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UNIVERSITY of PENNSYLVANIA

Artificial Intelligence and  
Technology Collaboratory  
for Healthy Aging

## The Penn Artificial Intelligence and Technology (PennAITech) Collaboratory

### Request for Applications

**Aging Focus Pilot Program (2021-2022)**

**Alzheimer's Disease and Related Dementias (ADRD) Pilot Program (2021-2022)**

**PURPOSE:** Our two Pilot Cores invite applications for pilot studies using technology and artificial intelligence (AI) to optimize care management and health outcomes for older Americans, including those with Alzheimer's Disease and Related Dementias (ADRD) living in their homes independently, and those receiving clinical care or skilled home and community-based services.

The goals of this pilot program are to:

- 1) Solicit, select, and manage pilot studies that develop or test technology and AI to detect risk, predict needs, address disparities, improve access to care, and support decision making for chronic illness management and safe aging in place for older adults with or without ADRD and their caregivers.
- 2) Foster collaborations among affiliated Penn investigators and a network of scientists and clinicians in peer institutions, research centers, industry partners and home and community-based services.

**ELIGIBILITY:** We invite applicants from academia, industry, and clinical practice based in the United States. Applicants from under-represented racial and ethnic groups as well as individuals with disabilities are strongly encouraged to apply for funding.

#### Examples of Pilot Study Topics:

The request for applications seeks innovative studies that develop or use technology or AI products in home and community-based and clinical settings that detect risk, predict needs, address disparities, improve access to care, and support decision making to improve the health and well-being of older Americans. Examples include pilot studies that:

- Develop new or deploy existing telehealth technologies in rural, underserved, or disabled populations to improve access to care, chronic illness management, or caregiver support.
- Leverage electronic health record databases and in-home sensor or video technologies to build and test AI algorithms to detect risk and prevent adverse events such as falls, medication interactions or non-adherence, functional or cognitive decline, nutritional deficits, sleep disruption, financial security threats, isolation, or other geriatric syndromes.
- Evaluate the feasibility, acceptability, and impact of AI and technology applications to predict physical, social, emotional, or financial needs of aging adults or their caregivers living in home or community-based settings.



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- Apply AI to detect and alert providers to disparities in services or outcomes among older adults aging in home or community-based settings.
- Develop or deploy decision support tools to assist older adults, family caregivers or providers in shared decision making regarding healthy aging, chronic illness management, financial security, palliative care, end of life planning, and transitions in care and living arrangements.
- Develop innovative AI driven devices for commercialization that support healthy and safe aging in place for home or community-based older adults and their caregivers.
- Create or apply technologies that support formal or informal caregivers in providing care for older adults in the home or community-based settings including improvements in health literacy, decision making, caregiving, and communication.
- Create or test AI or information technologies that bridge communication between home health and other health care providers to support decision making.
- Conduct end-user evaluations of AI and other technologies to inform redesign, implementation, or commercialization.

Investigators interested in applying are strongly encouraged to visit the PennAITech website [www.pennaitech.org](http://www.pennaitech.org) for more information (and follow us on Twitter @pennaitech). A list of core leaders and resources is provided on our website. You can also email us with questions at [pennaitech@nursing.upenn.edu](mailto:pennaitech@nursing.upenn.edu)

An optional informational webinar will be hosted to provide investigators with an overview of application details and support that the PennAITech can provide in assistance with resources for conducting the pilot (e.g., core facilities, clinical sites, data analytic methods and platforms, AI tools, etc.). Investigators will have the opportunity to ask questions. These webinars will be recorded and posted online at <http://www.pennaitech.org>

**HOW TO APPLY:** Interested applicants should submit a completed application at: <https://www.a2collective.ai/pilotawards>

by February 18, 2022. Please indicate the population of focus: Aging Pilot Core or ADRD Pilot Core. Proposals will be reviewed and applicants who have submitted highly rated proposals will be invited for a presentation and Q&A if reviewers have additional questions. Final selections will be made thereafter. Proposals that will be selected for funding will be required to submit additional documentation to NIH including a detailed budget, a project management plan, human subjects' protections information (if applicable) and recruitment criteria, and other information.

