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New Research Highlights Possible Avenues for Public Health Efforts Against Alzheimer's

 Over 4,300 members of the Alzheimer's scientific community from 63 countries recently gathered in Vancouver, Canada at the 2012 Alzheimer's Association International Conference (AAIC). There were nearly 100 sessions and over 1,000 posters presented at the conference. This issue of the Alzheimer's Public Health News reviews some of the research relevant to public health.

Diabetes and Cognitive Impairment

New research shared at AAIC continued to show the connection between diabetes and cognitive impairment.

- [Researchers](#) followed 913 diabetic older adults in the Health ABC study for 12 years to measure hypoglycemic events and diagnoses of dementia. Results found that older adults experiencing a hypoglycemic event had a two-fold greater risk for developing dementia than those not experiencing a hypoglycemic event. Additionally, older adults with diabetes who were diagnosed with dementia had a greater risk of experiencing a hypoglycemic event than participants without dementia. In other words,

The Road Map



The Centers for Disease Control and Prevention (CDC) and the Alzheimer's Association formed a partnership to examine how best to bring a public health perspective to the promotion of cognitive health. The resulting publication, *The Healthy Brain Initiative: A National Public Health Road Map to Maintaining Cognitive Health* outlines 44 priority actions to guide the public health community in surveillance, prevention research, communication, and policy.

Public Health Agenda



The Alzheimer's Association has identified three key elements of an Alzheimer's public health agenda:

cognitively impaired older adults with diabetes are particularly vulnerable to the risk of poor chronic disease management.

- Using the Sacramento Area Latino Study on Aging (SALSA), researchers studied 1,627 Mexican Americans over the age of 60 for nine years to determine the association between Type 2 diabetes mellitus (T2DM) and cognitive impairment. The [study](#) found an increased risk of dementia and cognitive impairment without dementia (CIND) in older Mexican Americans with T2DM, even after accounting for stroke and higher mortality among those with T2DM.

With this emerging evidence, the public health community has the opportunity to undertake public health campaigns to promote brain health and healthy living practices. Additionally, this research points to the importance of chronic disease management programs that incorporate the unique needs of those with dementia. By combining diabetes campaigns and brain health promotion messages, public health officials can potentially change the course of two leading causes of morbidity and mortality.

Late-Life Drinking, Binge Drinking, and Cognitive Decline

Light to moderate alcohol consumption has generally been considered to have some health benefits. However, two studies suggest that certain patterns of alcohol consumption may increase risk of cognitive decline.

In one [study](#), researchers followed more than 1,300 women aged 65 and older for 20 years. They measured frequency of current and past alcohol use at the beginning, midpoint and late phases of the study; participants were assessed for cognitive impairment and dementia. They found that:

- Women who reported drinking more in the past than at the baseline recording were at 30% increased risk of developing cognitive impairment.
- Moderate drinkers at baseline or at midpoint had similar risk of cognitive impairment to non-drinkers; however, moderate drinkers in the late phase of the study were roughly 60% more likely to develop cognitive impairment.
- Women who changed from non-drinking to drinking over the course of the study had a 200% increased risk of cognitive impairment.

Binge drinking is a pattern of alcohol consumption in



surveillance, early detection, and promotion of brain health.

The 10 Warning Signs



The Know the 10 Signs campaign is a national education effort to increase awareness of the warning signs of Alzheimer's disease and the benefits of early detection and diagnosis.

Contact

For more information on the Healthy Brain Initiative, the public health agenda, or Alzheimer's disease in general, contact [Catherine Morrison](#).

which someone who is not otherwise a heavy drinker consumes several drinks on one occasion. In an [analysis](#) of data from more than 5,000 participants aged 65 and older in the Health and Retirement Study, binge drinking once a month or more was reported by 8.3% of men and 1.5% of women; binge drinking twice a month or more was reported by 4.3% of men and 0.5% of women. Those who reported binge drinking at least twice a month were more than twice as likely to have the greatest decline in both cognitive function and memory.

According to the researchers, doctors and other health care professionals should carefully assess their older patients for both how much they drink and any changes in patterns of alcohol use.

