

# LLFS NEWSLETTER

<https://longlifefamilystudy.com>



## HAPPY SPRING

## AND

# Thank You



For all of your help and participation in completing our third in-person visit! In this edition of our newsletter we will highlight exciting facts from this past visit. We will also share our plans for our next in-person visit. Our grant renewal was submitted to the National Institutes of Health and is currently in the review process. As we patiently await the outcome, we'd love to share some of the novel research from LLFS and continue connecting with you.

## **SAVE THE DATE!!!**

LLFS Research Update SPRING 2025

Join us on Wednesday, May 14, 2025 from 12-1 PM EDT for an informational session led by LLFS researchers. We will share study updates, new findings, and answer your questions! Mark your calendar for this Webinar! Please let us know if you plan to attend by emailing us at [longlifefamilystudy@wustl.edu](mailto:longlifefamilystudy@wustl.edu)

Include any questions you would like answered during the webinar!

Join the webinar by scanning the QR code with your phone or going to the following website:

<https://wustl.zoom.us/j/99333951474>



## **SITE CONTACT INFORMATION**

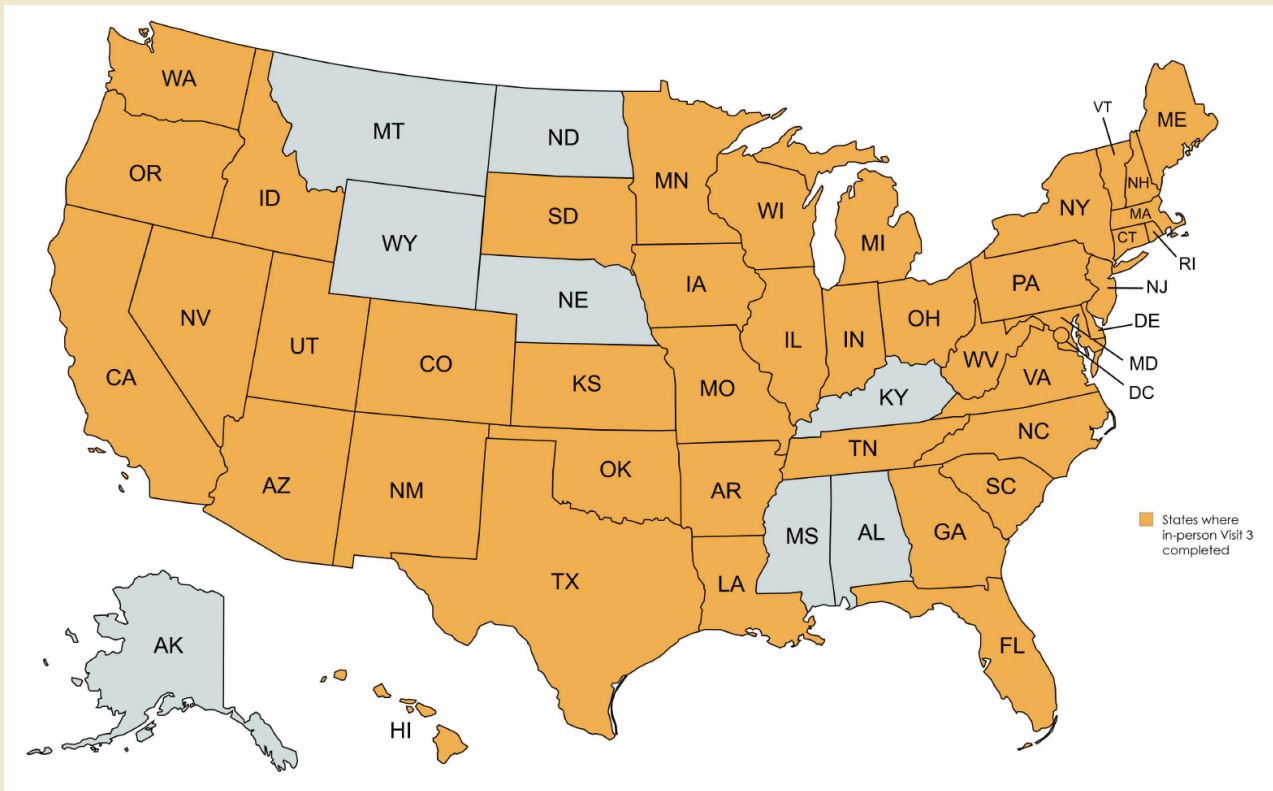
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# WHERE DID LLFS TRAVEL TO?



