples on work organization of elderly workers, and recommendations for policy interventions will emerge.

Each newly-developed and implemented work model will be validated in a comprehensive cost-effectiveness analysis. The full cost of each proposed work model assessment methodology (first equipment costs, estimated tool development and upgrading costs, application costs in relation to human resources and time) will be evaluated and translated into monetary terms. The associated benefits will be weighed against the costs.

Key Words:

Elderly workers (older than 45) - cost-effective new work models - evaluation criteria and tools - recommendations for policy interventions

Co-ordinator

Prof. Dr. P. Knauth
Institut für Industriebetriebslehre und Industrielle Produktion
Abteilung Arbeitswissenschaft Universität Karlsruhe (TH)
Hertzstrasse 16
76187 Karlsruhe
Tel.: +49 – 721 – 608 44 63
Fax: +49 – 721 – 75 89 09
E-mail: peter.knauth@wiwi.uni-karlsruhe.de

Partners

Prof. Dr. Peter Knauth
Universität Karlsruhe (TH)
IIP, Abteilung Arbeitswissenschaft
Hertzstr. 16
D- 76187 Karlsruhe
Tel. No: 0049 / 721 / 608 -45 64 /-44 63
Fax No: 0049 / 721 / 75 89 09
E-mail: peter.knauth@wiwi.uni-karlsruhe.de

Dr. Alain Muzet
Centre National de la Recherche Scientifique
CEPA
Rue Becquerel 21
F- 67087 Strasbourg
Tel. No: 0033 / 388 / 10 67 61
Fax No: 0033 / 388 / 10 62 45
E-mail: alain.muzet@c-strasbourg.fr

Dr. Angelos Bekiaris
TransEuropean Consulting
Unit of Thessaloniki S.A. (TRUTh)
22, Mamali Street
17563, P. Faliro
Athens
Greece
Tel: 0030 / 310 / 498265
Fax: 0030 / 310 / 498269
E-mail: „Angelos Bekiaris" trnspcon@compulink.gr

Dr. Angelos J. Amditis
Institute of Communication and Computer Systems (ICCS)
Institute of Communication and Computer Systems
National Technical University of Athens (NTUA)
9, Iroon Polotechniou Str.
GR 15780 Zografos
Athens
Greece
Tel. No: 0030 / 1 / 7722290
Fax No: 0030 / 1 / 7723557
E-mail: angelos@esd.ece.ntua.gr

Mikko Härmä, MD, PhD
Finish Institute of Occupational Health (FIOH)
Brain@Work Laboratory
Topeliuksenkatu 41 aA
FIN-00250 Helsinki
Finland
Tel. No: 00358 / 9 / 47472729
Fax No: 00358 / 9 / 5884759
E-mail: Mikko.Harma@occuphealth.fi

Director Mrs. Kaarina Soikkanen
CAA, Civil Aviation Administration
Lentaejaentie 3
BOX 50
SF-Vantaa, FINAND
Tel. No.:00358 / 9 / 82772113
Fax No: 00358 / 9 / 82772099
E-mail: kaarina.soikkanen@fcaa.fi

Mrs. Ute Drewniak
Deutsche Bank AG
CC HR - Deutsche Bank University
School of Personal Effectiveness
Telefon +49 (0)69 - 59795715 (home office)
- 910 39514 (office)
(0)174 - 300 9479 (mobil)
Telefax +49 (0)69 -59795717 (home office)
Ute.Drewniak@db.com

Prof. Dr. Manfred Rentzsch
IAS Institut fuer Arbeits- und Sozialhygiene Stiftung
Allee der Kosmonauten 47
D- 12681 Berlin
Tel. No: 0049 / 30 / 54783190
Fax No: 0049 / 30 / 5414086
E-mail: m.rentzsch@ias-stiftung.de

Mrs. Vina Tsilimigaki (President)
Mrs. Fereniki Stagaki (Social Worker)
Therapeutic Centre for Chronic Diseases of Attica (TCCD)
Vouliagmenis Av. & El. Venizelou
16777, Elliniko
Greece
Tel. No: 0030 / 1 / 9644166
Fax No: 0030 / 1 / 9642399
E-mail: tccd_athens@hotmail.com

Dr. Alex H. Bullinger
Dr. Mrs.Sabine Bährer
Center of Applied Technologies in Mental Health (COAT)
Department of Clinical Psychiatry
University of Basel
Wilhelm Klein-Strasse 27
4025 Basel
Switzerland
Tel. No: 0041 / 61 / 325 52 05
Fax No: 0041 / 61 / 325 55 18
E-mail: ahb@coat-basel.com (A. Bullinger)
sab@coat-basel.com (S. Bährer)

Director M.Sc. Seppo Raevuori
FINTECHDIV
Finnair, Technical Division
Teknikontie
Box 15
SF-01053 Finnair, FINLAND
Tel. No: 00358 / 9 / 8186226
Fax No: 00358 / 9 / 8186017
E-mail: seppo.raevuori@finnair.fi

Mrs. Sigrid Heinrich
DaimlerChrysler AG
Werk Wörth
HPC 591
D- 76742 Wörth
Tel. No: 0049 / 7271 / 71 -3031
Fax No: 0049 / 7271 / 71 -5351
E-mail: sigrid.heinrich@daimlerchrysler.com

Project number:	QLK6-CT-2001-00360
EC contribution:	€2,758,630
Duration:	24 months
Type:	RS
Starting date:	01/01/2002

Survey on health, ageing and retirement in Europe

Objectives:

SHARE -- a longitudinal Survey of Health, Ageing and Retirement in Europe -- will collect interdisciplinary data on European citizens older than 50 years. Data to be collected will include health variables, psychological variables, economic variables and social support variables. The current proposal aims at several preparatory surveys in a selected number of European countries culminating in a main test survey of about 12000 individuals.

Brief Description:

Core of the work is the iteration between questionnaire development and data collection. Point of departure will be the US HRS, the UK ELSA and other survey instruments (e.g., in Germany, Italy and Sweden) which have addressed relevant questions.
Data will be collected in three stages. First small-scale experiments include trials with a number of important design elements (e.g. sample design, questionnaire design, interview modes, comparison with administrative data). Then full-questionnaire pilots will be run. Based on these experiences a medium-scale test survey will be held in all participating countries. They are a balanced representation of the various regions in Europe, ranging from Scandinavia (Denmark and Sweden) through Central Europe (France, Germany and the Netherlands) to the Mediterranean (Spain, Italy and Greece). Belgium, Switzerland, the UK and the US are part of SHARE but are not funded under this project.
This survey will follow a common set-up across all countries with the goal of collecting data that are strictly comparable to allow cross-country research. The outcomes of the project, including the collected micro-data, will be made widely available, subject to legal and confidentiality restrictions. The surveys will be big enough to allow initial cross-country analyses in their own right, and, hopefully, also some within-country analyses.
Specifically, the project will develop sample designs that are feasible in different countries, potentially making use of the sampling frames that are already available; develop survey instruments and sample designs that are most suitable for each country and optimally adapted to the various sample strata; investigate response effects and feasibility of interviewing modes in experiments and pilots; and finally recommend a survey design and instrument for a ready-to-go pan-European longitudinal SHARE on a full scale.

Keywords:
Longitudinal survey design - data collection on ageing

Co-ordinator:

Axel Börsch-Supan
University of Mannheim, Mannheim Research Institute for the Economics of Aging (MEA),
Seminargebäude L13, 17
D-68131 Mannheim, Germany
Tel: +49-621-181-1861; Fax: +49-621-181-1863;
Email: abs@mea.uni-mannheim.de

Partners:

Martin Browning
University of Copenhagen, Department of Economics,
Studiesraede 6
DK-1455 Copenhagen, Denmark
Tel: +45-3-532-3070; Fax: +45-3-532-3064;
Email: martin.browning@econ.ku.dk

Thierry Magnac
EcoSante/CREDES
1 Rue Paul Cezanne
F-75008 Paris, France
Tel: +33-1-43136368; Fax: +33-1-43136362;
Email: magnac@java.ens.fr

Antigone Lyberaki
Department of Economics
Panteion University
Syngroll Avenue 130
GR-17671 Athens, Greece
Tel: +30-338-5256; Fax: +30-338-5276;
Email: antiglib@hol.gr

Guglielmo Weber
University of Padua , Department of Economics
Via del Santo 33
I-35123 Padova, Italy
Tel: +39-49-8274271; Fax: +39-49-8274221;
Email: weber@decon.unipad.it

Arthur van Soest
CentER
Tilburg University
Warandelaan 2
PO Box 90153
NL-5037 AB Tilburg, The Netherlands
Tel: +31-13-466-2028; Fax: +31-13-466-3280;
Email: a.h.o.vanSoest@kub.nl

Manuel Arellano
CEMFI
Casado del Alisal 5
E-28014 Madrid, Spain
Tel: +-34-91-429-0551; Fax: +-34-91-429-1056;
Email: Arellano@cemfi.es

Anders Klevmarken
University of Uppsala , Department of Economics
Kyrkogaardsgatan 10
S-75120 Uppsala, Sweden
Tel: +46-18-471-2386; Fax: +46-18-471-1478;
Email: anders.klevmarken@nek.uu.se

Project number:	QLK6-CT-2001-00475
EC contribution:	€1,760,816
Duration:	34 months
Type:	RS
Starting date:	01/02/2002

Sustaining Working Ability in the Nursing Profession

Objectives:

Today's working conditions in nursing often do not allow healthy ageing at work. Most nursing staff leaves the nursing profession prior to regular retirement age. In the NEXT-Study the reasons for and the circumstances of premature departure from health care work are being investigated. The study shall provide the basis for targeted workplace health promotion designed to assure sustainable work ability in the nursing profession.

Brief description:

Within the frame of the NEXT Study, similar parallel cohort studies will be performed in each of the 8 participating countries (Belgium, Finland, France, Germany, Italy, Sweden, The Netherlands, United Kingdom). Between 5000 and 8000 nurses of all categories will be followed by means of self-report questionnaires during a period of 12 months beginning in September 2002. Hospitals, old peoples' homes and health care institutions in primary care will be included to represent the national distribution of nursing work.
Topics of interest of the assessments are the participants' working conditions and health, as well as attitudes and private circumstances relating to job and working perspectives. Furthermore the nurses' intent to leave the present health care institution will be assessed. Those leaving the work place within the one year investigation period will receive additional assessments at the time of their exit and after further 12 months to assess the circumstances of this step as well as the consequences. Further data will be gathered by a structured analysis of the participating institutions to assess factors of relevance for premature departure from nursing work such as the economic situation and attitudes or activities concerning workplace health promotion and sustainability of the workforce.
The NEXT Study adopts a unique approach. By assessing premature departure from health care work, it will provide knowledge about (i) risk factors, (ii) risk groups for premature departure, (iii) the impact the exit has on the individual, (iv) the age dependency of risk factors, and (v) factors of relevance for normal ageing in health care work.

Keywords:

demographic development - healthy ageing - nurse - nursing - premature departure from work - risk factors - self-report questionnaire - shortage of nursing labour - sustainable work ability - work and health.

Co-ordinator:

Hans-Martin HASSELHORN
University of Wuppertal
FB 14 - Department on Occupational Health
Gausstrasse 20
D-42097 WUPPERTAL
Tel: +49-202-439-2123
Fax: +49-202-439-3828
Mail: next@uni-wuppertal.de
Internet: www.next-study.net

Partners:

Hans-Martin Hasselhorn, University of Wuppertal, FB 14 - Section of Occupational Medicine, Wuppertal, Germany, hasselho@uni-wuppertal.de

Heather Marshall-Heyman, Karolinska Institutet, Stockholm, Sweden
Heather.Marshall-Heyman@admin.ki.se

Andreas Büscher, Institut für Pflegewissenschaft, Private University of Witten/Herdecke
buescher@uni-wh.de

Karl Kuhn, Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, Dortmund, Germany
karl.kuhn@baua.de

William D'hoore, Université Catholique de Louvain (UCL), Brussels, Belgium
dhoore@hosp.ucl.ac.be

Gustav Wickström, Turku Regional Institute of Occupational Health, Turku, Finland
gustav.wickstrom@occuphealth.fi

Jean-Francois Caillard, Assistance Publique - Hôpitaux de Paris, France
Jean-Francois.Caillard@htd.ap-hop-paris.fr

Professor Antonio Grieco, University of Milan, Institute of Occupational Health, Istituto di Medicina di Lavoro, antonio.grieco@unimi.it

Beate van der Heijden, University of Twente, Dept. of Technology & Management, HRM, Enschede, The Netherlands, b.i.j.m.vanderheijden@sms.utwente.nl

Gillian Prior, National Centre for Social Research, London, UK
g.prior@natcen.ac.uk

Trevor Watkins, South Bank University, London, UK
Powerj@sbu.ac.uk

Project number:	QLK6-CT-2001-00517
EC contribution:	€931,331
Duration:	30 months
Type:	RS
Starting date:	01/01/2002

Ageing, health an retirement in Europe

Objectives:

To document the improvement in the health of the elderly in Europe (ideally since 1950), based on a systematic collection of existing national data.
To provide projections for this process into the future (e.g. until 2050).
To analyse retirement decisions and the demand for health care as a function of age and health (in addition to the usual economic variables).
To combine these results with the projections for the health of the elderly into estimates of the future evolution of health care and pension costs.

Brief description:

Recent bio-metric research, based mainly on US data suggests that people not only live longer, but also in better health. This project will first document to what extent this trend exists in Europe as well and make projections for health of the elderly over the coming decades. These projections will be used to asses the sustainability of social security system based on a detailed analysis of the influence of better health on the demand for health care and retirement decisions.
The data search and compilation constitutes the first important phase (Phase1) of the work programme. Existing national socio-economic panels will be used first, they have the advantage of being modern and roughly comparable. The project will also search for data from the 1950s and 1960s from different sources, e.g. insurance companies and national health services.
This will be undertaken by a team composed of researchers from a majority of EU member states and with an intimate knowledge of the national environment and statistical sources.
On this basis, the second phase will start with the compilation of alternative scenarios for the health of the elderly and indicators of 'active' life expectancy for the EU up to 2020 and 2050.
At the same time there will be theoretical and empirical work on the influence of health on retirement decisions and the demand for health care. This will show the sensitivity of projections for health expenditure and retirement benefits to alternative assumptions concerning the health of the elderly.
Finally the implications for public policy, notably with health care and pensions will be examined in the light of the bio-demographic data.
By incorporating a number of bio-dynamic and health factors into the demographic projections it will provide the European Commission, other Community institutions and national decision-takers with new tools of analysis and new arguments in policy debates. The findings will be disseminated in the form of working papers, conferences and academic publications.

Keywords:

Ageing - health - retirement - longevity.

Co-ordinator:

Daniel Gros
Centre for European Policy Studies
1, Place du Congrès
B-1000 Bruxelles
Tel: 00 32 2 229 39 38
Fax: 00 32 2 229 41 51)
e-mail: daniel.gros@ceps.be

Partners:

Centre d'études prospectives et d'informations internationales (CEPII), Paris, France

Netherlands Bureau for Economic Analysis (CPB), The Hague, Netherlands

Deutsche Institut für Wirtschaftsforschung, Berlin, Germany

The Research Institute of the Finnish Economy (ETLA), Helsinki, Finland

Foundation for Applied Economics Studies (FEDEA), Madrid, Spain

Federal Planning Bureau, Brussels, Belgium

National Institute of Economics and Social Research (NIESR), London, United Kingdom

LEGOS, University of Paris-Dauphine, France

Project number:	QLK6-CT-2002-02292
EC contribution:	€1,200,000
Duration:	36 months
Type:	RS
Starting date :	01/01/2003

Socio-economic and occupational effects on the health inequality of the older workforce

Objectives

The proposed interdisciplinary research will provide detailed evidence on the association between individuals' socio-economic status and physical or mental health for the older workforce, highlighting the direction of causation of this relationship and examine how this affects labour force participation. It will compare the above relationships across the participating EU countries to identify institutional differences that might influence these relationships.

Brief description

The research will provide detailed evidence on the association between individuals' socio-economic status and physical and mental health and sense of well being of the older workforce (those above the age of 50) and highlight the direction of causation of this relationship. A number of issues will be investigated relating to differences between sexes with respect to the effects of individuals' socio-economic and occupational status on the physical and mental health at the later stages of working life. The assessment of the impact of the socio-economic and occupational differences on physical and mental health is crucial, not only for our understanding of the development of age-related diseases and disability, but also how these may be avoided by controlling contributory socio-economic factors. The project comprises 6 work packages:
The first encompasses the tasks required for scientific co-ordination: monitoring and management of scientific progress and general day-to-day communication within the project. The second draws together the available literature and data sources in a survey of the current state of knowledge on the relationship between health and individual socio-economic and occupational status indicators of the older workforce, in the participating EU countries and identify the important unanswered research questions. The third uses a variety of available datasets to assess in descriptive terms the importance of the age-health-employment status relationship and organises the collection of primary data for the participating countries. The fourth uses appropriate statistical/micro-econometric methodology to identify associations between various past and present social and economic parameters and their impact on disease, impairment and health for the older workforce by gender. It will explore the interactions of mental and physical health and labour market participation and explore causality issues. The fifth brings together the different results on the impact of socio-economic and occupational status on individuals' health for the older workforce, across the participating EU countries. The sixth, communicates project activities and results to the EU, end-users and the public in meetings, conferences or symposia.

Keywords

Ageing – health - socio-economics

Co-ordinator :

Professor I. Theodossiou
Centre for European Labour Market Research (CELMR),
University of Aberdeen, Department of Economics,
Edward Wright Building, Dunbar Street,
AB24 3QY Aberdeen, Scotland, UK. Tel: 44 1224 272183, Fax: 44 1224272181
Email: theod@abdn.ac.uk

and

Department of Economics,
University of Macedonia, Economic and Social Sciences,
156 Egnatia Street,
GR-540 06 Thessaloniki, Greece
Email: theod@uom.gr

Partners :

Professor T. Eriksson
Aarhus School of Business (ASB)
Denmark
tor@asb.dk

Dr. R. Asplund
The Research Institute of the Finnish Economy (RIFE)
Finland.
ra@etla.fi

Associate Professor A. Skalli
Université Panthéon-Assas (Paris 2) (UNIP2)
France.
skalli@u-paris2.fr

Associate Professor S. Drakopoulos
University of Athens
Greece.
sdrakop@cc.uoa.gr

Professor J. M. Theeuwes
SEO Amsterdam Economics, University of Amsterdam
The Netherlands,
theeuwes@seo.fee.uva.nl

Professor S. Katranidis
University of Macedonia, Economic and Social Sciences
Greece.
katranid@uom.gr

Project number:	QLK6-CT-2002-02297
EC contribution:	€450,040
Duration:	36 months
Type:	CA
Starting date:	01/01/2003

The dynamics of income, health and inequality over the life cycle

Objectives:

To estimate the causal effect of income on health around the age of retirement, distinguishing between the impacts of transitory and permanent poverty and deprivation on health.
To analyse the dynamics of individual health, with an emphasis on the degree of persistence of ill-health over the life cycle.
To estimate the reverse effect of health on income through reduced earnings, early retirement and the varying pension schemes.
To estimate the causal effect of income on the use of health care services, using longitudinal data.
To estimate the impact of policy interventions and pension schemes on the degree of income-related inequalities in health and in access to health services in all European Union countries.

Brief description:

This project aims to apply advanced econometric methods to analyse an unusually rich source of information (the European Community Household Panel) in order to provide some answers to questions of great policy relevance. The underlying question is: what explains the European cross-country differences in the degree to which health and health care utilisation are unequally distributed by income? Our previous work has developed some useful methods to measure and quantify the degree to which health and health care are unequally distributed between rich and poor, and what contribution do the different age groups make. It showed that these inequalities have persisted despite decades of policymaking were aiming at equal access, combating poverty and social exclusion. Furthermore, we were able to show that the age groups around the retirement age made the most important contribution to these inequalities and inequities.

Effective policymaking requires a proper understanding and a quantification of the causal mechanisms generating these inequalities. The availability of a new rich panel data sets offers hitherto unseen possibilities for finding causal relationships by exploiting the changes in health and income around retirement, and by dealing with endogeneity and unobserved heterogeneity. This should enable us to shed further light on the causality of the associations found so far in cross-sectional analyses. The data will allow for the estimation of both the dynamic relationships between income reduction, health and health care at the individual level and for the identification of the effects of intertemporal changes in these variables. In addition, several country teams have access to country-specific datasets with linkages to tax registers, mortality and hospitalisation registrations which offer ample opportunity to validate and extend the 'common core' ECHP findings on income, health and health care relationships to other health and utilisation parameters.

