

## [TCV Interview – Can Biomarkers Really Predict AD?](#)

The Alzheimer’s Disease (AD) Biomarker Expert Working Group just published a new paper in *Neurobiology of Aging*. They recommend that certain AD biomarkers be used for clinical assessments, enrolling study participants, and as an outcome in AD clinical trials.

**Biomarkers, Alzheimer’s, and clinical trials can help find AD faster and can lead to more effective treatments for AD.**

*Really?*

The Caregiver’s Voice asked two questions in reference to excerpts from *Use Biomarkers in Alzheimer’s Disease Clinical Trials*. (A link to the complete article is provided at the end.)

The neuropathological hallmarks that define AD are the **amyloid plaques** and **neurofibrillary tangles** found in the brains of AD patients upon autopsy. Amyloid plaques develop when the **AB 42 protein** accumulates in increasingly insoluble forms, and neurofibrillary tangles develop when **tau proteins** accumulate inside neurons and form insoluble filaments. Both AB 42 and tau can be measured in cerebrospinal fluid.

Certain imaging tests detect more “downstream” events that follow events initiated at the molecular level. For example, structural magnetic resonance imaging (MRI) can help detect neuronal loss and brain shrinkage caused by AD.

**TCV Asks:** How certain are the doctors of these biomarkers when their studies are being challenged by research showing otherwise normal functioning elders’ (some in their nineties) with brains (on autopsy) filled with amyloid plaques? What role do the plaques really play in Alzheimer’s progression when these instances show a plaque-riddled brain of a senior who functioned normally in life?



**Dan Perry, President & CEO of the Alliance for Aging Research, Answers:** Many who follow the Alzheimer’s field are deeply frustrated with the pace of drug development and anxious to see the return of public and private investment in Alzheimer’s research leading to a cure. By convening a “Dream Team” of recognized experts to provide an up-to-the-minute and comprehensive review of available studies on potential biomarkers of Alzheimer’s disease, the non-profit Alliance for Aging Research also tasked these experts with recommending the best strategies to employ in future Alzheimer’s treatment trials based on solid evidence.

There continues to be skepticism in some quarters about the role that amyloid deposits (plaque build-up) plays in Alzheimer's. Recent failures of late-stage Alzheimer's trials seeking to modify the course of the disease has fed some of this skepticism and caused some to question whether the amyloid hypothesis should be pursued in future trials.

Dr. John C. Morris of Washington University, St. Louis, and Dr. Dennis J. Selkoe of Harvard, the highly-regarded co-chairs of our Working Group addressed **a number of factors consistent with the amyloid hypothesis that could be responsible for the drug failures:**

1. inadequacies of the specific drugs tested;
2. inappropriate pathobiological targets;
3. inability to detect drug benefit, as might occur with insensitive outcome measures or if numerous trial participants were misdiagnosed and did not have AD; and
4. the key consideration that therapeutic intervention will be most successful prior to the onset of frank dementia, in the presymptomatic or very early clinical stage of AD before substantial neurodegeneration has occurred.

The "Dream Team" authors of this manuscript approached their task with great deliberation and offered recommendations only where strong evidence is available to support their decisions.

In addition to further research that the authors recommend to achieve full validation of specific biomarkers, the Alliance for Aging Research supports additional research to explore the role of inflammation in neurodegenerative disease, as well as the proteins, genetic and environmental factors that could contribute to Alzheimer's disease.

**TCV Asks:** How do we address potential study participants' concern about being diagnosed then labeled and finally losing the opportunity to qualify for LTC insurance or other benefits prior to knowing such a diagnosis?

**Dan Perry:** The concerns of these patients are legitimate. It is terrible to think of people being handed a difficult diagnosis and at the same time facing the stark reality of how to finance increasing care needs for the remaining years of their lives. One potential way to address this problem is to broaden public education about the importance of investing in long-term care insurance prior to an illness.

The Genetic Information Non-Discrimination Act that went into effect in 2009 does not prohibit an insurer's use of genetic information in determining coverage and setting insurance rates, including long-term care insurance. With Alzheimer's disease and many other diseases, a person's ability to qualify for and afford long-term care insurance is negatively affected by early diagnosis. And yet early detection is probably essential for patients in order to benefit most from treatment.

Without changes to GINA, people need to know they should arrange for this type of insurance when they are still healthy. To make this decision easier, long-term care insurance needs to be made more affordable and accessible to everyone. Many policymakers agree on this point, but there have been heated partisan debates in Washington whether coverage should be achieved through a public or private insurance model.

Republicans and Democrats can agree that finding better treatments, preventions, or a cure for Alzheimer's disease is a national priority. Patients and the organizations that represent their interests should mount an aggressive advocacy campaign for policies that encourage widespread participation in

clinical trials. An effective campaign should call for more affordable long-term care insurance and protection against discrimination of people with genetic risks or a diagnosis of disease.

For more information click on: [Use Biomarkers in Alzheimer's Disease Clinical Trials, Says Expert Group](#)



Dan Perry, President & CEO of the not-for-profit [Alliance for Aging Research](#), is also an advisor to the Institute on Aging of the University of Pennsylvania Medical School, a member of the New York Academy of Sciences, and a member of the National Advisory Council on Aging. He also is the head of ACT-AD Coalition, which seeks to accelerate development of potential cures and treatments for Alzheimer's disease.