

# REACHING FOR A CURE: *Alzheimer's Disease and Related Dementias Research at NIH*

Bypass Budget Proposal  
for Fiscal Year 2017

## AT-A-GLANCE



Under the leadership of the **National Institutes of Health (NIH)**, the Alzheimer's research community is intensifying its efforts to cure Alzheimer's disease as soon as possible. For the first time, NIH presents a professional judgment budget for the additional Federal funds needed to find effective interventions to treat and prevent Alzheimer's disease and related dementias by 2025—the primary research goal of the [National Plan to Address Alzheimer's Disease](#). We outline the toll Alzheimer's takes on our Nation and the scientific opportunities we could pursue with enhanced funding in Fiscal Year 2017.

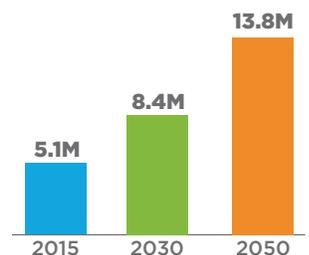


### DEMENTIA AFFECTS MILLIONS OF AMERICANS

Today, **more than 5 million Americans** live with Alzheimer's disease. Many more live with related disorders, such as frontotemporal, vascular, and Lewy body dementias.

### ALZHEIMER'S CASES SET TO TRIPLE BY 2050

Aging is the biggest risk factor for Alzheimer's disease. As the U.S. population ages, the number of people age 65 and older with Alzheimer's is projected to nearly triple to **13.8 million in 2050**, unless we find ways to prevent the disease.



### ALZHEIMER'S IS A LEADING CAUSE OF DEATH

Alzheimer's disease is currently ranked as the **sixth leading cause of death** in the U.S. Recent estimates indicate that the disorder may rank just behind heart disease and cancer as a leading cause of death for older people.

### BUDGETING NOW FOR A CURE IN 2025

NIH estimates we will need an **additional \$323 million** above our estimated base budget in FY 2017 toward the goal of preventing and treating Alzheimer's disease and related dementias by 2025.



### ALZHEIMER'S IS EXPENSIVE

Caring for people with Alzheimer's disease takes an emotional and financial toll on families and society. The cost to the U.S. health care and long-term care systems was between **\$159 billion and \$215 billion** in 2010. Those annual costs may soar to between **\$319 billion and \$511 billion** by 2040.

## Promising Opportunities in Alzheimer's and Related Dementias Research

NIH is pursuing the following promising opportunities in dementia research:

### ***Discovering genes that can lead to therapies***

NIH-supported researchers are working collaboratively to identify the gene variants and gene sequences that confer risk for—or protect against—Alzheimer's disease. The groundbreaking, NIH-led [Alzheimer's Disease Sequencing Project](#) promises to uncover genetic differences in how the disease impacts diverse groups.

### ***Collaborations to speed drug discovery***

Leveraging resources and talent through collaborations is critical to success. In drug discovery and clinical trials, for example, the [Accelerating Medicines Partnership](#) (AMP) aims to shorten the time between finding potential drug targets and developing and testing new drugs. [AMP-AD](#) investigators are studying Alzheimer's-related molecules in more than 2,000 human brains with clinical and pathological data to zero in on new therapeutic targets. Another AMP-AD project adds new biomarkers, such as imaging of tau, to clinical trials among high-risk people to better track disease progression and response to interventions.

### ***Alzheimer's clinical trials' new focus on prevention***

Seeking to intervene much earlier in the disease process, NIH-funded clinical trials are investigating, for example, drugs that clear amyloid protein from the brain in people who are at risk but still free of disease symptoms like memory loss. One trial, the [Dominantly Inherited Alzheimer Network Trial](#) (DIAN-TU), is testing two anti-amyloid drugs in

symptom-free volunteers who carry a gene for a rare form of early-onset Alzheimer's.

### ***Developing tools for early diagnosis***

The NIH-supported [Alzheimer's Disease Neuroimaging Initiative](#) is testing brain imaging and fluid biomarkers to track the course of Alzheimer's in the living brain, providing indicators that may be useful in assessing the effectiveness of therapies.

Investigations also are underway to find less invasive, inexpensive measures, such as a blood test that can predict risk for Alzheimer's, that may one day be found in physician offices.

### ***New models of Alzheimer's disease***

Researchers are developing new models to understand the molecular and cellular processes involved in Alzheimer's. For example, NIH-funded scientists recently developed "Alzheimer's in a dish," using genetic engineering to spur the growth of neural stem cells in a gel. This model may offer new insights into how the disease develops and could enable rapid testing of promising drugs.

### ***Gaining insights into Alzheimer's-related dementias***

The brains of people with Lewy body dementia, as well as those with Parkinson's disease, contain clumps of abnormally folded protein. Although scientists don't fully understand how these Lewy bodies form, recent animal studies indicate that the misfolded protein can be transmitted from cell to cell, spreading this pathology throughout the brain. These new insights may one day lead to therapies that target the spread of this toxic protein.



## THE FUTURE OF ALZHEIMER'S AND RELATED DEMENTIAS RESEARCH

Discoveries in Alzheimer's and related dementias are setting us on a path toward effective treatments and, ultimately, disease prevention. Increasing and sustaining investment is critical to achieving these goals, clearly set out under the National Plan to Address Alzheimer's Disease. We owe nothing less to the people affected by Alzheimer's disease and related dementias, their families and caregivers, and an aging Nation and world.

To view the NIH Bypass Budget Proposal for Fiscal Year 2017—*Reaching for a Cure: Alzheimer's Disease and Related Dementias Research at NIH*—please visit [www.nia.nih.gov/alzheimers/bypass-budget-fy2017](http://www.nia.nih.gov/alzheimers/bypass-budget-fy2017).



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