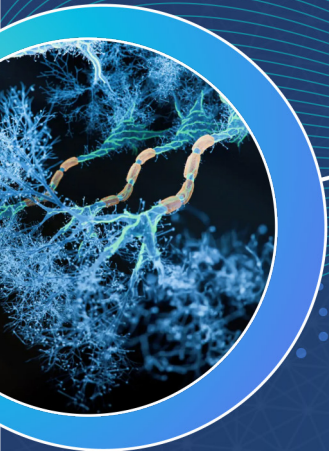




Fiscal Year 2027
NIH Professional Judgment Budget
for Alzheimer's Disease and Related
Dementias Research:

Advancing Progress in Dementia Research



National Institutes of Health

Introduction

As mandated in the Alzheimer's Accountability and Investment Act, NIH annually releases the Professional Judgment Budget for Alzheimer's Disease and Related Dementias (AD/ADRD) Research.¹ This budget estimates the additional funding above the base needed to carry out initiatives pursuant to the National Alzheimer's Project Act.² In fiscal year 2027, the projected cost of additional resources needed for new and evolving AD/ADRD research is \$511.21 million. This estimate is reduced by \$324 million in funding from completed projects that will be available for new research initiatives. As a result, the additional resources needed for new research in the FY27 budget are \$187.21 million.

Outlined within this document are examples of exciting new AD/ADRD research opportunities that could be pursued with additional investment, organized across six broad scientific categories and one additional cross-cutting research area. These example opportunities would accelerate AD/ADRD research forward by advancing progress towards the AD/ADRD Research Implementation Milestones, which represents a research framework detailing specific steps and success criteria towards achieving the goals of the National Plan to Address Alzheimer's Disease.^{3,4} Additionally, in response to a request from Congress, the National Academies of Science, Engineering, and Medicine (NASEM) conducted a study to assess the current state of research on the prevention and treatment of AD/ADRD as well as strategies for overcoming barriers that impede scientific advancement.⁵ The ad hoc committee developed a report (which will be referred to as the 2025 NASEM Report throughout this document) summarizing the findings and recommendations. Where appropriate in this document, areas of alignment between research opportunities and the 2025 NASEM Report recommendations are denoted.



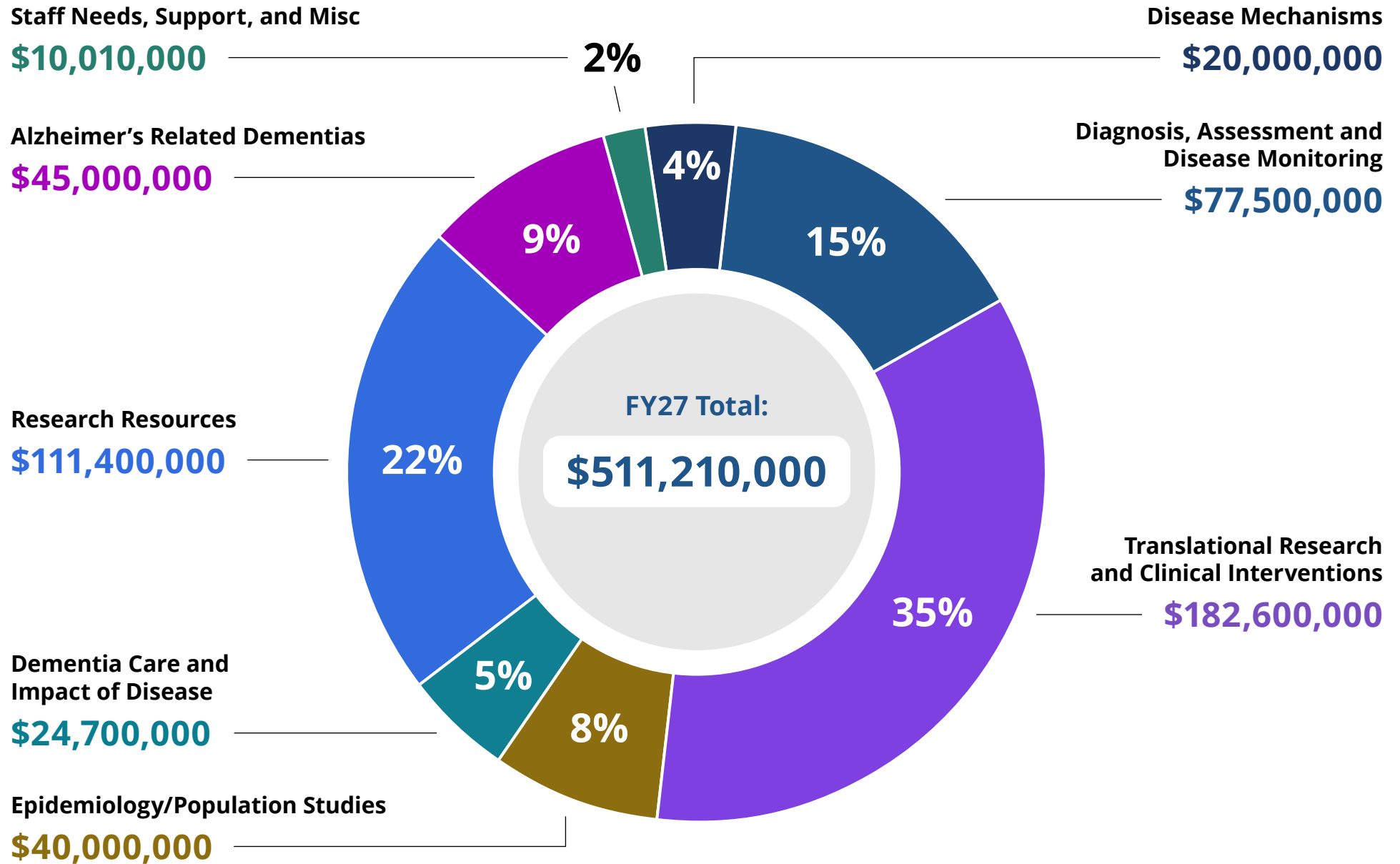
FY27 Additional and Total Resources Needed for AD/ADRD Research

