

DIMENSIONS

Dimensions is the magazine of the UW Memory and Brain Wellness Center • Fall/Winter 2023

Pg 7 Shared Outdoor Adventures for Resilience

Photo: UW Medicine/ SOAR/ @nswatzphoto

Inside This Issue ...

- Getting to Know: Dr. Michael Rosenbloom, Leader of MBWC Clinical Trials
- Sleep Doctor Studies Sleep Apnea Treatment for Dementia Prevention
- Research Findings & Alzheimer's Conference Highlights
- Crossword Puzzle Brain Workout • Caregiver Stories

UW Medicine

MEMORY & BRAIN
WELLNESS CENTER

UW Memory and Brain Wellness Center

uwmemoryandbrain.org

mbwc@uw.edu

A Proud Home to a National Institute on Aging-Designated Alzheimer's Disease Research Center (ADRC)

Hello readers! We are pleased to bring you the Fall/Winter 2023 edition of Dimensions! We recently celebrated the 10-year anniversary of our memory clinic, which opened at UW Medicine in October of 2013 under the name: UW Memory and Brain Wellness Center. At that time, we were just one neurologist, a nurse practitioner, a geriatric psychiatrist, a clinic manager, and a social worker. We wondered if people living with memory loss and their families would find us. Ten thousand patients later, the MBWC is now a beacon of care, education, and support for people living with any stage of memory loss or dementia, their family caregivers, and professionals. Our resources and programs are freely available to the public through the Memory Hub, a nationally unique community center on Seattle's First Hill, in partnership with the Frye Art Museum.

The MBWC is home to a National Institute on Aging-designated Alzheimer's Disease Research Center (ADRC), where a growing outreach team is forging partnerships with the diverse local communities we hope to serve and welcome into brain health and Alzheimer's research. Ultimately, the work of our scientists and study staff will fuel more effective approaches to prevention, diagnosis, care, and treatment. On page 4, you can read about new studies that relied on the data and specimens donated by research participants enrolled in our ADRC's Clinical Core.

In this issue, our Director of Clinical Trials, neurologist Michael Rosenbloom, MD shares his thoughts on the reinvigorated promise of Alzheimer's research and care in the wake of recent progress in therapeutics. Articles feature our team's takeaways from two national conferences on Alzheimer's research, a sleep doctor's message to make sleep, and especially treating sleep apnea, a number one priority to help protect brain health, and much more. And pull out a pencil for the very first Memory & Brain crossword puzzle, created to be fun, interesting—and just challenging enough—to be a good brain health workout for you, our readers.

At the end of this issue, please find our acknowledgment of the generous donors who support our research and community initiatives. Your interest and contributions make a big difference and help us advance the day when threats to memory and brain health will be detected and prevented as the standard of care. Happy reading!

Thomas J. Grabowski, MD
Director

Kimiko Domoto-Reilly, MD
Outreach, Recruitment and Engagement Core Co-Lead

Genevieve Wanucha, MS
Dimensions Editor

Center Leadership

Director **Thomas J. Grabowski, MD**

Administrator **Annika Noreen, PhD, PMP**

Associate Directors **C. Dirk Keene, MD, PhD, Suman Jayadev, MD and Eric Larson, MD, MPH, MACP**

Founding Director **(the late) George M. Martin, MD**

Clinical Core **Suman Jayadev, MD**

Outreach, Recruitment and Engagement Core **Linda Ko, PhD and Kimiko Domoto-Reilly, MD**

Native Research and Resources Core **Dedra Buchwald, MD and Patrik Johansson, MD, MPH**

Data Management and Statistics Core **Ali Shojaie, PhD and Astrid Suchy-Dicey, PhD**

Precision Neuropathology Core **C. Dirk Keene, MD, PhD and Caitlin Latimer, MD, PhD**

Research and Education Component **Jeffrey Iliff, PhD and Brian Kraemer, PhD**

Imaging and Biomarker Core **Thomas Grabowski, MD and Christine Mac Donald, PhD**

Director of MBWC Clinical Trials **Michael Rosenbloom, MD**

Director of the Memory Hub **Marigrace Becker, MSW**



U.S. Department of Veterans Affairs
Veterans Health Administration
VA Puget Sound Health Care System

TABLE of CONTENTS

RESEARCH

- / Discoveries Made Possible By You ...**4**
- / New Research Awards, Grants & Funding ...**15**
- / Takeaways from the AAIC 2023 ...**10**

COMMUNITY RESOURCES

- / Shared Outdoor Adventures for Resilience ...**7**
- / Brain Workout Crossword ... **8**
- / Caregiver Support Programs ...**12**
- / PPA Together Group ...**18**

ACKNOWLEDGMENTS

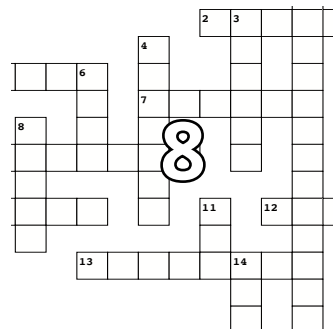
- / Donor Lists ...**12** and **19**

ARTICLES

- / Highlights from the Knight ADRC Conference 'Enhancing Participation by Minoritized Groups in AD/ADRD Research' ...**5**
- / Meet Dr. Michael Rosenbloom, Director of MBWC Clinical Trials ...**13**
- / Remembering Dr. Ka'imi Alohilani Sinclair (1962-2022) ...**16**
- / Sleep Doctor Studies Sleep Apnea Treatment for Dementia Prevention ...**18**

ARTS & CREATIVITY SHOWCASE

- / The Garden of Inspiration Art Show ...**9**
- / Courage and Creativity in Our Caregiver Community ...**12**



DIMENSIONS *The UW Medicine Memory and Brain Wellness Center (MBWC) is home to the UW Alzheimer's Disease Research Center (UW ADRC), affiliated with the Veterans Affairs Puget Sound Health Care System (VA). The UW ADRC has been funded by the National Institute on Aging since 1985 to facilitate cutting-edge research on Alzheimer's disease and other neurodegenerative conditions that cause dementia. The UW ADRC focuses on Alzheimer's disease biomarker research and advancing prevention methods and clinical treatment for dementia, particularly through precision medicine. This publication connects readers with the latest news in research, clinical care and community at our Center. The newsletter is produced by the MBWC communications team, under the leadership of MBWC and ADRC Director, Dr. Thomas Grabowski, MD. Questions or submissions, please contact mbwc@uw.edu.*

Find us online

Support, Education, and Engagement | Clinical Care | Professional Development

Web: uwmemoryandbrain.org
thememoryhub.org

Twitter/X: twitter.com/MemoryBrain_UW

Facebook: facebook.com/UWMBWC

Research, Clinical Trials & Studies, and Community Outreach

Web: uwadrc.org

Facebook: facebook.com/UWADRC

En Español

Web: memoria.uw.edu



Meet Dr. Michael Rosenbloom, Director of MBWC Clinical Trials on Page 13!

DISCOVERIES MADE POSSIBLE BY YOU

For these studies, researchers used data from participants in the UW ADRC Clinical Core, with gratitude.

Improving diagnostic accuracy of cognitive testing for Latinx/o/a in the United States / [Walter Kukull](#)

Marquine MJ, et al. Alzheimer's & dementia: the journal of the Alzheimer's Association, 2023

A team of researchers from Alzheimer's Disease Research Centers (ADRCs) across the country have taken an important step toward improving the accuracy of memory and thinking testing among Spanish- and English-speaking Latinos in the United States.

All ADRCs use a set of the same memory and thinking tests to assess the cognitive functioning of participants enrolled in their memory study, and to track any changes over time. This standard group of tests is designed to detect cognitive impairment. But because most participants in ADRC studies are non-Hispanic white, it is uncertain whether the test results mean the same thing for people in historically minoritized groups.