Keywords:

Income – health - inequality - retirement

Co-ordinator

Prof. Eddy van Doorslaer
Department of Health Policy and Management
Erasmus University Medical Centre Rotterdam
PO Box 1738
3000 DR Rotterdam
The Netherlands
phone +31 10 4088 555
fax +31 10 4089 092
vandoorslaer@bmg.eur.nl

Partners

Prof. Andrew Jones, University of York, UK, amj1@york.ac.uk

Xander Koolman, Erasmus Medical Centre, the Netherlands, koolman@bmg.eur.nl

Dr. Diana De Graeve, University of Antwerp, Belgium, diana.degraeve@ua.ac.be

Tom van Ourti, University of Antwerp, Belgium, tom.vanourti@ufsia.ac.be

Prof. Terkel Christiansen, Unversity of South Denmark, Denmark, tch@sam.sdu.dk

Dr. Jorgen Lauridsen, Unversity of South Denmark, Denmark, jtl@sam.sdu.dk

Prof. Unto Häkkinen, STAKES, Finland, unto.hakkinen@stakes.fi

Dr. Martin Schellhorn, Institute for the study of Labor, Germany, schellhorn@iza.org

Dr. Owen O'Donell, University of Macedonia, Greece, ood@uom.gr

Prof. Brian Nolan, Economic and Social Research Institute, Dublin, Ireland, BNOMSC@esri.ie

Prof. Vincenzo Atella, Tor Vergata University, Italy, atella@uniroma2.it

Prof. Maarten Lindeboom, Vrije Universiteit Amsterdam, the Netherlands, mlindeboom@econ.vu.nl

Dr. Jan Erik Askildsen, University of Bergen, Norway, Jan.Askildsen@econ.uib.no

Dr. Marisol Rodríquez, University of Barcelona, Spain, marisol@eco.ub.es

Prof. Carol Propper, University of Bristol, UK, Carol.Propper@bristol.ac.uk

Prof. Ulf-G Gerdtham, Lund University, Sweden, ulf.gerdtham@smi.mas.lu.se

Prof. Robert E. Leu, University of Bern, Switzerland, leu@vwi.unibe.ch

Prof. Lise Rochaix, Université de Marseille-Aix, France, rochaix@ehess.cnrs-mrs.fr

Project number:	QLK6-CT-2002-02310
EC contribution:	€1,553,206
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

Future Elderly Living Conditions In Europe

Objectives:

From 2000 to 2030, EU population aged 75+ will have increased by three quarters. These trend in numbers will be amplified or balanced by changes in other spheres: health and socio-economic conditions of the elderly, potential support from their partner or children. The choices for future living arrangements at old ages and associated needs for care are the result of these interacting influences. The project is to forecast them for the next 30 years. It will lead to proposals for the adaptation of family and elderly policies, to be debated with policy makers and civil society.

Brief Description:

The project is centred on a 2000-2030 forecast in a selection of nine European countries of the population aged 75+, classified by sex, age, marital status, together with health, family and socio-economic conditions. It will result in a quantification of living arrangements and an estimate of the future needs of old-age populations.
Work will follow four main lines:
1. An assessment of the past and present position of the elderly (by sex and age) on various living conditions aspects. Marital status is first dealt with, together with sex and age. Health, family and socio-economic conditions are then considered. Statistical material is analysed through age-cohort-period models. The data needed are extracted from vital statistics, censuses and population registers, large panels and repeated surveys. Most of them are national and an important attention will be devoted to comparability and reliability. All data will be organised in an interactive data base.
2. Development of sets of projections till 2030 along the same dimensions, through three complementary methods and various assumptions, respectively micro-simulation with life-course events, dynamic multi-state based on movements from status to status and a combined static/ dynamic method.
3. Inference of future choices for living arrangements and estimation of care needs, from the cross-characterisation of the elderly by their health/ disability status, family potential support and socio-economic resources.
4. Debates of the results with policy makers and civil society, developing propositions for adjustments of the elderly and family policies. Implications of the numerical trends are debated with policy makers and civil society in workshops at national level, then in a European Forum. A specific web-site will be developed in order to disseminate findings of the project, advertise for the venue of the European Forum and open the related discussion.

Co-ordinator

Ms Joëlle Gaymu, Head (Co-ordinator)
Institut National d'Etudes Démographiques
133 bd Davout
75980 Paris Cedex 20 (France)
Fax: 33 1 56 06 22 19
Tel.: 33 1 56 06 20 00
e-mail: gaymu@ined.fr

Partners

GéDAP-UCL (Research centre of demographic management for public administration, Catholic university of Louvain-la-Neuve, Belgium). Responsible: Michel Poulain, director of GéDAP. poulain@spri.ucl.ac.be

LSHTM (London school of hygiene and tropical medicine, UK). Responsible: Emily Grundy, head of the Centre for population studies. Emily.Grundy@lshtm.ac.uk

LSE (London school of economics and political science, UK). Responsible: Mike Murphy, head of the department of Social policy. M.Murphy@lse.ac.uk

MPIDR (Max Planck institute for demographic research, Rostock, Germany). Responsible: Gabrielle Doblhammer. doblhammer@demogr.mpg.de

NIDI (Netharlands interdisciplinar demograjisch institut, Den Hagh, The Netherlands). Responsible: Harry Cruijsen, head of unit Forecasts and Methods. cruijsen@nidi.nl

Univ. Firenze (Università degli studi di Firenze, Italy). Responsible: Marco Marchi, vice-chairman of the department of Statistics. marchi@ds.unifi.it

UHDS (Population research unit, University of Helsinki, Finland). Responsible: Pekka Martikainen. Pekka.Martikainen@helsinki.fi

FCSH/UNL (Faculdade de ciências sociais e humanas, Universidade nova de Lisboa, Portugal). Responsible: Ana Fernandes. Ex-ip244297@clix.pt

KDGD (Department of demography and geodemography, Charles University, Prague, Czech Republic). Responsible: Jytka Rychtarikova, head of the department. rychta@natur.cuni.cz

FNG (National foundation of gerontology, Paris, France). Responsible: Christiane Delbès. Delbes.fng@wanadoo.fr

Project number:	QLK6-CT-2002-02426
EC contribution:	€2,999,612
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

Advanced Multidisciplinary Analysis Of New Data On Ageing

Objectives:

The main objective is to develop policy tools in the field of ageing. Specifically, we will conduct statistical and econometric analyses of individual behavioural responses to public policies influencing active and healthy ageing, health care services utilisation, retirement, and social participation, and we will develop indicators for key concepts relevant to EU policy such as retirement incentives, savings adequacy, well-being and disability status of the elderly.

Brief Description:

Focus of our statistical and econometric research methodology is the analysis of individual behaviour. We study decisions made by individuals or households, and we analyse how individuals respond to their socio-economic environment, including institutions and policy measures. We estimate behavioural reactions ("feedback effects") to changes in public policy, e.g. changes of health care utilisation and its implications for health status in the wake of a health care reform, or changes of the retirement age and the level of savings in the wake of a pension reform.
The data we are using are non-experimental and come from (large) surveys such as SHARE, ELSA and HRS. We employ a number of well-known and also of advanced statistical techniques, including regression types of analyses, multinomial choice models of various kinds, robust, semi-parametric and non-parametric estimation methods, duration analysis, and bio-statistical methods, paying attention to the nature (particularly selectivity) of the samples and the endogeneity of explanatory variables.
In addition to the behavioural analyses, we construct indicators designed to inform policy in the area of ageing. The choice of indicators will be motivated by both policy relevance and the cross-country reliability and validity as inferred from the above behavioural analyses. For example, an indicator of work-related disability will reflect validated measures of incapacity to work that are comparable across countries and not administrative data that would confound individual circumstances with legal eligibility rules. We place particular emphasis on inequality or distributional measures, to an extent not possible with aggregate data.

Keywords:

Quality of life of the elderly - retirement behaviour and active ageing - retirement incentives - health, disability and well-being of the elderly - health services utilisation - intergenerational family solidarity - income and savings adequacy among the elderly.

Co-ordinator

Prof. Axel Börsch-Supan, Ph.D.
Director, Mannheim Research Institute for the Economics of Aging (MEA)
University of Mannheim
L13, 17
D-68131 Mannheim, Germany
Tel: +49-621-181-1861
Fax: +49-621-181-1863
Email: abs@econ.uni-mannheim.de

Partners

Axel Börsch-Supan
Mannheim Research Institute for the Economics of Aging (MEA)
University of Mannheim
abs@econ.uni-mannheim.de

Johan Mackenbach
Department of Public Health,
Erasmus University Rotterdam
mackenbach@mgz.fgg.eur.nl

Martin Prince
Section of Epidemiology,
Division of Psychological Medicine Institute of Psychiatry
King's College London
m.prince@iop.kcl.ac.uk

Johannes Siegrist
Department of Medical Sociology
University of Duesseldorf
siegrist@uni-duesseldorf.de

Claudine Attias-Donfut
L'Association Environnement Santé et Societé (ENSANS)
Paris
claudine.attias-donfut@cnav.fr

Alberto Holly
Institut d'Economie et Management de la Santé (IEMS),
Université de Lausanne
alberto.holly@hec.unil.ch

Anders Klevmarken
Department of Economics
University of Uppsala
anders.klevmarken@nek.uu.se

Martin Browning
Department of Economics
University of Copenhagen
martin.browning@econ.ku.dk

Agar Brugiavini
Department of Economics
Universita' Ca' Foscari" di Venezia
brugiavi@unive.it

Guglielmo Weber
Department of Economics
University of Padua
weber@unive.it

Kaare Christensen
Institute of Public Health
Section Epidemiology,
University of Southern Denmark
kchristensen@health.sdu.dk

Arthur van Soest
Center for Economic Research,
Tilburg University
a.h.o.vanSoest@kub.nl

Project number:	QLK6-CT-2002-02500
EC contribution:	€1,199,947
Duration:	36 months
Type:	RS
Starting date :	01/01/2003

Demographic uncertainty and the sustainability of social welfare systems

Objectives:

This study focuses on the sustainability of welfare systems in EU countries in the face of ageing and demographic uncertainty. Although population ageing is expected and its consequences to the sustainability of the welfare systems have been widely explored, it is much less recognised that the degree of ageing is highly uncertain. Unexpected demographic development poses particular problems that emerge slowly, but are potentially of considerable importance and may have several implications. This study addresses these problems. The extent of demographic uncertainty and the effects of unforeseen developments on welfare expenditure and its financing are demonstrated and analysed. The effects of demographic uncertainty on the risks different groups and cohorts face are also studied.

Brief Description:

The main tools employed will be six different overlapping-generations models, two generational accounts, one model establishing the socio-economic and demographic determinants of individual health status and the determinants of health care expenditure for a given health status and one mechanistic model, with a detailed description of the institutional features of the country's social security system, used in budgetary cost analysis of population ageing.
The project consists of five parts. The first part comprises the set-up phase, preparing country-wise stochastic demographic projections and economic models to work together. It also includes surveying relevant recent literature both on the role of uncertainty in economic decision-making and on the state of applied economic models used in ageing research. Part two consists of country-wise calculations of age-related public expenditure and income, and global analysis of macroeconomic outcomes, describing quantitatively the effects demographic uncertainty has on the economic assessments of the consequences of population ageing. In the third part of the project the country results are compared and the differences analysed and explained. Part four examines how demographic uncertainty could and should be taken into account in ageing policies. Part five transforms the results and experiences from the other four parts into methodological conclusions on the desirable and feasible interplay of demographic and economic ageing analysis.

Keywords:

Population ageing - demographic uncertainty - sustainability of welfare systems - risk sharing policies

Scientific co-ordinator:

Jukka Lassila
Research Director, The Research Institute of the Finnish Economy (ETLA)
Lönnrotinkatu 4B
SF-00120 Helsinki, Finland
Tel: 358 9609900
Fax: 358 9601753
e-mail: jukka.lassila@etla.fi

Management and administrative co-ordinator:

Sally Scott
Research Manager, Centre for European Policy Studies (CEPS)
1, Place du Congrès
B-1000 Bruxelles
Tel: 32 2 229 39 54
Fax: 32 2 219 41 51
e-mail : sally.scott@ceps.be

Partners

The Research Institute of the Finnish Economy (ETLA) FI
Jukka Lassila, Research Director, ETLA
Juha Alho, Professor, University of Joensuu
Tarmo Valkonen, Head of Unit, ETLA
Reijp Vanne, Chief Economist, Central Pension Security Institute
Contact person: Jukka Lassila, e-mail: jukka.lassila@etla.fi

Centre d'études prospectives et d'informations internationales (CEPII) FR
Florence Legros, Deputy Director, CEPII
Jean Château, Research Fellow, CEPII
Contact person: Florence Legros, e-mail: legros@cepii.fr

Netherlands Bureau for Economic Policy Analysis (CPB) NL
Ed Westerhout, Head of Applied General Equilibrium Modelling Unit, CPB
Harry te Rele, Public Finance Department, CPB
Contact person: Ed Westerhout, e-mail: westerhout@cpb.nl

Centre for Economic and Business Research (CEBR) DK
Contact person: Svend E. Hougaard Jensen, Director of Economic Research, CEBR;
e-mail: shj@cebr.dk

Federal Planning Bureau (FPB) B
Michel Englert, Head of General Directorate, FPB
Micheline Lambrecht, Research Fellow, FPB
Contact person: Michel Englert, e-mail: me@plan.be

Foundation for Applied Economics Studies (FEDEA) E
José A. Herce, Executive Director, FEDEA
Namkee Ahn, Research Scientist, FEDEA
Juan A. Fernandez Codón, Research Scientist, Council for Scientific Research
Contact person: José A. Herce, e-mail: herce@fedea.es

National Institute of Economic and Social Research (NIESR) UK
Contact person: Martin Weale, Director; e-mail: m.weale@niesr.ac.uk

University of Würzburg, Germany
Contact person: Hans Fehr, Professor of Economics, University of Würzburg;
e-mail: hans.fehr@mail.uni-wuerzburg.de

Area 6.4: Coping with functional limitations in old age

COPING WITH FUNCTIONAL LIMITATIONS/TECHNOLOGIES

Project number:	QLK6-CT-1999-02236
EC contribution:	€1,000,000
Duration:	36 months
Type:	RS
Starting date:	01/01/2000

Enhancing outdoor mobility in later life: personal coping, environmental resources, and technical support

Objectives:

The objective of the MOBILATE project is the comprehensive description and explanation of the outdoor mobility among older adults in urban and non-urban settings in northern, southern, central, and eastern Europe, the description and explanation of both age-related and cohort-related changes in mobility, and the enhancement of the outdoor mobility in old age by providing varied dissemination material for concrete application.

Brief Description:

The MOBILATE project aims to better understand the complex interplay between personal competencies and coping efforts of older people and aspects of the physical and social environment, all of which significantly impinge upon the outdoor mobility of ageing men and women.
In order to achieve this goal, the project combines different data sources (person, environment, including urban versus non-urban regions) as well as different data-collection strategies (generation of a cross-sectional and cross-country data set MOBILATE Survey and MOBILATE follow-up data). In the survey, patterns of outdoor mobility and activity are examined in roughly 300 men and women aged 55 years or older from six urban and rural regions, representing five European countries (eastern and western Germany, Finland, Italy, Hungary, and the Netherlands). The sample of altogether 3,941 respondents is disproportionately stratified according to gender and age. The MOBILATE survey is based on a standardised questionnaire including items on the basic personal and environmental components of mobility as well as psychological measures on coping, well-being and cognitive functioning, and a mobility diary which spans two days.
The MOBILATE follow-up covers a total of 862 participants and uses the same instruments applied in the first data collection wave (1995).
At one research site, an evaluation of a demand-responsive transport system is conducted. Furthermore, a comparative analysis of mobility-relevant European regulations will be provided.

Keywords:

Outdoor mobility, quality of life, individual changes, activities, health, social network, environment, neighbourhoods, urban settings, rural settings, transport modes, automobile, public transportation, mobility regulations.

Co-ordinator

Dr. Heidrun Mollenkopf
The German Centre for Research on Ageing at the University of Heidelberg (DZFA)
(Deutsches Zentrum für Alternsforschung)
Department for Social and Environmental Gerontology
Bergheimer Strasse 20
D-69115 Heidelberg
Phone: +49 6221 5481 15
Fax: +49 6221 5481 12
E-mail: mollenkopf@dzfa.uni-heidelberg.de

Partners

Dott.ssa Fiorella Marcellini
INRCA, Istituto Nazionale Riposo e Cura Anziani
Dipartimento Ricerche Gerontologiche
I-60100 Ancona,
Italy
E-mail: f.marcellini@inrca.it

Professor Isto Ruoppila
University of Jyväskylä
Department of Psychology
SF-40351 Jyväskylä,
Finland
E-mail: ruoppila@psyka.jyu.fi

Hungarian Academy of Sciences
Institute of Sociology
Dr. Zsuzsa Széman
H-1014 Budapest,
Hungary
E-mail: sze,amzs@elender.hu

Dr. Mart Tacken
Delft University of Technology
Faculty of Architecture
NL-2600 GA Delft,
The Netherlands
E-mail: m.h.h.k.tacken@bk.tudelft.nl

Project number:	QLK6-CT-1999-02282
EC contribution:	€1,900,000
Duration:	36 months
Type:	RS
Starting date:	01/04/2000

Robotic Assistance In Neuro And Motor Rehabilitation

Objectives:

Explore machine mediated neuro-rehabilitation therapies for older persons.
Develop a clinical prototype machine for reach and grasp therapies and evaluate the therapeutic impact.
Establish the acceptability of robot mediated neuro-rehabilitation to older patients, physiotherapists and allied healthcare professionals.
Exploit results for the benefit of the European community and its citizens by moving towards a practical commercial device, supported by the clinical evidence.

Brief Description:

For a person who has just had a stroke, recovery to full health is a slow, tedious and often painful process. The more the person can exercise and the better the quality of the exercise, the better the persons recovery will be, however it is costly to provide this level of assistance with current physiotherapy services. The GENTLE/S project is investigating robot mediated neuro-rehabilitation that can provide high quality therapeutic interventions and at the same time monitor the patient recovery so to assist with determining prognosis and diagnosis. The system is targeted for upper limb rehabilitation and is appropriate for people who have had a stroke, a traumatic brain injury, or similar insult effecting motor and sensory control of the upper limbs.
Treatments can be tailored to the individual patients needs, and allow for repetitive, task oriented movements that challenge the patient yet provide a high level of motivation. The aim is to re-educate movement, recover the muscle strength in the limbs and achieve goals that improve the patients independence. This is done both by real tasks and also through virtual reality with computer graphics where the user manipulates objects on a computer screen through a simple 'reach and touch' technique. The robot reinforces the correct movement pattern and they combination of visual and haptic support engages the patient in the therapy. The patient's physiotherapist can customise the exercise to each user's specific needs and selects the appropriate level of assistance required.

The design of the robot itself is such that all those involved in the patient's rehabilitation are included in the process from physiotherapists, to physicians, to family members to healthcare managers. This design technique has lead to a robot that could deliver treatment at a special stroke rehabilitation centre, or would be equally effective at a rural centre where a centralised specialist can down load suggested exercises and upload data on the persons progress. The technique has also led to an easy and reliable user interface for both patient and therapist.

Keywords:

machine mediated stroke rehabilitation, neuro-rehabilitation, machine, therapy, CVA, cerebral vascular accident, haptic, rehabilitation robot, minimum jerk theory.

