

A conversation with Angela Geiger and Dr. Dean Hartley, June 23, 2015

Participants

- Angela Geiger – Chief Strategy Officer, Alzheimer’s Association
- Dean Hartley, Ph.D – Director of Science Initiatives, Alzheimer’s Association
- Nick Beckstead, Ph.D. – Research Analyst, Open Philanthropy Project
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Note: These notes were compiled by the Open Philanthropy Project and give an overview of the major points made by staff from the Alzheimer’s Association.

Summary

The Open Philanthropy Project spoke with Ms. Geiger and Dr. Hartley from the Alzheimer’s Association as part of its investigation into Alzheimer’s disease (AD). Conversation topics included the organization’s funding process, priorities, and history as well as research and advocacy opportunities for a new funder.

The Alzheimer’s Association

Budget

The Alzheimer’s Association’s annual budget is approximately \$100 million per year.

- Over the past 5 years the organization's science budget averaged about \$29 million per year. Approximately \$15 - \$17 million was given as grants, and the remainder supports the world's largest research conference on dementia (Alzheimer's Association International Conference), a clinical trial matching service (TrialMatch), the number one scientific journal on Alzheimer's & Dementia, meetings and think tanks, special projects and other efforts to vet and share the best ideas in the field.
- Less than \$10 million per year supports advocacy activities.
- The remainder of the budget supports education and awareness efforts to raise the profile of the disease as a public health issue and direct services to Alzheimer’s disease patients and their families.

However, the full Alzheimer's Association's annual budget—including both the national organization and all of its chapters, is approximately \$280 million.

Advocacy activities

The Association is involved in Alzheimer’s disease research and care issues at the state and federal levels. They advocate to the federal government for additional research funding and for patient care legislation like the HOPE for Alzheimer’s Act.

Previous advocacy efforts focused on the National Alzheimer's Disease Project Act (NAPA), which was signed into law in 2011 and calls for the creation of a national strategic plan for addressing Alzheimer's disease. The National Plan was then created and released in May 2012 and is updated annually. In 2015, the Association advocated for the Alzheimer's Accountability Act, which requires NIH to prepare a professional judgment budget. Reflecting the Nation's determination to end the scourge of Alzheimer's, NIH for the first time prepared this professional judgment budget proposal for fiscal year (FY) 2017.

Some advocacy is conducted by the Association's sister organization, the Alzheimer's Impact Movement (AIM). AIM is a 501(c)(4) organization, a type of nonprofit that is allowed to participate in political campaigns, and has an associated political action committee (PAC). Association members sometimes make donations to AIM and AIM members can contribute to AIMPAC to support Alzheimer's advocacy efforts.

The Association also utilizes the service of approximately 600,000 volunteer advocates, as well as its 'ambassadors,' supporters who have one-on-one relationships with members of Congress.

Funding for research

Because it is unclear where researchers will ultimately make a breakthrough, the Alzheimer's Association funds research from basic discovery to clinical trials. The Alzheimer's Association was founded in 1980 by a small group of family members caring for loved ones with Alzheimer's disease. These individuals were united in disappointment with the quality of information available to them and in dissatisfaction with the lack of medical and social awareness of this devastating condition. Two years after its founding, the fledgling organization funded its first research grant, awarding a total of about \$80,000 to a handful of investigators. Since then, the Association has grown into the largest nonprofit funder of Alzheimer's research, awarding over \$350 million in research support over the life of the program. As of August 2015, active investments totaling over \$80 million were enabling more than 350 investigations in 21 countries.

The Association's International Research Grant Program has served historically as an incubator for novel ideas, complementing the programs of the National Institute on Aging and the other institutes of the National Institutes of Health. As our funding initiative has grown and matured, grant categories have expanded to support researchers at every stage in their careers. Funded projects now explore the broadest possible spectrum of biological approaches to understanding, preventing and treating Alzheimer's; social and behavioral strategies for ameliorating the effects of the disease on individuals and their families and professional caregivers; clinical studies; and adaptive technologies.

Surveys conducted on behalf of the Association continue to affirm that research support is the highest priority of our constituents and the general public. In

response to this overwhelming sentiment, the Association's National Board mandates research as an ongoing major emphasis.

Young investigators

The Association believes that investing heavily in new investigators (researchers who have completed their terminal degree within the last 10 years) brings new ideas into the field. The federal government provides only \$600 million per year for Alzheimer's research, which makes it very difficult for less experienced researchers to secure government funding. The Association's funding program for early investigators helps them generate the pilot data that they need to improve their odds of a successful government grant application.

The program offers \$100,000 over two years and does not focus on specific research areas. Instead, young investigators bring their ideas to the Alzheimer's Association. These proposals are then peer reviewed by three or four relevant experts from the Association's database of approximately 6,000 reviewers worldwide in 60 countries. The reviewers have a threaded discussion of the proposal, score it, and then rank all proposals received. After a Medical and Scientific Advisory Committee composed of internationally renowned scientists adjudicates any disputes between reviewers, the Association funds as many proposals as the budget allows in order of the reviewers' rankings.