In the study, 437 healthy Latino adults, recruited from across 33 ADRCs, completed the test in their preferred language. The researchers then used the scores in mathematic models that found associations of age, years of formal education, and sex with scores on the cognitive tests. They were able to see patterns within these groupings by demographic characteristics. For example, more years of education were linked to better test scores among Spanish-speakers.

Other researchers will be able to use these new data to ensure the test accurately reflects cognitive ability among Latinos enrolled in ADRCs. Such efforts are needed to address disparities in Alzheimer's disease.

Understanding mid-life obesity and dementia risk / [C. Dirk Keene](#), [Suman Jayadev](#), [Kimiko Domoto-Reilly](#), [Gail Li](#), [Elaine Peskind](#), [Dedra Buchwald](#), [Robert Freishtat](#)

Batabyal, RA et al. Int. Journal of molecular sciences, 2023

Research shows that being severely overweight or obese in middle age is associated with a three-fold increased risk of dementia 30 years later.

To better understand the link between midlife obesity and the increased risk of Alzheimer's disease, a team of researchers studied samples of blood and cerebrospinal fluid of 18 ADRC research participants living with Alzheimer's disease, as well as 14 healthy control subjects.

In these fluid samples, the team looked for exosomes, or cellular vesicles that carry key proteins and genetic information from cell to cell. They were able to isolate the exosomes specifically released from fat cells, and then they analyzed the molecular cargo inside.

In the samples from participants with Alzheimer's disease, they found evidence that genetic messages carried by fat-cell derived exosomes affect the working of a key pathway involved in the health of neurons, learning, and memory. These findings suggest a way that midlife obesity can increase the risk of Alzheimer's disease and identify a treatment target. This study was made possible by an ADRC Development Project Award.

Finding Clues to Alzheimer's in the Brain's Immune Cells / [Katherine Prater](#), [Kevin J. Green](#), [Sainath Mamde](#), [Alexandra Cochoit](#), [Carole L. Smith](#), [Shannon E. Rose](#), [C. Dirk Keene](#), [Jessica Young](#), [Ali Shojafar](#), [Gwenn Garden](#), [Suman Jayadev](#)

Prater, KE et al. Nature aging, 2023

Image courtesy of Alexandra Cochoit, UW Neurology

Microglia are a type of cell that play very important roles in our brain health. They have a diversity of jobs, including maintaining normal brain function, fighting infections, and cleaning up and disposing of dead cells and waste. Research suggests that in people with Alzheimer's disease pathology in their brains, some microglia react too strongly, causing so much inflammation that the response drives the disease, rather than preventing it.

An ADRC research team used brain autopsy samples from 22 ADRC research participants to learn more about the groups of microglia that respond to Alzheimer's disease. To do so, they studied the microglia gene expression, or the messages that get turned into proteins for use in the cell to perform in their specific job.

In a new paper, the team describes three different groups of microglia that have not been seen before in the human brain. All three groups showed signs of being involved in waste disposal duties. But one of these groups appeared more often in brains of people who had Alzheimer's disease during life. The gene expression of these microglia also showed signs of inflammatory activity. This finding is a new clue to how microglia respond to Alzheimer's pathology. They also looked at a population of microglia known to help send messages between cells, and they found a subgroup only found in Alzheimer's disease brain tissue.

"Instead of using medications to treat the whole immune cell population, we can now target just the type of microglia that are harmful," says lead author Katherine Prater, PhD. The team is now positioned to study microglia's role in Alzheimer's disease, with more precision than ever before. •

Enhancing Participation by Minoritized Groups in AD/ADRD Research

October 3rd – 4th, 2023

#EMP2023

knightadrc.wustl.edu/emp



"I really enjoyed meeting and networking with other ADRC colleagues and seeing creativity in their process of building authentic partnerships with the community." - Linda Ko, PhD, UW ADRC ORE Core Lead

(from left) UW ADRC's Janet Rojina, MPH, Derick Aranda, MD, Luciana Fonseca, PhD, Suman Jayadev, MD, and Linda Ko, PhD attended an ADRC-hosted conference to discuss and shape the future of Alzheimer's disease research participation.

By Janet Rojina, MPH, research coordinator on the UW ADRC Outreach, Recruitment and Engagement (ORE) team

This October, I had the privilege of traveling to St. Louis, Missouri to attend the "Enhancing Participation by Minoritized Groups in Alzheimer Disease and Related Dementia Research Conference." This event was organized and hosted by the Knight Alzheimer Disease Research Center and served as a continuation and scaling up of the 2018 workshop on African American Participation in Research and involved all 37 ADRCs nationally, as well as other groups collaborating with communities. The idea was to bring together members of the academic community to engage in conversations and help steer Alzheimer's disease research participation to include representation from minoritized groups. This is a matter of great significance for Alzheimer disease and related dementia research because it is projected that by 2050, over 40% of older adults will be composed of individuals from minoritized populations. Historically, individuals that participate in research are predominantly non-Hispanic whites, underscoring the importance of addressing the issue.

For me, this was a particularly exciting opportunity because a big part of my role as a UW ADRC research coordinator involves actively building partnerships with community members from minoritized or underrepresented groups, providing education about brain health, and bringing UW ADRC research opportunities to community members who have been historically underrepresented in research. As I approached the conference, my objective was to gain new insights from the speakers, my peers, and the work that they are doing so that I can compare our approaches, learn from other groups, and also share successful strategies from our center. Read on for some highlights of the conference. >>>

Conference Highlights

Enhancing Participation by Minoritized Groups in Alzheimer Disease and Related Dementia Research

Building Trust Mark Gluck, PhD from Rutgers University introduced 10 evidence-based strategies that his team employed to recruit over 500 older African Americans from the broader Newark area into their brain health research program since 2015. Examples of the measures include building trust through long-term investments in community health and hiring a large engagement team with deep connections to the community. "This presentation offered practical solutions and ideas that can readily be applied to effectively recruiting and retaining research participants within the African American male demographic, which historically have been the most challenging cohort to get involved in research," said Derick Aranda, MD, of the Cleveland Clinic and also a Trainee in our ADRC Research Education Component (REC).

Learning from the Community Dedra Buchwald, MD, ADRC Native Research and Resource Core Lead, and Amanda Boyd, PhD from Washington State University also shared recruitment lessons learned from engaging with individuals from American Indian/Alaska Native (AI/AN) communities. They emphasized the importance of distributing information through Native organizations and including members of the AI/AN community on the research team.

Expanding Research Social determinants of health are non-medical factors, such as neighborhood resources, education, income, stress, or social connection, that are shown to influence brain health outcomes. Megan Zuelsdorff, PhD of the University of Wisconsin-Madison presented on a national effort to systematically collect this information from ADRC research participants. Studying the social and environmental context of participants' lives, alongside their medical and biological data, is needed to help us understand what is driving the population-level disparities in Alzheimer's and how we can build better clinical and behavioral interventions.

I return from the conference with many new ideas to implement, connections for potential collaborations, and a renewed enthusiasm to continue the important work that we do. As I work, I will carry with me the wisdom of conference speaker Sid O'Bryant, PhD of the University of North Texas, who encouraged us to "Be bold!" and recognize that reaching diverse communities isn't more challenging; it merely requires a distinct approach and UW ADRC is part of that transformative wisdom. • *Janet Rojina, MPH*

WHAT IS CLINICAL RESEARCH?

Clinical research is the study of health and illness in people. There are two main types of clinical research: observational studies and clinical trials.

Observational Study

Observational studies monitor people in normal settings. Researchers gather information from people and compare changes over time.