Co-ordinator

HARWIN William
University of Reading (UK)
Department of Cybernetics
Whiteknights
Reading
Berks
RG6 6AY
UK
Tel: +44 (0) 118 931 6792
Fax: +44 (0) 118 931 8220
Email: w.s.harwin@reading.ac.uk

Partners

Rehab Robotics (UK) – Mike Topping RehabRobotics@compuserve.com

Royal Berkshire Hospital (UK) – Christine Collin Christine.Collin@rbbh-tr.anglox.nhs.uk

TNO TPD (Netherlands) – Bart Driessen driessen@tpd.tno.nl

Trinity College Dublin (Ireland) – Emma Stokes estokes@tcd.ie

University of Ljubljana (Slovenia) – Marko Munih marko@robo.fe.uni-lj.si

University of Newcastle (UK) – Garth Johnson G.R.Johnson@newcastle.ac.uk

University of Stafford (UK) – Sam Alcock S.A.Alcock@staffs.ac.uk

Virgo (Greece) – George Lutas virgo@otenet.gr

Zenon (Greece) – Kostas Kirklis kkirklis@zenon.gr

Project number:	QLK6-CT-2000-00375
EC contribution:	€524,709
Duration:	36 months
Type:	CA
Starting date:	01/04/2001

The Role Of Home Respiratory Ventilators In The Management Of Chronic Respiratory Failure

Objectives:

The specific objectives are as follows:
Comprehensively to survey custom and practice (including reimbursement policies) in relation to HRV in all States of the European Union
To derive guidelines for HRV use appropriate for patients and their carers both professional and domestic
To create a web site to facilitate HRV use in Europe
To carry out a comparative economic evaluation of the cost of use of HRV in the various environments in which it is adopted. To move towards the establishment of a small but effective HRV Advisory body capable of surveillance of a higher level of use of HRV machines.
To make recommendations in relation to quality control of HRV machines and procedures and the training involved in their safe and effective use

The long-term aim, in addition to reducing health care costs, will be to create an advisory authority with the capacity to monitor usage and if warranted arrange clinical trials. The project will be carried out with the active assistance of the European Respiratory Society

Brief Description:

Chronic respiratory failure (CRF) affects many of the citizens of Europe particularly the aged. The management of these cases is increasingly expensive. In the USA home respiratory ventilators (HRV) are commonly adopted as a technology contributing to less dependency and greater patient empowerment of those with CRF. In Europe this is a practice moderately well developed in a few countries but with wide variations in custom and practice. Against this background, as part of a Concerted Action, it is proposed to carry out a survey in sixteen European States and, on the basis of the information gleaned, to move towards better standardisation of HRV practice. The long-term aim, in addition to reducing health care costs, will be to create an advisory authority with the capacity to monitor usage and if warranted arrange clinical trials. The project will be carried out with the active assistance of the European Respiratory Society

Keywords:

Home ventilators - espiratory failure - Home care

Co-ordinator

Jadwiga Anna WEDZICHA
Queen Mary And Westfield College
Academic Respiratory Medicine,
St Bartholomew's And Royal London School Of Medicine And Dentistry
United Kingdom
e-mail: j.a.wedzicha@qmul.ac.uk

Partners

Richard BUSH
Queen Mary And Westfield College
Academic Respiratory Medicine, Queen Mary And Westfield College
Dominion House, St Bartholomew's Hospital
EC1A 7BE London

Umberto MAUGERI
Fondazione Salvatore Maugeri, Irccs. Istituto Scientifico
Di Gussago
Fondazione S. Maugeri. Istituto Scientifico Di Gussago. Pulmonary Department
Via Pinidolo 23
I-25064 Gussago

Pere SOLEY
Ciutat Sanitària I Universitària De Bellvitge
Ufiss-Respiratòria (Servei De Pneumologia)
C/Feixa Llarga s/n
E-8907 L'hospitalet

Joachim AZCÓN
Universitat De Barcelona
Departament De Ciències Fisiológiques I. Biofisica. Facultat De Medicina
Casanova 143
E-08036 Barcelona

Marie-Claude TESTARD
Association Lyonnaise De Logistique Posthospitalière (ALLP)
93 Boulevard de la Croix Rousse
F-69317 Lyon

Project number:	QLK6-CT-2000-00405
EC contribution:	€633,466
Duration:	36 months
Type:	RS
Starting date:	01/04/2001

The Prerequisites Of The Elderly For Living At Home: Criteria For Dwellings, Surroundings And Facilities

Objectives:

The purpose of the project is to improve the conditions of living at home of the elderly. The project will make an inventory of the state of the art of products and facilities necessary for independent living, identify the wishes and needs of the elderly, identify the criteria for manageability of housing and accessibility of services, and suggest new developments in order to contribute to future independent living.

Brief Description:

In order to reach its objectives the project progresses in three phases. In the first phase, the present situation is clarified, with regards to the regulations and standards of the living conditions of the elderly, the market situation for dwellings, products and services, and the administrative and organisational practices in providing these to the elderly. In this phase also the wishes and needs of the elderly are studied. These surveys are carried out for all participating countries, Denmark, Finland, The Netherlands and Spain, which represent different parts of Europe and different practices. At this phase a co-operation network with the relevant market and public actors is established, for purposes of the latter phases of the project.

In the second phase development challenges are identified. In the practices that were identified in the first phase, improvement needs are identified, taking into account the wishes and needs of the elderly, especially as regards living independently in existing dwellings. Criteria are developed to articulate these improvement challenges.

In the third phase the criteria are tested and developed further in real-world development situations, in co-operation with the members of the network that was identified in the first phase. The cases will be development, renovation, experiment or other projects carried out and financed by organisations working with the elderly housing issues. This project will participate in these cases by consulting in the planning phase and observing and analysing during and after the realisation of the case project. The selection of cases will aim at adequate variety, for example representing a range of building types and methods as well as local community types.

In the final phase the results and conclusions are reported and disseminated among the network and outside it. Specific exploitation plans, proposals and guidelines are made.

Keywords:

Elderly people - independent living - criteria - dwelling - surroundings of dwelling - services - facilities - wishes and needs - existing dwelling stock - user evaluation

Co-ordinator

TTS Institute
P.O.Box 28
FIN-00211 Helsinki, Finland
Phone: +358 9 2904 1200
Fax: +358 9 692 2084
e-mail: pirkko.kasanen@tts.fi

Partners

ProA Solutions, Spain
Francesc Aragall
E-mail: general@proasolutions.com

Danish Building and Urban Research, Denmark
Georg Gottschalk
E-mail: gg@by-og-byg.dk

VTT Building and Transport, Finland
Mervi Lehto
E-mail: mervi.lehto@vtt.fi

Wageningen University and Research Centre,
Department of Agrotechnology and Food
Sciences, Consumer Technology and Product Use, The Netherlands
Bea Steenbekkers
Email: Bea.Steenbekkers@tech.hhs.wau.nl

Project number:	QLK6-CT-2000-00653
EC contribution:	€1,040,516
Duration:	36 months
Type:	RS
Starting date:	01/04/2001

ENABLING TECHNOLOGIES FOR PERSONS WITH DEMENTIA

Objectives:

The objectives of ENABLE are to:
- develop prototypes and provide test series of enabling technological products
- develop methodology for assessment of effects of using the products, including cost/ benefit analysis
- examine whether the products can enable people with dementia living in their own home

Brief Description:

ENABLE concerns development and adaptation of technological products which people with dementia (e.g. Alzheimer's disease) can use to carry out daily tasks which they previously were unable to do, due to the dementing disease. The selected products fall into three categories:
devices to support memory (time orientation, taking medicines etc.)
devices to provide pleasure and comfort (multimedia programmes)
devices to facilitate communication (pre-programmable telephone)

People with dementia will test the products in practice for up to one year, and the effects of using them will be studied through interviews with the users and their carers. Mitigation or solving problems for people with dementia, enhanced self-esteem and well-being as well as costs and benefits at individual and society level will be focused. Ethical issues will also be addressed. Methodology for assessment of effects will be developed as part of the project. The ICIDH-2 model developed by WHO will be used as the analytical framework. The methodology will provide a basis for outlining the protocol for the intervention trial with technological products, and will include a set of methods and tools related to assessment of health condition, functional abilities, personal factors (personality, attitudes, education etc.) and environmental factors (home environment, level of care services). Also, qualities of the products as well as other factors of importance for the observed effects will be examined. Companies will be contacted to promote the commercialisation of products which are found useful, user-friendly and acceptable by the user group.

Keywords:

Dementia - assistive technology - independent living - cost/benefit - memory support - time orientation - locator for lost objects - cooker usage monitor - water level and temperature controller - automatic bedroom light - remote day planner - multimedia programmes

Co-ordinator

Prof Knut ENGEDAL
Norwegian Centre for Dementia Research
P.O Box 64, 3107 Sem, Norway
Tel: +47 33341800
Fax: +47 33332153
E-mail: knut.engedal@nordemens.no
e-mail: pirkko.kasanen@tts.fi

Partners

Dementia Voice
Blackberry Hill Hospital, Fishponds, Bristol BS16 2EW, UK
Tel: +44 (0)1179754819
Fax: +44 (0)1179754819
email: office@dementia-voice.org.uk

Scientific co-ordinator:
Inger Hagen
P.O. Box 7167 Majorstua, 0307 Oslo, Norway
Tel: +47 95199896
Fax: +47 22143760
e-mail: post@ihagen.no

Bath Institute of Medical Engineering
The Wolfson Centre, Royal United Hospital, Combe Park, Bath BA1 3NG, UK
Tel: +44 (0)1225824103
Fax: +44 (0)122582411
e-mail: bime@bath.ac.uk

Work Research Centre
1 Greenlae Drive, Dublin 6W, Ireland
Tel: +353 14927042
Fax: +353 14927046
e-mail: k.cullen@wrc-research.ie

STAKES
National Research and Development Centre for Welfare and Health
P.O. Box 220, FIN-00531 Helsinki, Finland
Tel: +358 939671
Fax: +358 99761307
e-mail: paivi.topo@stakes.fi

Dementia Services Information and Development Centre
St. James's Hospital, James's Street, Dublin 8, Ireland.
Tel: +353 14162050
Fax: +353 14103482
e-mail: dsidc@stjames.ie

Sidsel Bjoerneby
P.O. Box 37, 0101 Oslo, Norway
Tel: + 47 22420940
Mob: + 47 92895862
e-mail: sibjoern@online.no

Project number:	QLK6-CT-2001-00458
EC contribution:	€2,103,366
Duration:	36 months
Type:	RS
Starting date:	01/01/2002

FRIENDLY RESTROOM FOR ELDERLY PEOPLE

Objectives:

Carrying out the necessary research and designing, building and testing several prototypes for a Friendly Rest Room for older persons and people with disabilities. All the elements of the FRR (toilet bowl, grab bars, sink) will adjust to the individual needs of the users, allowing them to gain greater autonomy, independence, dignity, improved self-care and, therefore, experience better quality of life.
The measurable objective is to establish a minimum of 70% of older or disabled persons who, after having used the prototype of FRR, find it highly valuable and use worthy.

Brief Description:

Friendly Rest Rooms where all the components are adjustable to the needs of older or disabled persons with varying degrees of functional impairment will be designed and tested.
The methods and technologies involved to fulfil the above objective will range from contactless smart card technologies with read-write capabilities, voice activation interface, motion control and sensor systems, mechanical engineering and robotic techniques, mathematical modelling, as well as ergonomic research, design for all philosophy and medical and social sciences.
The FRR-Consortium brings together end-user organizations representing a wide range of European countries (more than 25), universities, research and rehabilitation centres needed for the scientific, technical and professional aspects of the project.
The project involves a broad research base needed to define the user-parameters for designing and developing the FRR systems. User involvement in all the stages of the research and problem solving process of the FRR prototype development and testing is ensured, including involvement of secondary users, care takers and rehabilitation professionals. Testing the prototypes will take place with involvement of external industrial companies and end-user organizations in preparing plans for dissemination and exploitation. Databases of new knowledge and know-how will be created and wide exposure of the new perspectives of the FRR systems to improve the independence, dignity, self-care and quality of life of the older persons in the European community will be developed.

Keywords:

Intelligent toilet - fall prevention - caring home - independent aging -
individually automated adjustable facile environment - User driven research - design for all

Co-ordinator

ATI Ltd
3 Diskin Street.
Jerusalem 96440
Israel
Tel: +972-2-5638355.
Fax: +972-2-5667316
E-mail: atiltd@barak-online.net

Partners

ATI Ltd, Assistive Technologies & Innovations. Jerusalem – Israel
Contact: Mr. Amatzia Sprukt. Email: ati@frr-consortium.org

Fortec – Rehabilitation Technology, Institute of Industrial Electronics and Material Science, Vienna University of Technology. - Austria.
Contact: Ass. Prof. Dr. Wolfgang L. Zagler Email : frr@fortec.tuwien.ac.at

Certec – Division of Rehabilitation Engineering, Lund University – Sweden
Contact : Hakan Neveryd Email hakan.neveryd@certec.lth.se

EURAG – European Federation of the Elderly, Graz –Austria
Contact: Mag. Gerhard Teissl E-mail: eurag.europe@aon.at

Faculty of Nursing , University of Athens, – Greece
Contact: Prof. John Mantas. Email: jmantas@cc.uoa.gr

Division of Applied Computing, University of Dundee, Dundee - UK
Contact: Dr. Norman Alm. Email : nalm@computing.dundee.ac.uk

Faculty of Design, Engineering & Production, Delft University, Delft – Netherlands
Contact: Professor Johan f.M. Molenbroek. Email: j.f.m.molenbroek@io.tudelft.nl

Landmark Design for Public, Rotterdam – Netherlands
Contact: Mr. Theo Groothuizen. Email: theo@landmark.nl

SIVA – Centro IRCCS Maria Nascente Fondazione, Milano – Italy
Contact: Mr. Renzo Andrich. Email: renzo.andrich@siva.it

HAGG - Hellenic Association of Gerontology and Geriatrics, Athens – Greece.
Contact: Dr. Panayota Sourtzi, Email: sourtzi@compulink.gr

Project number:	QLK6-CT-2001-00536
EC contribution:	€1,840,276
Duration:	36 months
Type:	RS
Starting date:	01/04/2002

Dynamically Responsive Intervention For Tremor Suppression

Objectives:

Tremor can be a significant problem to sufferers of Parkinson's disease, Multiple Sclerosis (MS), and other neurological problems resulting in movement disorders, when engaged in activities of daily living, requiring particular dexterity such as eating, dressing, and writing. The objective of this project is to create a prototyping and evaluation platform for the future development of wearable ambulatory devices (orthoses) that mechanically suppress upper-limb tremor while preserving, as far as possible, natural movement. The categories of tremor to be addressed are those resulting from progressive neurological disorders, such as Parkinson's disease and multiple sclerosis as well as tremor resulting from cerebellar trauma, and atypical essential tremor.

Brief Description:

The project will apply a holistic approach to the development of practical tremor suppression orthoses prototypes. They will integrate a range of candidate technical solutions for kinematic sensing, control, and actuation. The prototyping platform, once developed, will be used to evaluate and compare the relative efficacy of available sensing, actuating, and control technologies for suppressing tremor. The project will identify design benchmarks for tremor suppression aids that meet the requirements of the widest range of users and severity of disability in its various aetiologies and manifestations. Several of the mechanical tremor suppression techniques to be prototyped and evaluated depart demonstrably from earlier attempts to mechanically damp tremor. The project will draw upon a wide spectrum of technological and clinical disciplines in the areas of materials science, biomechanics and rehabilitation engineering, sensors, feedback and control, neuroscience, and systems engineering. There is to be substantial user involvement in all phases of the project, from requirements analysis through system development, to clinical evaluations. Through a series of user trials, viable technical solutions for practical orthosis construction will be identified, evaluated, and compared with respect to the cardinal product characteristics that meet the requirements of the widest range of users and severity of disability. The differential requirements relating to materials, aesthetics, performance, functionality, and reliability are to be addressed. Once user-validated, the development platform will provide a benchmark system for evolving improved, commercial, versions of the laboratory prototype orthoses developed in the project.

Keywords:

Neurological tremor - Active orthotics - Assistive technology - Rehabilitation robotics.

Co-ordinator

NORMIE Lawrence
GeronTech - The Israeli Center for Assistive Technology and Aging
P.O.B 3489, Jerusalem 91034, Israel
Tel: +972-2-655-7504
Fax: +972-2-5662716
Cell: +972-54817429E-mail: LNORMIE@JDC.ORG.IL
Web: www.jointnet.org.il/gerontech

Partners

ALCOCK Samuel
The Centre for Rehabilitation Robotics
Staffordshire University, College Road, Stoke-on-Trent, Staffordshire, ST4 2XN, UK
Tel. +44 (0) 1782 29 44 77
Fax +44 (0) 1782 29 44 14
Email: s.a.alcock@staffs.ac.uk
Web: www.staffs.ac.uk/schools/art_and_design

LACUESTA Dr. Javier Sánchez
Institute of Biomechanics (IBV)
Parque Tecnolgico de Valencia
P.O.B 199, Avenida Juan de la Cierva 24, Paterna, Valencia 46980, Spain
Tel: +34-96-1366032
Fax: +34-96-1366033
Email: jsanchla@ibv.upv.es
Web: www.ibv.org/

HARWIN Dr. William S.
Dept. of Cybernetics
University of Reading (UREAD)
Reading RG6 6AY, UK
Tel: +44 (0) 118 9316792
Fax: +44 (0) 118 9318220
Email: w.s.harwin@reading.ac.uk
Web: www.cyber.reading.ac.uk/

WILLIAMS Dr. John
Dept. Textile Design & Production,
De Montfort University (DMU)
The Gateway,
Leicester LE1 9BH, UK
Tel: +44-116-2577576
Fax: +44-116-2577551
Email: jtw@dmu.ac.uk
Web: www.cse.dmu.ac.uk/textiles/

SOEDE Dr. Mathjs
Institute for Rehabilitation Research Netherlands (iRv)
Zandbergsweg 111, 6432 CC Hoensbroek, Netherlands
Tel: +31 455 237 500
Fax: +31 455 231 550
Email: msoede@irv.nl
Web: www.irv.nl/

MANTO Dr. Mario
Laboratoire du Mouvement
Hôpital Erasme, Université Libre de Bruxelles
808, Route de Lennik, 1070 Bruxelles, Belgium
Tel. +32-2-555-31-11 (beeper 5049)
Fax. +32-2-555-39-42
Email: mmanto@ulb.ac.be
Web: www.ulb.ac.be/erasme

PONS Dr. José
Instituto de Automatica Industrial (IAI)
(a division of Consejo Superior de Investigaciones Cientificas - CSIC)
Ctra. Campo Real, Km. 0,200, 28500 Arganda del Rey, Madrid, Spain
Tel: +34 91 8711900
Fax: +34 91 8717050
Email: jlpons@iai.csic.es
Web: www.iai.csic.es/

SKAARUP Dr. Steen
Department of Chemistry,
Technical University of Denmark (DTU)
Kemitorvet, Building 207, DK-2800 Kgs. , Lyngby, Denmark
Tel: +45 45 25 24 36
Fax: +45 45 88 31 36
Email: skaarup@kemi.dtu.dk
Web: www.kemi.dtu.dk/

Project number:	QLK6-CT-2001-00118
EC contribution:	€1,588,063
Duration:	36 months
Type:	RS
Starting date:	01/04/2002

Aged People Integration, Mobility, Safety And Quality Of Life Enhancement Through Driving

Objectives:

AGILE aims to develop a new set of training, information, counselling and driving ability assessment and support tools for the elderly, evaluating their full range of physical, cognitive, behavioural and interactional abilities, targeting a fair, inclusive and cost-effective, standardized, pan-European elderly drivers assessment procedure.

Brief Description:

The mean number of elderly drivers on European roads is currently approximately to 12% of all drivers and is estimated to reach 20% of them by 2010. Although older drivers as a group do not have higher accident frequencies, when their accident statistics are corrected for yearly mileage, they seem to be over-represented in specific accident types (i.e. turning left at a T-junction, changing lane, merging or leaving from a parking position). Moreover, 5%-7% of them seem to suffer from undiagnosed dementing diseases, that make them dangerous drivers, unless properly helped. AGILE focuses on two key milestones: developing the required knowledge to establish national policies for delivering certification of fitness to drive to the elderly and, at the same time, helping as much as possible older age groups to continue driving safely, as enhanced mobility leads to increased well-being for them.

This task is approached by establishing a clear identification of elderly problems in relation to various driving tasks and an aetiological classification of their traffic accidents. Then, a proper set of elderly driving ability assessment criteria will be selected (with quantified thresholds) and they will be assessed through a low-cost pre-screening tool (for self-assessment or by family doctors) or (if needed) by an integrated driving assessment system, including various tools, such as a neuropsychological test battery, driving simulator scenarios and on-road tests; as well as an expert tool for decision support. They will be evaluated, towards a reference detailed test drive scheme, through Pilots in three European countries (Belgium, Greece and Sweden) with around 100 elderly per country.

All developed assessment methodologies and tools will be optimised towards their cost-assessment and their viability will be pre-checked. The overall assessment methodology of the project will be proposed as a standardised pan-European elderly drivers assessment scheme.

Last but not least, appropriate training and consultation courses will be developed, to help the elderly overcome their driving problems as well as a methodology to embattle current negative stereotypes about elderly drivers and towards enhancing public awareness and acceptance of elderly driving abilities.

It should be emphasised that the assessment methods targeted are not meant to present a new barrier for elderly drivers, but instead they are expected to simplify and rationalise the currently used assessment process for most of them and help the rest to find appropriate methods and aids to

remain safe drivers. Due compensatory policies will be proposed for the few that may still ultimately need to be excluded from further driving.

Keywords:

elderly drivers - driving ability assessment - neuropsychological test battery - driving simulator - reference driving test - decision expert tool - elderly training courses - elderly traffic safety.

Co-ordinator

Dr. E. Bekiaris
Hellenic Institute of Transport (HIT)
6th km. Charilaou-Thermi Road
P.O. Box 361
570 01 Thermi
Thessaloniki
Greece
Tel: +30-310-498265
Fax: +30-310-498269
E-mail: abek@certh.gr

Partners

Institution/Organisation	Country	Contact Person	E-mail
Hellenic Institute Of Transport (Hit)	GR	Angelos Bekiaris	abek@certh.gr
University Of Sunderland (Amap)	UK	Jeremy Robson	jeremy.robson@sunderland.ac.uk
Belgian Road Safety Institute (Bivv/Cara)	BE	Guido Baten	guido.baten@bivv.be
Autoveiligheid Nv (Av/Goca)	NL	Daniel Vandenberghe	autoveiligheid.geel@skynet.be
Centro Ricerche Fiat (Crf)	IT	Salvatore Demontis	salvatore.demontis@crf.it
University Of Stuttgart (Ustutt/Iat)	DE	Manfred Dangelmaier	manfred.dangelmaier@iao.fhg.de
University Of Dortmund (Ifado)	DE	Willem Verwey	verwey@ifado.de
Psytest	DE	Bruno Fimm	fimm.psytest@t-online.de
Europäische Fahrlehrer Assoziation (Efa)	BE	Georges Van Aerschot	info@e-f-a.com
University Of Basel (Coat-Basel)	CH	Alex Bullinger	key@coat-basel.com
FOERST Gmbh (FOERST)	DE	Reiner Foerst	Info@DrFoerst.de
Swedish National Road And Transport Research Institute (Vti)	SE	Liisa Hakamies	liisa.hakamies-blomqvist@vti.se
National Institute For The Rehabilitation Of The Handicapped (Nirh)	GR	Enangelia Maragoudaki	iniohos@otenet.gr

Project number:	QLK6-CT-2002-02399
EC contribution:	€1,212,534
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

Life quality of senior citizens in relation to mobility conditions

Objectives:

The general objectives of our project are: To explain and describe the present mobility situation of senior citizens from their own perspective; To motivate action from the side of the authorities and other relevant groups in society who are, or feel, responsible in this area, among others by making discrepancies in problem identification transparent; To provide guidance for setting up and implementation of policies towards "keeping the elderly mobile".

