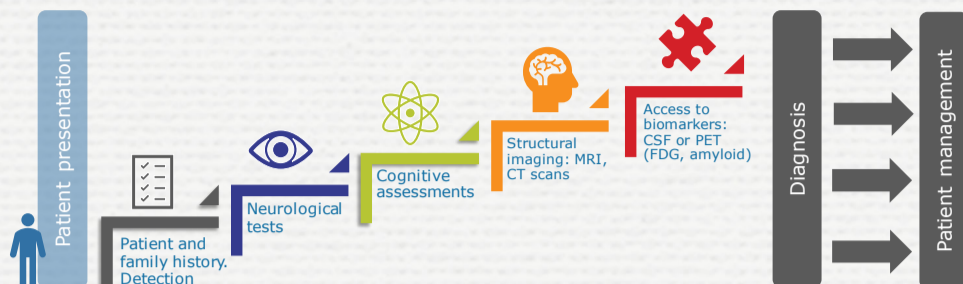


# The Early Diagnosis of Alzheimer's Disease: Exploring a Patient with Memory Complaints and Identifying Underlying Pathologies

## The Patient diagnostic journey



CSF, cerebrospinal fluid; CT, computed tomography; FDG, fluorodeoxyglucose; MRI, magnetic resonance imaging; PET, positron emission tomography

## Alzheimer's Disease in the USA

- Every 65 seconds someone in the USA develops Alzheimer's disease (AD)
- An estimated 5.7 million Americans are living with AD in 2018 (~5.5 million aged ≥65 years and ~200,000 aged <65 years with earlier onset AD)
- By 2050, it is estimated that nearly 13.8 million Americans will have AD
- Between 2000 and 2015, deaths resulting from heart disease, stroke, and prostate cancer reduced by 11%, 16%, and 7% respectively; however, deaths caused by AD increased by 123%
- In 2018, AD and other dementias will cost the nation \$277 billion. By 2050, these costs could rise as high as \$1.1 trillion
- Early and accurate diagnosis of AD could save up to \$7.9 trillion in medical/care costs

**Source:** Alzheimer's Association. 2018 Alzheimer's Disease facts and figures. [https://www.alz.org/documents\\_custom/2018-facts-and-figures.pdf](https://www.alz.org/documents_custom/2018-facts-and-figures.pdf) (Accessed June 19, 2018)

National AD registries	
National Alzheimer's Coordinating Center Database	<ul style="list-style-type: none"> <li>• National research dementia registry established in 1999</li> <li>• Includes patients with AD or related disorders (N=74397 [minimum data set], N=33900 [uniform data set])</li> <li>• Data collected includes cognition, demographics, function, imaging, and biomarkers</li> </ul>
Alzheimer's Prevention Registry	<ul style="list-style-type: none"> <li>• National dementia research volunteer registry established in 2012</li> <li>• Patients with AD and healthy volunteers recruited from the general population via an awareness campaign (N&gt;200,000)</li> </ul>
AD initiatives	
The Healthy Brain Initiative	<ul style="list-style-type: none"> <li>• A series of road maps to advance cognitive health as a vital, integral component of public health</li> <li>• Outlines how state and local public health agencies and their partners can promote cognitive functioning, address cognitive impairment for individuals living in the community, and help meet the needs of care partners</li> </ul>
Dementia Friendly America	<ul style="list-style-type: none"> <li>• Launched in July 2015 as a collaborative of &gt;35 national organizations</li> <li>• Aims to create dementia-friendly communities across the country</li> </ul>
AD Neuroimaging Initiative (ADNI)	<ul style="list-style-type: none"> <li>• Established in 2004 to validate the use of biomarkers for AD clinical trials and diagnosis</li> <li>• Now in its fourth phase, it is studying the rate of change of cognition, function, brain structure, and biomarkers among ADNI volunteers</li> </ul>
Alzheimer's Foundation of America	<ul style="list-style-type: none"> <li>• Founded in 2002 to provide optimal care and services to individuals living with AD and related illnesses</li> <li>• Network of &gt;2600 member organizations nationwide that provide direct care and services</li> </ul>

## Alzheimer's disease in Europe

- Prevalence of AD in Europe is 5.05% of the population
- Prevalence of AD is 6.88% in southern European countries (Spain, Italy, and Greece) and 4.31% in northern European countries (France, the Netherlands)
- Costs associated with AD and other dementias are forecast to increase in the whole of Europe by ~43% between 2008 and 2030 to over 250 billion €

**Source:** 1. Niu H et al. Neurologia 2017;32:523–532; 2. Alzheimer Europe. 2009. Available from: <https://www.alzheimer-europe.org/Research/European-Collaboration-on-Dementia/Cost-of-dementia/Prognosis-to-2030> (Accessed June 2018)