Clinical Trials

Clinical trials are research studies that test a medical, surgical, or behavioral intervention in people. These trials are the primary way that researchers determine if a new form of treatment or prevention, such as a new drug, diet, or medical device is safe and effective in people.

If you would like to learn more about research or if you have any questions please call our English and Spanish-speaking team at 1-844-201-5480.



How to Participate in Research: Steps 1, 2, 3

Visit our webpage to learn more about participating in clinical trials or research studies at the UW Alzheimer's Disease Research Center:

www.depts.washington.edu/mbwc/adrc/page/participate



Shared Outdoor Adventures for Resilience



Photo: UW Medicine / SOAR / @nswatzphoto

"This really beats sitting around and watching TV all day. I'm going back with a big smile." This person is talking about participating in the SOAR program, a monthly hiking experience offered by the UW Memory and Brain Wellness Center. The name is an acronym for Shared Outdoor Adventures for Resilience.

SOAR is the only outdoor adventure program in the nation designed for people with younger onset Alzheimer's (diagnosed before age 65). Approximately 10% of people are diagnosed with Alzheimer's disease at a younger age, but dementia services are typically designed for older people.

"Younger folks can often feel isolated or like they simply don't belong within other activities such as adult day programs or more low-impact physical fitness activities," says MBWC's Marigrace Becker, MSW, director of the Memory Hub. "Staying physically active is one of the best ways to promote brain health, and doing so in a group is a way to counteract the isolation many people with younger onset Alzheimer's feel. SOAR provides a community, as well as a positive, healthy and tailored resource."

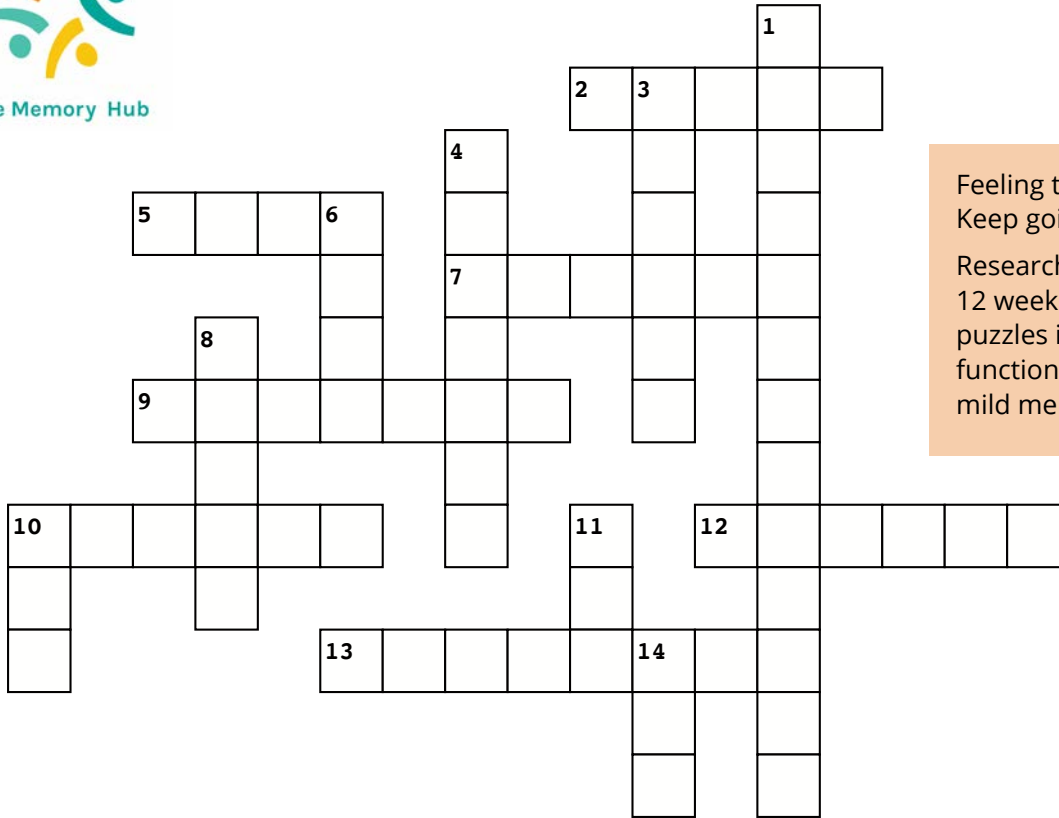
In SOAR, guided hikes are about 3-4 miles and take place within an hour of Seattle, with bus transportation provided. About 18 people attend each time. Volunteer naturalists join periodically to talk about plants and animals in the region.

"I was surprised how good it felt to be around other folks who are as young as me. It was so good to meet some more people in my situation. I also enjoyed when we were marveling at creation together...pointing out beautiful things to each other. People with and without memory loss pointed things out to me. We were on the same level in this," commented a participant.

SOAR is offered in partnership with Seattle Parks and Recreation, known for becoming the first parks and recreation department in the nation to launch a specialized dementia-friendly recreation program in 2014. The SOAR program is made possible thanks to a 2023 Innovation Programs Grant from the I'm Still Here Foundation. •

Learn more about SOAR and see the schedule at www.thememoryhub.org/page/soar.

Memory and Brain Crossword Puzzle!



Feeling that brain workout?
Keep going!

Research suggests that even 12 weeks of doing crossword puzzles improves cognitive function for people living with mild memory loss! **See page 10!**

ACROSS

2. A common brain health tip recommends you get 7-8 hours of it.
5. The wood and string structure supporting a woven creation.
7. The Memory Hub is a place for dementia-friendly communities, collaboration, and ____; Or, when you have an ____, you set in motion a change in how things work.
9. The brain-healthy activity that involves moving to a beat.
10. A botanical oasis with things to touch and smell, and places to sit and reflect, along a path.
12. Time spent in ____ invigorates the mind and body and lowers stress levels, through fresh air, beautiful views, and the opportunities to move and socialize. Otherwise known as the "Great Outdoors."
13. The delicious brain healthy highlight at the Memory Hub's site for the 2023 Brain Health Block Party; Or, a morning blend.

> **Download and print this page, and find the answer key at:**

www.thememoryhub.org/news

DOWN

1. A group of foods common in Greece and Italy, such as fish, nuts, olive oil, greens, and berries, that comprise the top recommended diet to eating for brain health.
3. The " ____ Letters" program offered by the Goldsen Institute at the Memory Hub invites people living with memory loss to document their life stories to preserve them for future generations to enjoy.
4. Our ____ share good times and help us through hard times. You might have had a "best" one of these in high school.
6. The acronym for the UW Medicine center providing diagnosis, support, and education programs for people living with disorders that cause dementia.
8. Namesake of the therapeutic garden at the Memory Hub
10. You can promote a healthy ____ by eating fibrous veggies and fermented foods such as yogurt, kimchi, and sauerkraut.
11. What belongs in an exhibit; Or, a common sight to behold at the Memory Hub.
14. The center of activity that draws everyone with similar interests together; Or, from where the spokes in a wheel radiate.

Garden of Inspiration Art Show at the Memory Hub

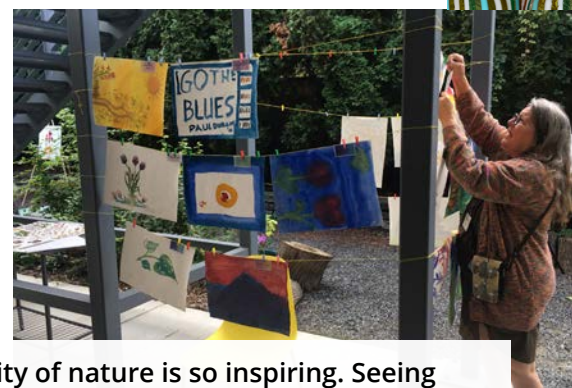
The Memory Hub is a dementia-friendly community center on Seattle's First Hill, founded by the UW Memory and Brain Wellness Center, in partnership with the Frye Art Museum. This fall, the Memory Hub held an art exhibit in Maude's Garden. Genevieve Wanucha, MBWC communications specialist and Maude's Garden project lead, shares some memories.