Brief description:

European policy regarding the elderly aims at maintaining their mobility. This is a central element of integration in society. Senior citizens want to stay autonomous and independent as far as possible. Without the possibility to maintain mobility, senior citizens cannot lead an independent life, with many other problems as a consequence, such as isolation, health problems, etc. The focus of this project lies on the present mobility situation, the problems, needs and wishes of different groups of senior citizens compared to the experts' (i.e. sociologists, psychologists, traffic experts, experts on gerontology, politicians, policy makers, experts of other related EU projects) points of view.
The research work starts with a state of the art report, which functions as a frame of reference for all the research tools needed in the project. The comparison of the user-perspective with the expert assessment of situation and problems will be elaborated on with the help of qualitative and quantitative survey instruments combined. The collection of qualitative materials will be validated with the help of standardised interviews. The resulting picture will consist of a description of problems, in combination with their distribution and weight in society. The third major tool will be a heuristic one; multidisciplinary discussions in the frame of four workshops, in which industry, policy makers and politicians will discuss the results of this project together with senior citizens representatives and the consortium. In the centre of the discussions the following questions will be raised: How can experts adjust their knowledge of facts and their view on the user situation to the users' own perspective? How can the users' perspectives be translated into practical measures and incentives? How can perspectives be changed with the help of communication? Contradictions between senior citizens' and experts' views on things will be one motor of the work-process in this project. Eliminating barriers for the implementation of sensible solutions will be very much related to this contradiction, and to the question of how to improve the situation in this respect in the future. The final product will be a model which includes a list of problem types and respective solution types for mobility and transport problems of senior citizens, the adequate methodology for dealing with this including dissemination and lobbying activities, in the sense of communication concepts like the marketing model.

Keywords:

Senior citizens - mobility - user needs - enhanced life-quality - multidisciplinary approaches - prevention of accidents - improved living-conditions - public safety - heuristic methods - qualitative survey - focus groups - narrative interviews - standardised interviews - user-perspective

Co-ordinator

Ralf RISSER
Factum OHG, Dr. Ralf Risser
Danhausergasse 6/4, 1040 Wien, Austria
Tel: (43 1) 504 15 46
Fax: (43 1) 504 15 48
e-mail: ralf.risser@factum.at

Partners

Institute of Sociology, University of Vienna, Austria

Institute for Psychogerontology, University of Erlangen – Nuremberg, Germany

University College Cork, National University of Ireland, Cork, Ireland

Dipartimento di Progettazione e Scienze dell' Architettura, Universitá degli Studi Roma Tre, Italy

Department of Technology and Society, Lund University, Sweden

Cracow University of Technology, Department of Architecture, Poland

Centrum dopravního výzkumu (Transport Research Centre), Czech Republic

University of Valencia, Dept. Metodología de las Ciencias del Comportamiento, Spain

Association of Absolvents of Cracow Politechnic, Seniors Club, Poland

Asociacion de amas de casa, Spain

Associazione Abitare e Anziani, Italy

Pro Skåne, Sweden

Stadtseniorenrat der Stadt Nürnberg, Germany

Project number:	QLK6-CT-2002-02442
EC contribution:	€2,344,569
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

Improving implant fixation by immediate loading

Topic:

Improvement of the fixation (i.e. osseointegration) of permucosal and percutaneous implants through controlled immediate loading

Objectives:

The project will investigate the mechanical aspects of osseointegration of metallic implants used for permucosal and percutaneous fixation of prostheses.
An oral rehabilitation protocol will be developed to control the mechanical conditions to optimise the speed and quality of osseointegration, thereby maximizing the success rate of implant-retained prostheses while minimizing the rehabilitation time for patients.
The oral rehabilitation protocol, combined with a "smart prosthesis", should lead to a rehabilitation period that is significantly reduced when compared to control patients. The implant failure rate in patients using the smart prosthesis should also be significantly reduced when compared to controls.

Brief description:

A series of animal experiments will be set up to study the mechanical stimulation of bone response around implants. In these animal experiments, screw-shaped implants will be installed in the mandible of mini pigs (after extraction of the teeth) and in the distal tibia of guinea pigs. Well-defined mechanical stimuli will be applied and the bone response will be monitored. For the follow-up of the bone remodelling around the implants, several techniques will be used: micro focus computed tomography (micro-CT), conventional histology, histomorphometry and vibration analysis.
With micro-CT, a fully three-dimensional characterization of the bone tissue around the implant can be obtained. By applying vibration analysis as a second follow-up technique at the same time, the results of vibration analysis can be interpreted by comparing them with micro-CT. Mechanical devices will be developed to apply a well-defined loading to the implant. Computer models will be developed to investigate the loading at the implant - bone interfaces and to correlate the results with the observed bone remodelling. In addition to the more conventional finite element models where the trabecular bone is modelled as a continuum with site dependent mechanical properties, high-resolution finite element models of the trabecular architecture will be developed as well. For this purpose, micro CT scans of mini pigs mandibles will be taken post mortem, prior to histological preparation of the samples.
Micro-computer tomography based finite element models will also be developed to model and simulate the bone reaction in the experimental guinea-pig model. Here the models will be based on micro-CT scans obtained in vivo and post mortem.
A limited pilot study on patients will be integrated in an advanced stage of the project. The exact protocol for this will be subject to evaluation of the animal experiments. For use during the pilot study, a "smart prosthesis" will be developed.

Keywords:

implant fixation - mechanical stimulation - osseointegration - finite element modelling - FEM - micro focus computed tomography - micro-CT - μCT - smart prosthesis - custom suprastructure - rapid prototyping - miniature sensors

Co-ordinator

Legal adress:
Katholieke Universiteit Leuven Research & Development (KULRD)
Groot Begijnhof
Benedenstraat 59
3000 Leuven,
BELGIUM
tel. (32-16)326508
fax (32-16)326515
e-mail: Miet.Lenaers@LRD.kuleuven.ac.be

Partners

Scientific contact person:
Prof. Dr. Ignace Naert
School of Dentistry, Oral Pathology and Maxillofacial Surgery, Department of Prosthetic Dentistry
Kapucijnenvoer 33
3000 Leuven
BELGIUM
phone (32-16)332458,
fax (32-16)332309,
E-mail Ignace.Naert@uz.kuleuven.ac.be

Stichting Katholieke Universiteit, University Medical Centre Nijmegen, (UMCN), NL

Royal Veterinary College (RVC)

University of Wales College of Medicine (UWCM), UK

Materialise N.V. (Materialise)

Astra Tech AB (ASTRA)

MSC.Software GmbH (MSC)

Project number:	QLK6-CT-2002-02576
EC contribution:	€1,870,588
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

Research, development and demonstration of a novel non-invasive continence management system

Objectives:

Review the existing NICMS and develop it into a robust and acceptable device. Review currently available female urinals and design and produce a device that is easy for disabled people to use in conjunction with the NICMS. To design appropriate day and night time pad interfaces for use with the liquid-handling system. To provide Europe wide critical testing, to produce an acceptable and reliable continence management system.

Brief description:

The work for this proposal is divided into four phases. The exploratory phase looks at a number of features that have been identified in the previous work on the liquid handling system as needing development. These features make the device unreliable, heavy, and noisy or are not easy and economical to manufacture. These features will be investigated and solutions will be proposed. Investigations will also proceed to provide the information necessary to successfully develop three user/ device interfaces.
The development phase will use information gained during the exploratory phase to develop the different elements of the non-invasive continence management system. This will involve extensive redesign of the filters, noise reduction and ergonomic improvement to the liquid handling system. The user/ device interfaces will also be developed during this phase.
During the Prototyping phase, the different elements of the non-invasive continence management system will be produced using the information gathered during the two previous phases. This phase extends into the demonstration period because feedback from the testers will be used to improve the device during the course of the project. It is anticipated that the test centres will have many recommendations for improvements to the all parts of the system when they have received feedback from their test subjects. During the demonstration phase, the 20 liquid handling systems will be distributed amongst the testing partners. The devices will be tested at first on healthy volunteers before proceeding with patient testing. The demonstration non-invasive continence management systems will be clinically evaluated to assess the strengths and weaknesses of the designs. Adjustments and improvements will be made during the course of this phase.

Keywords:

Continence management - non-invasive - incontinence.

Co-ordinator

Eleanor TINNION
Brunel Institute for Bioengineering
Brunel University
Kingston Lane
Uxbridge
UB8 3PH
United Kingdom
Tel. +44 (1895) 271206
Fax. +44 (1895) 274608
eleanor.tinnion@brunel.ac.uk

Partners

Teresa Waller
Brunel Enterprise Centre
Brunel University,
Uxbridge, UB8 3PH
United Kingdom
Tel: +44-1895 203099
Fax: +44-1895 274000
e-mail: teresa.waller@brunel.ac.uk

Ian Sutherland
Brunel Institute for Bioengineering
Brunel University
Uxbridge, UB8 3PH
United Kingdom
Tel: +44 (1895) 274608
Fax: +44 (1895) 271206
e-mail: ian.sutherland@brunel.ac.uk

Alan Wenman
Medical Device Management Ltd
57 The Lakes
Braintree CM7 3RU
United Kingdom
Tel: +44 (01376) 342304
Fax: +44 (01376) 342303
e-mail: alanw@medicaldevicemanagement.com

John White
Medical Device Management Ltd
57 The Lakes
Braintree CM7 3RU
United Kingdom
Tel: +44 (01376) 342304
Fax: +44 (01376) 342303
e-mail: john@medicaldevicemanagement.com

Ilse Vickers
University College Shropshire House
11-20 Capper Street
London WC1E 6JA
United Kingdom
Tel: +44 20 7679 6488
Fax: +44 20 7679 6488
e-mail: ilse.vickers@ucl.ac.uk

Alan Cottenden
University College London
Medical Physics and Bioengineering
Department of Medicine
Archway Campus, Clerkenwell Building
Highgate Hill
London, N19 5LW
United Kingdom
Tel: +4420 7288 3019
Fax: +44 207 288 5607
e-mail: alanc@medphys.ucl.ac.uk

Rob Eersel
Stichting Kwaliteit en Bruikbaarheidonderzoek Hulpmiddelen (KBOH)
Quality and usability research of technical aids
PO Box 2072 Houttuinlaan 16a
WOERDEN 3440 DB
Netherlands
Tel: +31 (348) –433257
Fax: +31348-436700
e-mail: R.vaneersel@KBOH.nl

Patricia Staats
Stichting Kwaliteit en Bruikbaarheidonderzoek Hulpmiddelen (KBOH)
Quality and usability research of technical aids
PO Box 2072 Houttuinlaan 16a
WOERDEN 3440 DB
Netherlands
Tel: +31 (348) –433257
Fax: +31348-436705
e-mail: p.staats@kboh.nl

Tadeusz Robak
Medical University of Lodz
Al. Koscuiszki 4
Lodz 90-141
Poland
Tel: +48426334451
Fax: +48426334451
e-mail: wdyniak@rkt.am.lodz.pl

Ewa Ratajczyk-Pakalska
Medical University of Lodz, Department of Family Medicine
Narutowicza Str 96
Lodz 90-153
Poland
Tel: +48 42 678 52 57
Fax: +48 42 678 72 10
e-mail: family@csk.am.lodz.pl

Przemyslaw Kardas
Medical University of Lodz, Department of Family Medicine
Narutowicza Str 96
Lodz 90-153
Poland
Tel: +48 42 678 52 57
Fax: +48 42 678 72 10
e-mail: pkardas@csk.am.lodz.pl

Nethania Reznick
Loewenstein Hospital - Rehabilitation Centre, Unit for the Study of Disability
PO Box 3
278 Achuza Street
Raanana 4300
Israel
Tel: +972-9-7709929
Fax: +972-9-909128

Shoshi Shenhav
Loewenstein Hospital - Rehabilitation Centre, Unit for the Study of Disability
PO Box 3
278 Achuza Street
Raanana 4300
Israel
Tel: +972-9-7709929
Fax: +972-9-7709906
e-mail: shoshis@clalit.org.il

Reuben Eldar
Loewenstein Hospital - Rehabilitation Centre, Unit for the Study of Disability
PO Box 3
278 Achuza Street
Raanana 4300
Israel
Tel: +972-9-7709929
Fax: +972 (-9) –7709154
e-mail: eldrub@netvision.net.il

Hakan Ceder
The Swedish Handicap Institute, Testing Department
PO Box 510
Sorferargatan 23
16215 Vallingby
Sweden
Tel: +46-8-739-2152
Fax: +46-8-620-1700
e-mail: hakan.ceder@hi.se

Agneta Zaar
The Swedish Handicap Institute, Testing Department
PO Box 510
Sorferargatan 23
162 15 Vallingby
Sweden
Tel: +46 87392152
Fax: +46 8 620 18 67
e-mail: agneta.zaar@hi.se

Hakan Leander
The Swedish Handicap Institute, Testing Department
PO Box 510
Sorferargatan 23
162 15 Vallingby
Sweden
Tel: +46 87392152
Fax: +46 8 620 18 67
e-mail: hakan.leander@hi.se

Antoine Durrleman
Assistance Publique - Hôpitaux de Paris
Geriatric Department - Broca hospital
54-56, Rue Pascal
75013 Paris
France
Tel: (33-1) 44 08 36 15
Tel: (33-1) 44 08 30 00
e-mail: gilbert.fieschi@brc.ap-hop-paris.fr

Gilbert Fieschi
Assistance Publique - Hôpitaux de Paris
Geriatric Department - Broca hospital
54-56, Rue Pascal
75013 Paris
France
Tel: (33-1) 44 08 36 15
Fax: (33-1) 44 08 30 00
e-mail: gilbert.fieschi@brc.ap-hop-paris.fr

Anne-Sophie Riguad
Assistance Publique - Hôpitaux de Paris
Geriatric Department - Broca hospital
54-56, Rue Pascal
75013 Paris
France
Tel: (33-1) 44 08 36 18
Fax: (33-1) 44 08 36 36
e-mail: anne-sophie.rigaud@brc.ap-hop-paris.fr

Peter A. Townsend
Dept of Design & Technology,
Rutland Hall, Loughborough University
Loughborough LE11 3TU
United Kingdom
Tel: (44-1509) 223953
Fax: (44-1509) 222450
e-mail: P.A.Townsend@lboro.ac.uk

Deana McDonagh
Dept of Design & Technology,
Rutland Hall, Loughborough University
Loughborough LE11 3TU
United Kingdom
Tel: (44-1509) 223999
Fax: (44-1509) 222665
e-mail: D.C.McDonagh@lboro.ac.uk

Jo Derbyshire
Dexterity Research Limited
Rutland Hall, Loughbrough Univeristy
Loughborough LE11 3TU
United Kingdom
Tel: (44-509) 223 966
Fax: (44-509) 223 857

George Torrens
Dexterity Research Limited
Rutland Hall, Loughbrough Univeristy
Loughborough LE11 3TU
United Kingdom
Tel:+441509223999
Fax: +441509222664
e-mail: G.E.Torrens@lboro.ac.uk

Project number:	QLK6-CT-2002-02674
EC contribution:	€935,631
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

Patient education in Parkinson's disease

Objectives:

A patient education and treatment programme for people with Parkinson's disease and their carers will be developed and evaluated for effectiveness. The newly developed programme will provide education materials which can be used throughout the different European countries taking into account the specific cultural backgrounds and local health care conditions.

Brief description:

The patient education programme is aiming at the empowerment of patients suffering from Parkinson's disease as well as their carers. It is objected to the major goals of (a) transmission of knowledge, (b) teaching and training of instrumental skills and (c) integration of knowledge and self-management of the chronic disease.
Throughout the life of the project, research and development work will pass 2 major stages:
The basic development stage.
The application and evaluation stage.
During the basic development stage, the overall objective is the development of the 7 key components of the patient education programme:
Information
Self-monitoring,
Health empowerment
Stress-management
Anxiety and depression
Assertiveness
Social support.

Within the application and evaluation stage the major objective is to apply the innovative patient education programme in each of the participating European countries and to evaluate the feasibility using a formative evaluation process.

As a final result of the project, an innovative education manual will be provided in 7 European languages. It will allow flexible application taking into account cultural and regional differences, and it will improve quality of life in patients and carers with a chronic neurological disease.

Keywords:

Quality of life - Parkinson's disease - patient education - psychological treatment - psychosocial support.

Co-ordinator:

Prof. Heiner Ellgring
Julius-Maximilians University of Würzburg
Department of Psychology - Interventionpsychology
Marcusstraße 9-11
97070 Würzburg, GERMANY
Tel.: (49-931) 31 2031
Fax: (49-931) 888 7059
e-mail: ellgring@psychologie.uni-wuerzburg.de

Partners:

Fundacción de Neurocirurgía Funcional
Barcelona, SPAIN
Dr. Ángels Baéys Rusinol
e-mail: uparkinson_teknon@comb.es

Finish Parkinson's Disease Association Rehabilitation Centre Suvituuli
Turku, FINLAND
Bi Virta
e-mail: bi.virta@parkinson.fi

University of Bologna
Department of Psychology
Bologna, ITALY
Prof. Pio Enrico Ricci Bitti
e-mail: riccibit@psibo.unibo.it

Leiden University Medical Centre
Department of Neurology and Neuropsychology
Leiden, NETHERLANDS
Noëlle Spliethoff
e-mail: N.G.A.Spliethoff-Kamminga@lumc.nl

University of Portsmouth
Department of Psychology
Portsmouth, United Kingdom
Prof. Marcia Smith Pasqualini
e-mail: marcia.smith@port.ac.uk

Tartu Parkinson's Disease Society
Tartu, ESTONIA
Ass. Prof. Pille Taba
e-mail: Pille.Taba@kliinikum.ee

Project number:	QLK6-CT-2002-02705
EC contribution:	€1,950,047
Duration:	48 months
Type:	TN
Starting date:	01/01/2003

Prevention of Falls Network Europe

Objectives:

PROFANE aims at improving Quality of Life of the ageing population by focussing on a major cause of disability and distress: falls. The aim is to bring together workers from around Europe to focus on a series of tasks required to develop multi-factorial prevention programmes aimed at reducing the incidence of falls and fractures amongst elderly people.

Expected results:
A coherent multidisciplinary multinational network committed to conducting future research and implementing best evidence with the objective of reducing injurious falls amongst elderly people. A series of "state of the art" statements, consensus statements and best evidence management protocols. In vivo gait and balance monitoring techniques/ technology. Agreement on a series of psychological measures.

Potential applications:
Best evidence management protocols to improve care and interventions. Self-help materials for older people.

Brief description:
PROFANE is a thematic network with 25 members focusing on the issue of prevention of falls and improvement of postural stability amongst elderly people. It comprises 4 work-packages taxonomy and co-ordination of trials clinical assessment and management assessment of balance function 4 psychological aspects of falling.
The work of PROFANE is practical. It will advance the science but it will also aim to change health care procedures to introduce best practice widely across Europe. Each work package will undertake a series of workshops bringing together experts and observers around specific topics. The network will conduct two network meetings to synthesise work from packages and mount a website to disseminate information.

Problem:

Falls are a common problem for older people, and cause considerable distress morbidity and mortality. This network brings together clinicians, researchers and technologists to work together towards the goal of reducing the incidence and impact of falls.

Keywords:

Falls - Fractures - Prevention - Postural Stability - Old Age - Balance - Psychology - Randomised Trials

Co-ordinator

Professor Chris Todd
School of Nursing, Midwifery & Health Visiting
University of Manchester
Coupland III Building
Oxford Road
Manchester
M13 9PL
United Kingdom
Tel: (44) - 161 275-5336
Fax: (44) - 161 275-5335
Email: chris.todd@man.ac.uk
Website http://www.man.ac.uk

Partners

Dr Clemens Becker
Geriatric Centre
University of Ulm
Zollernring 26
89134 Ulm
Germany
Tel: (49) -731 187-191
(49) -731 187-412
Fax: (49) -731 187-492
Email: clemens.becker@medizin.uni-ulm.de
Website http://www.uni-ulm.de

Professor Sallie Lamb
School of Health and Social Sciences
Coventry University
Priority Street
Coventry
CV1 5FB
United Kingdom
Tel: (44)- 2476 887 708 (direct)
(44)- 2476 888 554 (sec)
Fax: (44)- 2476 838 020
Email: s.lamb@coventry.ac.uk
Website http://www.coventry.ac.uk

Dr Jacqueline Close
Department of Health Care of the Elderly
King's College Hospital
East Dulwich Grove
London
SE22 8PT
United Kingdom
Tel: (44) -2073 466 073
Fax: (44) -2073 466 476
Email: jacqueline.close@kcl.ac.uk
Website http://www.kcl.ac.uk

Dr Wiebren Zijlstra
Department:of Human Movement Sciences
University of Groningen
A. Deusinglaan 1
P.O. Box 196
9700 AD Groningen
The Netherlands
Tel: (31) -50 363 78 68
Fax: (31) -50 363 31 50
Email: w.zijlstra@med.rug.nl
Website http://www.rug.nl/rug/mapuk.html

Professor Lucy Yardley
Department of Psychology
University of Southampton
Highfield
Southampton
SO17 1BJ
United Kingdom
Tel: (44) -23 8059 4581
Fax: (44) -23 8059 4597
Email: L.Yardley@soton.ac.uk
Website http://www.soton.ac.

