CONTACT: Alzheimer's Association International Conf. Press Office, +44 (0) 20-7069-6000, media@alz.org
Niles Frantz, Alzheimer's Association, + 1 312-363-8782, nfrantz@alz.org

NEW REPORTS FROM THE ALZHEIMER'S ASSOCIATION INTERNATIONAL CONFERENCE® 2017 FOCUS ON LIFESTYLE, RISK REDUCTION, IMPROVED DIAGNOSIS AND EARLY DETECTION

LONDON, JULY 20, 2017 – New research results presented at the Alzheimer's Association International Conference 2017 (AAIC 2017) deepen our understanding of the risk factors for Alzheimer's disease and other dementias, and highlight the potential to prevent cognitive decline through lifestyle interventions. Other important data reported at AAIC 2017 included new studies that highlight the impact of race and socioeconomic status on dementia risk, plus advances in diagnostic tools and early detection.

At AAIC 2017, the Alzheimer's Association announced the launch of the U.S. study to PrOtect through a lifestyle INTErvention to Reduce risk (US POINTER) – a $20 million U.S. two-year clinical trial to test the ability of a multi-dimensional lifestyle intervention to prevent cognitive decline and dementia in 2,500 older adults at increased risk for cognitive decline.

Also at the conference, *The Lancet* Commission on Dementia Prevention, Intervention and Care reported that more than one-third of global dementia cases may be preventable through addressing lifestyle factors that impact an individual's risk. They highlighted nine potentially modifiable risk factors at multiple phases across the life-span, not just in old age.

"We are determined to develop and deliver a more-specific recipe for Alzheimer's risk reduction," said Maria Carrillo, Ph.D., chief science officer at the Alzheimer's Association. "We now can effectively prevent or treat heart disease, cancer and HIV/AIDS with combinations of drugs and lifestyle. The same may also be true for Alzheimer's disease and other dementias in the not too distant future."

"This will only come through additional, large-scale research trials in diverse populations. The Alzheimer's Association calls on the U.S. Congress to continue its commitment to Alzheimer's and other dementias by increasing funding for Alzheimer's research by at least $414 million in fiscal year 2018," Carrillo said.

AAIC is the premier annual forum for presentation and discussion of the latest Alzheimer's and dementia research. Bringing the world closer to breakthroughs in dementia science, AAIC 2017 convened more than 5,000 leading experts and researchers from 64 countries around the world, and featured more than 2,200 scientific presentations.

Large U.S. trial announced to explore benefits of lifestyle interventions on cognitive decline

The U.S. study to PrOtect through a lifestyle INTErvention to Reduce risk (US POINTER) will include physical exercise, nutritional counseling and modification, cognitive and social stimulation, and improved self-management of medical conditions. Recruiting for the study will begin in 2018.

"We now can effectively prevent and treat heart disease with a combination of drugs and lifestyle. The same is true with some cancers; the same with HIV/AIDS. The same may also be true for Alzheimer's disease in the not too distant future," said Carrillo. "We must test all options to treat and prevent this horrible disease. The Alzheimer's Association is extremely proud to launch this clinical trial with our scientific partners."

More than one-third of global dementia cases may be preventable through lifestyle

The Lancet released the report of its Commission on Dementia Prevention, Intervention and Care at AAIC 2017, finding that more than one-third of global dementia may be preventable through addressing lifestyle factors that impact an individual's risk. *The Lancet* Commission brought together 24 international experts to consolidate the advances made in our knowledge of dementia risk factors, treatment and care.

The authors conducted a new review and meta-analysis; they extended current models of dementia risk by including hearing loss and social isolation. They proposed a novel life-course model of dementia risk showing potentially modifiable risk factors at multiple phases across the lifespan. They estimated the potential impact of elimination of the most potent risk factors, finding that roughly 35 percent of dementia cases may be attributable to nine modifiable risk factors:

- Early life – Education to age 15.
- Mid-life – Hypertension; Obesity; Hearing loss.
- Later life – Depression; Diabetes; Physical inactivity; Smoking; Low social contact.

Verbal and sensory skills, and emergency hospitalizations, may predict future cognitive function

Research reported at AAIC 2017 shed light on new and expanded risk factors for cognitive decline and Alzheimer's. New data suggests associations between cognitive status in older people and verbal skills, hearing loss, and certain types of hospitalization.

- Researchers found that people with hearing loss were roughly three times as likely to have mild cognitive impairment compared to those with normal hearing. In a separate study, speech content and fluency of study participants with mild cognitive impairment declined faster than those with normal cognition. If these findings are confirmed, hearing loss and speech pattern changes may be valuable in assessing risk for, or the beginnings of, cognitive decline as we age.
- A third study found that older adults may be at higher risk for memory and other cognitive problems after non-elective hospitalizations. These procedures were associated with a roughly 60 percent acceleration in the rate of cognitive decline versus pre-hospital rates. In this study group, elective procedures were not associated with cognitive decline. These findings may have important implications for medical decision-making and care of older adults.

Common sleep problems associated with increased markers of Alzheimer's risk

Several new research analyses at AAIC 2017 found significant associations between sleep disordered breathing (SDB) and the hallmark brain changes of Alzheimer's. Researchers found that, in their study populations, obstructive sleep apnea (OSA) was associated with increased brain amyloid deposition, decreased cerebrospinal fluid (CSF) levels of amyloid (which is thought to indicate increased buildup in the brain) and increased tau

protein levels. SDB was associated with accelerated accumulation of brain amyloid both in cognitively normal individuals and people with mild cognitive impairment (data from the Alzheimer's Disease Neuroimaging Initiative). SDB/OSA is a modifiable factor that – with effective treatment – may help lower the risk of cognitive decline and possibly Alzheimer's. More research is needed to test this idea.

