

Health research on Parkinson's disease

Neurodegenerative diseases are debilitating and currently incurable conditions that result in progressive degeneration and or even the death of neurons, causing movement or cognitive problems. Parkinson's disease (PD) is one of the most common neurodegenerative diseases, second in frequency to Alzheimer's disease and it is estimated that affects around 1.2 million people in the EU.

The prevalence and incidence of PD increase exponentially with age, and are slightly higher in men than in women. People with Parkinson's disease suffer

from motor and cognitive impairments that severely impact their daily lives with mobility problems, fall risk which limit their functional independence. Until recently, treatment focused almost exclusively on symptom relief. Currently, this neurodegenerative condition has no cure. People with Parkinson's disease experience also non-motor symptoms such as depression and sleep disturbances that severely affect their quality of life. A deeper understanding of the disease is needed to allow progress in the treatment and care.

Improving the quality of life and care of people with Parkinson's disease is a longstanding priority of the EU. Over the last decade, the Framework Programmes for Research have dedicated EUR 1.2 billion for research on neurodegenerative diseases of which some EUR 390 million went to projects addressing Parkinson's disease and enabling scientific and innovative advances that are expected to benefit directly the patients.

The aetiology of the majority of cases of PD remains unknown, but a number of factors have been associated with increased or decreased risk such as age, gender, or family history. Nevertheless, further research efforts are needed to understand the disease and develop disease-modifying therapies alleviating symptoms, slowing its progression or curing it, while also improving the quality of life of people with Parkinson's disease.

Research projects such as the selected examples shown below are expected to contribute to improve Parkinson's disease management and ultimately, the quality of life of people suffering this chronic condition.



Relevant projects

[PROPAG-AGEING](#) studies an integrated set of omics from cohorts of old patients and old healthy people to identify molecular signatures; the project has the potential to identify new molecular profiles for the early diagnosis and new treatments for Parkinson's disease.

[TreatER](#) launches a first-in-human study for the drug candidate CDFN, which was shown to be efficacious in several Parkinson's disease models.

[i-PROGNOSIS](#) addresses the challenge of capturing the very early symptoms of the disease that usually go unnoticed, delaying the appropriate diagnostic and starting of treatment. The project is developing an ICT-based behavioural analysis approach for capturing, as early as possible, the appearance of Parkinson's disease symptoms.

[FAIR PARK II](#) seeks to demonstrate that conservative iron chelation therapy slows down the progression of handicap in Parkinson's disease patients.

[TRANSNEURO](#) develops an efficacious and safe treatment methodology for patients suffering from Parkinson's disease using foetal cell-based treatments.

[SysMedPD](#) develops and applies a systems biomedicine approach to preclinically identify innovative candidate neuroprotectants, for the estimated 1-2 million people worldwide who suffer from PD with mitochondrial dysfunction; the project aims to deliver a Computational model-based stratification tool as an in vitro diagnostic medical device.

[SYMPATH](#) advances clinical development of therapeutic vaccines targeting α -synuclein (α Syn)-driven neurodegenerative diseases (ND). It addresses Parkinson's disease (PD) and multiple system atrophy (MSA), two synucleopathies, for which no causal therapy exists.

[IMPACT](#) (FP7) successfully developed a prototype for more accurate deep brain stimulation, currently one of the non-pharmacological interventions available for the people with Parkinson's disease whose symptoms cannot be controlled by other pharmacological treatments.

More information

[EU Brain Research](#)

[SC1 Work Programme 2018-2020](#)

[Participant Portal](#)