For the 'Garden of Inspiration' art show, we displayed 50 pieces of art in the garden, in eclectic ways—on easels and tables, along the path, and within the garden beds. The idea for this exhibit came about when the thought occurred to me: *'how amazing would it be to exhibit artwork inspired by the garden...in the garden?'* I had been reminded that participants in the Elderwise adult day program at the Memory Hub often take inspiration from Maude's Garden for their watercolor paintings. Right away, Elderwise agreed to co-host an event that would feature art created by Memory Hub participants, staff, volunteers, and visitors. It came together in 2 months. On September 21, sixty people visited the show, with many remarking that it was the highlight of their day. Some visitors made drawings and plant weavings at a table stocked with art supplies. To me, the exhibit served as a reminder of how powerful of a creative prompt that nature can be. There was something transcendent about seeing the garden filled with the physical expressions of selfhood and imagination of the very people who found inspiration in its plantings and features. It was the honor of my life to get to bring this idea to fruition, one I feel that ended up as an expression of love for both the garden and our dementia-friendly community. *Interested in creating art for a future Maude's Garden show? Please email mbwc@uw.edu •*



By Annika Noreen



"The tranquility of nature is so inspiring. Seeing how this has transformed into such lovely, unique art is very moving" - Joan Rettmann, visitor



By Susan Baker





At the 2023 Alzheimer's Association International Conference in Amsterdam this summer, much of the event focused on the new anti-amyloid medications, such as lecanemab (brandname: Leqembi). You can find updated information about this drug on the MBWC website. Our Hanson Lab team found some other interesting talks about what's coming soon in diagnosis, treatment, and prevention of Alzheimer's and other diseases that lead to cognitive impairment and dementia.

Lifestyle changes for brain health

Several Aaic presentations shared exciting breakthroughs in promoting brain health through lifestyle changes. The Systematic Multi-domain Alzheimer's Risk Reduction Trial (SMARRT) studied participants who are at a higher risk of developing dementia due to conditions such as diabetes, high blood pressure, depression, and social isolation.

SMARRT participants engaged in a personalized program with a health coach. The programs aimed to improve physical, mental, and social activity, promote brain-healthy diet and sleep habits, and decrease health risks. The data showed a modest improvement in participants' cognitive abilities after 2 years of this intervention, compared to people who only received health education.

Other studies, including the Japan-multimodal intervention trial for prevention of dementia (J-MINT) and meta-analyses from Finland, suggested that personalized, multidomain interventions may be particularly beneficial for those with the APOE4 gene, a known genetic risk for Alzheimer's disease.

We are also looking forward to the results of the U.S. POINTER trial, which released its baseline data at the conference. Modeled after the FINGER trial in Finland, U.S. POINTER is a comprehensive physical, cognitive, social, and cardiovascular intervention study that will further explore the effects of these interventions on cognitive function in high-risk older adults.

We also learned about Computerized Games versus Crosswords Training in Mild Cognitive Impairment: The COG-IT trial, a 1.5-year study in individuals with mild cognitive impairment. Participants were randomly assigned to crossword puzzles or computerized cognitive games.

The crossword puzzle group showed better outcomes on the cognitive test scores as early as 12 weeks, and findings lasted throughout the study. The crossword puzzle group also performed better on a measure of daily functioning and showed less brain atrophy in their hippocampus on an MRI brain scan. A larger study is now being proposed to look at how many crossword puzzles per week are required to produce this effect and, if funded, the University of Washington will be one of the recruitment sites.

Brain Health Tips



Break a sweat



Stop smoking



Manage chronic health conditions



Protect your head



Eat a balanced and healthy diet



Prioritize your sleep, or seek help for a sleep condition



Be socially active or volunteer in your community!



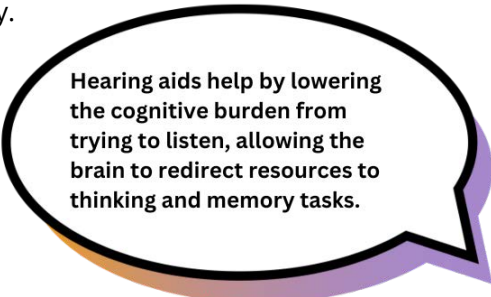
Challenge your brain!

Hearing loss interventions work!

According to the hearing loss talks that Dr. Hanson attended at AAIC, hearing loss is the highest modifiable risk factor for cognitive impairment and dementia. Yes, you 'heard' that right—the biggest risk factor that we can do something about!

A study presented at AAIC showed that patients who received cochlear implants had improvements in executive function, working memory, and even reaction time—not just the cognitive functions that are directly related to hearing. And, a recent meta-analysis published in *JAMA Neurology* found that the use of hearing restorative devices was associated with a 19% decrease in hazards of long-term cognitive decline and a 3% improvement in cognitive test scores in the short term.

The HEARS trial is a community-based hearing intervention that included counseling and over-the-counter hearing aids. One group received the intervention later than the other so that it could serve as the control group, yet still get the benefits of the study.



Hearing aids help by lowering the cognitive burden from trying to listen, allowing the brain to redirect resources to thinking and memory tasks.

Some people in this study had mild cognitive impairment, as defined by a lower score a memory test. Whether or not someone had a lower test score, the early intervention group showed a 13-point improvement on the communication function score at 3 months, and this improvement remained at one year. In addition, 89% of the participants in the lower test score group felt personally that they benefited from the intervention in their daily lives.

Several theories speak to why hearing loss could lead to dementia. One theory is that common biological stresses, such as oxidative stress, could cause hearing loss and neurodegeneration. Yet another theory is that when a person cannot hear well, they can become isolated and miss out on the brain-healthy connections that social engagement provides.

Another theory is called the cognitive load hypothesis: if you have hearing loss, you spend a lot of cognitive resources to try and listen harder, or perceive the auditory stimuli in your environment, and you are less able to spend resources on things like memory or multitasking.

Hearing aids help by lowering that cognitive burden from trying to listen, allowing the brain to redirect resources back to thinking and memory tasks.

Improving diagnosis with new tests and biomarkers

When Angela Hanson, MD, geriatrician and assistant professor in the UW Division of Gerontology and Geriatric Medicine, works with patients at the memory clinic, she often hears a phrase like, “my mother was diagnosed with some type of memory problem a long time ago.” Today, we are trying to be better at naming and diagnosing the specific types of cognitive problems people have, so that we can better treat these conditions.

Dr. Hanson attended a seminar about the Longitudinal Early-Onset Alzheimer's Disease Study (LEADS). This ongoing study enrolls people living with mild cognitive impairment or early dementia before the age of 65 but without a known gene that causes their disease. This study is important because about 5%–10% of all patients with Alzheimer's disease develop symptoms before age 65, and over 90% of these patients do not carry a known disease-causing genetic mutation.

Based on data from the first 400 patients enrolled, 72% of the participants who met the clinical criteria for early-onset Alzheimer's disease syndrome showed Alzheimer's biomarkers on amyloid and tau PET imaging scans. The remaining 28% were thought to have a variety of conditions underlying their memory loss, including cerebrovascular disease, frontotemporal degeneration, or even undiagnosed psychiatric conditions.

