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CONTACT: Alzheimer’s Association media line, 312-335-4078, media@alz.org

ALZHEIMER’S ASSOCIATION JOURNAL COMPILES KEY RESEARCH FOR THE FIRST TIME ON MILITARY RISK FACTORS FOR DEMENTIA

Special Issue Released During Inaugural Alzheimer’s & Brain Awareness Month

CHICAGO, June 17, 2014 -- Our nation’s soldiers and veterans represent a population at elevated risk for dementia and cognitive decline, according to findings published in a special issue of Alzheimer’s & Dementia: The Journal of the Alzheimer’s Association. Research articles in the special issue cite the circumstances of modern war, the consequences of head injury, post-traumatic stress disorder (PTSD) and other war-related factors as reasons for this increased hazard.

“Even soldiers who have been brought home may not be as ‘safe’ as we think,” said Maria Carrillo, Ph.D., Alzheimer’s Association vice president of Medical and Scientific Relations. “They may be at increased risk of developing dementia over the course of their lifetimes.”

On June 17, during the inaugural Alzheimer’s & Brain Awareness Month, Alzheimer’s & Dementia will publish a special issue that is the first compendium to provide, in one place, much of the currently available evidence concerning the various military- and combat-related risk factors and exposures associated with increased risk of cognitive decline, Alzheimer’s disease, and dementia.

In addition to traumatic brain injury (TBI) and PTSD, other potential military risk factors for cognitive decline and dementia examined in the special issue include chemical exposures, such as pesticides and petroleum products; lifestyle risks, such as smoking, alcohol use, obesity; and other medical conditions, such as diabetes, depression, and sleep disturbance.

Funding for the special issue came from the United States Army Medical Research and Materiel Command. Guest editors were:

- Michael Weiner, M.D. -- Professor of Radiology and Biomedical Engineering, Medicine, Psychiatry, and Neurology at the University of California, San Francisco, and former Director of the Center for Imaging of Neurodegenerative Diseases at the San Francisco Veterans Affairs Medical Center.
- Karl Friedl, Ph.D., COL (U.S. Army retired) -- Professor (adjunct), Department of Neurology, UCSF and Knowledge Preservation Program Fellow at the Oak Ridge Institute for Science and Education.
“This special issue of *Alzheimer’s & Dementia* brings together new data and reviews by a variety of experts, leading to a common theme: soldiers and veterans are a unique population with a mix of risk factors for cognitive decline, Alzheimer’s disease, and dementia,” said Weiner in his Preface.

Recent military conflicts have resulted in a new focus on brain injury and brain health among service members and aging veterans.

“The wars in Iraq and Afghanistan have been characterized by injuries from improvised explosive devices, including nearly a quarter million cases of mild traumatic brain injury since 2000,” said Friedl in his Introduction. As a result, Friedl writes, “Brain injuries represent a higher proportion of injuries compared to previous conflicts such as the Vietnam War, in part because modern body armor has altered the pattern of combat injuries. … These injuries are combined with high rates of psychological trauma (including PTSD).”

“It is clear from reviewing the materials in this special issue of *Alzheimer’s & Dementia* that there is a connection between TBI, PTSD, other military-related factors, and risk of cognitive decline and dementia,” said Carrillo. “However, we’re just at the beginning of this work; we don’t know the exact nature of that connection. It is an extremely valuable to gather the key data in one place, but we need to know more. Significant additional research is needed and that requires federal funding.”

According to Carrillo, the knowledge gained through this research will have impact throughout society – beyond just the military and veterans – by improving our understanding of some of the key factors that contribute to new cases of dementia among an aging population. TBI, for example, can occur at home, in sports, and through car crashes.

Amplifying this point, Ara Khachaturian, Ph.D., Executive Editor, *Alzheimer’s & Dementia* and Zaven Khachaturian, Ph.D., Editor in Chief, *Alzheimer’s & Dementia*, said in an editorial that, “The linkage between head trauma and neurodegeneration represents not only an important public and military health issue but also provides crucial clues for … for numerous late-life chronic brain disorders. Today, there is growing evidence that a single traumatic brain injury sustained early in life might trigger a cascade of neurodegenerative processes. The outcomes may manifest as dementia, Alzheimer’s dementia, Lewy Body dementia, or other motor neuron diseases many years or decades later.”