Area 6.5: Health and social care services to older people

CARE SERVICES

Project number:	QLK6-CT-1999-02035
EC contribution:	€898,532
Duration:	36 months
Type:	RS
Starting date:	01/03/2000

Implementation Of Patient Involvement Instruments To Improve General Practice Care For Older People In Europe

Objectives:

This project aims:
- To document and compare internationally which are barriers for patient involvement.
- To develop and select programmes that implement patient involvement instruments.
- To assess and compare internationally programmes that implement patient involvement instruments.
- To prepare a toolkit of materials to implement the patient involvement instruments.

Brief Description:

Active involvement of patients requires tools, such as instruments to measure patient views of care or education of care providers. Effective implementation programmes are needed to implement these tools in general practice in Europe. Workpackage 1 (Barriers Study) identifies barriers for patient involvement in general practice, using semi-structured interviews with purposeful samples of 20 general practitioners of 30 patients in each of the 11 participating countries. Workpackage 2 (Programme Development) develops five specific tools for patient involvement, based on the results of workpackage 1, and tests their feasibility in small scale pilotstudies in each of the countries. Workpackage 3 (International Evaluation) evaluates the implementation of selected tools with respect to acceptability, costs and behaviour change, using stratified samples of 12 general practitioners in each country. This international comparative study will show the relevance of specific barriers and facilitators for implementation in different countries. Workpackage 4 (Toolkit development) prepares valid and attractive materials for the implementation of patient involvement in general practice care for older people.

Key words:

General practice - quality improvement - patient involvement

Co-ordinator

Prof. Dr. R. Grol
University Medical Centre Nijmegen, Centre for Quality of Care Research,
P.O. Box 9101,
6500 HB Nijmegen,
The Netherlands
Telephone: ++ 31 24 3615305
Telefax: ++ 31 24 3650166
e-mail: R.Grol@hsv.kun.nl

Partners

Dr. R. Baker
Clinical Governance Research & Development Unit
e-mail: rb14@leicester.ac.uk

Dr. med./Dipl. Soz. J. Szecsenyi
Institute for Applied Quality Improvement and Research on Health Care
e-mail: j.szecsenyi@aqua-institut.de

Prof.dr. F. Olesen
Research Unit for General Practice, University of Aarhus
e-mail: FO@alm.au.dk

Prof.dr. P. Ferreira
Centro de Estudos e investigação em saúde,
e-mail: Pedrof@sonata.fe.uc.pt

Dr. S. Reis
Technion, Israel Institute of Technology, the Bruce Rapaport Faculty of Medicine
e-mail: reis@netvision.net.il

Prof.dr. P. van Royen
Vlaams Huisarts Institute
e-mail: paul.vanroyen@ua.ac.be

Dr. Janko Kersnik
Slovene Family Medicine Society
e-mail: janko.kersnik@s5.net

Dr. B. Künzi
SGAM Research Group
e-mail: beat.kuenzi@swisspep.ch

Dr. E. Rebhandl
Austrian Society of General Practice OGAM
e-mail: rebhandl@gmx.net

Prof. M. Doumenc
Agence Nationale d'accréditation et d'évaluation en santé
e-mail: m.doumenc@anaes.fr

Prof. J. Heyrman
University of Leuven
e-mail: jan.heyrman@med.kuleuven.ac.be

Prof. A. Hutchinson
University of Sheffield
e-mail: Allen.Hutchinson@Sheffield.ac.uk

Dr. Hilary Hearnshaw
University of Warwick
e-mail: Hilary.Hearnshaw@Warwick.ac.uk

Project number:	QLK6-CT-1999-02070
EC contribution:	€863,038
Duration:	36 months
Type:	RS
Starting date:	15/05/2000

A European Project To Devise A Hospital Admission Case-Mix System For Elderly Patients, Plus A Standardised Method Of Recording Hospital Outcome

Abstract

Many older people entering hospital have multiple medical problems and disabilities. They often require multi-disciplinary assessment by a range of health workers, including doctors, nurses, and other therapists. In addition, workers in the fields of social care and housing may need to be involved (1) in the assessment process and (2) in supporting care arrangements on hospital discharge. Inadequate assessment, particularly when it occurs early in the hospital admission, may have important long-term implications, both for individuals and for health and care services. For example, treatable conditions may be overlooked, and older people may lose their independence unnecessarily.

An important way to improve quality and equity of medical care in older people, is to carry out European-wide research, comparing the experience of different countries with different medical and social systems. For older people entering hospital, comparative research of this type needs to examine differences in:
(a) the OUTCOME of hospital admissions, while taking into account
(b) differences in CASEMIX*.
European-wide comparative research needs standardised systems of measurement. Unfortunately, no existing casemix or outcome system is designed specifically for use among large numbers of older patients early in the hospital admission.

Objectives

The ACMEPLUS Project therefore aims to produce a brief, European-standardised system for measuring case-mix and outcome of people aged 65 years and over, who have recently been admitted to non-surgical hospital specialties (principally General Medicine, Medicine for the Elderly [geriatric medicine] and Rehabilitation).

Details of the ACMEplus project

The three-year project will use two Phases of data collection, with at least 200 patients being studied in each Phase by each of the eight participating centres. Over 3200 patients aged 65 years and over will have been evaluated by the end of the project.

PHASE I will use a wide range of potential case-mix and outcome variables chosen as the result of
(a) a Systematic Review of the literature,
(b) previous work of two of the partners on casemix assessment plus a new (predominantly graphical) method of recording outcome,
(c) an initial Consensus Conference of all partners

* *Casemix refers to patient-based, disease-based and other factors that can affect outcome, including the type and severity of physical/mental problems, and new or pre-existing disabilities. Casemix classification systems attempt to divide groups of patients into different sub-groups which are homogeneous in the sense that they have similar outcomes or require similar amounts of resources.*

PHASE II will collect data using a subset of variables from Phase I. This subset of variables, which will be known as the ACMEplus instrument, will be selected by a combination of
(a) a clinical consensus involving all the partners, which will be strongly influenced by
(b) a series of statistical analyses of Phase 1 data*
Phase II will also establish the acceptability, feasibility, reliability and validity of the ACMEplus instrument translated into the languages of the participating centres.

Relationship between ACMEplus and other European projects

Many of the partners in the ACMEplus project have previously worked together in the EASYcare project which was also financed by the European Union. EASYcare is concerned with measuring functional status and quality of life in primary care whereas ACMEplus focuses on casemix and outcome in secondary care. The two instruments will therefore be complementary to one another, forming part of a growing family of instruments designed to look at health, social, and functional status of older Europeans both in the community and in hospital settings.

Co-ordinator

Professor D Gwyn Seymour,
Medicine for the Elderly, University of Aberdeen,
Foresterhill Health Centre, Westburn Road,
Aberdeen, AB25 2AY, Scotland, UK.
Tel: (+44-1224) 553990
Fax: (+44-1224) 840683
e-mail: d.g.seymour@abdn.ac.uk

Partners:

Mrs Susan E Campbell, University of Aberdeen: Co-ordinating office at Woodend Hospital, Aberdeen, UK. Email: acmeplus@abdn.ac.uk

Dr Peter Lawson, Sheffield Institute for Studies on Ageing University of Sheffield, UK.
Email: Peter.lawson@sth.nhs.uk

Dr Mireia Espallargues, Catalan Agency For Health Technology Assessment, Barcelona, Spain.
Email: mespa@olimpia.scs.es

Dr Giovanni Lamura, Istituto Nazionale di Ricovero e Cura per Anziani, Ancona, Italy.
Email: g.lamura@inrca.it

Dr Tapio Rajala, Health Office, Turku, Finland. Email: tapio.rajala@turku.fi

Dr Elizabeth Metheneos, Sextant Group, National School for Public Health, Athens, Greece Email: sextant@acropolis.gr

Dr Barbara Polityńska, Medical Academy of Bialystok, Poland.
Email: bpolitynska@poczta.wp.pl

Dr Edmund Dunstan, Department of Geriatric Medicine, University Hospital Birmingham NHS Trust, UK. Email: edmund.dunstan@uhb.nhs.uk

---

* *A range of statistical techniques will be used, but previous experience has indicated that a mixture of regression techniques and recursive partitioning will be the most efficient method of obtaining case-mix groups which will be homogeneous in respect to various measures of hospital outcome.*

Project number:	QLK6-CT-1999-02182
EC contribution:	€1,288,350
Duration:	36 months
Type:	RS
Starting date:	01/03/2000

OLD AGE AND AUTONOMY – THE ROLE OF SERVICE SYSTEMS AND INTERGENERATIONAL FAMILY SOLIDARITY

Objectives:

The main objective is to enhance cross-cultural knowledge about the interplay between personal, familial and social service factors as impacting on quality of life of aging European population. Specifically, analyzing the evaluated and used mixes of informal and formal support by elders and family carers, and the way different family cultures and welfare systems promote quality of life and delay dependency in old age.

Brief Description:

The research focuses on 3 prominent dimensions that impact healthy aging and coping of family caregivers: mixes of informal (family) and formal (service systems) care, family norms and intergenerational transfers and family coping with beginning dependency of an older member. A cross-cultural approach is used, comparing five nations and different welfare regimes – more traditional societies like Spain and Israel, to more modern countries like UK, Norway and Germany. The study adopts a cross-national, cross-generational perspective using a multi-method design of quantitative and qualitative methods, and cross-sectional and a longitudinal approach. Survey (cross-sectional): The baseline data collection was performed through standardised survey in all 5 countries. Measures: A basic research protocol (in English), was translated and adopted to target languages, including: Quality of life (WHOQOL-Bref); Intergenerational solidarity and ambivalence measures; Values and preferences; Coping; Use of and satisfaction with formal health and welfare systems; Background and health variables. Representative samples were selected based on age groups (N = 800 ages 25-74 and 400 aged 75+, totaling 1,200 in each country) and interviewed at their homes. Interview and Panel (longitudinal): The in-depth interviews are partly geared to validate the survey data, and partly to uncover interpersonal obligations and emotions focusing on caregiving demands, dependence, coping and quality of life. 10 dyads in each country were selected from the 75+ and their child caregivers They represent the group of 'elders at risk' and were interviewed by in-depth measures using an interview guide that was pretested, translated and retranslated into the target languages.

The study results were presented in many national and international conferences as well as discussed with policy makers and service providers in the five countries. Two monographs were published: The first – Daatland, S.O. & Herlofson, K. (Eds.) (2001), Ageing, intergenerational relations, care systems and quality of life – an introduction to the Oasis project. Norway: Norwegian Social Research, Rapport 14/01. This monograph outlines the theoretical bases of the study. The second – Lowenstein, A., Katz, R., Mehlhausen-Hassoen, D. & Prilutzky, D. (2002), The research instruments in the Oasis project. Haifa, Israel: The Center for Research and Study of Aging, University of Haifa. This monograph relates to the quantitative measures used in the study. Additionally, two chapters written by team members will be published next year in the book: Bengtson, V.L. and Lowenstein, A. (Eds.), Families and global ageing. New York: Aldine de Gruyther.

Meetings were also conducted with international experts in quantitative and qualitative research to discuss the findings, funded by Accompanied Measures for Oasis.

Website
More information about the Oasis project can be found at the project's homepage: http://oasis.haifa.ac.il

Keywords:

Quality of life of elders and family caregivers; mixes of health and welfare service use; intergenerational family solidarity; conflict and ambivalence in family relations;
Elders at risk of dependency; promotion of autonomy in old age

Co-ordinator

Dr. Ariela Lowenstein, Head (Co-ordinator)
Center for Research and Study of Aging
Faculty of Welfare and Health Studies
The University of Haifa
Haifa, Israel 31905
Fax: 972-4-8240573
Tel.: 972-4-8240815
e-mail: ariela@research.haifa.ac.il

Partners

Israel
Center for Research and Study of Aging, The University of Haifa,
Prof. Ruth Katz, Principal Researcher
Service Organization – ESHEL (The Organization for Planning and Development of Services for the Aged in Israel)
Dr. Yitzchak Brick, Principal Researcher
Mr. Dror Rotem
FAX: 972 – 4 – 8240 573

Germany
German Centre of Gerontology, Berlin -
Dr. Clemens Tesch-Roemer, Principal Researcher
Dr. Hans-Joachim von Kondratowitz
FAX: +49 30 78 54 350

Norway
Norwegian Social Research, Oslo –
Dr. Svein Olav Daatland, Principal Researcher
FAX: + 47 22 54 12 01

Spain
Dept. of Sociology, University of the Basque Country, Bilbao –
Prof. Maria-Teresa Bazo, Principal Researcher
FAX: + 34 94 464 9550

United Kingdom,
University of Keele
Prof. Judith Phillips, Principal Researcher
FAX: + 44 1782 584 069

Project number:	QLK6-CT-1999-02205
EC contribution:	€602,212
Duration:	36 months
Type:	RS
Starting date:	01/02/2000

Disability Prevention In The Older Population : Use Of Information Technology For Health Risk Appraisal And Prevention Of Functional Decline

Introduction:

More effective preventive care for older persons might be achieved by multidimensional evaluation for potentially modifiable risk factors of disability and seeking to minimise their adverse impact. In collaboration with U.S. university colleagues, the Bern (Switzerland) geriatrics group has developed an adapted version of Health Risk Appraisal for the Elderly (HRA-E). The HRA-E products to date include: a self-administered questionnaire for comprehensive risk assessment (English and German language), software for processing computer- generated reports to older persons and to their health care providers, and favourable findings from field tests in older subjects.
The six country consortium proposes to adapt the HRA-E for the use in Europe, and to conduct three randomised controlled field trials in Hamburg with over 60-years old persons, in London and Switzerland with over 65-years old persons to test the effects of the HRA-E on health behaviours and process of care. The mid-to-long term goal is the prevention of disability. In collaboration with the partners from other European countries (Denmark, Netherlands, Austria) the results will be disseminated and efforts will be made to promote translations into other languages and to integrate the system into European primary care systems.

Objectives:

The goal of the project is to maintain function and in the mid-to-long term prevent disability and minimise unnecessary service utilisation among persons 65 years of age and older. (6.5.) Health care services: the development and testing of a new intervention that could be integrated into primary care at relatively low costs; the project addresses all categories of older persons, including older persons at the transition after retirement. (6.4) Technology: Health Risk Appraisal for the Elderly (HRA-E) uses information technology for identifying modifiable risk factors for disease and disability and generating feed-back statements to older persons and health care providers. (6.3) Epidemiology: HRA-E creates a basis for identifying preventive health care needs. (6.2) Healthy ageing: HRA-E creates a common database for future cross-national comparative evaluation on determinants of healthy ageing.

Description of the work:

Pilot phase: Regional adaptation of the questions and feed-back statements of the HRA-E based on expert knowledge, focus group meetings, and pilot testing; conducting of pilot field tests in Germany (N=164) and England (N=348); updating the software; preparing the approach for integrating the system into the regional primary care systems; and preparing the logistics of the randomised studies.
Field phase: To conduct three randomised controlled trials in Hamburg (N=3.326), Bern (N=4.046), and London (N=3.139). Study population: Community-dwelling persons aged 60 years and older, registered in selected primary care practices. Pre-randomisation postal questionnaire will be used for base-line data collection. Randomisation: Two thirds of practices will be allocated to additional physician training. Older persons of these practices will be randomised to intervention group and

control (usual care) groups. Older persons of the remaining one third of practices (no additional physician training) will serve as a second control group.
Intervention: Persons in the intervention group will get the HRA-E intervention (written feed-back with reinforcement in collaboration with primary care practitioners over a one-year period).
Outcomes: At one-year follow-up, HRA-E questionnaire and telephone follow-up will be administered to all subjects to evaluate the effects on health behaviour. Electronic chart information and health insurance data will be collected for measuring health care use if possible.

Synthesis and dissemination:
The synthesis will be based on site-specific and comparative pooled statistical analyses according to an intention-to-treat analytic plan. Dissemination of the intervention method and the results will be targeted towards European health care professionals (emphasis primary care physicians) and health and social authorities. Participants from Denmark, the Netherlands and Austria will be involved for developing and disseminating scenarios for practice implementation in participating and non-participating European countries.

Milestones and expected results:
9 months: Beta -tested software version of region/ nation adapted HRA-E;
18 months: Recruitment of subjects for randomised studies completed;
30 months: Mailing of follow-up HRA-E completed in all 10,511 subjects;
33 months: Final database with follow-up data from each study site;
36 months: Final report with synthesis and scenarios for implementation;
We anticipate a favourable impact of the HRA-E on health behaviours and a high interest of health professionals and health authorities for implementing the system in practice.

Scientific Co-ordinator
Professor Dr. med. Andreas Stuck
Spital Bern Ziegler, Department of Geriartrics and Rehabilitation
Morillonstrasse 75 – CH – 3001 Bern
e-mail: andreas.stuck@spitalbern.ch

Administrative Co-ordinator
Professor Dr. med. Hans Peter Meier-Baumgartner
Albertinen-Haus, Geriatrics Centre Hamburg
Sellhopsweg 18-22
D-22459 HAMBURG
e-mail: dapp@albertinen.de

Partners
Professor Dr. med. Cameron G. Swift
Department of Health Care of the Elderly, King's College, London
SE22 8PT London
e-mail: cameron.swift@kcl.ac.uk

Dr. Brenda Penninx
Department of General Practice, Free University, Amsterdam
v.d. Boechorststraat 7, 1081 BT Amsterdam
e-mail: bwjh.penninx.emgo@med.vu.nl

Professor M.D., Sc. Marianne Schroll
Clinic of Geriatric Medicine, Bispebjerg Medical Center, Copenhagen
Bispebjerg Bakka 23, 2400 Copenhagen NV
e-mail: ms09@bbh.hosp.dk

Dr. Katharina Pils
Institute for Physical Medicine and Rehabilitation, Wien
Apollogasse 19, 1070 Vienna
e-mail: pik@sap.magwien.gv.at

Project number:	QLK6-CT-2000-00002
EC contribution:	€1,274,385
Duration:	30 months
Type:	RS
Starting date:	01/03/2001

The Aged In Home Care Project

Objectives:

Analyze the structural and organizational characteristics of Home Care (HC) services for the elderly in 10 European countries, along with their client characteristics, outcomes and resources utilization. Design the first evidence-based HC Service model. Describe and compare the characteristics of patients receiving HC and of HC systems in each country.

Brief Description:

The AD HOC project aims to identify and propose a model of Home Care (HC) for the elderly through the analysis of the structural and organisational characteristics of HC Services in 10 European countries, along with the clinical and functional characteristics of their clients, and will cover a 30 months period from the initial activities to the definition of a reference HC Service model. For each site, the sample will be obtained by a computer driven randomisation of all subjects aged 65 years or older who are already receiving HC services at the beginning of the project. All the information collected will contribute to the creation of the first cross-national database on HC in Europe (the Community Care Data Centre) containing the characteristics of HC patients and the structural and organisational characteristics of the HC Services of each national site. Comparative and survival analysis will be used to describe and monitor patients receiving HC, as well as to identify the characteristics of patients and services associated with better outcomes.
To describe the HC patient characteristics, a random sample of 405 recipients of HC services in each country will be assessed at baseline, and at six and twelve months thereafter. The resident Assessment Instrument for Home Care (RAI-HC), a validated second generation assessment tool, will be used in order to provide information on several domains: personal and demographic information; cognition, communication/hearing; vision; mood and behaviour; social functioning; informal support; physical functioning (self performance of instrumental – IADL – and personal – ADL- activities of daily living). A specifically designed form, the European Home Care Services (EU-HCS) assessment form, will be used to collect information on the specific characteristics of HC Services in each sites. The variable of interest will include the setting, the financial and management structure, the range and organisation of the service, and the service delivery.
Finally, the project will lead to the definition of a reference model of HC – not available at the present time – which might best respond to the needs of elderly in Europe.

Keywords:

Home care - geriatric assessment - functional outcomes - resources consumption - services characteristics - services organization - patients characteristics - database.