Many of the LEADS participants (people aged 40–64 years) don't show the classic “episodic memory loss” that we see in older people with Alzheimer's disease. The talk reinforced the importance of setting aside a visit with your doctor and doing a thorough medical and neurologic evaluation if you are having cognitive issues in your midlife.

A seminar hosted by the National Institute on Aging focused on more accurate ways to stage individuals with Alzheimer's disease. These guidelines are still open to public and scientific input, but they will refine Alzheimer's biomarkers, as well as include non-Alzheimer's markers, including vascular brain injury and Lewy body pathology.

My hope is that the LEADS study and new NIA criteria will move us forward in the field. New tests and biomarkers will hopefully help inform both researchers and clinical doctors so that we get the right treatment to the right patient. •

References:

Cho, H et al. *Alzheimer's & dementia*, 2023
Huang AR et al. *JAMA*, 2023
Ngandu T et al. *Lancet*, 2015

• Courage and Creativity in Our Caregiver Community



Randi Luoto cares for her husband Dennis who lives with memory loss due to Alzheimer's disease. She applied and received a caregiver respite grant from Road Scholar to embark on an educational adventure. The trip took Randi to several performances at the Metropolitan Opera House in New York City, private demonstrations, moderated interviews of professional singers, meet-and-greets with Metropolitan Opera staff, and a 90-minute backstage tour of Lincoln Center. Randi is left with a new conviction that more organizations should consider supporting caregiver health and well-being. She suggests that caregiver respite opportunities could be a new employee benefit. "There are so, so many caregivers out there, and caregiver burnout is not pretty."

[Read more](#)



Jama Rand involves her husband Jim in her glass fusion art classes. They have been creating unique and colorful glass designs for over a year. Now, when Jim Rand sits in his yard, he looks out onto a garden of handmade glass artworks, each depicting a moment in his life. This backyard garden keeps his memories, literally, within reach. At the time of his diagnosis of Alzheimer's disease, Jim Rand had never created art of any kind. For 25 years, he taught university courses in operations management, compensation management, and human relations. He is an Army veteran and holds a law degree and a doctorate in labor law and economics. But in working with Jama on glass art, he has found a new way to express himself and feel successful. "Anytime you get involved in art, it's a beautiful thing, right?" says Jim. "It was good to start from pieces of glass—then put it together into something useful and beautiful. There's this joy of standing back and seeing the creation."

[Read more](#)



Read the full stories on the MBWC website at:

www.depts.washington.edu/mbwc/news/category/caregiving

THANK YOU

Thank you to all the people and organizations who donated funds to support the Memory Hub.

(May 1 to October 1, 2023)

Ms. Pamela L. and Daniel Baty

Dr. Carl Westphal

Mr. Richard M. Ferry

Roger Young

Ms. Karen I. Millward

Ms. Deborah and Timothy Guirl

The Richard and Maude Ferry Foundation

California Community Foundation

Fairview Foundation

The Schwab Fund for Charitable Giving

Caregiver Support Programs

Offered at the Memory Hub

Caregiver Support Group - Offered by the Alzheimer's Association *Every 2nd Monday at 1 pm - 2:30 pm.*

Virtual Caregiver Forum *10 - 11 am every Monday*

PPA Together Group *Email mbecker1@uw.edu with interest*

Memory Navigator Drop-In Services
Appointments are offered two days per week during open hours and can be booked online.

Find details:

www.thememoryhub.org/page/caregivers

Getting to Know:

Michael Rosenbloom, MD

Behavioral Neurologist and Director of Clinical Trials for the UW Memory and Brain Wellness Center @ UW ADRC



What brought you to this role of director of clinical trials at the UW Memory and Brain Wellness Center (MBWC)?

Thirty years ago, when I was in high school, I took a trip to Seattle. As soon as I got off the plane, I fell in love with the city. I dreamt of living and working here. But nothing came to fruition over the years.

More recently, I worked at Health Partners in St. Paul, Minnesota for 13 years, as the principal investigator for industry-funded clinical trials and performed my own clinical studies. When I learned about the open position for director of clinical trials at the MBWC, I was very much intrigued by the focus on patient experience and the fact that the University of Washington has a history of innovation and excellence. And because the MBWC is based in Seattle, it seemed like an opportunity where I could have my cake and eat it too.

What do you most appreciate about being part of the MBWC team?

I appreciate the multidisciplinary nature of the MBWC where I can have informed and nuanced discussions not only with behavioral neurologists, but also geriatricians, geriatric psychiatrists, and neuropsychologists. Everyone is focused on the disease that I'm trained to manage. I value my time in the clinic and have spent hundreds of hours leading the charge to offer the drug lecanemab at the University of Washington. I'm also in the process of running a program known as Partners in Dementia that pairs up people living with early-stage Alzheimer's with first-year medical students in the setting of a buddy program.

In the field of behavioral neurology, it is important that one engages in activities that foster innovation. I feel like MBWC physicians are positioned to perform research that can change the way we think about and manage dementia. I'm honored to be connected with researchers who are experts in their fields, such as creating better biomarkers for Alzheimer's disease. It's also refreshing that there is an established infrastructure for clinical trials. There's no ceiling on what you can do here.

What does it feel like to work in this field in the wake of the FDA approval of anti-amyloid therapies for Alzheimer's disease?

It has been a tough road for someone specializing

in behavioral neurology, where most of your patients have incurable neurodegenerative diseases and the medications that you have to

prescribe them have very limited impact on disease progression. We have been waiting for the moment when there are disease-modifying drugs that not only lower amyloid levels in the brain but also slow decline in cognition and function. We have reached that moment, and it is an absolute dream to be able to help the MBWC prepare to administer this drug and drugs that have the similar mechanisms of action.

What is your perspective on the message of some in the field who point out that the benefit of lecanemab is limited for people living with Alzheimer's disease?

I think the amount of progress we've made in the past couple of years has been greater than the amount of progress in the field over the past decade. It's one of the fastest moving periods in terms of innovation that I can remember as a specialist. I liken the emerging Alzheimer's drugs to the drugs that were developed to treat cancer. In the 1950s, drugs such as methotrexate and similar agents had horrible side effects and resulted in modest improvements in terms of morbidity and mortality in these patients. But it was the start of something bigger. And now, over 50 years later, our perspective on cancer is much different. I think this is where we are with Alzheimer's disease, and this is an initial step.