**Contents of the Special Issue**

The special issue of *Alzheimer’s & Dementia* contains 15 articles, including new research and review articles on topics including:

- Head injury and traumatic brain injury.
- Stress and post-traumatic stress disorder.
- Prisoner of war status.
- Chemical exposures, including pesticides, petroleum products and other toxins.
- Lifestyle risks, including smoking, alcohol use, obesity, diabetes, hypertension.
- Depression and dementia risk.
- Sleep disturbance and dementia risk.
• Assessment and monitoring issues, including the need for better biomarkers.
• The economic burden of dementia in veteran populations.
• New national PTSD brain bank.
• Planned inclusion of Vietnam War veterans in the Alzheimer’s Disease Neuroimaging Initiative.

All articles in the June 17, 2014 special issue of Alzheimer’s & Dementia: The Journal of the Alzheimer’s Association on military risk factors are open access. The final published versions of the articles will be freely available at www.alzheimersanddementia.com and on ScienceDirect at www.sciencedirect.com/science/journal/15525260.

**Implications for Public Policy**

“The data in this special issue of Alzheimer’s & Dementia reinforces the need to make Alzheimer’s disease an ongoing national priority,” said Robert Egge, Alzheimer’s Association vice president of Public Policy.

The first-ever U.S. National Plan to Address Alzheimer’s Disease has a goal of preventing and effectively treating Alzheimer's disease by 2025. Egge said that, with a surging veterans population from recent wars, this goal is even more important.

“The increasing number of affected individuals, the long duration of the disease and the high cost of care for people with Alzheimer’s and dementia taken together pose a great threat to the nation,” Egge said. “These challenges are further compounded by the increased risk of Alzheimer’s and other dementia among the military veteran population, who may need decades-long periods of care. This outlook underscores the critical need for investments in Alzheimer’s research to accelerate the pace of progress and reach milestones outlined in the U.S. National Plan to Address Alzheimer’s.”

Well-deserved investments in research on leading causes of death such as heart disease, stroke and HIV/AIDS have resulted in substantial decreases in death. Comparable investments are now needed to realize the same success in preventing and treating Alzheimer's disease and other dementias.

“History has proven that collaboration among academic investigators, government, pharmaceutical and biotechnology companies is an essential ingredient in advancing bold initiatives, particularly when resources are limited,” said the Khachaturians in their editorial. They suggest that next steps should focus on expanding ongoing collaborative efforts, such as the Worldwide Alzheimer Disease Neuroimaging Initiative (ADNI), the U.S. Department of Defense-ADNI, the Alzheimer’s Association Global Biomarker Standardization Consortium, and the Global Alzheimer's Association Interactive Network.

**Alzheimer’s/Dementia Statistics**

According to Alzheimer’s Association 2014 Alzheimer’s Disease Facts & Figures, there are more than 5 million Americans living with Alzheimer's disease, but Alzheimer's has far reaching effects that plague entire families. There are currently 15.5 million caregivers providing 17.7 billion hours of unpaid care in
the United States, often at the detriment of their own health. The physical and emotional impact of Alzheimer’s caregiving resulted in an estimated $9.3 billion in increased healthcare costs in 2013.

The total national cost of caring for people with Alzheimer's and other dementias is projected to reach $214 billion this year, not including unpaid caregiving by family and friends valued at more than $220 billion. In 2014, the cost to Medicare and Medicaid of caring for those with Alzheimer's and other dementias will reach a combined $150 billion.

These numbers are set to soar as the baby boomers continue to enter the age of greatest risk for Alzheimer's disease. Unless something is done to change the course of the disease, there could be as many as 16 million Americans living with Alzheimer's in 2050, at a cost of $1.2 trillion (in current dollars) to the nation. This dramatic rise includes a 500 percent increase in combined Medicare and Medicaid spending and a 400 percent increase in out-of-pocket spending.

About Alzheimer’s & Dementia: The Journal of the Alzheimer’s Association

Alzheimer’s & Dementia: Journal of the Alzheimer's Association emphasizes interdisciplinary investigations and translational articles related to: causes of Alzheimer’s and other dementias, risk factors, early detection, disease modifying interventions, prevention and applications of new technologies in health services. Alzheimer’s & Dementia is published for the Alzheimer’s Association by Elsevier, a leading publisher of scientific, technical and medical information products and services.

About the Alzheimer’s Association

The Alzheimer’s Association is the world’s leading voluntary health organization in Alzheimer care, support and research. Our mission is to eliminate Alzheimer’s disease through the advancement of research; to provide and enhance care and support for all affected; and to reduce the risk of dementia through the promotion of brain health. Our vision is a world without Alzheimer’s. Visit www.alz.org or call 800.272.3900.

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