Co-ordinator

Prof. Roberto Bernabei MD
UNIVERSITÀ CATTOLICA DEL SACRO CUORE, SCHOOL OF MEDICINE A. GEMELLI
Istituto di Medicina Interna e Geriatria, Centro Medicina dell'Invecchiamento
Largo Francesco Vito, N°1
I-00168 Rome – Italy
Tel. No. (39-06) 3051190, Fax No. (39-06) 3051911
e-mail: roberto_bernabei@rm.unicatt.it

Partners

Prof. Eva Topinkova
CHARLES UNIVERSITY FIRST MEDICAL FACULTY, Department of Geriatrics
Katerinnská 32 121 08 Prague 2 Czech Republic
Tel. (420-2) 22514294, Fax (420-2) 22514294, E-mail: etopink@vfn.cz

Prof. Marianne Schroll
COPENAGHEN UNIVERSITY H:S BISPEBJERG HOSPITAL, Institute of Clinical Internal Medicine
Bispebjerg Bakke 23, NV 2400 Copenhagen Denmark
Tel. (45-3531) 2723, Fax (45-3531) 3975, E-mail: ms09@bbh.hosp.dk

Prof. Ulla Harriet Finne-Soveri
KUSTAANKARTANO – NURSING HOME, HELSINKI CITY AND THE MIDDLE HEALTH CARE DISTRICT OF THE HELSINKI
Home Care Department, Health Centre of Helsinki City and States
PO Box 220 FIN-00531 Helsinki Finland
Tel. (358-9) 39671, E-mail: harriet.finne-soveri@stakes.fi

Prof. Jean Claude Henrard
UNIVERSITE RENE DESCARTES, FACULTE DE MEDICINE PARIS 5
Laboratoire Santè Vieillissement
49, Rue Mirabeau, CEDEX (13) 75016 Paris France
Tel. (33-1) 4496.3204, Fax. (33-1) 4496.3146
E-mail: jean-claude-henrard@spr.ap-hop-paris.fr

Prof. Vjenka Garms-Homolovà
INSTITUTE FUER GESUNDHEITSANALYSEN UND SOZIALE KONZEPTE E. V.
Spessartstr. 12/IV D 14197 Berlin Germany
Tel. (49-30) 8270.2220, Fax. (49-30) 8270.2221, E-mail: igkloftneu@aol.com

Prof. Pàlmi V. Jònsson
LANDSPITALI, UNIVERSITY HOSPITAL, Department of Geriatrics
Landkot 101, Reykjavik Iceland
Tel. (354-525) 1889, Fax (354-525)1889, E-mail : palmi@shr.is

Prof. Jouke van der Zee
NETHERLANDS INSTITUTE OF PRIMARY HEALTH CARE
PO Box 1568 – 6 Drieharingstraat 3500 BN
Utrech Netherlands
Tel. (313-02) 2729.70, Fax. (313-02) 2729.729, E-mail: j.vanderzee@nivel.nl

Prof. Gunnar Ljunggren
KAROLINSKA INTITUTE
Centre for Gerontology and Health Economics, Neurotec Department
Carffords V.12 S-113 24 Stockholm
Tel. (46-8) 690.9750, Fax. (46-8) 3255.80, E-mail: gunnar.ljunggren@neurotec.ki.se

Prof. Iain Carpenter
UNIVERSITY OF KENT AT CANTERBURY, Centre Of health Service Studies
The Registry, University of Kent at Canterbury
CT2 7NZ Canterbury United Kingdom
Tel. (44-1227) 827760, Fax. (44-1227) 827868, g.i.carpenter@ukc.ac.uk

Project number:	QLK6-CT-2000-00303
EC contribution:	€1,029,984
Duration:	39 months
Type:	RS
Starting date:	01/03/2001

Information, Health And Social Needs Of Older Disabled People (Parkinson's Disease) And Their Carers

Objectives:

The project aims to (1) classify information needs of older disabled people (with Parkinson's disease) & their carers & compare with professionals' perceptions of them, (2) explore factors that motivate professionals to involve individuals in care decisions, (3) identify cross-national education strategies to enhance functional independence & well-being of patients & carers & (4) make recommendations for service and policy development for care of older infirm people.

Brief Description:

The information, health and social needs of older people with disabling conditions often differ from those perceived by professionals and therefore may go unmet. Knowledge and understanding of their illness empowers the individual, maximizes independence and improves quality of life. Over the 3 years of the project, 500 disabled older people with Parkinson's disease and their carers, together with 700 professionals in 7 European countries will be interviewed about their information needs and how they may best be addressed. In addition an extensive database will be developed of international literature, information sources and good practice in relation to meeting the health and social care needs of older disabled people and their carers. This will be used together with the views and experiences of an expert roundtable of users and professionals to create a critical mass of knowledge. Recommendations for policy and service development for the health and social care of older infirm people will then be made & comprehensive cross-national traditional and internet-based education materials for patients, their carers and professionals will be developed, piloted and evaluated. A final scientific conference will be held to disseminate the findings and materials and to ensure continuing development, collaboration, monitoring and modification of project materials. This should help to ensure more appropriate standards of future support, services and care for older disabled people.

Keywords:

Disability and ageing - Parkinson's disease - Patient information needs - Carer information needs - Inter-professional education - Service development.

Co-ordinator

Antony Bayer
University Department of Geriatric Medicine,
University of Wales College of Medicine,
Llandough Hospital, Penlan Road, Penarth
Cardiff CF64 2XX, U.K.
Telephone: +44 2920 716971
Fax: +44 2920 704244
e-mail: Bayer@cf.ac.uk

Partners

Ingemar Bruto
European Parkinson's Disease Association
email: lizzie@epda.demon.co.uk

Heiner Ellgring
Dept. of Psychology, University of Wuerzburg, Germany
email: infopark@mail.uni-wuerzburg.de

Alfredo Rodriguez Sanchez del Alamo
Asociacion Parkinson Madrid, Spain
email: parkinsonmadrid@infonegocio.com

Pille Taba
Tartu Parkinson's Disease Society, Tartu, Estonia
email: Pille.Taba@kliinikum.ee

Paul King
Associacao Portugesa de Doentes de Parkinson, Lisboa,Portugal
email: pwking@clix.pt

Panagiotis Theodoropoulos
Health Centre of Chalandritsa, Achaia, Greece
email: venya@pat.forthnet.gr

Pirkko Routasalo
Dept. of Nursing, University of Turku, Finland
email: pirkko.Routasalo@utu.fi

Project number:	QLK6-CT-2000-00584
EC contribution:	€1,420,752
Duration:	36 months
Type:	TN
Starting date:	01/03/2001

THE CARE AND MANAGEMENT OF SERVICES FOR OLDER PEOPLE IN EUROPE NETWORK

Objectives:

To establish a wide-ranging European network of organisations involved in managing services for older people focusing on the efficient integration of services between the main interfaces involved (primary/ home care; acute care; residential care). To develop concepts/ tools related to factors that promote or inhibit effective and efficient integration.

Brief description:

This project is based on a matrix structure which will provide a remarkable degree of cross-fertilization between eleven countries (Netherlands, UK, Belgium, Finland, Swede, Greece, Italy, Ireland, Denmark, Spain, Germany) and nine categories of partners (R & D organisations, care homes, social care providers, sickness funds/purchasing organisations, carers, users, primary care, acute hospitals, management consultants). The matrix structure is intended to maximise opportunities for networking and interchange between similar agencies from different countries, between the various agencies from the same country, and between different agencies from different countries. The network will focus on the three key interfaces and intrafaces of the cure/ care triangle (primary/ home care-acute care; acute care-residential care; residential care-primary/ home care). This network will be client-centred. Users, purchasers and providers of health and social care will be regarded as clients for the purposes of the network.

The project will have three phases: Sharing and exchanging information; exploring the interface and intraface issues; and analysing the policy and planning implications of integrated care for older people.

Outputs will include a website and database of both research and innovative activities and projects in the field of integrated care for older people, including both examples of best practice and factors promoting and inhibiting integration of services; either a handbook on the management of integrated care for older people, or a series of reports from each of the working groups, identifying the principles issues emerging from the working groups; and recommendations for new or refocused research.

Keywords:

Management of services - integrated care - primary care - acute care - residential care.

Co-ordinator

Mr. Philip Berman
European Health Management Association
Vergemount Hall
Clonskeagh
Dublin 6
IRELAND
Tel: +353 1 2839299
Fax: +353 1 2838653
E.mail: pcberman@ehma.org

Partners

The Netherlands Institute for Care & Welfare, Netherlands: j.coolen@zn.nl
King Edward's Hospital Fund for London, UK: pbanks@kehf.org.uk
National Research & Development Centre for Health & Welfare (STAKES), Finland: Marja.Vaarama@stakes.fi
Centre for Care of Older People, University of Northumbria, UK: jan.reed@unn.ac.uk
School of Public Health, Catholic University of Leuven, Belgium: Mia.Defever@med.kuleuven.ac.be
National School of Public Health, Greece: petsetak@otenet.gr
Stichting Nederlands Instituut voor Gerontologie, Netherlands: Huijbers@nig.nl
University of Bamberg, Germany: richard.pieper@sowi.uni-bamberg.de
Fondazione Emanuela Zancan, Italy: zancan@tin.it
Karolinska Institute, Sweden: gunnar.ljunggren@neurotec.ki.se
DaneAge Association, Denmark: letuf@post8.tele.dk
University of Kuopio, Finland: Sari.Rissanen@uku.fi
University of Maastricht, Netherlands: ingrid.mur@beoz.unimaas.nl
The University of Surrey, UK: d.loewenthal@surrey.ac.uk
Landelijke Vereniging voor Thuiszorg, Netherlands: lvt@wxs.nl
ARCARES, Netherlands: e.winkel@arcares.nl
Svenska Kommunfoerbundet, Sweden: kent.lofgren@svekom.se
Northern Area Health Board, Ireland: paula.lawler@erha.ie
City of Helsinki, Social Services Department, Finland: jaakko.valvanne@soster.hel.fi
Omilos Ethelonton, Greece: sextant@panafonet.gr
South Western Health Board, Ireland: regina.buckley@erha.ie
Instituto Migraciones y Servicios Sociales Imserso, Spain: mtsanchoc@mtas.es
Zorgverzekeraars Nederlands, Netherlands: p.van.rooij@zn.nl
North Staffordshire Health Authority, UK: Judith.Bell@nsha.wmids.nhs.uk
Manchester Health Authority, UK: cotterillp@manchester.nwest.nhs.uk
Instituto Nacional de la Salud, Spain: eterol@insalud.es
Association of Care Giving Relatives & Friends, Finland: tiina.autio@omaishoitajat.inet.fi
Caring For Carers Ireland: bbarron.ennis@eircom.net
Eurolink Age, Belgium: christine.marking@age-platform.be
Coordinatie Orgaan Samenwerkende Ouderenorganisaties, Netherlands: c.s.o@wxs.nl
Greek Alzheimer Association and Related Disorders: tsolakim@med.auth.gr
Northern Primary Care Development Centre, UK: c.k.drinkwater@ncl.ac.uk
East Coast Area Health Board, Ireland: eddie.matthews@erha.ie
Boer & Croon Strategy and Management Group, Netherlands: S.de.Waal@boercroon.nl
Newcastle upon Tyne Hospitals NHS Trust, UK: jean.applegarth@trvi.nuth.northy.nhs.uk
Universitaire Ziekenhuizen K.U. Leuven, Belgium: michel.tombeur@uz.kuleuven.ac.be
Bohlin & Strömberg, Sweden: bengt.aahgren@bs.se

Project number:	QLK6-CT-2000-00664
EC contribution:	€1,300,000
Duration:	36 months
Type:	RS
Starting date:	01/02/2001

Cross-national determinants of quality of life and health services for the elderly

Objectives:

The project studies the determinants of quality of life in older people in 6 European countries.
1st objective: assessment of the predictors of major health outcomes.
2nd objective: assessment of the impact of differences in health services provision.
3rd objective: assessment of the relation between functional status and health services use.
4th objective: assessment of the impact of the social networks on the health status.

Brief description:

The first step is the creation of linkages between the data set of the six longitudinal studies: ILSA (Italy), LASA (The Netherlands), CALAS (Israel), Aging in Leganes (Spain), TamELSA (Finland), SATSA (Sweden) and local/ regional death registries, using a combination of information such as health care codes of participants, birth-date and home address.
Data on hospitalisation rates in the last 5 years will be obtained by linking the data set to hospital discharge records from the hospitals in the geographic areas of the studies.
Municipal registries will be checked for all changes of address since the inception of the study, in particular changes from community homes to institutions, for both living and deceased subjects.
The second step will be the creation of a common database to be used to calculate the following indexes:
Age, sex, and cause-specific mortality rates
Age, sex, and cause-specific hospitalisation rates
Age and sex specific institutionalisation rates
Relative Risks of socio-demographic, behavioural and health factors for hospitalisation, institutionalisation and mortality
The third step will be the preparation of a standardised instrument, to be administered to referents in the local health units, to conduct a survey on the state of art of health services.
Finally, we will create a linkage between the common database of the longitudinal studies and the data collected on the surveys of health services, to assess the impact of health services on the major health outcomes of the study. Moreover, a cross-national comparison of the impact of social networks on the health status of the elderly, controlling for other known risk factors, will be evaluated.

Addendum

The CLESA has proposed an extension of the consortium to Newly Associates States (call for proposals launched on May 31st, 2001) to Czech Republic, Lithuania, Poland. The proposal was accepted with a budget of 173,892 Euro for completing WP2, which is the workpackage aiming at evaluating the health services for the elderly. In these new countries, we could not rely on the availability of longitudinal studies, so we have limited their inclusion for the assessment of the health services availability and access. The main objective is, therefore, to develop a European multinational working core of information on the state and evolution of the countries health- and social-services for the old population. In this new shape, the CLESA Health Care Services component will compare 3 north, 3 south and 3 east European countries, during the years 1990-

2000. The newly re-planed study will now deal with issues of evolution and revolution in the health services, and will provide relevant information on the profile of care for the elderly in different european countries.

Keywords:

Determinants of quality of life – disability - longitudinal studies - health services

Co-ordinator

Dr. Stefania Maggi
Consiglio Nazionale delle Ricerche (CNR)
Centro per lo studio dell'invecchiamento
c/o Clinica Medica 1°, via Giustiniani 2
35128 Padova, Italy
Tel/Fax (39-049) 821-1818
smaggi@unipd.it

Partners

Dr. Dorly Deeg
Vrije Universiteit Amsterdam
Institute for research in extramural medicine
Van der Boechorst straat 7
1081 BT Amsterdam, The Netherlands
djh.deeg.emgo@med.vu.nl

Prof. Jacob Gindin
The Geriatric Institute of Education and Research
Kaplan Medical Center
Rehovot, Israel
gindinst@internet-zahav.net.il

Prof. Marja. Jylha
University of Tampere, School of Public Health
Medisiinarinkatu 3
33014 Tampere, Finland
marja.jylha@uta.fi

Prof. Nancy. Pedersen
Karolinska Institutet, Department of Medical Epidemiology
Berzelius väg 15c
Box 281
SE-171 77 Stockholm, Sweden
Nancy.Pedersen@mep.ki.se

Prof. Angel Otero
Centro Universitario de Salud Pública
General Oraá, 39
28006 Madrid, Spain
angel.otero@uam.es

Dr. Jelena Ceremnych-Aleksejenko
Institute of Experimental and Clinical Medicine
Department of Gerontology Problems
Center for Gerontology and Rehabilitation.
Kalvariju 323,
2021-LT, Vilnius
LITHUANIA
ceren@ktl.mii.lt

Dr. Katarzyna Szczerbinska
Jagiellonian University, Collegium Medicum
School of Public Health, Health promotion Unit.
30-409 Krakow, ul. Ruczaj 15d
Poland
Mxszczer@kinga.cyf-kr.edu.pl

Prof. Eva Topinkova
Charles University and Institute of Postgraduate Medical Education
Department of Geriatric and Medicine and Gerontology
1st Medical Faculty.
Londnska 15,
12000 Praha 2
CZECH REPUBLIC
etopink@vfn.cz

Project number:	QLK6-CT-2000-00779
EC contribution:	€2,055,459
Duration:	36 months
Type:	RS
Starting date:	01/05/2001

MINORITY ELDERLY CARE

Objectives:

To propose the 'best' way to manage the delivery of health and social care to ethnic minority elderly regarding quality, efficiency and user acceptability by establishing their expectations, needs met, gaps in services and their assessment of this.
Minority ethnic elderly, minority organisations and mainstream providers 'perceptions' and effectiveness of the actual delivery of health and social care.

Brief Description:

The Objectives are constructed as research elements from which a systematic assessment in terms of quality, efficiency and user acceptability can be made. In each element, gaps in actual delivery of care and experiences of services will be identified by interviews with three target groups: the minority elderly, mainstream and minority service providers. In turn it will examine anecdotal presumptions held by the three groupings, e.g. 'they will return home', 'families look after their own'. After 6 months of preparation, the data will be collected sequentially over the next 20 months of the study and analyses completed in parallel. The minority elderly will be surveyed first, followed by mainstream providers and then minority organisations. The sampling methods will try to capture various factors in a quantifiable way, making them amenable to direct statistical tests of the data, as well as any future meta-analyses or retrospective comparisons. The key factors are: Factor 1 - minority groups; Factor 2 - geographical spread; and Factor 3 - international differences.

Data Analysis:

The data and information generated from the interviews of minority elders, mainstream providers and minority organisation will be analysed using both descriptive statistics (measures of central tendency, frequency, standard deviation etc.) and inferential statistics (in order to generalise from the samples). The particular techniques used will depend on the size of the sample. A final decision on the technique(s) to be used will be made after further discussion between the partners, but a likely approach to be used is Factor Analysis.
The dissemination strategy will be designed with the aim that the MEC study will help contribute significantly to policy planning to improve care and quality of life of minority elderly in Europe. The MEC study is led by University of Bradford in the UK and the 10 country focus comprise of the UK, F, D, E, NL, FIN, CH, BA, HU, HR.

Keywords:

Comparative research project in ten European countries to investigate the quality and effectiveness of health and social care services to minority elderly by researching three target groups:
the minority elderly - mainstream and minority.

Co-ordinator

PRIAE
Policy Research Institute
ON AGEING & ETHNICITY
31-32 Park Row,
Leeds LS1 5JD
United Kingdom
Tel: +44 113 285 5990
Fax: +44 113 285 5999
E-mail: naina.patel@priae.org

Partners

Ms Naina Patel, PRIAE, (UK)
With University of Bradford, Dr Paul Stubbs to cover CEE countries of BA, HU and HR

Ms Päivi Voutilainen, National Research and Development Centre for Welfare and Health, STAKES, (FIN)

Mr Abye Tasse, Institut de Formation desTravailleurs Sociaux, (F)

Drs H. Bing Teng, Stichtling voor Toegepaste Gerontologie Vrije Universiteit Amsterdam, (NL)

Dr Maria Angustias Martin Quires, Plan Excel S.L, (E)

Dr Ernst Kistler, Internationales Institut für empirische Sozialökonomie – INIFES, (D)

Professor Claudio Bolzman, Institut d'Etudes sociales Geneve, (CH)

Project number:	QLK6-CT-2002-00227
EC contribution:	€702,912
Duration:	30 months
Type:	RS
Starting date:	01/04/2002

Providing Integrated Health And Social Care For Older Persons Issues, Problems And Solutions

Aims and expected achievements:

PROCARE is to help in defining the new concept of an integrated health and social care for older persons in need of care by comparing and evaluating different modes of care delivery. The project will identify structural, organisational, economic and social-cultural factors and actors that constitute an integrated and sustainable care system with enhanced outcomes for all actors involved. The key objectives and expected achievements thus read as follows:
- to confirm the thesis that a new model of community health and social care is needed to enhance the care for older persons (confronting "models of good practice" vs. critical arguments),
- to provide an integrated literature review and a cross-national comparison of participating EU countries,
- to create a data base collecting data (models of "good practice", quality indicators, outcome indicators etc.) that are comparable across the range of countries studied,
- to provide valid research methods to evaluate long-term care services for older persons, in particular at the interface between health and social care, and between institutional and community care,
- to contribute to the development of research methods for evaluating successful integration of health and care systems,
- to assess models of integrated care with respect to their efficiency, quality and user-acceptability,
- to identify structural, organisational, economic and cultural factors, and actors that constitute an integrated care system with enhanced outcomes for all actors involved,
- to develop performance indicators for use in evidence-based policy making, planning, quality assurance and controlling social and health services,
- to list and analyse the most important factors for a successful integration of health and care service delivery,
- to involve and bring together the most important actors for integrated care delivery (health and social care professionals, care recipients and informal or family carers etc.) in this project by means of focus group discussions, participation in project meetings and dissemination activities,
- to promote the dissemination of best practice by involving professionals at different levels.
- to provide evidence-based policy recommendations, and
- to publish results and policy recommendations in a series of reports and on the internet (electronic newsletter, links to similar data-bases); in addition, the data base will be constantly developed and cured for an ongoing publicly accessible use,
- to organise an international conference open to the public.

