

Grantee: Alzheimer's Association/National Office

Program Area: Health

Headquarters: Chicago, IL

Total funding: \$7,781,413 since 1984

Most recent grant: \$150,000 in 2017

Last month in our grantee spotlight of Caring House, we focused on the day-to-day patient experience while receiving treatment; this month, with National Alzheimer's Disease Awareness Month beginning today, we find it complementary to highlight the medical research of the Alzheimer's Association, the largest non-profit funder of Alzheimer's disease and dementia research. As is the case with many medical research organizations, time is of the essence in regards to personal health and understanding, as well as the fiscal pressure the care of these diseases place on both personal and public budgets. Alzheimer's and other dementias are immensely common neurodegenerative diseases, affecting 1 in 3 seniors and costing approximately \$277 billion annually; without a cure, these costs could rise as high as \$1.1 trillion as the number of Americans living with Alzheimer's is projected to rise to 14 million within the next three decades. The work of the Association is not only essential in this regard and in the case of public awareness, but, for those of us with loved ones who have or are experiencing dementia, it also provides a sense of momentum and hope as it works to discover a cure for the disease by 2050.

The Alzheimer's Association was founded in 1980 by a group of family caregivers, in coordination with the National Institute on Aging, in an effort to provide support to both those facing the disease and those caring for them, as well as to advance research into Alzheimer's and other dementias. With 81 chapters across America and a current operating budget of over \$334 million, the Association has been working towards the very ambitious goal of an effective treatment or prevention by the year 2025 (a mere six and a half years away...) through the means of catalyzing and accelerating research. Since awarding its first grants in 1982, the Association has invested over \$435 million in nearly 2,900 scientific investigations through its International Research Grants Program (IRG Program). (This means that FMKF has provided approximately 2% of the overall research funding!) Their most notable and impactful investments, in my opinion, have been the advancement of leading theories of the cause of Alzheimer's-related brain cell degeneration (the amyloid, tau, and inflammation hypotheses), as well as the targeted use of immunotherapy in clinical trials.

As awareness of the disease developed through concentrated outreach initiatives (not unlike the approach used to develop breast cancer awareness discussed in last month's spotlight), the Association incorporated advocacy as the third piece of its mission, or, in other words, working to increase funding for Alzheimer's research and care initiatives at the state and federal level. As a result of the efforts of the Alzheimer's Impact Movement (AIM), its advocacy arm, Congress recently approved an increase of \$425 million in annual funds for research on Alzheimer's at the NIH. The government's annual investment now stands at \$2.3 billion - a fivefold increase since just 2011. I highlight this increase in NIH funding as these federal grants are almost always awarded to established investigators with research proposals based upon already-proven concepts; it does not extend to early career development or "cutting edge" investigation, so to speak. This means that this dramatic expansion in federal funding will require

an increase in projects to feed that pipeline. The Association's IRG Program, towards which a great deal of our funding has been dedicated, is designed to invest in early-career scientists to generate the proof-of-concept data they need to apply for NIH support to conduct their Alzheimer's research on a greater scale.

Moreover, groundbreaking concepts are almost always conceived early in a researcher's career and young investigators have the opportunity to build out their research teams and explore their own, innovative ideas. For example, we received this month a report from one of the F.M. Kirby Foundation Investigators in the IRG Program. Dr. Tamara Brook Franklin has been researching the neural basis for social deficits in Alzheimer's disease, such as apathy, depression, and aggression; these behaviors are often the most challenging and distressing effect of the disease for both the person living with dementia and his or her caregiver. She and her team have found that there appear to be differences in the types of behavior and aggression displayed in male and female Alzheimer's-like mice and that Alzheimer's-like mice are more prone to violent outbursts and self-isolation when housed with other Alzheimer's-like mice. Though it is unclear at this stage if this has implications that translate to humans, these early findings underscore the idea that individuals living with Alzheimer's may have fewer violent outbursts if they are able to interact regularly with cognitively unimpaired people, as opposed to interacting primarily with others also living with the disease. I don't mean to get too "into the weeds" on this research, but I find it quite encouraging to know that these findings, which this investigator may have never had the opportunity to explore were it not for the IRG Program, could have an enormous impact on the approach caregivers take when considering potential living environments for loved ones living with Alzheimer's.

This investment in early-career investigators also ideally results in a high leverage ratio for re-grant organizations, specifically biomedical research organizations like this. For example, the Association has provided nearly \$40 million in Zenith Fellows awards since 1991 (the FMKF is a member of the Zenith Society, which provides these award dollars, due to our high level of giving). These fellows have used the data and insights from their Zenith-funded investigations to receive more than an impressive \$1.4 billion for additional work through the NIH and other federal funding sources.

When considering the work of our medical research grantees, I find it's often easy to get overwhelmed when considering the pressure of meeting immense, "umbrella" goals, such as curing one of the most common diseases in the country. However, as I filter through the research reports of even just the *smallest* percentage of studies being funded by the Association, it's clear that any conclusions drawn, either positive or negative, mark progress towards the eventual prevention, then treatment, then cure of this disease. That, coupled with the active efforts of caregiver support, awareness initiatives, and advocacy strategies allow the Association to truly and drastically impact the individual lives of patients, caregivers, and researchers both today and in the future.

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