Healthy eating habits may preserve cognitive function and reduce the risk of dementia

Results from four large population-based studies support a connection between good dietary practices and better cognition in old age. A group of U.S. scientists found that, among nearly 6,000 older adults, those who consistently followed diets long known to contribute to good heart health were also more likely to maintain strong cognitive function in old age. Close adherence to the MIND (Mediterranean-DASH Intervention for Neurodegenerative Delay) diet and Mediterranean diet was associated with 30 to 35 percent lower risk of cognitive impairment in healthy older adults. Researchers from the Karolinska Institute in Sweden found that people sticking to a Nordic Prudent Dietary Pattern (including non-root vegetables, fruit, fish, poultry and tea) enjoyed better cognitive status. Another study linked unhealthy diet to markers of inflammation, smaller brain volume and worse cognitive performance.

Impact of Amyloid PET on patient management: early results from The IDEAS Study

At AAIC 2017, interim results were presented from the ongoing Imaging Dementia–Evidence for Amyloid Scanning (IDEAS) Study, which is evaluating the utility of brain amyloid PET imaging in a clinical setting. These PET scans are currently not reimbursed by Medicare or private insurance, who have expressed uncertainty about their clinical utility. Researchers reported results assessing changes in patient management (Alzheimer's and other drugs, and counseling by the physician) in nearly 4,000 IDEAS Study participants, who are Medicare beneficiaries age 65+ with mild cognitive impairment (MCI) or atypical dementia where there are challenges getting a specific clinical diagnosis. After receiving the PET scan results, changes in medical management were seen in 67.8% of MCI patients, and 65.9% of people with dementia. This suggests that amyloid PET may have a substantial impact on patient management. The IDEAS Study is led by the Alzheimer's Association and managed by the American College of Radiology.

Racial and socioeconomic disparities in dementia risk and incidence

Several studies reported at AAIC 2017 confirm racial inequities in numbers of people with Alzheimer's disease and other dementias in the U.S. – even after age 90 – and point to growing evidence that stressful life experiences and neighborhood conditions contribute to dementia risk in late life, and disproportionately impact African Americans.

- Researchers from Wisconsin found that a single major stressful event in early life may equal four years of cognitive aging, and African Americans are most at risk – on average, they experience over 60 percent more of such events than Whites over their lifetimes.
- Scientists from Northern California found that African Americans born in the 1920s in states with highest infant mortality had 40 percent higher risk of dementia compared to African Americans not from those states, and 80 percent higher risk compared to Whites not from those states.
- Racial disparities in the risk for new cases of dementia, previously observed in the younger elderly, continue into the oldest-old – age 90+, which is the fastest-growing segment of the population – according to a new study reported at AAIC 2017. Oldest-old African Americans and Latinos had the highest incidence rates compared to Asian Americans and Whites.

Regional shortages of neurologists – Neurology "Deserts" – revealed across the U.S.

Twenty states in the U.S. have been revealed as neurology "deserts," due to a projected chronic shortage of neurologists and a rapid rise in Alzheimer's disease and other dementia cases. Researchers from a digital health startup company created an Alzheimer's Disease and Related Disorders Neurology Desert Index (ANDI), defined as the ratio of neurologists to Alzheimer's/dementia population. Wyoming, North Dakota, South Carolina, South Dakota and Oklahoma were revealed as the five states with the most significant projected gap between available neurology workforce and the health needs of people with dementia. With the continued aging of the population, additional resources, training and education are needed for primary care physicians and caregivers, especially in the identified states.

U.S. National Institute on Aging shares inaugural grants on health disparities in Alzheimer's

At AAIC 2017, the National Institute on Aging (NIA) highlighted new research grants to investigate health disparities in Alzheimer's. According to the Alzheimer's Association's *2017 Alzheimer's Disease Facts and Figures*, African Americans are about twice as likely to have Alzheimer's as older Whites, and Hispanics are about one-and-a-half times as likely. Yet, these populations are underrepresented in Alzheimer's and dementia research. According to the NIA, "When [research] cohorts are diverse, new pathways that link environmental, sociocultural, behavioral and biological factors can be identified."

Promising early study of blood test to detect amyloid

Research has established that there is a connection between Alzheimer's and the buildup of amyloid protein into plaques in the brain. For a person's dementia symptoms to be caused by Alzheimer's, amyloid plaques must be present. Currently, a PET scan or analysis of cerebrospinal fluid can detect amyloid deposition in the brain. However, there is an urgent need for a simpler, less invasive, less expensive test for amyloid, such as a blood test. At the Alzheimer's Association International Conference 2017, researchers from the Washington University School of Medicine presented promising findings from their investigation of a blood biomarker for amyloid in a small study group, plus a validation sample.

About Alzheimer's Association International Conference

The Alzheimer's Association International Conference (AAIC) is the world's largest gathering of researchers from around the world focused on Alzheimer's and other dementias. As a part of the Alzheimer's Association's research program, AAIC serves as a catalyst for generating new knowledge about dementia and fostering a vital, collegial research community.

About the Alzheimer's Association

The Alzheimer's Association is the leading voluntary health organization in Alzheimer's care, support and research. Our mission is to eliminate Alzheimer's disease through the advancement of research, provide and enhance care and support for all affected and reduce the risk of dementia through the promotion of brain health. Our vision is a world without Alzheimer's. Visit alz.org or call +1 800.272.3900.

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