Methods:

The literature overview will focus on the following research question: "Which of the variety of innovations in modes of organisation, finance and professional collaboration observed in Europe over the last decade have been the most successful and long lasting?". National reports will be compiled to a European overview.
The development of performance and quality indicators will be based on individual interviews with clients and their carers, and focus on group discussions with all stakeholders involved in selected models of "good practice" in integrated care delivery. National analysis will be undertaken with a

comparative approach to facilitate a European overview with respective policy recommendations for local, national and European levels.
The dissemination of good practice by involving professionals and various organisations from 9 EU Member States will promote the development of a European understanding of integrated care, and shared views of definitions and approaches. "National Project Committees" with representatives of all relevant stakeholders will be established to guide and support the national project teams.
Regular project meetings and the final international conference will be to co-ordinate the national and comparative research and, occasionally, to involve policy-makers and representatives of the "National Project Committees".
All results, data and reports will be published on the Web and, where appropriate, in brochures and scientific publications.

Co-ordinator

Kai Leichsenring
European Centre for Social Welfare Policy and Research
Berggasse 17
A-1090 Vienna (Austria)
Tel. +43 1 319 45 05-0, Fax: +43 1 319 45 05-19
e-mail: leichsenring@euro.centre.org

Partners

John Baldock – Julia Twigg, University of Kent at Canterbury
School of Social Policy, Sociology and Social Research
CT2 7NY Canterbury (United Kingdom)
Tel.: +44 1227 827574
Fax: +44 - 1227 - 827005
e-mail: J.C.Baldock@ukc.ac.uk

Patrizia Di Santo
Studio Come s.r.l.
Viale Regina Margherita 192
I-00198 Roma (Italy)
Tel./Fax: +390 6 85414
e-mail: come@studiocome.it

Aris Sissouras
Aliki Fakoura
National Centre for Social Research (EKKE)
14 - 18, Messoghion AV
GR-115 27 Athens (Greece)
Tel.: +30 1 7489131
Fax: +30 1 7488435
Email: asisour@ekke.gr

Riitta Haverinen
National Research and Development Centre
for Welfare and Health (STAKES)
Siltasaarenkatu 18 c
FIN - 00531 Helsinki (Finland)
Tel.: +358 9 396 720 87
Fax: +358 9 396 722 27
e-mail: riitta.haverinen@stakes.fi

Steen Bengtsson, Thomas Clausen
Danish National Institute of Social Research (SFI)
Herluf Trolles Gade 11
DK - 1052 K Copenhagen (Denmark)
Tel.: +45 3348 0867
Fax: +45 3348 0833;
e-mail: sb@sfi.dk

Klaas A. Gorter
Stichting Verwey-Jonker Institute
Kromme Nieuwegracht 6
NL-3512 HG Utrecht (The Netherlands)
Tel.: +31 30 2303237
Fax: +31 30 2300683
e-mail: k.gorter@verwey-jonker.nl

Giorgia Nesti,
emme&erre s.p.a.,
Piazzale Stazione 7
I-35131 Padova (Italy)
Tel.: +390 49 661677
Fax: +390 49 662579
e-mail: giorgia.nesti@unipd.it

Marie-Jo Guisset, Alain Villez
Union nationale interfédéderale des oeuvres
et organismes privés sanitaires et sociaux (UNIOPPS)
133, rue Saint-Maur
F-75541 Paris cedex 11 (France)
Tel.: +33 1 56791793
Fax: +33 1 56791790
e-mail: guisset@med-alz.org

Monika Reichert, Günter Roth
Institut für Gerontologie
Forschungsgesellschaft für Gerontologie an der
Universität Dortmund e.V.
Schwanenwall 31-35;
D-44135 Dortmund (Germany)
Tel.: +49 231 7554910
Fax: +49 231 100309
e-mail: reichert@evfh-berlin.de

Charlotte Strümpel,Margit Grilz-Wolf
European Centre for Social Welfare Policy and Research
Berggasse 17
A-1090 Vienna (Austria)
Tel.: +43 1 319 45 05-24
Fax: +43 1 319 45 05-19
e-mail: struempel@euro.centre.org

Project number:	QLK6-CT-2002-00251
EC contribution:	€1,966,000
Duration:	36 months
Type:	RS
Starting date:	01/05/2002

Triage Decision Making For The Elderly In European Intensive Care Units

Objectives:

The project aims to
- make triage decisions for the elderly in Europe more transparent, beneficial and fair
- make triage decisions for the elderly more cost-effective
- facilitate European harmonization of standards for ICU triage in the elderly

Brief Description:

The project consists of 3 interdependent clusters of work packages: 1. The acquisition of empirical data about triage decisions in the elderly. 2. A triple analysis of the context of triage decisions in the elderly. 3. Valorisation of the results. The work will be carried out by a European-wide consortium of a) ICUs whose researchers have a proven interest in intensive care, socio-economics and ethics and b) analysts specialised in geriatrics, economics, public health, philosophy and ethics with high level expertise in studying medical practice. The ICUs will coordinate the acquisition of data which, the analysts will analyse. All work is carried out in close interaction.
The consortium will first identify the important definitions that must be defined prospectively to perform the empirical studies (WP 1) and then perform the empiric triage study (WP 2). 2. The analytic core activities are organised in 3 work-packages. WP3 will produce a social map of the ethical values of the actors involved in or concerned with ICU triage decisions in the elderly, including policy makers. This analysis will be performed utilising the new empirical data provided by WP2, and the results of the analysis of WP4 (ICU costs) and WP5 (benefit analysis), as well as standard ethical and sociological literature. WP4 will make a cost-effectiveness analysis of ICU costs in the elderly, while WP5 will make a statistical analysis of benefit parameters, resulting in a benefit predictor. 3. The project results will be put to work and deepen quality for the standards used by ICUs for the elderly in Europe. This will be done preparing a) standardised triage instrument for ICU staff use b) a consensus statement amongst ICU professionals to explain their position to other social actors, c) guidelines for public policy. Patients, families and public policy officials will be involved in this preparation (WP6). The final report will be presented in a technical and popular version (WP7).

Keywords:

Elderly – triage - socio-economics

Co-ordinator

Prof. C. SPRUNG
Director, General Intensive Care Unit,
Hadassah Medical Organization
P.O.B. 12000 Jerusalem 91120 ISRAEL
Telephone: 972 2 677 8060
Fax: 972 2 643 0349;
Email: sprung@cc.huji.ac.il

Partners

Dr. Simon Cohen, University College London
simon.cohen@medicine.ucl.ac.uk

Prof. Guido Van Steendam, International Forum for Biophilosophy
guido.vansteendam@cs.kuleuven.ac.be

Dr. David Edbrooke, Medical Economics and Research Centre, Royal Hallamshire Hospital
Mercs3510@aol.com

Dr. Anne Lippert, Herlev University Hospital
anli@herlevhosp.kbhamt.dk

Dr. Antonio Artigas, Consorci Hospitalari del Parc Tauli
Aartigas@cspt.es

Dr. Edouard Ferrand, Hopital Henri Mondor
edouard.ferrand@hmn.ap-hop-paris.fr

Dr. Jan Bakker, Isala, Groot Weezenland
Acutgen@wxs.nl

Dr. Antonio Pesenti, Universita degli studi di Milano-Biocca
Antonio.Pesenti@unimib.it

Dr. Yitzhak Brick, ESHEL
brick@jdc.org.il

Prof. Gabriel Gurman, Soroka Hospital of the Negev
Gurman@bgumail.bgu.ac.il

Prof. Didier Payen, Hopital Lariboisiere
Dpayen1234@aol.com

Dr. J. Kesecioglu, University Medical Center Utrecht
j.kesecioglu@azu.nl

Dr. Gaetano Iapichino, Ospedale Azienda San Paolo
g.iapichino@unimi.it

Project number:	QLK6-CT-2002-02341
EC contribution:	€1,348,770
Duration:	36 months
Type:	RS
Starting date :	01/01/2003

Care for the Aged at Risk of Marginalization

Abstract

CARMA aims to enhance the well-being of the growing aged population in Europe. CARMA will pool the resources of academic research institutions, social service providers and educational institutions to analyse current social care services for the aged from a multitude of angles: Among others, with longitudinal studies on coping skills of the aged, a comparative study of care arrangements, and a comprehensive literature review.
The findings of all these studies will be discussed and developed further in conferences with the partners and external experts, and will be integrated into Guidelines and Protocols for Policy Makers, Social Service Providers, and Private Networks.

Objectives:

CARMA's main objective is to provide guidelines and protocols for improving health and social care services for the aged that are addressed to all levels:
1 - Macro: Guidelines for Policy Makers and Social Service Providers
2 - Meso: Guidelines for the Training of Staff in Social Services
3 - Micro: Guidelines for Private Networks

Brief Description:

CARMA is based on a multi-national, multi-level and multi-method research approach. It combines the practice of service providers with scientific research, training of health and social care professionals, and the consultation of policy makers. CARMA will create an overview on the various measures taken by different types of European welfare states to prevent marginalization of the aged. This will be the first scientifically evaluated compendium of available measures against marginalization of the aged. CARMA will focus on concepts that empower older people and support their independence. Thus mobile health and social care services, day care centres, assisted living complexes and other innovative approaches will be documented in Southern, Central, Northern, Eastern and Western European countries.
CARMA will also do a longitudinal survey on aged people who use health care services, based on personal interviews. The aim is to gain a deeper understanding what services are most important for helping individual clients to continue living independently. This study will be done in parallel in several countries for more culture-independent findings. CARMA will analyse informal social care to give indications for the development of adequate support systems for this form of care. The results in different countries show different welfare state approaches and their consequences embedded in specific preconditions. Thus, CARMA will help social service providers and their staff to actually provide exactly what their clients need, and to build on the resources they already have.
By co-evaluating the results of these multiple approaches, CARMA will fill in concrete knowledge gaps about the well-being of old people, in order to generate results which will be directly applicable as practical feedback for improving social services and thus the living conditions of old people in Europe.

Keywords:

Care Services and Informal Care for the Aged - Coping Resources of the Aged - Marginalization of the Aged

Co-ordinator :

Dr. Marianne Egger de Campo
Sozialforschung, Soziales Service
Flosslendstrasse 18, A-8020 Graz
marianneegger@sozialesservice.at
Tel.: (43-316) 68 71 41 -12
Fax: (43-316) 68 71 41- 41

Partners :

BELGIUM:
Katholieke Hogeschool Kempen
Dr. Guido Cuyvers
e-mail: guido.cuyvers@khk.be

ESTONIA:
Department of Internal Medicine of the University of Tartu
Dr. Kai Saks
e-mail: Kai.Saks@kliinikum.ee

Estonian Association for Gerontology and Geriatrics
Annely Soots
e-mail: annelysoots@hot.ee

GERMANY:
Workgroup Public Health at Social Science Research Center Berlin (WZB), Dr. Hagen Kühn, Dr. Hildegard Theobald: kuehn@medea.wz-berlin.de

Wolfsburger Institut für Gesundheitsförderung (WIGG)
Prof. Adelheid Kuhlmey
e-mail: medsoz@zedat.fu-berlin.de

ITALY:
Coo.S.S. Marche
Dr. Claudio Sdogati
e-mail: c.sdogati@cooss.marche.it

NORWAY:
University of Bergen, Dept. of Public Health and Primary Health Care, Section Geriatric Medicine
Hans I. Saevereid
e-mail: Hans.I.Savareid@hia.no

UNITED KINGDOM:
South and East Belfast Trust, (SEBT)
Marie Heaney
e-mail: mary.heaney@sebt.n-i.nhs.uk

Project number:	QLK6-CT-2002-02525
EC contribution:	€2,012,822
Duration:	36 months
Type:	RS
Starting date :	01/01/2003

Keys for quality performance management of the care of older persons in Europe

Objectives:

The objective is to develop an effective tool for the management and performance evaluation of care services for older persons. The project uses and further develops models such as the Target Efficiency Measure and the 3 D Quality Matrix. The aim is to test and validate the methods by empirical research in six European countries, and to disseminate the results as a Handbook of CareKeys 3DQ-Model.

Brief Description:

Special focus is on linking client preferences and quality of life objectives to the professional and managerial objectives of good quality care, and on establishing the validity of the indicators and models being developed. Social and Health Economics research, Best Practise modelling and user trials are used to achieve the project goals. The work is organised in 7 work packages and 8 research stages, each addressing a primary theme. The end of each stage represents a significant milestone with a testable piece of the CareKeys 3DQ-Model. The milestones are: evaluation of existing measures and business practices, exploration and specification of new measures and practices, specification, testing and validation of the final model, and consolidating the results in a Handbook with support materials. Critical to the success of CareKeys will be its ability to integrate with existing care management systems. This is explored in relation to the assessment instruments currently employed in the project countries (e.g. Resident Assessment Instrument). A Minimum dataset specification will be provided for those users without advanced care planning systems. A key objective of the CareKeys project is the broadest possible dissemination of best practice and supporting tools. Dissemination of the results is an ongoing task together with the project work. Hence, the CareKeys research and development is an iterative process, involving care managers and researchers in an active process of user involvement, stakeholder empowerment, and stakeholder co-operation. The final, validated model will be documented for further possible IT-development. The project initiation phase will cover detailed planning and standardisation of the work, and a project conclusion phase covers dissemination and exploitation.

Keywords:

Care management, performance evaluation, quality of life, quality of care, client quality, professional quality, management quality, Target efficiency, equity of care, integration of care

Co-ordinator

Prof. Marja Vaarama
STAKES – National Research and Development Centre for Welfare and Health
Policy and Services for Ageing People
P.O.Box 220
00531 Helsinki
Finland
Fax: 358-9-3967 2007
Tel.: 358-9-3967 2213
e-mail: marja.vaarama@stakes.fi

Partners

Estonia,
University of Tartu, Department of Internal Medicine
Dr. Kai Saks
email: kai.saks@kliinikum.ee

Finland,
Social Services Department of City of Helsinki
Dr. Jaakko Valvanne
email: jaakko.valvanne@hel.fi

Germany,
University of Bamberg, Department of Urbanistics and Social Planning
Prof. Richard Pieper
email: richard.pieper@sowi.uni-bamberg.de

Spain,
Hospital Santa Cristina
Dr. Sara Pupato Ferrari
email: spupato@hscr.insalud.es

Sweden,
Stockholm County Council
Dr. Gunnar Ljunggren
email: gunnar.ljunggren@neurotec.ki.se

United Kingdom,
University of Liverpool, Department of Primary Care
Dr. Andrew Sixsmith
email: sixsmith@liv.ac.uk

Project number:	QLK6-CT-2002-02647
EC contribution:	€2,417,122
Duration:	36 months
Type:	RS
Starting date:	01/01/2003

Services for Supporting Family Carers of Elderly People in Europe: Characteristics, Coverage and Usage

Objectives:

EUROFAMCARE will provide a European review of the situation of family carers of elderly people in relation to the existence, familiarity, availability, use and acceptability of supporting services. EUROFAMCARE will push a change management process at various policy levels to promote social policies towards a partnership approach between family carers, professional providers and cared-for.

Brief Description:

Six countries (Germany, Greece, Italy, Poland, Sweden, United Kingdom) will form a trans-European group, systematically representing the different types of welfare-states in Europe. In a comparative study each of the six core countries will collect data from about 1,000 family carers and their dependent elderly family members in different regional sites. The families will be interviewed face-to-face at home using a joint family care assessment. The views of potential service providers involved will be obtained by telephone. Quantitative and qualitative data of these interviews will be entered in National Data Sets and a European data base for cross-national analysis. A typology of care settings will be developed considering examples of good practice and beneficial and obstructive circumstances.
Pan-European expertise, knowledge and background information about the support, relief and expertise of family carers recognising the variety of the different social-, health- and welfare systems in a future Europe will be achieved by reviews and expert interviews in the six project countries plus 17 further European countries.
A representative of the WHO/ EURO as a member of the project group will conduct interviews with European decision makers to gather their views about strengths, weaknesses and opportunities in their responsibilities to support family carers.
A socio-economic evaluation on the basis of the National Surveys and the pan-European background information will calculate the economic consequences from perceived quality of life to European-wide politico-economic implications.
The last step will be a feedback research action phase based both on the study results and on the pan-European expertise. The partners will push a change management process at the level of local authorities and service providers as well as at the level of national and European policies.

Keywords:

long-term (home) care, quality of life of family caregivers and their dependent elderly, professional care providers, partnership approach in family care, change management, typology of care settings

Co-ordinator :

Dr. Hanneli Döhner
Institute for Medical Sociology
Social Gerontology (Head)
University of Hamburg, University Hospital Eppendorf
Martinistr. 40
20246 Hamburg
Tel. : (0049) 40 42803 4528
Fax : (0049) 40 42803 4056
e-mail: doehner@uke.uni-hamburg.de

Partners

Germany
Dr. Heinz Rothgang, Centre for Social Policy Research, University of Bremen, Parkallee 39, D-28209 Bremen, tel: (49 421) 2184132 fax: (49 421) 2187540 rothgang@zes.uni-bremen.de
Greece

Dr. Elizabeth Mestheneos, Dr. Judith Triantaffillou, SEXTANT Co. Social and Economic Research and Consultancy, Department of Health Services Management, National School for Public Health (NSPH) 196 Alexandras Ave. - 11521 Athens, tel and fax: (30 19) 567744, tel: (30 10) 34 61742, (30 10) 6433980, liz.mestheneos@mail.sextant.gr, judy.triantafillou@mail.sextant.gr, sextant@panafonet.gr
Italy

Dr. Giovanni Lamura, INRCA Dipartimento Ricerche Gerontologiche , Via S. Margherita 5, 60124 Ancona, tel: (39 071) 800 4797, fax: (39 071) 35941, g.lamura@inrca.it
Poland
Prof. Barbara Bien, Dep. of Clinical and Social Gerontology, The Medical Academy of Bialystok, 15-230 Bialystok, Kilinski Street 1, tel: (48 857) 422021 ext. 2188, fax: (48 857)422539, bien@amb.ac.bialystok.pl
Sweden

Prof. Birgitta Öberg, Department of Health and Society, University Hospital, Sandbäcksgatan 7, SE-581 85 Linköping, tel: (46 13) 22 17 53, fax: (46 13) 22 17 06, birgitta.oberg@ihs.liu.se
UK

Dr. Kevin McKee, SISA, Community Sciences Centre, University of Sheffield, Northern General Hospital, Herries Road, Sheffield S5 7AU, tel: (44 114) 271 4099, fax: (44 114) 271 5771, k.j.mckee@sheffield.ac.uk, Prof. Mike Nolan, School of Nursing & Midwifery, Samuel Fox House, University of Sheffield, Northern General Hospital, Herries Road, Sheffield S5 7AU, tel: (44 114) 226 6851/6849, fax: (44 114) 226 6849, m.r.nolan@sheffield.ac.uk
WHO/EURO

Dr. Rüdiger Krech, WHO Regional Office for Europe, 8 Scherfigsvej, DK-2100 Copenhagen, Denmark, tel: (45 39) 17 1269, fax: (45 39) 17 1818 mob: ++45 2124 9683, RKR@who.dk

SME-specific Projects

CRAFT

Project number:	QLRT-1999-70549
EC contribution:	€409.686
Duration:	24 months
Type:	CRAFT
Starting date:	01/03/2001

Ultrahigh resolution ophthalmologic optical coherence tomography

Objectives:

The *objective* of this project is to develop a new generation of an ophthalmologic technology which should allow early diagnosis and monitoring of retinal diseases the worldwide leading causes of blindness in the aging population. This technique is called ultrahigh resolution optical coherence tomography (UROCT) and will be based on newly developed compact and reliable components suitable for clinical use.

Brief description:

New medical imaging technologies can improve both the diagnosis and the clinical management of a disease and therefore have a significant, challenging impact in medical research and clinical practice. *State-of-the-art*, minimally invasive *imaging techniques* have revolutionized diagnostic medicine during the last decades. In the last decade, advances in optics, fibre as well as laser technology have enabled the development of a novel non-invasive optical biomedical imaging technology, called optical coherence tomography (OCT). It is analogous to conventional ultrasonic pulse-echo imaging, except that OCT does not require direct contact with the tissue being investigated and that it measures echo delay and intensity of back reflected infrared light rather than acoustic waves from internal tissue structures. The eye is essentially transparent, transmitting light with only minimal optical attenuation and scattering and also provides easy optical access to the anterior segment as well as the retina. Hence, optical ranging measurements, the optical analogue of ultrasound A scans, were first demonstrated in 1986 using femtosecond light pulses as well as low coherence interferometry. Since then, numerous clinical as well as basic studies demonstrate the potential of OCT for routine clinical ophthalmic diagnosis.

Despite the promising and clinically valuable results of these studies, the resolution and performance is the main technical limitation of the existing clinical ophthalmic OCT technology and is significantly below what can be achieved theoretically and what has been demonstrated in the laboratory recently. The main innovation of the proposed UROCT instrument will be improved axial resolution of the cross-sectional tomograms, that should achieve significantly enhanced visualization and quantification of intraretinal structures for more sensitive and earlier diagnosis of ocular pathologies. The scope for development will include: ultrabroad bandwidth optics and light sources, respectively and a compact clinically feasible, reliable set-up that is optically, electronically and mechanically optimised to accommodate the ultra broad bandwidth and that can be used for clinical practise. With recent advances in technology, including the emergence of state of the art ultrahigh bandwidth femtosecond laser technology, a third generation ophthalmologic OCT technology is being developed in the proposed project. This new OCT technology represents an advance in performance, achieving in vivo retinal imaging with axial resolution close to that of conventional histopathology possibly enabling diagnosis of ocular pathology in unprecedented early stages.