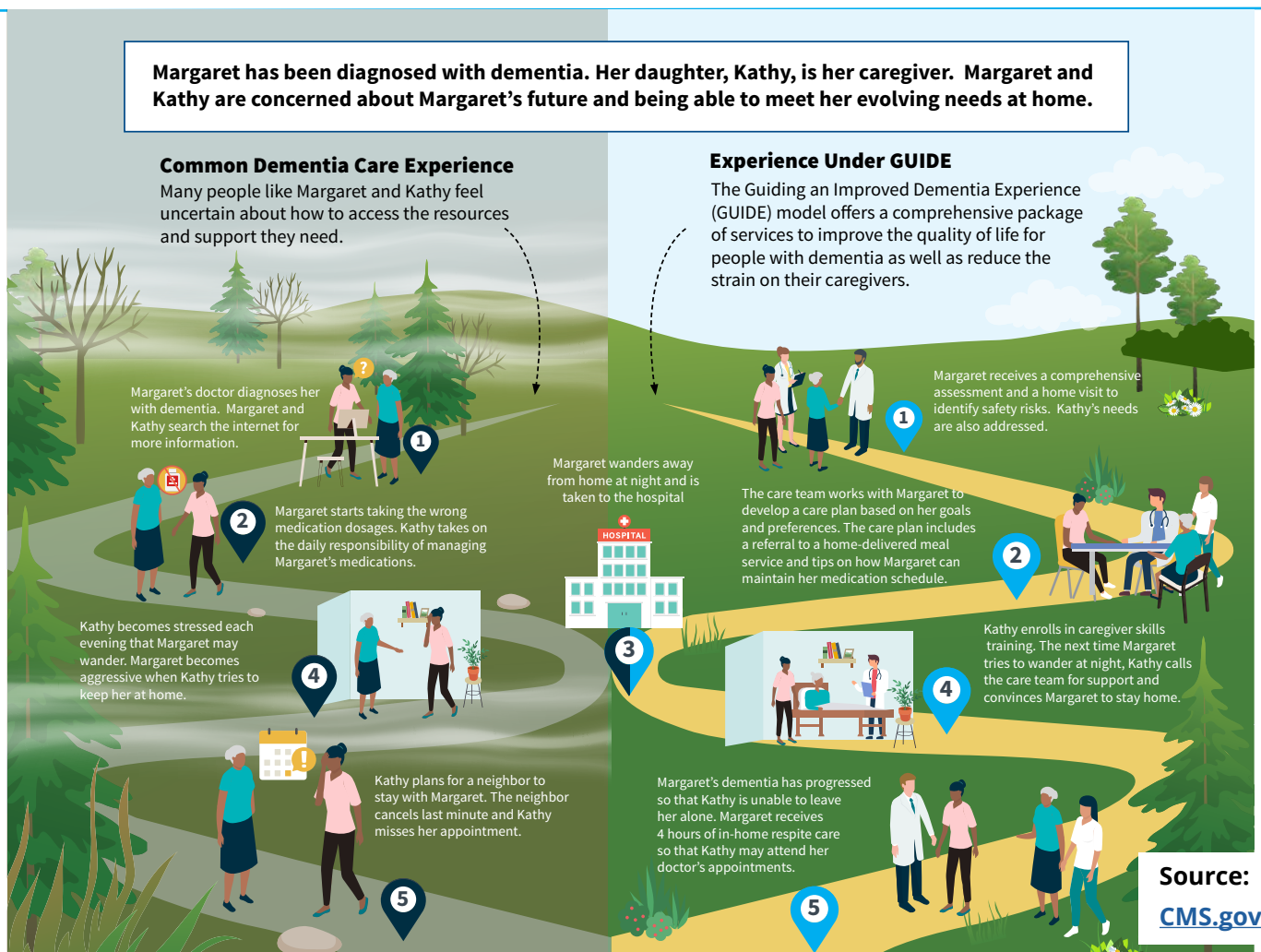
There are going to be similar drugs that will be refined over time, such that they are more efficacious, have fewer side effects, and can be more easily administered. In addition, I think there will be drugs of different mechanisms that, when combined with anti-amyloid monoclonal antibodies, will have synergistic effects in persons with early-stage Alzheimer's disease. There has also been a lot of exciting work on blood-based biomarkers over the past five years or so. I can see a future where the primary care doctor can draw blood and confirm the presence of an Alzheimer's process, thus facilitating the earlier identification of patients who are likely to go on to develop dementia. >>>

Your most recent publication is focused on the care ecosystem, a collaborative dementia care model that provides personalized, cost-efficient support for persons living with dementia and their caregivers. This telephone and web-based intervention was developed and studied at the UCSF Memory and Aging Center via an award from the Center for Medicare and Medicaid Innovation and the National Institutes of Health. Your research showed that a care ecosystem can be incorporated in a memory clinic and offers many advantages. Can you tell us how you think a care ecosystem model could innovate dementia care and improve quality of life?

Let's consider the current process of diagnosis and care at the MBWC. A patient is referred by their primary care doctor or they may get a direct referral depending on their insurance. At the first clinic visit, they get a workup that involves medical history, lab exams, imaging, and potentially some biomarker assessment. At a follow up appointment, the doctor goes over the different pieces of the puzzle and renders a diagnosis and a care plan. The patient may be referred to our MBWC social worker for any psychosocial issues. There are patients who, over time, may require more attention than a single visit with a social worker. There may be issues related to behaviors or wandering from the home, or a family member may need help navigating the system for transitions to residential care. It is a journey for every patient and family dealing with Alzheimer's disease. However, our social work capacity is limited because thousands of patients are followed at the MBWC, and we have one social worker on the team.

However, a care ecosystem provides a way to supplement the clinic social worker's eyes and ears. In a care ecosystem, people called 'care team navigators' are trained by the social worker, and then provide regular telephone support to those families who have the greatest need. Those families receive a patient-specific care plan that addresses caregiver needs and concerns, and they are followed over time. With a program like the care ecosystem, outcomes are better for both the patient and the caregivers.

The Centers for Medicare & Medicaid Services has released a request for applications to implement a model called Guiding an Improved Dementia Experience (GUIDE). This is an opportunity for other institutions, such as ours, to receive federal funding to implement what is tantamount to a care ecosystem model. We are pursuing this opportunity and hope to bring this model to the MBWC clinic. •



NEW Research Funding

Team members from the UW ADRC Precision Neuropathology Core, co-led by C. Dirk Keene, MD, PhD and Caitlin Latimer, MD, PhD, recently received 3 NIH grants that, together, will help the ADRC and collaborators to develop a model for a national archive of digitized samples of donated brain tissue.

"This resource will be openly accessible to researchers everywhere and will accelerate neuropathology research beyond anything currently possible."

"We are very excited about this work as a leader in this space and helping to advance this technology and research platform to advance the science of Alzheimer's disease and related dementias."

- C. Dirk Keene, MD, PhD

C. Dirk Keene, MD, PhD, Professor, UW Laboratory Medicine & Pathology The Digital Brain Slide Archive: An Open Source Platform for data sharing and analysis of digital neuropathological slides. (U24, NINDS)

C. Dirk Keene, MD, PhD, Professor, UW Laboratory Medicine & Pathology Federated Digital Pathology Platform for AD/ADRD Research and Diagnostic Digital AD Platform (U24, NINDS)

Shubhabrata Mukherjee, Research Associate Professor, Division of General Internal Medicine, UW Department of Medicine Genetic Architecture of Pure Alzheimer's Disease and Mixed Pathology (R01, NINDS)

Brian Kraemer, PhD, Professor of Medicine, UW Division of Gerontology & Geriatric Medicine, got 3 new grants to study tau protein and therapeutic targets in Alzheimer's disease:

SPOP drives neurodegenerative tauopathy (RF1, NIA)

Formation of Tau RNA Complexes disrupts tau function and drives tau neuropathology (RF1AG078335)

Targeting MSUT2 with small molecules to ameliorate pathological tau (R01AG078335)

Congratulations to the following investigators who were awarded 2023-2024 ADRC Developmental Project Grants. These awards encourage investigators new to Alzheimer's disease to leverage ADRC resources in new research projects.

Yeilim Cho, MD, MIRECC Advanced Fellow, Veterans Affairs VISN-20 Mental Illness Research Education and Clinical Center Defining the relationship between obstructive sleep apnea and MRI measures of lymphatic dysfunction



Angela Hanson, MD, Assistant Professor, UW Division of Gerontology and Geriatric Medicine, UW School of Medicine / Tomas Vaisar, PhD, Research Professor and Director, Department of Internal Medicine, UW School of Medicine Heterogeneity of brain lipoprotein particles in Alzheimer's disease



Mehmet Kurt, PhD, Assistant Professor, UW Department of Mechanical Engineering Investigating in-vivo brain mechanical properties as Alzheimer's disease biomarkers through multifrequency MR Elastography



Andrew B. Stergachis, MD, PhD, FACMG, Assistant Professor of Medicine and Genome Sciences, UW Division of Medical Genetics Resolving Alzheimer's disease risk loci using phased long-read chromatin maps



Luciana Mascarenhas Fonseca, PhD, Associate in Research in the WSU College of Medicine's Department of Community and Behavioral Health Intraindividual cognitive variability in aging adults with Down syndrome: associations with Alzheimer's disease plasma biomarkers, neuropathology and clinical dementia. (K99, NIA). *Fonseca has 7 mentors for this project, including the ADRC's Thomas Grabowski and Ali Shojaie.*

Remembering

Dr. Ka'imi Alohilani Sinclair (1962-2022)

"She was dedicated to the communities that she was conducting research within. She translated research in a way that they understood it and were able to see the benefit. The work that she did is deeply important for future generations." - Lucas Gillespie, WSU IREACH

Indigenous Aging Brain Health Series

By the ADRC communications team, with special thanks to our WSU collaborators in ADRC-supported community outreach work.



