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Alzheimer's Disease and Neurological
Sciences Research

Advancement of Medicine

In 2024, my work focused on identifying the social, biological and environmental determinants of Alzheimer's disease and related dementias, or ADRD. Our research generated novel insights into cognitive aging through racially diverse, population-based cohorts and high-impact collaborations. We continue to recruit, seek consent and collect assessments from five Chicago communities, with a focus on recruitment of a new population-based Latinx cohort; preliminary results for the midlife parent-offspring resilience and cognitive health, or PORCH, study; and recruitment for the older Chicago Health and Aging Project (CHAP) study with over 50% African Americans.

In the last year, we published 21 peer-reviewed articles, including studies on lipid biomarkers, diet, APOE genetics and neighborhood social vulnerability — many in high-impact journals such as *JAMA Network Open*, *Neurology*, and *Alzheimer's & Dementia*. These findings have contributed to public discourse, including media coverage from *USA Today* on our whole grain and cognition research and *BBC News* on social vulnerability and the risk of Alzheimer's disease.

I chaired and served on National Institutes of Health, or NIH, study sections evaluating health equity and cost-effectiveness in ADRD. Internationally, I co-authored guidelines on salivary biomarkers for dementia as part of the Alzheimer's Association's ISTAART professional interest group.

We also continued our leadership of major NIH-funded grants (e.g., UH2AG083289, R01AG073627, and R01AG058679) that examine midlife risk, intergenerational transmission and resilience in cognitive aging — emphasizing the urgent need for early-life prevention strategies and several new data that will be published in the upcoming year.





The Sabl Professorship has provided essential resources to advance research infrastructure, mentor junior faculty and trainees, and sustain community engagement, especially in the East Side Latinx community. It has allowed me to maintain a high-functioning research team and supported new collaborative efforts, including pilot work for the proposed ADVANCE Center for Aging Demography and the international study to compare cognitive aging in West Africa (Senegal) and the U.S.

Grants

The endowed funds helped catalyze the submission of several major grants, including:

- P30AG097149 (ADVANCE Center): A proposed NIA-funded center to support interdisciplinary work on aging, cognition and economics in collaboration with the London School of Economics, U.K.
- U01AG097753: An international neuroscience consortium ethnogenetic risk for ADRD and cognitive aging in Black Americans and Senegalese populations.
- R01AG087097: A public health-focused grant on regional ADRD disparities, currently in council review.

These proposals build on our existing portfolio, which exceeds \$30 million in active NIH funding.

Publication, Presentations, Conferences — Abbreviated

- 21 peer-reviewed articles, including *JAMA Network Open*, *Neurology*, and *Alzheimer's & Dementia*
- Invited NIH roles: Chair and panelist on multiple NIH/NIA review committees (e.g., RFA-AG-24-050, AIMR, U01 panels)
- Conference presentations: Lead/co-author on 10-plus presentations at the 2024–2025 Alzheimer's Association International Conferences
- High-impact media: Research featured in *USA Today* and *National Academy of Neurology* news
- Collaborations: Launched new international consortium proposals and partnered on multiethnic genetic epidemiology studies
- Leadership: Advanced proposals for a new NIA-funded center on aging demography and economic resilience (ADVANCE)



The Year Ahead: 2025 and Beyond

In addition to the center grant and the international consortium, we plan to expand our research program significantly. Our initiatives include:

- Secure renewal of the R01 grant to expand the PORCH cohort to 1,100 participants to study intergenerational cognitive resilience, neuroimaging biomarkers and midlife ADRD pathogenesis, with two to three follow-up assessments for Alzheimer's disease risk
- Launch new initiatives through the proposed ADVANCE Center, integrating demography, community outreach and health economics
- Deepen collaborations with minority-serving institutions and international partners
- Mentor early-career investigators and continue high-impact dissemination through academic and public channels
- Develop a new R01 grant proposal for a rural population study to estimate the prevalence and incidence of AD/ADRD and mild cognitive impairment, or MCI. This study will examine associations between modifiable lifestyle and behavioral risk factors with cognitive aging; assess how health care access, education, and socioeconomic status influence ADRD risk and progression in rural older adults; and examine the relation of plasma biomarkers of neurodegeneration and neuroinflammation in matched rural and urban participants.

With Gratitude

I am profoundly grateful for the John and Alice Sabl Endowed Professorship, which has empowered my team and me to tackle the pressing challenges of cognitive aging and Alzheimer's disease. Your generous support enables innovation, collaboration and leadership in a field where progress can transform lives. Thank you for investing in a healthier, more informed future.