Keywords:

Retinal disease – femtosecond laser – optical coherence tomography - opthalmology

Co-ordinator

Name	Wolfgang Köhler
Organisation	Femtolasers Produktions GmbH
Address	Fernkorngasse 10 A-1100 Vienna
Country:	Austria
Phone :	+ (43-1) 503700260
Fax :	+ (43-1) 503700299
E-mail:	wolfgang.koehler@femtolasers.com

Partners

Name:	Karpat Ferencz
Organization:	Optilab LtD
Country:	Hungary
Email :	optilab@matavnet.hu

Name:	Matthias Chour
Organization:	JENAer Messtechnik
Country:	Germany
Email :	JENAer_Messtechnik@t-online.de

R&D Performers

Name:	Wolfgang Drexler
Organization:	Institut für Medizinische Physik Universität Wien
Country:	Austria
Email :	wolfgang.drexler@uniwien.ac.at

Name:	Ferenc Krausz Gabriel Tempea
Organization:	Institut für Photonik Technische Universität Wien
Country:	Austria
Email :	ferenc.krausz@tuwien.ac.at gtempea@pop.tuwien.ac.at

Project number:	QLK6-CT-2002-70587
EC contribution:	€481,340
Duration:	24 months
Type:	CRAFT
Starting date:	01/06/2002

Development of a process for the manufacture of high performance near net shape orthopaedic prostheses

Objectives:

The objective of this project is to develop a novel manufacturing process to produce customised, truly porous, hydroxyapatite-coated cement-less orthopaedic prostheses. The project will create a prosthesis implant that will integrate with the surrounding bone in such a way as to prevent movement of the prosthesis during normal operating conditions. The improved osteo-integration of the prosthesis will reduce the need for remedial surgery due to loosening after years of service.

Brief description:

This work requires the development of processes to create the optimum implant from bio-compatible alloys in the form of a high-strength, NON RANDOM micro-porous structures. This technical objective is to be achieved by developing 'state-of-the-art' medical imaging, 3D CAD, Selective Laser Sintering (SLS) Direct Metal Melting (DMM) of bio-metals and Hydroxyapatite deposition, to produce a new, clinically-proven technology. The resulting implants will have a novel, bone like surface structures, which allow the effective transfer of load from the implant to the surrounding skeleton and vice versa. These forms will be manufactured using layered fabrication technology, which allows the inclusion of re-entrant features, and will permit the full interlock of bone within the implant. Additionally these structures will act as multi-directional stabilisers to resist everyday forces associated with patient locomotion. To achieve this, it is intended to use two manufacturing routes to produce the cobalt chrome parts. The first will use investment casting combined with Rapid Prototyping as an established route to demonstrate the validity of the new surface forms in relation to existing designs. The second uses DMM derived powder metallurgy techniques to generate the macro features while maintaining the highly beneficial, fully interconnected, micro-porous structure.

Keywords:

Prosthesis implant – Direct Metal Melting – micro-porous structure – Rapid Prototyping – remedial surgery.

Co-ordinator

Name Dr Mike Tuke
Organisation Finsbury Instruments Ltd
Address 13 Mole Business Park, Randalls Road, Leatherhead, KT22 0BA
Phone : + (44) 1372 360830…
Fax : + (44)1372 360779…
E-mail: mike.tuke@finsbury.org

Partners

Name: L. Hermansson
Organisation: Doxa Certex AB
Country: Sweden
e-mail: leif.hermansson@doxa.se

Name: A. Leonard
Organisation: Teknimed SA
Country: France
e-mail: teknimed@teknimed.com

Name: G. Haswell
Organisation: Haswell Moulding Technologies
Country: United Kingdom
e-mail : geoffhaswell@aol.com

Name: P. Norlander
Organisation: Livallco Stal
Country: Sweden
e-mail : info@livallco.com

Name: C. Chesby
Organisation: Geco LDA
Country: Portugal
e-mail : ches@gecouk.com

Project number:	QLK6–CT–2002–70823
EC contribution:	€507,314
Duration:	24 months
Type:	CRAFT
Starting date:	01/06/2002

An Affordable & More Effective Closure Treatment for Chronic Ulcers to Improve Patient Mobility and Quality of Life – 'Rapi-Heal'

Objectives:

2 Million people in Europe suffer from chronic external ulcers every year. In Europe due to our dietary trends and ageing population, this situation is exacerbated by the links between the onset of external ulcers caused by either diabetis melitus or pressure sores amongst hospitalised or immobile elderly people. It is estimated that 3% p.a. of all diabetics will develop chronic foot ulcers and that around 75% of pressure and venous ulcers occur in the age group 55 to 85. These trends combined, are predicted to increase the number of external ulcer sufferers by 25% by 2010 to 2.5 Million, with 24,000 likely to result in amputation of a limb. It is estimated that the total cost of treatment of all chronic ulcers in the region of €8 Bn p.a. with typical healing times of between 12 and 24 weeks.

This project aims to develop a topical treatment device that will accelerate healing rates of typically difficult-to-heal ulcers in the lower limb. The device will remove the majority of harmful bacteria containing wound fluids and stimulate the growth of healthy tissue to replace that damaged by the ulcer. Our aim is to develop a device that can be manufactured and operated cost effectively in order that an increased number of patients across the EU and beyond will benefit from reduced healing times. Furthermore, the device will be made mobile so that the majority of patients can continue with normal life whilst undergoing treatment.

Brief description:

Initial studies will focus on a range of ulcers of the leg and especially the lower limb and data will be collected from a number of patients. Metrics will include size, anatomical location, wound fluid characteristics and production rate and surrounding skin condition. Furthermore, phases of healing will be observed and data recorded relating to transition to closure of the wound. Data collected will be input into the design phase of the wound closure composite. From the data collected and analysed, a detailed design will be developed for the wound abstraction element together with the system of channels that will be used within this. Development and subsequently prototype injection moulds will be designed, manufactured and trialled. These moulds will be used to produce functional parts of the abstraction system. A portable unit for the purpose of abstraction of the wound fluids will be designed and developed. This unit will be self powered and therefore will not require the use of mains electricity or battery power. Prototype parts will be moulded and a working prototype unit produced. A number of trials will take place to verify the correct function of each element of the system prior to them being combined to form a complete working prototype device. Healthcare professional, carers and other relevant personnel will review the system in operation and provide feedback which will be used as input into design and functional iterations.

Keywords:
Diabetic ulcer, venous leg ulcer, pressure ulcer, accelerated healing

Co-ordinator

Name: Mr Allen Green
Company: A K Industries Limited
Address Foxwood Court, Rotherwas Industrial Estate, Hereford, HR2 6JQ, UK
Phone : +0044 (1432) 375100
Fax : +0044 (1432) 263532
E-mail: allen@aki.co.uk

Partners

Name: Mr Fabrizio Quagiluolo
Company: Sicon s.r.l
Country: Italy
e-mail: fabrizio.quagiuolo@sicon.org

Name: Mr Brian King
Company: Smithstown Light Engineering Limited
Country: Republic of Ireland
e-mail: bking@sle.ie

Name: Mr Tom Vejby
Company: Knudsen Plast A/S
Country: Denmark
e-mail : tov@knudsen-plast.dk

Sub Contractors

Name: Mr Ian Cleathero
Organisation: Pera
Country: UK
e-mail: ian.cleathero@pera.com

Name: Dr Mary Paula Colgan
Organisation: Trinity College Dublin
Country: Republic of Ireland
e-mail: mpcolgan@stjames.ie

Project number:	QLK6-CT-2002-70848
EC contribution:	€690220
Duration:	24 months
Type:	CRAFT
Starting date:	01/08/02

Seaweed gels as fillings in pads and mattresses for therapeutic use and care of the elderly

ACROMYM : SCAFTCOE

Objectives:
The project addresses the problem of pressure ulcers in the elderly and infirm. The work proposes an innovative approach to the need for effective prevention and treatment, by use of the particular properties of seaweed allied to new technologies in materials and electronics.
Prototypes will be developed for both standard (preventative) use and acute care purposes. Many other applications will be possible for these products in wound care and orthopaedics.
The research supports the EU programmes of 'Integrated Production of Biological Materials' and ' The Ageing Population and Disabilities'

Brief description:
The research consists of 5 interdependent, technical, workpackages:
The formulation of the seaweed gels and investigation of properties – experiments will be carried out to determine the optimum thermal, viscosity and mechanical properties of the gels.

Materials & Construction of the Envelope – includes the process of selection of materials for the envelope and cover, and the best way of welding the materials. Th envelope will be capable of being reactive to pressure and temperature. Prototypes will emerge from this phase.

Investigation of Interfaces – will focus on the interface between the gel/cover and body of the user. The criteria will include – ability to reduce pressure and shearing forces to the body, and to achieve patient comfort.

Production Safety Testing – will investigate all aspects of product safety

Field Testing of Prototypes – will encompass a comprehensive testing regime using volunteer patients according to strict scientifically rigorous conditions.

The SME participants will set the specifications, provide raw materials, evaluate the development pathway of the prototypes and assist in the distribution of the prototypes for testing.

Keywords:
Pressure Ulcers – Seaweed – Products for Wound care - Orthopaedics

Co-ordinator
Name Dennis Gowland
Organisation Benesther Shellfish
Address Horries, Deerness, Orkney, Scotland, UK, KW17 2QL
Phone : + 44 1856 741267
Fax : + 44 1856 741370
E-mail: dennis@researchrelay.com

Partners

Name: Mr C Gorter
Organisation: Yalisco
Country: Netherlands
e-mail: seahealth@village.uunet.be

Name: Mr P Heyrman
Organisation: The Sleeping Society
Country: Belgium
e-mail: paulheyrman@skynet.be

Name: Mr S Johnson
Organisation: Gaeltec Ltd
Country: United Kingdom
e-mail : syd@gaeltec.co.uk

Name: Dr M Gilbert
Organisation: Loughborough University
Country: United Kingdom
e-mail: Mgilbert@lboro.ac.uk

Name: Prof S Poedts
Organisation: Catholic University of Leuven
Country: Belgium
e-mail Stefaan.poedts@wis.kuleuven.ac.be

Project number:	QLK6-CT-2002-71137
EC contribution:	€809,900
Duration:	24 months
Type:	CRAFT
Starting date:	01/01/2003

DOPARTAGO : Dopaminergic Partial Agonist with Potential against both Parkinson's Disease and Psychoses.

Objectives:

Greater understanding of Parkinson's Disease (PD) and Psychoses will constitute a major contribution to the quality of life in Europe. Geriatric and other chronic diseases have become a real threat to the economy in the western world today. The proposed research of the Dopaminergic Partial Agonist concept (DOPARTAGO) is likely to deliver new atypical anti-psychotics with an improved side-effect profile, as well as a new and long-acting drug for improving the pharmacotherapy of PD.

Brief description:

GMC1111 represents a new therapeutic approach, based on prof. Arvid Carlsson's DA autoreceptor concept. There is one competing drug, Aripiprazole, which was recently approved for marketing in the US against schizophrenia. Among the compounds claimed in the patent application covering GMC1111, there are likely also compounds useful to treat PD.

Research is needed to bring GMC1111 to the stage of "proof of principle". Part of this development program is covered by the DOPARTAGO CRAFT project (up till, but not including, Phase I studies). A synthesis program integrated with pharmacological testing, a so-called SAR Project, will be necessary to identify one or two drug candidates out of the compounds covered by the GMC 1111 patent application. A large scale synthesis (20-100 g of GMC 1111) and a toxicological study in two different species are included in the development program.

Keywords:

Schizophrenia, Parkinson's disease, D2, D3, partial agonist, dopamine stabilizer

Co-ordinator

Name: Prof. Håkan Wikström
Organisation: Axon Biochemicals
Address: Elsschotlaan 32, 9721 WN Groningen, The Netherlands
Telephone: +31 50 3633297
Fax: +31 50 3636908
E-mail: h.v.wikstrom@farm.rug.nl

Partners

Name: Prof. Torgny H. Svensson
Organization: Independent Pharmaceutica
Address: c.o. Revisorspoolen Matsson & Co, Tegnergatan 37 1tr, 11161 Stockholm, Sweden
Telephone: +46 8 7287921
Fax: +46 8 308424
E-mail: torgny.svensson@fyfa.ki.se

Name: Dr. Bo-Ragnar Tolf
Organization: Acadia Pharmaceuticals
Address: Fabriksparken 58, DK-2600 Glostrup, Denmark
E-mail: BTolf@acadia-pharm.com
Telephone: + 45 4329 3028
Fax: + 45 4329 3030

Name: Dr. Sören Olsson
Organization: Nordic synthesis
Address: S- 691 85 Karlskoga, Sweden
Telephone: +46 586 83309
Fax: + 46 586 53276
E-mail: soren.olsson@nordicsyntesis.se

Name: Dr. Nicholas Edwards
Organization: SCANTOX
Address: 36A Hesterhavevej, Ejby , DK-4623 Lille Skensved, Denmark
Telephone: +45 56 861500
Fax: +45 56 821202
E-mail: info@scantox.com

Name: Dr. Andries P. Bruins
Organization: MSF
Address: Broerstraat 5, 9712 CP Groningen, The Netherlands
Telephone: +31 50 363 3262
Fax: +31 50 363 7582
E-mail: a.p.bruins@farm.rug.nl

Name: Prof. Ben Westerink
Organization: BOL
Address: Broerstraat 5, 9712 CP Groningen, The Netherlands
Telephone: +31 50 363 3307
Fax: +31 50 3636908
E-mail: b.h.c.westerink@farm.rug.nl

Name: Prof. Erik Frijlink
Organization: PTB
Address: Broerstraat 5, 9712 CP Groningen, The Netherlands
Telephone: +31 50 363 3285
Fax: +31 50 363 2500
E-mail: h.w.frijlink@farm.rug.nl

Name: Dr. Erling Ehrin
Organization: Apoteket
Address: Prismavagen 2 ,S-14175 Kungens Kurva, Sweden
Telephone: +46 8 4661627
Fax: + 46 8 466 1771
E-mail: erling.ehrin@apoteket.se

Project number:	QLK6-CT-2002-71584
EC contribution:	€808,600
Duration:	18 months
Type:	CRAFT
Starting date:	01/01/2002

The potential of oligonucleotide submicron positively charged emulsion ocular delivery system for age related macular degeneration

Objectives:

Age-related macular degeneration (ARMD) is a common eye disorder which is becoming the leading cause of blindness in industrialized world. The wet form is the more severe type of ARMD. Although the wet form affects only 10% of patients, it accounts for 90% of the blindness caused by ARMD. No effective therapeutic treatment is available to date. The objective of the present research proposal therefore is to develop a product to treat and cure ARMD, by using the combination of two novel technologies, Cationic emulsion and Ocular Electroporation to deliver anti-angiogenic oligonucleotides (ODN) in order to inhibit the neovascularization responsible for the disease. To demonstrate the efficacy of the combination, ocular pharmacokinetic studies and animal models of the disease will be used. Scale-up, stability studies and set up of specification will then be performed in order to have a final product which will be ready for Phase I clinical trials in human.

Brief description:

Extensive physico-chemical investigation and optimization of the ODNs association with cationic emulsion will be performed by the group of Prof. Simon Benita (inventor of the Cationic Emulsion technology) at the University of Jerusalem in collaboration with Novagali SAS (exclusive owner of the Cationic Emulsion technology). Novagali will develop the assay methods and perform the pre-stability testing. This will be followed by an ocular tissue distribution study in animal eyes (rabbits, rats). The proof-of-concept of cellular ODN uptake, using the association of the Cationic Emulsion with Ocular Electroporation, will be performed in rat models developed by the INSERM 450 group. The rat corneal neo-vascularization model will be used to determine the optimal parameters of the combination of the Cationic Emulsion with the Electroporation in order to enhance ODN ocular penetration and to allow ODN to reach the target site. The new product will then be tested in the rat choroidal neo-vascularization model, according to Cationic Emulsion and Electroporation parameters determined in the corneal model. An animal ocular tolerance and safety study will then be performed. The manufacturing process of the Cationic Emulsion will be optimized and scaled-up by Octoplus BV. Both Novagali SAS and Octoplus BV will perform ICH Stability studies and define the specifications of the final product. The new ocular delivery system can be a treatment kit consisting of the ODN Cationic Emulsion and the Electroporation device. During the course of the last part of this development Novagali SAS and Coraltis Ltd. will perform market analysis studies, select an appropriate partner (by preference European) and prepare for market implementation.

Keywords:

ARMD – Oligonucleotide – Antisense – Cationic – Emulsion - Electroporation

Co-ordinator

Name Mr. Ben van der KOOIJ
Dr. Gregory LAMBERT
Organisation Novagali SAS
Address 4 rue Pierre Fontaine, 91058 Evry Cedex, France
Phone : + (33-1) 60 87 89 08
Fax : + (33-1) 60 87 89 38
E-mail: bvdk@novagali.com , lambert@novagali.com

Partners

Name:	Mr. Yossi BORNSTEIN
Organisation:	Coraltis Ltd.
Country:	Israel
e-mail:	yossi@coraltis.co.il

Name:	Dr. Joost HOLTHUIS
Organisation:	Octoplus Development BV
Country:	The Netherlands
e-mail:	holthuis@octoplus.nl

Name:	Prof. Simon BENITA
Organisation:	Hebrew University of Jerusalem
Country:	Israel
e-mail :	benita@cc.huji.ac.il

Name:	Dr. Francine Behar-Cohen
Organisation:	INSERM U450
Country:	France
e-mail :	Beharcohen@aol.com

Project number :	QLK6-CT-2002-71851
EC contribution :	499.600,00 EURO
Duration :	24 months
Type :	RS
Starting date :	01/12/2002

TELEDOC: Telerehabilitation system using haptic interfaces and virtual reality techniques

Objectives:

This project intends the development of a complete system for telerehabilitation making also use of VR techniques. The use of VR applications provides the capability to create an environment in where the intensity of feedback and training can be systematically manipulated and enhanced in order to create the most appropriate, individualized motor learning paradigm.

Brief description:

This project presents a solution to rehabilitation needs by creating a technology to provide rehabilitation therapy at the patient's home, or in satellite facilities, using a networked computerized system (telerehabilitation) bridging the gap between the rehabilitation hospital and the community. Such remote therapeutic intervention will clearly increase the disabled individual's self-sufficiency, as well as family support and involvement in the therapy. For disabled individuals that are self-employed, or perform home-based employment on a regular basis, telerehabilitation will be beneficial through the elimination of the time needed to travel to and from the clinic. For individuals on temporary disability, such a system would also shorten time lost from work, because of an intensive and monitored home-based therapeutic intervention. In the case of orthopedic patients, special force feedback interfaces need to be developed to allow on-line rehabilitation at home.

Similar to computer games, VR rehabilitation exercises can be made to be engaging, which is important in terms of the patient motivation. VR sensor technology can also be used to fully quantify any progress made by the patient, especially in terms of motor control improvement.

The project will end with a fully operative system demonstrator of the technology developed. This system will include:

- Haptic interfaces developed for some specific therapies: knee, ankle, wrist, etc.
- VR-based rehabilitation routines to make sessions funnier and increase patient motivation.
- A Clinical database for information management
- Communication links among the different subsystems.
- System software to control overall activity.
-

Keywords :

Telerehabilitation, Virtual Reality in medicine, traumatology.

Co-ordinator :

Name :	M. MAZA, Dr.
Department :	Centro Politecnico Superior – Dpto. De Ingeniería Mecánica
Organisation :	Unversidad de Zaragoza
Address :	Maria de Luna, s/n - Edificio Betancourt
Phone :	+ 34 976 762558 // + 34 686 148315
Fax :	+ 34 976 762147
E-mail :	mmaza@unizar.es

Partners :

Name : S. ARNILLAS, Mr.
Organisation : ALARCO S.A.
Country : Spain
e-mail : alarco@telefonica.net

Name : P. SAVET, Mr.
Organisation : SATEL
Country : France
e-mail : satel@satel-posture.com

Name : D. KOUNTOURIS, DR.
Organisation : NEUROCELL
Country : Greece
e-mail :

Name : F. ALBAJAR, Mr.
Organisation : TRIO
Country : Spain
e-mail : triosl@teleline.es

Name : A. GUILLEN, Mr.
Organisation : ASPACE
Country : Spain
e-mail : aspace@clubmarketing.net

Name : F. SANCHEZ, Mr.
Organisation : FREMAP
Country : Spain
e-mail : francisco_sanchez@fremap.es

Name : M. MAZA, Dr.
Organisation : UNIZAR
Country : Spain
e-mail : mmaza@unizar.es

Name : J-G. FONTAINE, Prof.
Organisation : CRIIF
Country : France
e-mail : jean-guy.fontaine@ensi-bourges.fr

Name : N. VATISTAS, Mr.
Organisation : REFLEXION
Country : Greece
e-mail : gvatistas@ath.forthnet.gr