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CAN Lab
Cognitive & Affective Neuroscience

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It is my privilege to speak on behalf of the Illinois Department of Public Health's Alzheimer's Disease Research fund from which I received a new investigator award in 2009. This award program serves a critical function for Illinois researchers interested in both basic and applied research involving Alzheimer's disease. It is particularly useful for collecting pilot data to obtain proof of concept before seeking larger national awards. My own project may serve as an example of what can be achieved with the support of this program.

I'm interested in understanding the factors that predict the transition from healthy to pathologic aging. Understanding these factors is important for the future development of pharmacological and behavioral interventions, and also ultimately for making public health policy to encourage people to make lifestyle choices to avoid pathologic aging.

Recently federal agencies such as the National Institute of Aging have focused on identifying biomarkers for Alzheimer's disease pathology. These tests are both expensive and invasive and at present are not widely available. In theory pharmacological therapies would be offered to people testing positive for these biomarkers. However, post-mortem analyses of the brains of healthy older adults show that sometimes people die with the pathologies targeted by these biomarkers without experiencing the disabling symptoms of dementia that are the primary public health concern from Alzheimer's disease.

An alternative that my laboratory is exploring focuses on using behavioral and neuroimaging approaches to develop inexpensive and noninvasive methods that could be widely available to predict the dementia associated with Alzheimer's disease rather than its pathology. We believe this approach may prove to be effective for selecting people for interventions aimed at helping them cope with the behavioral changes associated with this potentially disabling disease.

Along these lines the IDPH supported a collaboration between my laboratory and the Northwestern Alzheimer's Disease Center that allowed us to develop EEG methods to screen healthy older adults. We identified a cohort who we believe to be at risk for later pathologic change. Leveraging funding from the National Institute of Aging that allows the Alzheimer's Disease Center to track healthy adults for subsequent clinical change and post-mortem pathology, we are continuing our efforts to determine the efficacy of these methods for predicting subsequent decline. Pilot data obtained thanks to the IDPH funding also allowed us to secure subsequent research funding from the American Federation of Aging Research to perform a new project with individuals already diagnosed with Mild Cognitive Impairment.

Thank you for understanding the grave importance of addressing this important public health issue for the people of Illinois and supporting those of us trying to face the challenge.