Professional Judgment Budget FY27 Additional Resources Needed	Amount
Epidemiology/Population Studies	\$40,000,000
Disease Mechanisms	\$20,000,000
Diagnosis, Assessment, and Disease Monitoring	\$77,500,000
Translational Research and Clinical Interventions	\$182,600,000
Dementia Care and Impact of Disease	\$24,700,000
Research Resources	\$111,400,000
Alzheimer's Disease-Related Dementias	\$45,000,000
Staffing Needs and Administrative Support	\$10,010,000
Total Costs for New AD/ADRD Research	\$511,210,000
Less: Funding from Completed Projects that is now available for New AD/ADRD Research	(\$324,000,000)
Additional FY27 Resources Needed for New AD/ADRD Research	\$187,210,000

Professional Judgment Budget FY27 Total Resources Needed	Amount
FY25 NIH Estimate for AD/ADRD Research Spending (baseline estimate)*	\$3,859,000,000
Additional FY27 Resources Needed for New AD/ADRD Research	\$187,210,000
Total FY27 Resources Needed for AD/ADRD Research	\$4,046,210,000

* FY24 actual AD/ADRD Research Spending utilized as FY25 full year CR estimate

Distribution of FY27 Total Estimated Costs for New AD/ADRD Research





Examples of Potential FY27 Opportunities By Research Area

Outlined in the following pages are examples of potential research opportunities to advance AD/ADRD research, organized across six broad scientific categories and one additional cross-cutting research area.

- ▶ Epidemiology/Population Studies
- ▶ Disease Mechanisms
- ▶ Diagnosis, Assessment, and Disease Monitoring
- ▶ Translational Research and Clinical Interventions
- ▶ Dementia Care and Impact of Disease
- ▶ Research Resources
- ▶ Cross-Cutting Area: Secondary Analyses on Existing Data

Epidemiology/Population Studies

Goal:

Decades of NIH investments in research have led to a deeper understanding of how a person's risk for dementia is modified by life-long interactions between genes, the environment, and behavior over time. Longitudinal epidemiology and population studies gather information from large groups of people over prolonged periods of time and provide unique opportunities for researchers to identify discrete factors that influence one's risk for disease and study how interactions between factors impact health outcomes. **With increased investment, NIH could expand longitudinal studies inclusive of data from younger populations and families and linked with real-world data to improve our understanding of the factors that influence AD/DRD disease onset and progression.**

Example Opportunities:

- **Invest in longitudinal studies that start with adolescent populations** to ensure measures are in place to appropriately track exposures and cognition starting early in the life-course. With additional investment, NIH could support these longitudinal studies to inform the life-course perspective on the risk and protective factors linked to healthy cognitive aging and dementia. This work, especially in those at higher risk for age-related cognitive impairment (e.g., family history, Down's syndrome, genetic influences), could help identify early-in-life factors that influence disease onset and pave the way for early intervention before significant disease damage occurs.
- **Expand upon longitudinal studies to follow-up on second and third generations**, allowing for stronger statistical analyses and the addition of new measures. With additional investment, NIH can expand on longitudinal datasets by also collecting information on participants' children and grandchildren. By compiling this multi-generational information and taking advantage of family and genetic ties, researchers could more robustly identify underlying the varying causes of dementia to strengthen our approach to precision medicine.
- **Link longitudinal studies with real-world data (RWD)** to understand factors associated with dementia. With additional investment, NIH could support the integration of RWD with longitudinal studies to inform the life-course perspective on the risk and protective factors linked to healthy cognitive aging and dementia. This work could leverage existing efforts by NIH and the Centers for Medicare & Medicaid Services to build a RWD platform using data from a variety of sources, such as electronic medical records and consumer wearables. By linking these rich datasets and longitudinal studies, we could gain profound insight into the factors — such as comorbidities — that affect brain health. These connections could also optimize the recruitment of clinical trial participants, matching individuals with the most beneficial trials.

Impact:

Efforts to develop studies that include younger populations and families over generations are essential to enabling the identification and development of prevention strategies, earlier diagnostics, and effective treatments for dementia. Factors to explore could include genetics, educational attainment, environmental exposures, behaviors of interest, physiology, co-morbidities, and characteristics of the gut microbiome. Additionally, efforts to increase accessibility and usability of RWD may lead to the development of high-impact, scalable interventions that can be rapidly tested to promote cognitive health throughout the lifespan, reduce dementia risk by targeting exposures early in the life course, and improve cognitive health outcomes for future generations of older Americans. This work strongly aligns with the 2025 NASEM Report's Recommendations 1 (Research Priorities 3-1 and 3-2) and 2.⁵

Disease Mechanisms

Goal:

NIH investments have led to the identification of key cellular and molecular processes involved in dementia. **With increased investment, NIH could support efforts to map the interactions among the key proteins and cellular mechanisms heavily implicated in AD/ADRD disease risk and fund projects using cutting-edge technologies to characterize the lesser understood related dementias.**

Example Opportunities:

- **Bolster research efforts to understand the molecular interactions between key proteins implicated in the development of AD/ADRD, such as APOE, and their interacting partners.** Through cutting-edge techniques, researchers can now visualize and analyze the interactions between proteins at the atomic level, which can offer unprecedented insights into how disease develops. With additional investment, NIH could support projects seeking to pinpoint the exact regions where proteins associated with dementia interact. This research could enable the design of new therapeutic compounds to treat AD/ADRD.
- **Deepen our understanding of how metabolic disease affects the development of dementia.** Diabetes treatments have been associated with a lower risk of dementia, and the pharmaceutical industry is initiating efforts to evaluate the effectiveness of diabetes drugs in slowing dementia. With more funding, NIH could lead efforts to understand if and how these drugs improve cognition or affect brain changes associated with disease, potentially aiding in the development of new interventions for AD/ADRD.
- **Foster transformative, interdisciplinary studies to reduce dementia risk factors in clinical settings.**
 - **Delirium** is a common complication in older adults in the context of acute illness, trauma, and surgery and is associated with an increased risk of cognitive decline and dementia. Several mechanisms for how delirium may contribute to dementia have been proposed, including inflammation and neuronal dysfunction. With additional investment, NIH could support research in clinical settings to examine whether delirium prevention reduces age-related cognitive decline and dementia risk.
 - **White matter disease (WMD)** is common in older adults and is associated with increased risk of cognitive decline and dementia. WMD is detected in up to 80% of people by age 85 using standard brain imaging, often beginning in middle age and worsening over time, especially in populations at higher risk. With increased investment, recent progress on the development of new and more refined methods of assessing vascular contributions to cognitive impairment and dementia (VCID), including WMD, can be leveraged to test interventions, such as improved blood pressure control, to slow or block progression of WMD and preserve or improve cognitive status.
- **Conduct in-depth clinical, genetic, and molecular characterization of related dementias, such as Lewy body dementia and frontotemporal dementia.** This research could include comprehensive cellular and molecular profiling similar to what has been done in Alzheimer's — such as information on genetic sequences and gene and protein expression — paired with clinical data collected over time. With additional investment, deep characterization of related dementias would help identify shared and unique features of each disease, laying the foundation for diagnostic tools and identification of candidate therapeutic targets to treat related diseases.