***Visited 43 of 50 US States!!!***

(also visited parts of Canada)

***How many participants did we see***

***1291 in US***

***State with most participants:***

**MA (354 total participants)**

## SIGN UP FOR ELECTRONIC AFU

Annual Follow-Ups (AFU) are completed either over the phone, the computer, or a mixture of both. Pertinent to completing an AFU is that we have the most up-to-date contact information for you. By either contacting the study coordinator or scanning the QR code to the right, you can update your contact information, and If you include your email address, we will send you a link to perform an electronic AFU.

SCAN ME



or type

<https://redcap.link/pt2>

# ANNUAL FOLLOW-UP

*We are so very appreciative for every annual follow-up (AFU) we do with each of you. Below we highlight why our annual follow-up is scientifically important.*

## SCIENTIFIC IMPORTANCE OF AFU



The annual follow-up (AFU) is a way for the LLFS researchers to track yearly information on your current and changes in health status. Our colleagues in Denmark demonstrated that the rates of hospitalizations are reduced in the offspring and grandchildren of healthy long-lived families, especially for mental and behavioral disorders.

*(Christensen K, et al. Mechanisms underlying familial aggregation of exceptional health and survival: A three-generation cohort study. Aging Cell, 2020;19:e13228. <https://doi.org/10.1111/accel.13228>).*

Additionally, their newest research showed that part of the survival advantage demonstrated in healthy long-lived families may start earlier than previously thought, including the perinatal period.

*(Keys MT, et al. Developmental origins of exceptional health and survival: A four-generation family cohort study. medRxiv [Preprint]. 2024 May 6: 2024.05.04.24306872. doi: 10.1101/2024.05.04.24306872).*

Further, in a small US subset of LLFS participants, similar results were published indicating a higher survival among LLFS siblings than the US Census data.

A limitation of these results was the smaller sample size than Denmark and not enough details on specific cause of death in the US LLFS participants.

*(Yao S, et al. All-Cause Mortality and Cause-Specific Death in U.S. Long-Lived Siblings: Data From the Long Life Family Study. J Gerontol A Biol Sci Med Sci. 2024 Nov 1;79(11):glae190. doi:10.1093/gerona/glae190).*

Collectively, these findings underscore that consistent participation in the AFU is helpful to further understand what is driving the increased survival in these families, especially in the US where there is a lack of registry data similar to Denmark. In lieu of the registry data, LLFS researchers use information gathered through the AFU to assess our participants' hospitalizations and mortality, and are then able to perform similar analyses when we have enough data collected.

*Thus, knowing about your health status and hospitalizations yearly is key to assessing how your connection to a long-lived healthy family may impact future hospitalizations, not just for the older generations, but it is important to gather this information from ALL participating family members.*

# RECENT FINDINGS

## ***Alzheimer's Disease***

You, participants in the LLFS, tend to exhibit both a delayed onset of dementia and lower rates of Alzheimer's disease than the aging US population. LLFS researchers used this knowledge to examine the genetic component to late onset Alzheimer's disease (LOAD). Using the variation at known locations in the genome, LLFS discovered several variants in the MTUS2 gene that are associated with LOAD. This discovery was also replicated in 5 independent studies. Interestingly, the MTUS2 gene is a plausible candidate to affect the biology of LOAD as it is involved in the development and function of the nervous system. Additional studies can now explore this gene in relation to the biology and try to better understand LOAD.

***Xicota L, et al. Whole genome-wide sequence analysis of long-lived families (Long Life Family Study) identifies MTUS2 gene associated with late-onset Alzheimer's disease. *Alzheimers Dement.* 2024 Apr;20(4):2670-2679.***

## ***The Impact of Hearing Loss***

Overall, research in geriatrics shows that socialization plays a critical role in the well-being of older adults. Hearing loss may affect socialization as conversations may become difficult to hear and the ability to socially connect becomes harder. Hearing loss may also increase a person's fatigue, as it is mentally and physically draining to hear and participate in conversations. LLFS researchers have investigated if self-reported hearing loss is associated with more mental and physical fatigue using the Pittsburgh Fatigability Scale completed at in person visits and at AFU. Indeed, we found higher physical and mental fatigue among those with hearing loss. This work suggests that both hearing loss and fatigue impact psychosocial pathways over the aging process and there may be shared interventions to explore to reduce these consequences.

***Gmelin T, Reed NS, Golub JS, Wojczynski MK, Galvin A, Lin FR, Glynn NW. Perceived Hearing Trouble and Physical and Mental Fatigability in older adults: the Long Life Family Study. (manuscript in preparation)***