

From patient data to personalised healthcare in Alzheimer's Disease (PREDICTAD)

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Title of project or programme

From patient data to personalised healthcare in Alzheimer's Disease (PREDICTAD)

Principal Investigators of project/programme grant

Title	Forname	Surname	Institution	Country
Dr	Jyrki		TEKNOLOGIAN TUTKIMUSKESKUS VTT	Finland

Address of institution of lead PI

Institution TEKNOLOGIAN TUTKIMUSKESKUS VTT

Street Address

City

Postcode

Country

Finland

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European Commission

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42

The project/programme is most relevant to

Keywords

Research abstract in English

Dementia causes long and oppressive suffering to patients and their relatives and imposes enormous costs on society. About 25 million people suffered from dementia in 2000. As a 4-fold increase of this number is expected by 2050, dementia is one main health issue of the next decades.

Alzheimer's disease (AD) covers 60-70% of all dementia cases. No cure for AD exists, and effective and reliable early diagnostic techniques are lacking. Early diagnosis and progress monitoring of AD is a central part of treatment once future drugs and prevention strategies become available. There is a strong indication that different biomarkers provide a reliable and early indication of AD prior to its major clinical signs. However, optimal early diagnosis requires information from a combination of different biomarkers to be used in a clinically useful way.

The objective of PredictAD is 1) to find the best combination of biomarkers for AD diagnostics from heterogeneous data (imaging, electrophysiology, molecular level, clinical tests, demographics) and 2) to develop clinically useful tools integrating the optimal biomarker results. Comprehensive biomarker discovery techniques and rigorous statistical models will be developed using the consortium's large databases. The accuracy and usability of models and tool will be clinically evaluated. The cost-effectiveness of heterogeneous data in AD diagnostic procedures will be studied.

By reaching its objectives, PredictAD provides an efficient and reliable solution for early AD diagnosis in clinical practice. The impacts on patients, their relatives and society are reduced suffering and costs. As we are living in the dawn of an era of new drugs and prevention strategies combined with increasing AD prevalence, now is the time to exploit the vast potential of information hiding in heterogeneous patient databases. PredictAD combines the best forces in Europe to solve the AD diagnostics problem, and hence strengthens EU leadership on the market.

Lay Summary