Impact:

These efforts to untangle the complex mechanisms underlying brain changes associated with the development and progression of dementia have the potential to accelerate therapeutic development by identifying novel therapeutic targets. This work strongly aligns with the 2025 NASEM Report's Recommendation 1 (Research Priorities 3-3 and 3-4).⁵

Diagnosis, Assessment, and Disease Monitoring

Goal:

NIH-funded research has significantly improved the ability to diagnose Alzheimer's disease and related dementias at earlier stages. In addition, the latest Alzheimer's tests are more reliable, more affordable, and less invasive. There remains a critical need, however, to develop more sensitive diagnostics and clinical biomarkers to identify individuals living with early stages of mixed dementia, where brain changes are caused by multiple, co-occurring disease pathways. **With increased investment, NIH could expand research on AD/DRD biomarkers and behavior changes to improve the detection of different dementia pathologies across the disease trajectory and improve the dissemination of the latest research on diagnostics to clinicians.**

Example Opportunities:

- **Invest in clinical studies to validate multiple AD/DRD biomarkers in real-world settings, such as hospitals or in primary care, to improve the detection of mixed dementia across the disease trajectory.** Biomarker validation studies are needed to ensure biomarkers can robustly and accurately report upon different types of brain changes (pathologies) and their combinations that underly dementia. With additional NIH funding, these clinical studies could identify and validate the best biomarkers for predicting, diagnosing, and monitoring these complex conditions in real-world settings. In particular, these studies could leverage ongoing and planned clinical longitudinal studies, as well as the robust national network of NIH Alzheimer's Disease Research Centers — which are dedicated to developing and testing new ways to detect, diagnose, treat, and prevent dementia and to improve care for people with these diseases and their families.
- **Disseminate information and resources that help clinicians, including primary care providers, learn more about the utility of available blood-based biomarkers in combination with clinical assessment tools to support a dementia diagnosis.** NIH-funded research has led to new biomarker and clinical assessment tools to help diagnose and differentiate among the types of dementia. To support adoption of the most advanced and effective diagnostic tools, it is critical to communicate these advances to clinicians. With additional NIH investment, a new educational program on biomarkers and clinical assessment tools for clinicians could lead to more timely and accurate diagnoses for patients, which would facilitate stage- and dementia-specific treatment planning, as well as help inform patients and their families in decision making and advance care planning.

Impact:

The development of new diagnostic tools that can help clinicians identify the type of dementia at the earliest disease stages — even before clinical symptoms appear — are crucial to ensuring that individuals living with dementia get the care they need. These example opportunities could facilitate biomarker integration into routine clinical practice, enable more personalized and targeted interventions, and improve patient outcomes. In addition, this work would synergize with the example longitudinal studies described in the earlier section of this document (see Epidemiology/Population Studies) to capture data in adolescent populations and across familial generations to get a more comprehensive view of disease trajectory across the lifespan. This work strongly aligns with the 2025 NASEM Report's Recommendation 1 (Research Priority 2-1).⁵

Translational Research and Clinical Interventions

Goal:

NIH investments have led to a vast increase in knowledge on the biological pathways and behaviors that contribute to disease onset, and as a result, there is a diverse range of identified drug candidates and behavioral modifications that have the potential to prevent and treat dementia. Continued research is needed to explore these promising translational and clinical opportunities. **For example, with increased investment, NIH could develop and test additional tools for translational research, identify and explore new therapeutic modalities and innovative interventions, and support clinical trial readiness programs.**

Example Opportunities:

- **Apply advanced technologies and develop new tools for therapeutic applications**, such as techniques to measure the changes in cellular metabolism for drug development and clinical application. With additional funds, NIH could develop these tools to identify specific cellular changes and help predict an individual's response to drug candidates, which could enable the development of safe and effective personalized prevention and treatment strategies.
- **Bolster translational efforts to develop new genomic therapies for Alzheimer's and related dementias** and initiate clinical testing of the most promising candidates in human studies. This work builds upon NIH-funded work demonstrating the potential of genomic therapy for several neurological disorders and gene editing in stem cells to effectively correct the most common genetic mutation associated with frontotemporal dementia. With additional investment, growing NIH's genomic therapy portfolio could advance genomic approaches to prevent and treat dementias and shift the field toward a precision medicine approach through patient-specific treatments.
- **Develop and deploy novel digital tools that assess and monitor behavioral changes to shape personalized interventions that may reduce dementia risk.** With additional investment, NIH could fund digital tools, using devices such as smartphones and wearables, that assess and monitor everyday behavioral changes across the cognitive impairment spectrum. Leveraging the unique insights that mobile sensors can provide into the behaviors and contexts of an individual, scientists will be poised to implement digital-based, just-in-time adaptive interventions for personalized prevention strategies.
- **Develop innovative interventions to address the effects of multiple chronic conditions** in individuals with AD/ADRD. Individuals with some chronic conditions, such as hypertension and diabetes, are at higher risk for dementia, and it is possible that interventions to address one condition could have beneficial spillover effects to other conditions. With additional funding, NIH can support research on targeted therapies and management strategies to delay progression and prevent onset of new diseases and research on health care partnership models for preventing, managing or treating people with dementia and other chronic conditions.
- **Strengthen clinical trial readiness for mixed dementias.** The diverse profiles of brain changes that underlie dementia justify a need for clinical trials that are adaptable, economical, and able to assess several interventions. With additional investment, NIH could strengthen clinical trial readiness by supporting trials designed to allow for simultaneous testing of multiple interventions using a single control group, which would enhance efficiency, reduce redundancy, cut costs, and accelerate the discovery of effective treatments. These specialized trials — called platform trials — will also ensure standardized, harmonizable data collection and analysis.

Impact:

These efforts would reinforce current research strategies that embrace cutting-edge technologies and expand clinical trial infrastructure to create a nimble research framework to expedite and bolster the development of effective interventions to prevent dementia or delay disease progression. This work aligns strongly with the 2025 NASEM Report's Recommendations 1 (Research Priorities 2-1, 3-1, 3-3, 4-1, 4-2, 4-3, and 4-4), 3, 4, and 10.⁵

Dementia Care and Impact of Disease

Goal:

NIH funds a wide range of care and caregiving research, from understanding the economic impact of dementia care to improving care at home and in long-term care facilities. Importantly, NIH also funds research on the impact of dementia on individuals, family members, and clinical practice, including studies on healthcare decision-making, effects on employment, and solutions to optimize independence. Notably, an NIH-funded project reported preliminary estimates that the total economic burden of dementia will reach \$781 billion in 2025 in the U.S, and the impact goes beyond medical costs and includes hours of unpaid care by family and friends, earnings losses, and declines in quality of life. **With increased investment, NIH could establish research programs to improve care support for older adults living alone with cognitive impairment and understand the factors that influence care decisions and well-being.**



Example Opportunities:

- **Establish a multidisciplinary research network to identify the care needs for older adults living alone with cognitive impairment and test interventions to improve care coordination and access to care solutions and resources,** such as in-home services and advance care planning. With additional funding, this research could help to improve health outcomes for the estimated over 4.3 million older adults living alone with cognitive impairment — ranging from mild cognitive impairment to dementia.
- **Examine the impact of healthcare price transparency on health outcomes for individuals and families living with dementia.** With additional investment, NIA could support studies to assess the effectiveness of different price transparency approaches — including the role of digital tools, insurer disclosures, and provider-level cost reporting in real-world and experimental settings — in shaping healthcare choices and their impact on health outcomes. This research would establish an evidence base to determine whether healthcare price information reduces financial strain, increases utilization of preventive services, and/or facilitates selection of higher-value care for individuals and families living with dementia.
- **Understand how persons living with dementia and their care partners navigate care coordination and healthcare decisions, as well as examine factors that affect caregiver resilience and well-being, during times of transition,** such as end-of-life care or after the person living with dementia has passed. Additional NIH funding could support this research to inform approaches to reduce caregiver strain and improve dementia care coordination.

Impact:

This research would help to improve dementia caregiver well-being throughout the care trajectory, as well increase access to healthcare pricing information and resources to improve care coordination for individuals living with mild cognitive impairment or dementia.