Substance abuse, including alcohol use, has long been considered a public health priority, especially as it relates to adolescents and motor vehicle injuries. This research may signal the need to expand public health intervention efforts on dangerous alcohol consumption to audiences throughout the lifespan.

Changes in Gait as Indicators of Cognitive Decline

Gait disturbances – such as a slowing of walking pace or a more variable stride – could indicate a decline in cognitive function. In general, new research has found that gait became slower and more variable as cognitive decline progressed.

- One [study](#) in Switzerland followed 1,153 older participants who had a range of cognitive abilities from healthy cognition to severe Alzheimer's. Results suggested that walking speed slowed as cognition worsened. Those with Alzheimer's in the study walked slower than those with mild cognitive impairment, who in turn walked slower than those who were cognitively healthy.
- A [study](#) from the Mayo Clinic Study of Aging explored the stride length, cadence and velocity of more than 1,341 participants through a computerized gait instrument at two or more visits 15 months apart. Participants with lower cadence, velocity and amplitude of the stride length experienced significantly larger declines in global cognition, memory and executive function.

The Alzheimer's Association's Chief Medical and Scientific Officer, William Thies, noted, "With an aging baby boomer generation advancing into greater risk for Alzheimer's and dementia, it is important for physicians

to be aware of the associations between gait and mental function. For busy doctors with limited time with patients, monitoring deterioration in a patient's gait is ideal because it doesn't require any expensive technology or take a lot of time to assess. It may provide early detection of fall risk and the earliest stages of cognitive impairment in older adults."

This research highlights the importance of Alzheimer's early detection campaigns by the public health community. For older adults, falls are a major public health problem – and people with a cognitive impairment are at even greater risk. Each year, one in three older adults falls, often causing serious injuries, preventable hospitalizations, and sometimes death. Early detection and diagnosis of Alzheimer's disease can provide for better medical care and outcomes, including possibly lowering the risk of falls. For more information on the Know the 10 Signs campaign, click [here](#). To start an early detection campaign in your community, contact [Catherine Morrison](#).

Sleep Quality Tied to Risk of Cognitive Decline

Several new studies suggest a relationship between sleep quality and quantity and risk of cognitive decline. For example:

- More than 15,000 participants in the [Nurses' Health Study](#) who were aged 70 or older at their first cognitive examination were followed for up to six years, including being asked questions about sleep duration and regular cognitive assessments. The researchers found that changes in sleep duration over time as well as sleep durations that are either two hours more or two hours less per night than normal (known as "extreme sleep durations") may contribute to cognitive decline and early Alzheimer's changes in older adults.
- A [study](#) of 1,300 women aged 75 and older enrolled in a large multi-center study and followed up to five years found that participants with sleep-disordered breathing or sleep apnea had more than twice the odds of developing MCI or dementia over the five years compared with those who did not have sleep disordered breathing. Participants with greater nighttime wakefulness were more likely to score worse on tests of global cognition and verbal fluency than those without it.
- The [French Three-City Study](#) is an ongoing, long-term, multisite study of the relationship between vascular disease and dementia in community-

dwelling individuals aged 65 or older. Nearly 4,900 non-demented study participants were followed for up to eight years. Scientists found that excessive daytime sleepiness, which was reported by 17.9% of participants, was associated with an increased risk of cognitive decline.

The researchers suggest that the public health implications of these findings could be substantial, as they may lead to the eventual identification of sleep-based strategies for reducing risk of cognitive impairment and dementia. Sleep health is tied to productivity, wellness, and safe driving. And, if these latest studies hold true, interventions to normalize sleep duration and correct sleep disorders may not only improve quality of life, but have the potential to reduce or prevent cognitive decline.

About the Alzheimer's Association International Conference

The Alzheimer's Association International Conference (AAIC) is the world's largest conference of its kind, bringing together researchers from around the world to report and discuss groundbreaking research and information on the cause, diagnosis, treatment and prevention of Alzheimer's disease and related disorders. 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. For more information, including how to attend next year's meeting in Boston, visit the AAIC [website](#).

For additional information or questions, please contact catherine.morrison@alz.org.
[Manage](#) your personal email settings.

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