We encourage pilot investigators to leverage the cores, state-of-art research facilities, informatics and geriatric resources provided by the PennAITech. The Collaboratory will provide guidance for investigators regarding the design and conduct of interdisciplinary pilot projects that address stakeholder needs and leverage promising technologies through core functions including the Stakeholder Engagement Core, the Ethics and Policy Core, the Clinical Validation and Translation Core, the Technology Selection Core and the Networking and Education Core. Learn more at <https://www.pennaitech.org>



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Applicants may work with collaborators and home and community-based organizations of their choosing. PennAITech has already established the support of the following organizations as potential project sites:

- 1) The *Visiting Nurse Service of New York (VNSNY)* the largest not-for profit home health agency in the US serving 35,000 patients per day in all 5 boroughs of New York City.
- 2) *Managed Long Term Services and Supports (MLTSS)* refers to the delivery of long-term services and supports through capitated Medicaid managed care programs. Forty-one programs are operated in 24 states. The New York State Department of Health has a robust network of MLTSS plans, one of the largest, the CHOICE Program located at the Visiting Nurse Service of New York in New York City currently serves 20,385 chronically ill or disabled New Yorkers deemed nursing home eligible.
- 3) The *Program of All-Inclusive Care for the Elderly (PACE)* is a community-based, national program with locations serving low-income older adults who are certified as needing nursing home level of care, assistance with their activities of daily living and on average have 5.8 chronic health conditions; almost half have a diagnosis of dementia. Programs nationwide serve 53,000 adults age 55 and older with 94% living in the community.
- 4) The *LHC Group* is a leading national provider of in-home healthcare services with 32,000 employees operating in 35 states reaching 60% of the US population aged 65 and older.
- 5) *Trinity Health* is one of the largest multi-institutional Catholic health care delivery systems in the nation, serving diverse communities that include more than 30 million people across 22 states. Trinity Health includes 92 hospitals, as well as 106 continuing care locations that include PACE programs, senior living facilities, and home care and hospice services committed to those who are poor and underserved.

**DEADLINES:**

- Applications open: January 10, 2022
- Applications due: February 18, 2022, by 5:00pm ET
- Announcement of Conditional Awards: March 31, 2022
- Package submission to NIA: April 30, 2022
- Final Award Date: May 31, 2022
- Project Completion: up to May 31, 2023



**Proposal submissions will be evaluated on the following criteria:**

Fit with the PennAI Tech Collaboratory themes of using technology and artificial intelligence to optimize health and care management for older adults living in their homes.	Overall impact, plus standard NIH evaluation criteria: significance, investigators, innovation, approach, and environment
Potential to lead to future funding for commercialization, effectiveness and/or implementation trials.	Feasible for completion within 6-12 months
Inclusion of team members from multiple disciplines	Appropriateness of the budget and timeline

**Maximum Budget: Aging Pilot: up to \$200,000 in direct costs; ADRD Pilot: up to \$200,000 in direct costs**

We anticipate funding at least ten pilots. Although most projects will be funded for a 12-month period with a maximum budget of \$100,000 in direct costs, higher levels of funding (i.e., up to \$200,000 in direct costs) and two-year projects will also be considered with appropriate justification. Applicants focusing on the general older adult population should apply to the Aging Pilot category; applicants focusing on older adults with ADRD specifically should apply to the ADRD Pilot category.

This RFA is funded by the National Institute of Aging (P30AG073105). Please use guidance set forth by NIH [here](#) regarding unallowable expenditures when building your budget.

**Other Requirements** A one-page annual progress report must be submitted by December 1, 2023 that includes a description of the project’s specific aims, significance, summary of the research conducted and results found to date, total enrollment, and future plans.