

Preface[☆]

As our population ages, functional decline and disability are largely due to two related processes: cognitive decline leading to dementia and physical decline. The costs related to these problems are already huge and rapidly growing, leading to major social, political, and economic costs that must be addressed by our society. This special issue of *Alzheimer's and Dementia* focuses on one important aspect of the overall problem: cognitive decline and dementia in soldiers and veterans.

The overall goal of this special issue concerning military risk factors for cognitive decline, Alzheimer's disease, and dementia is twofold: first, to provide, in one place, much of the currently available evidence concerning the various risk factors and exposures that are associated with cognitive decline, Alzheimer's disease, and dementia in soldiers and military veterans and second, to give greater evidence and arouse interest in this issue. To date, there has been too little recognition that soldiers and military veterans are a special population with a unique set of risks and exposures that differentiate them from the general civilian population. The Veterans Administration provides the largest single health-care organization in the United States, yet the great majority of Alzheimer's disease clinical trials are not conducted at VA Medical Centers, in part because of the perceived high rate of comorbidities in veterans. When, in the future, disease-modifying treatments for Alzheimer's disease become available, the Veterans Adminis-

tration is likely to be a major prescriber. For this reason, it is critical that clinical Alzheimer's disease trials be conducted at Veterans Administration Medical Centers, to determine the efficacy of such treatments in the veteran population.

This special issue also represents the coming together of several previously separate streams of neuroscience.

Posttraumatic stress disorder

Studies of posttraumatic stress disorder (PTSD) have been conducted by psychiatrists for many years, and more than a decade ago, reduced volume of the hippocampus in such subjects was reported. Further studies showed impaired cognition in some veterans with PTSD, leading to the appreciation that PTSD may be a risk factor for cognitive decline, Alzheimer's disease, and other conditions that affect cognition especially vascular disease. This issue is reviewed in several articles within this issue.

Traumatic brain injury

It has been long recognized that traumatic brain injury (TBI) can lead to cognitive impairment. Repeated TBI may lead to "dementia pugilistica" now termed chronic traumatic encephalopathy, which is associated with deposition of tau protein. Furthermore, TBI has been widely reported as a risk factor for the development of dementia due to Alzheimer's disease pathology. Several articles in this issue deal with these topics as well.

Exposures either unique to, or more common in, the soldier and veteran population include Agent Orange, sarin, pesticides, various petroleum products, and others that have already been reported to be associated with Parkinson's disease and other neurodegenerative conditions. Exposure to tobacco smoke increases risk for lung, heart, and brain diseases associated with cognitive impairment.

Finally, it is generally accepted that common conditions including hypertension, metabolic syndrome, diabetes, and obesity are associated with cardiovascular and cerebrovascular diseases, which clearly contribute to cognitive impairments, often associated with neurodegenerative diseases such as Alzheimer's disease and Parkinson's disease.

In conclusion, this special issue brings together new data and reviews by a variety of experts, leading to a common theme: soldiers and veterans are a unique population with

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Publication of this article was supported by the United States Army Medical Research and Materiel Command.

M.W.W. has served on the Scientific Advisory Boards for Pfizer, BOLT International, Neurotrope Bioscience, Alzheon, U. of Sheffield, UK, and Eli Lilly. He has provided consulting to Synarc, Pfizer, Janssen, KLJ Associates, Easton Associates, Harvard University, University of California, Los Angeles (UCLA), Alzheimer's Drug Discovery Foundation (ADDF), Avid Radiopharmaceuticals, Clearview Healthcare Partners, Perceptive Informatics, Smartfish AS, Decision Resources, Inc., Araclon, Merck, Defined Health, and Genentech. The following entities have provided funding for travel; Pfizer, Paul Sabatier University, MCI Group France, Travel eDreams, Inc., Neuroscience School of Advanced Studies (NSAS), Danone Trading, BV, CTAD Ant Congress, Kenes, Intl., ADRC, UCLA, UCSD, Sanofi-Aventis Groupe, University Center Hospital, Toulouse, Araclon, AC Immune, Eli Lilly, New York Academy of Sciences (NYAS), and National Brain Research Center, India for Johns Hopkins Medicine. He served on the Editorial Boards for *Alzheimer's & Dementia* and *MRI*. He received honoraria from Pfizer, Tohoku University, and Danone Trading, BV. He received research support from Merck, Avid, the Veterans Administration (VA) and Department of Defense (DOD).

a mix of risk factors for cognitive decline, Alzheimer's disease, and dementia. The Department of Defense, Department of Veterans Affairs, and the National Institutes of Health must work with industry, philanthropy, and academe to develop a comprehensive approach for effective treatment and prevention of Alzheimer's disease and associated conditions, thus preventing functional disability due to cognitive impairment. We, as a society, owe this to "those who served."

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