THE POTENTIAL BENEFIT OF TREATING ALZHEIMER’S DISEASE BEFORE THE ONSET OF DEMENTIA

EBC RESEARCH PROJECT - THE VALUE OF TREATMENT FOR BRAIN DISORDERS
Dementia imposes a major burden on patients, carers and society. Timely diagnosis and early intervention can help to change the patient pathway, potentially improving outcomes for patients and carers while reducing costs.

With a rapidly ageing population, Alzheimer’s disease (AD) is a growing public health concern worldwide. In Europe, an estimated 10.5 million people have dementia, and this number is expected to increase to 18.7 million in 2050. AD is the underlying cause in 70% of people with dementia. AD is a neurodegenerative disease that progresses in stages, beginning with a long silent phase before symptoms appear.

The European Brain Council (EBC) is a non-profit organisation gathering patient associations, major brain-related societies as well as industries. Established in March 2002, its mission is to improve the lives of those living with brain disorders by advancing the understanding of the healthy and diseased brain through bringing together science and society.

The Alzheimer’s Disease case study within the Value of Treatment for Brain Disorders project was supported by Biogen, Janssen, MSD, Pfizer and Takeda.
COUNTING THE COSTS

Of all the chronic diseases, dementia is one of the most important contributors to dependence and disability. The total cost of caring for people with dementia disorders in Europe in 2015 was estimated to be €300 billion\(^1\). The largest costs are related to long-term care facilities and informal care, with costs increasing as dementia progresses\(^2,3\).

IMPROVING OUTCOMES

Today, several potentially transformative AD treatments are on the horizon. These disease-modifying treatments have the potential to slow the progression of the disease. It is believed that these potential treatments will be most effective in people with subjective cognitive decline or mild cognitive impairment, which represent the early stages of the disease. Such treatments would have the power to reduce the dementia-related burden and associated care costs in the long run\(^1\).

The availability of biological markers (biomarkers) for timely diagnosis is a game-changer\(^5\). Identifying people at risk of Alzheimer’s disease before symptoms develop would present a crucial window for intervention if new pharmaceutical treatments become available in the future.

- **10.5 million** Europeans living with dementia\(^1\)
- **1 in 5 people** over 80 affected by dementia
- **70%** of dementia due to Alzheimer’s disease
- **€22,000** per patient per year\(^2\)
- **56%** of dementia costs arise from informal care by families, friends and neighbours\(^2\)

Background

*In January 2016, the European Brain Council (EBC) launched the Value of Treatment project.* The initiative explored the burden of brain disorders, providing evidence-based and cost-effective policy recommendations for the adoption of patient-centred care models. This paper draws on Alzheimer’s disease case studies developed as part of that work.

DELAYING DEMENTIA ONSET IMPROVES QALYS AND REDUCES COSTS

As part of the EBC Value of Treatment project, the potential impact of a hypothetical Alzheimer’s medicine was assessed by researchers from Maastricht University, the Karolinska Institutet, the University Medical Center Amsterdam and the London School of Economics\(^6\).

A hypothetical treatment that delays the rate of disease progression by 50% would mean that a smaller proportion of people would progress to advanced stages of disease.

This would result in an increase of quality adjusted life years (QALYs) of 1.75 per patient. Overall, the treatment was estimated to reduce the total lifetime care costs by **€12,406 per person over 25 years** (treatment costs excluded).
### Recommendations for rethinking Alzheimer’s disease

1. Increase awareness and understanding of early and at-risk stages of AD.
2. Support timely and accurate diagnosis and early intervention.
3. Improve access to diagnostic services and care, including through GP training.
4. Ensure support to people with (early) AD following diagnosis and their carers to navigate a complex health and social care system.
5. Develop a comprehensive patient care pathway for the entire AD continuum.
6. Support and promote dementia research including the development of improved diagnostics, new promising therapies and improved healthcare design.

### REFERENCES
