



## Alzheimer's Disease

Areas of focus for VA Research on Alzheimer's disease include finding potential drug therapies for prevention and treatment, exploring the genetic and environmental causes of the disease, and studying the best ways to provide long-term care. Additionally, VA researchers are working to discover links between Alzheimer's disease and other chronic diseases.



### *Examples of VA research advances*

- **Blood test may offer early detection**—Researchers from VA and other institutions identified a set of proteins in the blood that appear to predict the onset of Alzheimer's disease and could be the basis of a screening test. Analyzing hundreds of archived blood samples, the team compared the levels of 120 “signaling” proteins and looked for a pattern unique to Alzheimer's patients. Their quest for an Alzheimer's-specific “signature” identified 18 proteins whose concentrations varied in specific ways only in the disease samples.
- **Protecting the brain with natural compounds**—VA Researchers have been involved in groundbreaking research to identify whether two naturally occurring compounds (curcumin, from the spice turmeric; and DHA, an omega-3 fatty acid found mainly in fatty, cold-water fish) can protect against damage to the brain and loss of cognitive function. DHA supplements are now being tested in a nationwide clinical trial led by a geriatric neurologist at the Portland VA.
- **Brain-imaging tool may offer quick diagnostics**—Researchers at the Minneapolis VA found that a brain-imaging technology called magnetoencephalography, or MEG, may be a fast, accurate, non-invasive way to diagnose mental-health and neurological disorders such as Alzheimer's disease, schizophrenia, and multiple sclerosis. The researchers recently published a study identifying specific patterns of neural activity, as captured in MEG scans, linked to six different brain disorders.

### Facts About Alzheimer's Disease

One of the most common forms of dementia is Alzheimer's disease (AD), a progressive neurodegenerative condition. In this biological disease of the brain, deterioration occurs in nerve cells and parts of the brain controlling thought, memory, and language. As the disease progresses, symptoms range from mild forgetfulness to serious impairment and inability to perform everyday tasks. Alzheimer's is estimated to affect some 4.5 million Americans, and this figure is expected to triple by 2050. About five percent of men and women ages 65 to 74 have the disease, and nearly 50 percent of those age 85 and older may be affected. The annual direct and indirect costs of caring for Americans with the disease are estimated to be around \$100 billion.