Nicole lee Kamakahiolani Ellison (Fujioka-Krzyska), MPH, distinctly remembers her interview for a research project manager position at Washington State University (WSU). It had been a long drive from Olympia, so she was *totally* planning on changing into her professional shoes when she arrived. It wasn't until halfway through the interview that she looked down. She was still wearing her flipflops.

"I was answering these formal questions, but of course I was distracted at the same time. By the end, I just wanted to apologize for my flip flops."

"Oh, I didn't even notice," her interviewer, WSU Associate Professor Ka'imi Sinclair, PhD, MPH, had said in response to the apology.

Ellison, who is now a research project manager for the WSU Initiative for Research and Education to Advance Community Health (IREACH), appreciates this retrospectively-funny first moment with a woman who would become her supervisor, friend, and a model of successful community participatory research.

She later learned that Sinclair wore elaborate shoes whenever and wherever she wanted.

*

Ka'imi Alohilani Sinclair (Western Cherokee) (1962-2022) served as associate professor in the College of Nursing at Washington State University (WSU) and the co-director for IREACH. From 2020 through 2022, Sinclair served as co-lead of the Outreach, Recruitment and Engagement (ORE) team here at the UW Alzheimer's Disease Research Center. In this capacity, our team had the privilege of working with her to reach American

Indian and Alaska Native (AI/AN) communities and create educational resources about Alzheimer's disease and research, along with others at IREACH.

At the time of her passing on October 16, 2022 from pancreatic cancer, Sinclair had recently been inducted into the WA State Academy of Sciences. The membership recognizes her 2 decades of scientific contributions through research to increase health equity by creating, using, and evaluating culturally informed interventions to prevent disease in health disparity populations including American Indians across the country, African Americans and Latinos in Detroit, and Native Hawaiians and Pacific Islanders in Hawaii and Washington.

Highlights of her work include the first National Institutes of Health-funded study to reduce diabetes risk among AI/AN men and the only research in Washington State focused on Native Hawaiian and Pacific Islander health, through an educational program created by and for Native Hawaiians and Pacific Islanders to manage high blood pressure and/or type 2 diabetes through reducing salt and increasing potassium in meals.

"She was dedicated to the communities that she was conducting research within," said Lucas Gillespie, MPH, a research project manager at IREACH. "She translated research in a way that they understood it and were able to see the benefit. The work that she did is deeply important for future generations."

One of Sinclair's projects being continued by her team involves the Hawaiian Association of Civic Clubs. This organization helps native Hawaiians learn different trades and engage in social advocacy and civics.

Ka’imi led with a heart of passion and service to Native People. She embodied kindness. Her loving smile and big hugs were her trademark. Our communities were truly fortunate to have such a leader for health promotion and a research agenda that was tied to Indigenous values and perspectives. She is greatly missed.

-Gary Ferguson, ND (Aleut/Unangax), Director of Outreach & Engagement at IREACH, ADRC Collaborator



Ka’imi Alohilani Sinclair, PhD, MPH
(1962-2022)

For the last 5 years, Sinclair had worked with the civic clubs to administer health needs assessment surveys to participants at their big convention that is held once a year, either in Hawaii or Seattle.

The association also hosts an event where they honor all the community members that have passed away that year. “It was really, really special to see all the people that she had touched,” said Ellison. “People were coming up to me and sharing little stories about her. She must have had some impact on them, considering that her past interaction with them was at a table giving them a 100-question survey to fill out. She sure had this sort of energy that made people feel comfortable.”

Ellison is now leading the data analysis of the survey answers collected over five years. “Then we’ll hopefully publish some findings and share it with the community sometime in 2024. It’s been a great learning adventure,” she says. “There’s not a lot of these kinds of data about the Native Hawaiian population. So, having a baseline understanding from Ka’imi’s work will be great.”

While people remember the sheer depth and breadth of Sinclair’s work, what they really talk about is her warm, welcoming energy, her connection to her identity and communities, and the incredible number of contacts she had from everywhere she had lived or worked. “Ka’imi was a ray of sunshine, a beacon of hope, and beam of good will and optimism,” said Dedra Buchwald, MD, a professor in the WSU Elson S. Floyd College of Medicine and the leader of the UW ADRC Native Research and Resources Core. “She reached out to many – students, colleagues, communities, and friends in an authentic and compassionate way. She was trusted.” In more words from her colleagues, Sinclair was someone who “knew everybody” and who “brought a little spice” to the world of academic research.

“I always had respect and admiration for her, but it was when she stepped in front of community at outreach events that she turned into this ball of light,” said Cole Allick, PhD, MHA (Turtle Mountain Band of Chippewa Indians), research manager and tribal liaison at IREACH. “I was always taken with her calm steadiness and how she kind of just made everything feel all figured out.”

Allick, graduated in summer 2023 as one of the first four scholars to ever earn a PhD in Indigenous Health. He wrote his dissertation on Alzheimer’s disease for

this degree at the University of North Dakota, while working in Seattle at IREACH. Allick first knew Sinclair as an informal mentor on his graduate work, before formally being assigned to work with her in 2021 in the WSU Natives Engaged in Alzheimer’s Research (NEAR) Recruitment and Engagement Core and help with community ‘brain train’ events as part of our Indigenous aging effort here at the UW ADRC.

“She was intentional about helping Indigenous and Native students to succeed. If you were a Native undergraduate or graduate student interested in working in research, she made time for you,” says Allick. “As I get busier, I’m asking, how did she do all of this—and especially, do it with a smile on her face and a deep commitment to community as well?”

At the ADRC, we are grateful to Sinclair for sharing her deep connections, particularly within the elder health spheres, that helped build trust within AI/AN communities. In one impactful gesture, Ka’imi facilitated an in-depth interview with Becky Bendixen, a Tribal Program Specialist at the Northwest Regional Council in Bellingham, WA, who co-created Wisdom Warriors health program for Native Elders. Bendixen’s story, published by the UW ADRC in the Indigenous Aging brain health series of articles in 2020, raised awareness of the existence and value of such program.

“The ADRC is so thankful for the short time we had to work with and learn from Ka’imi. She was always so cheerful and welcoming, and generous with sharing her knowledge and experience,” says Kimiko Domoto-Reilly, MD, associate professor of neurology at UW Medicine, who is the co-lead of the ADRC ORE Core.

We will also remember how Sinclair, alongside Ferguson, helped the UW Memory and Brain Wellness Center to represent the perspectives of AI/AN communities at our Dementia-Friendly Communities Conference and highlight the ongoing work to promote Alzheimer’s awareness and resources in Alaska, Minnesota, Nevada, and Washington.