Research Resources

Goal:

NIH invests in infrastructure to support dementia research by providing centralized resources and training opportunities to researchers. **With increased investment, NIH could develop resources to improve the research community's decision-making capabilities and support information sharing among researchers, clinicians, and people living with dementia and their care partners.**

Example Opportunities:

- **Develop an interdisciplinary “science of science” network to identify the drivers and impact of scientific innovation in dementia research.** With additional funds, NIH could build a network to enhance the research community's ability to assess scientific discovery, evaluate risk-taking in research, and quantify the returns on scientific investments. By using data driven methodologies, the network could help NIH allocate resources more strategically, thereby accelerating progress in dementia research and improving public health.
- **Develop a public-private research network to implement artificial intelligence-enabled clinical decision support (AI CDS) for diagnosis and treatment of dementia.** AI CDS demonstrates great promise for timely diagnosis and treatment of dementia. With additional investment, NIH could support the development of a network to produce patient-centered evidence-based recommendations to guide health system leaders and policymakers on deploying AI CDS tools for dementia care to ensure clinical acceptability, ease of use, and patient-centered care.
- **Connect people living with dementia and their care partners with research trainees to foster a culture of patient-oriented research.** For example, with additional funds, NIH could implement a research education program for undergraduate and graduate students to interact with people living with dementia and their families. These interactive experiences outside the clinical setting could deepen students' understanding of the experience of dementia and shape future research endeavors, as well as provide benefits to the people living with dementia and their loved ones.



Impact:

These examples of potential NIH resources could enhance current research infrastructure by establishing robust standards and best practices to strengthen the impact of research, equipping clinicians with the latest research tools to aid diagnosis and treatment, and providing opportunities for scientists to interact with patients to inform research. In addition to NIH'S pursuit of exciting new opportunities, NIH will continue to coordinate, streamline, and harmonize research resources to ensure they are as effective and operate as seamlessly as possible to support and accelerate the AD/ADRD research enterprise. This work strongly aligns with the 2025 NASEM Report's Recommendations 4, 6, 7, 8, and 10.⁵

Cross-Cutting Area: Open Science and Secondary Analyses on Existing Data

Goal:

An open science approach to research accelerates biomedical research discovery, enhances research rigor and reproducibility, provides accessibility to high-value datasets, and promotes data reuse for future research studies. NIH is implementing a vision for an integrated AD/ADRD biomedical data ecosystem, that allows researchers to find, access, and use relevant resources in a seamless and secure manner. **With increased investment, NIH can fund the creation of additional infrastructure to support open science and further conduct of secondary analyses leveraging existing high-value datasets to accelerate research on AD/ADRD.**

Example Opportunities:

- **Create additional infrastructure to support open science and promote reproducibility in science.** Building on existing NIH efforts that embrace open science practices, with additional investment, NIH could establish a network to further integrate transparency and rigor into dementia research workflows by supporting replication and validation studies and platforms to share computation codes and data. Additionally, NIH could support a web-based portal to easily connect researchers to NIH-funded research resources, such as longitudinal study data and biospecimens. Such efforts would increase reproducibility and foster trust in scientific outcomes.
- **Expand efforts to perform secondary analyses leveraging a wide range of existing large-scale datasets,** including, but not limited to, data on genetics, environmental exposures, and electronic health records data. In the era of big data and rapid advancements in artificial intelligence and machine learning, expanded use of secondary analyses on existing data has the potential to transform research on AD/ADRD by generating new hypotheses and uncovering unique insights into the underlying causes of dementia. With additional investment, NIH can expand efforts to leverage existing datasets in new ways to inform precision medicine and guide the development of new therapeutic strategies to slow or prevent dementia.



Impact:

Increasing access to valuable data and biospecimens can lower research costs, reduce participant burden, enable data re-evaluation, enhance rigor, and help researchers rapidly evaluate treatments and interventions across large groups of people living with dementia and their care partners. This work strongly aligns with the 2025 NASEM Report's Recommendations 7, 8, and 9.⁵



Conclusion

Through a decade of increased investment in dementia research, NIH has built critical infrastructure needed to drive progress, leading to major discoveries in the last several years and more on the horizon. To further build upon recent progress, NIH will continue to strategically direct federal investments towards promising research areas and emerging opportunities in dementia research. In line with the 2025 NASEM Report's recommendations, the example research opportunities detailed in this professional judgment budget target research areas at the forefront of science that address the American population's public health needs. The sustained funding increases requested in this budget proposal are essential at this pivotal moment to accelerate the pace of discovery and bring us closer to transformative breakthroughs.

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