Name of the Centre: epidemiology of brain resilience to aging - eBRAIN
Key Investigator / Head of Department: Caterina Rosano (PI of study)
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Description of the Centre:

a) Type of investigations:
- Basic Science / Fundamental
- Clinical Research
- Health Services Research
- Epidemiologic/Public Health Research
- Other

b) Themes investigated (please specify):
- Dementia
- Frailty
- Sarcopenia
- Other Neurodegenerative Disorders
- Geriatric Disorders
- Cardiovascular Risk Factors
- Metabolism
- Ageing research
- Genetics
- Gerontechnology
- Other

c) Number of investigators in ongoing positions:
- Less than 5
- to 10
- More than 10

d) Number of investigators funded by specific projects:
- 1 to 3
- 4 to 5
- More than 5

e) Does your Centre have a:
- Clinical affiliation
- Academic affiliation

f) Does your Centre have a basic sciences program? (Please specify topic)
- Yes
- No

If your Centre is affiliated to a Geriatric Department, please provide the following information:

a) Types of units:
- Acute Ward - Number of beds: 0
- Outpatient Ward - Number of patients/year: 0
- Community Care Unit - Number of visits/year: 0
Day Hospital - **Number of places/day:** 0

Geriatric Rehabilitation Unit - **Number of beds:** 0

Long-Term Care - **Number of beds:** 0

Special Units (stroke, memory, ortho-geriatric, psycho-geriatric) - **Number of beds:** 0

**b) Number of staff in the Department:**

Geriatric: 0
Gerontology: 0
Other: 0

**c) Does the Day Hospital have specialist services?**

- Dementia / Memory
- Cardiovascular clinic
- Rehabilitation
- Falls assessment clinic
- Parkinson's disease clinic
- Other

**d) Does your Geriatric Department already cooperate with supervising clinical trials?**

- Yes
- No

**Management of the Centre:**

**a) Is your Centre an existing national or government recognized medical research Centre?**

- Yes
- No

**b) Does the Centre receive funded grants? (Please specify source)**

- Yes NIH
- No

**c) Does the Centre collaborate with trials funded by pharmaceutical companies?**

- Yes
- No

**d) Will the Centre shortly begin investigation projects?**

- Yes
- No

**Indicate the three main publications over the last 2 years:**

1/ **Name of Journal:** Neurobiology of aging

**Title of article:** Magnetization transfer imaging, white matter hyperintensities, brain atrophy and slower gait in older men and women.

2/ **Name of Journal:** Neuroimage

**Title of article:** Neuroimaging differences between older adults with maintained versus declining cognition over a 10-year period.

3/ **Name of Journal:** Hypertension

**Title of article:** 'Aortic pulse wave velocity predicts focal white matter hyperintensities in a biracial cohort of older adults'

**Please add short biographies (maximum 1 page) of the Key Investigators and Head of Department**

Dr. Rosano has obtained her MD from the School of Medicine, Palermo, Italy, in 1995 and her Master in Epidemiology from the Graduate School of Public Health at the University of Pittsburgh in 2003. Dr Rosano has received her training in Neuroscience as a postdoctoral fellow at the Jackson Memorial Hospital in Miami in 1996-98. Her research focused on the neuroregenerative potential of the gray and white matter of...
the central nervous system. As a research associate in the department of Neurobehavioral studies at the University of Pittsburgh, (1999, 2001) she used functional Brain MRI technique to investigate the human brain performance and sensorimotor integration in young and older adults. From 2001-2004, Dr. Rosano has conducted research as a National Institute on Aging Fellow in the Department of Epidemiology at the University of Pittsburgh, focusing on the epidemiology of age-related brain functional impairment. Dr. Rosano is the PI of the e-BRAIN research group and the PI of the Area of Concentration in Neuroepidemiology of Motor Control within the CAPH. In her own words: "I have a long standing interest in understanding how the brain adapts to the ?normal? processes of aging. This is based on the peculiar observation that some older adults age spectacularly well, while others decline very rapidly. I am specifically interested in understanding the causes, biomarkers and consequences of brain aging. My goal is to identify the modifiers of brain function and structure and their implications to promote survival free of physical disability and dementia. My enthusiasm toward the study of brain aging is rooted in my background in Medicine and in Neuroscience. My research approach is grounded on the application of cutting-edge methods of neuroimaging, mobility and cognitive measures to epidemiological cohorts? and randomized clinical trials studies. In partnership with Dr. Aizenstein, I apply neuroimaging methods to numerous epidemiological studies. The application of the most advanced neuroimaging technology to large epidemiological studies of aging makes my research most innovative and of great potential impact. Collectively, my studies constitute a unique and novel resource comprising large datasets of detailed brain and functional markers from several hundreds of individuals. I expect that these data will augment our understanding of brain aging and that they will contribute to the discovery of new approaches to the promotion of survival free from disabilities. " Howard J. Aizenstein, M.D., Ph.D., is Associate Professor of Psychiatry, Bioengineering, and Clinical and Translational Science. His lab uses structural and functional MRI to study the brain changes associated with aging, and the disorders of aging. Dr. Aizenstein uses fMRI to relate the cognitive and affective symptoms in the elderly to the functional neuroanatomy. By combining functional and structural data we can gain understandings as to the changes occurring in the brain. A central theme of Dr. Aizenstein research is investigating the common underlying neural mechanisms of the components of the geriatric syndrome, including studying depression, mobility, and cognition.