The foundation that Sinclair built with several funded projects will continue to generate actionable knowledge about critical health interventions for a long time to come. We are grateful to our WSU Alzheimer’s research colleagues for adopting, as Allick says, “the Ka’imi way” in their work. Indeed, she left some large shoes to fill. •

Sleep Doctor Studies Sleep Apnea Treatment for Dementia Prevention



Yeilim Cho, MD

A good night's sleep feels so refreshing, and that's thanks to the nightly cleaning cycle of the sleeping brain. During this process, called 'glymphatic clearance', watery fluid rushes along the brain's blood vessels, delivering nutrients while clearing away waste.

The brain's ability to clear out waste products during deep sleep not only regenerates

our minds and bodies, but it's also important to maintaining brain health and preventing dementia later in life.

Unfortunately, people with untreated sleep-related breathing disorders don't wake up feeling well-rested. Obstructive sleep apnea, the most common of these conditions, causes a person to repeatedly stop and start breathing during sleep, altering their normal progression into deep sleep cycles and keeping them in a lighter stage of sleep.

Yeilim Cho, MD is a sleep medicine doctor and researcher at Veterans Affairs Mental Illness Research Education and Clinical Center, where she cares for Veterans with sleep disorders. Cho also provides education about sleep disorders and helps low-income and uninsured populations access diagnosis and treatment for sleep disorders at a free sleep clinic in Federal way.

"People with untreated sleep-related breathing disorders are losing that chance to fully regenerate their bodies at night," says Cho. "I feel so bad when I see this happening because this problem can be treated."

A CPAP device, the standard-of-care treatment for obstructive sleep apnea, helps keep the airway open during sleep. "I've heard many middle-aged people

say that they can't live without CPAP because they've noticed a dramatic improvement in daytime function and memory," says Cho.

As an advocate for increased awareness of sleep-related breathing disorders in public and primary care, Cho hopes the medical field will adopt screening for these conditions starting at age 45 for people with risk factors such as male sex, older age, postmenopausal status, higher body mass index, and craniofacial and upper airway abnormalities.

In collaboration with the ADRC, Cho and her colleagues in the UW Iliff Lab are conducting a clinical experimental study in people newly diagnosed with obstructive sleep apnea. The team will assess glymphatic clearance in study participants using non-invasive brain imaging.

The study is designed to show whether and how sleep-related breathing disorders impair the brain's ability to clear out waste products during sleep and whether CPAP treatment improves this crucial aspect of glymphatic function.

"I strongly believe that studying the glymphatic system will open up the door for us to understand the link between sleep disruption and cognitive decline," says Cho.

If you suspect a sleep-related breathing disorder, Cho recommends asking your doctor about a referral to a sleep clinic, especially if your bed partner notices loud snoring or periods of stopped breathing. These days, tests for sleep apnea can be taken at home. •

Genevieve Wanucha

Dr. Cho's #1 SLEEP TIP

Do something physically active or mentally challenging every day. *"Stimulate your brain with activities like reading a book, so that you get really tired and build up the sleep power to sleep at least three or four hours in a chunk at nighttime."* – Yeilim Cho, MD

PPA TOGETHER

A new group for people with
Primary Progressive Aphasia or
Primary Progressive Apraxia of
Speech (PPA/PPAOS)



Learn more!

Contact:
206-543-2440 or
mbecker1@uw.edu

Thank you to everyone who recently donated funds to support Alzheimer's disease research or care! (May 1 – October 1, 2023) See page 12 for Memory Hub donors.

Mr. Paul D. and Darlene McTaggart	Kathleen Carlson	Ms. Diana Anderson
Zoe-Vonna Palmrose, Ph.D. and Michael Brown	Charles Putnik	Ms. Darlene J. Bartlett
Mr. Roy W. and Carolyn Chapel	Mr. Clayton Huber	Ms. Michelle Groesbeck
Ms. Gail Shaw	Mr. Daniel Keymer	Ms. Bernadine Harrison
Dr. Carl J. Pergam and Jeannette Pergam	Ms. Margaret H. Vila	Jane Madden
Mr. Marcos J. and Susan Policar	Teresa Keirnes	Ms. Kathleen Elde
Ms. Theresa Hogenson	Paul M. Nutkowitz, Ph.D.	Ms. Glenda Velez
Ms. April M. Collier	Beth Hutchason	Ms. Julie Boor
Mr. John J. Madden, Jr. and Norine Madden	Mr. Daniel J. and Lynda Porter	Ms. Valerie A. Partridge
Ms. Nancy J. and Stephen McCaffray	Ms. Tami L. Sadusky and Michael Anthony	Prof. Don Bomgaars
Mr. Richard D. and Renee Binns	Mr. Bill Young	Ms. Crystal L. Eney and Bruce MacKenzie
Mr. John D. Bernard and Marilyn Westerman	Ms. Karen and Vic Eaton	Ms. Kristine Shiven
Sandra Mowry	Ms. Barbara Hedberg	Judy Decker
Mr. George F. Sherwin, Jr. and Ann Sherwin	Mr. Douglas Hedberg	Mr. John C. Havekotte
Ms. Kaci M. Tingley	Cynthia Roth	Ms. Rosemary Reagan
Ms. Jennifer Mankowski Dixon	Tina Adkins	Ms. Jennifer Ann Uy
Laurel W. Oliver, Ph.D.	Mary Ellen Sroda	Mr. Elliot H. Omiya and Theresa Lovering-Brown
Stuart L. Du Pen, M.D. and Anna Du Pen	Christine Andras	Ms. Sheri Tillett
Mr. Wesley Bratton	Patricia Baehr	Mr. Pedro Ramirez
Mr. Edward Garth	Marjorie Skinner	The Anderson Foundation
Karen and Jeff Merdich	Deborah R. Nelson	Corwin Ford Tri-Cities
Mr. Gavin A. MacDougall	Ms. Longina Haslam	Grand Aerie Fraternal Order of Eagles
Cynthia Booze	Kathleen Kuker	Fraternal Order of Eagles
Peggy Kent	Mr. David P. Hecht	National Philanthropic Trust
Virginia Miebe	Ms. Pamela S. and Michael Wilcox	Kent Eagles Auxiliary #362
Jack Shea	Mr. Steve and Linda Luttbeg	College Spark Washington
Earla nd RoseAnn Brookbank	Mr. Thomas and Elizabeth Steele-Maley	Bill & Melinda Gates Foundation
Leanna Maynes	Ms. Deborah A. and Jeffrey Scott	American Endowment Foundation
Mark Tilton	Charmaine Hayfield	Cambia Health Foundation
Ms. Kathy J. Lindblad	Sandra Brown	Sroda Family Trust
Ms. Jane E. Lambert and Louis Lambert	Patsy Laskoski	Hostage Rescue Team Association
	Ms. Beverly A. and Jeffrey Riedinger	Grand Chapter of WA- OES
	Mr. Lee K. J. Banghart	Expedia Group Inc.

Do you have feedback about *Dimensions*?

What is your favorite part of this publication?

What could we do better?

What would you like to see more of?

Do you have a story or creative project that you would like to share with the community?

> Email your responses to the Editor at mbwc@uw.edu.

Make a Gift

Support Our Work

Donations help support patient- and family-centered care, breakthroughs in Alzheimer's and related diseases research, and the training of tomorrow's physicians.

Learn more about giving to the UW Medicine Memory and Brain Wellness Center, please contact the UW Medicine Advancement Office at 206-543-5686 or visit depts.washington.edu/mbwc/be-involved/make-a-gift.

Thank you!

University of Washington ADRC
Dept. of Neurology
325 9th Ave.
Box 359791
Seattle, WA 98104

W UNIVERSITY *of* WASHINGTON



Alzheimer's Disease Research Center

UW Medicine

MEMORY & BRAIN
WELLNESS CENTER

If you no longer want to receive Dimensions in the mail, please email
mbwc@uw.edu to unsubscribe.