Zenith program

The Alzheimer's Association's Zenith program targets senior investigators. These grants support experienced researchers seeking funds to investigate ideas that are outside their current research areas to expand on new ideas and to fill gaps in the field.

Investigator-Initiated Research Program

IIRG program was established for scientists to explore important research questions targeted at gaps or important underfunded areas seen in the scientific community.

Funding history

The Association has supported a number of projects that have had an impact on the field including:

- **Amyloid imaging** – The Alzheimer's Association provided the seed funding to discover the first amyloid PET imaging drug. To further develop this groundbreaking diagnostic tool, the Association provided the initial \$2.7 million grant for amyloid imaging to the Alzheimer's Disease Neuroimaging Initiative (ADNI) at a time when no other funders were supporting amyloid imaging. This early involvement helped identify and accelerate amyloid imaging, which has become an important tool for AD researchers. The organization also worked with the Food and Drug Administration (FDA),

arguing that showing a reduction in amyloid production should be considered a positive indicator for drug approval.

- **Clinical trials** – The Association has also directed private philanthropy toward underfunded clinical trials. In one instance, this enabled researchers to begin a clinical trial 18 months earlier than they would have otherwise.

Opportunities for additional funding

The Association believes that there is so much promising but unfunded science that a new funder could invest a large amount of money at any point in the research pipeline and make an impact. However, there are several areas in which additional funds could be especially beneficial.

Data sharing

The Alzheimer's Association provided \$5 million for a cloud-based computing system called the Global Alzheimer's Association Interactive Network (GAAIN). Both GAAIN and ADNI have demonstrated the value of data sharing, but the academic reward structure sometimes incentivizes researchers to keep data private, which can make transparency difficult. This is a complex area in need of new ideas and inspiration from other fields.

Tau imaging

The proteins amyloid and tau play a role in Alzheimer's disease, although researchers are still trying to understand how these proteins are involved in disease development. The formation of amyloid plaques signals the onset of neurodegeneration, but this often occurs years before symptoms begin. Tau aggregation correlates more strongly with the degree of cognitive decline seen in Alzheimer's patients.

Researchers are now able to use amyloid imaging techniques to measure when plaque deposition begins, how it progresses, and whether its trajectory changes with treatment. The ability to similarly image tau would help researchers better understand the importance of tau and would provide a diagnostic tool to evaluate the relative effectiveness of the anti-tau therapies currently being developed. Understanding tau is especially interesting because it appears to be more closely correlated than amyloid to cognitive decline and dementia.

The successful development of amyloid imaging has established a potential pathway for validating tau imaging and making it available to researchers. Researchers are investigating several possible tau imaging agents in order to identify agents that are most likely to bind only to tau with minimized binding to other molecules in the brain, giving researchers the most accurate picture of a patient's tau accumulation.

These tests are still in the very early stages, and more funding will be needed to include tau imaging in current clinical trials. The Alzheimer's Association is actively seeking funding to support tau imaging research.

Combination therapies

Like the treatment for HIV, which requires three medications, the most effective treatment for Alzheimer's disease may be a combination of drugs, especially as the disease progresses. This will be an important area of research going forward.

Repurposed drugs

Repurposing drugs that have already been approved for treatment of other diseases (which can help researchers receive FDA approval more quickly than they would for a new drug) is another approach that will need more support in the near future.

Advocacy

Most of the research in need of additional funding could take years to come to fruition. If a funder is interested in achieving more immediate results, advocating for a bigger federal research budget could generate a larger increase in research funding than investing that money directly in research. There is a need for more funding at both the grassroots and grasstops levels, but additional funds would be most effective if they supported the existing coordinated effort among AD advocates.

Other organizations and people to talk to

Pharmaceutical companies will ultimately conduct the clinical trials and deliver any drugs that are developed. The industry perspective is important and should be included in any conversation about the future of Alzheimer's research. Companies active in AD research include Eli Lilly and Company and Biogen, which most recently developed a drug called aducanumab.

Other organizations to talk to include:

- **National Institute of Neurologic Diseases and Stroke (NINDS)** – The Alzheimer's Association has collaborated with NINDS on projects related to cardiovascular aspects of AD. Although their focus is broader than just Alzheimer's, NINDS has some interest in the disease.
- **The Paul G. Allen Family Foundation** – This organization may be interested in funding Alzheimer's disease research.
- **Alzheimer's Research UK (ARUK)** – The Association sometimes partners with ARUK, which plays a similar funding role in the UK.

Alzheimer's Association staff also suggested discussions with:

- **Neil Buckholtz, Ph.D.** – Director, Division of Neuroscience, National Institute on Aging (NIA)

*All Open Philanthropy Project conversations are available at
<http://www.givewell.org/conversations>*

