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Alzheimer's Association Report 2017 Alzheimer's disease facts and figures

Alzheimer's Association*

Abstract

This article describes the public health impact of Alzheimer's disease (AD), including incidence and prevalence, mortality rates, costs of care, and the overall impact on caregivers and society. The Special Report examines how the use of biomarkers may influence the AD diagnostic process and estimates of prevalence and incidence of the disease. An estimated 5.5 million Americans have Alzheimer's dementia. By mid-century, the number of people living with Alzheimer's dementia in the United States is projected to grow to 13.8 million, fueled in large part by the aging baby boom generation. Today, someone in the country develops Alzheimer's dementia every 66 seconds. By 2050, one new case of Alzheimer's dementia is expected to develop every 33 seconds, resulting in nearly 1 million new cases per year. In 2014, official death certificates recorded 93,541 deaths from AD, making AD the sixth leading cause of death in the United States and the fifth leading cause of death in Americans age \geq 65 years. Between 2000 and 2014, deaths resulting from stroke, heart disease, and prostate cancer decreased 21%, 14%, and 9%, respectively, whereas deaths from AD increased 89%. The actual number of deaths to which AD contributes is likely much larger than the number of deaths from AD recorded on death certificates. In 2017, an estimated 700,000 Americans age \geq 65 years will have AD when they die, and many of them will die because of the complications caused by AD. In 2016, more than 15 million family members and other unpaid caregivers provided an estimated 18.2 billion hours of care to people with Alzheimer's or other dementias. This care is valued at more than \$230 billion. Average per-person Medicare payments for services to beneficiaries age ≥ 65 years with Alzheimer's or other dementias are more than three times as great as payments for beneficiaries without these conditions, and Medicaid payments are more than 23 times as great. Total payments in 2017 for health care, long-term care, and hospice services for people age \geq 65 years with dementia are estimated to be \$259 billion. In recent years, efforts to develop and validate AD biomarkers, including those detectable with brain imaging and in the blood and cerebrospinal fluid, have intensified. Such efforts could transform the practice of diagnosing AD from one that focuses on cognitive and functional symptoms to one that incorporates biomarkers. This new approach could promote diagnosis at an earlier stage of disease and lead to a more accurate understanding of AD prevalence and incidence.

Keywords: Alzheimer's disease; Alzheimer's dementia; Dementia; Diagnostic criteria; Risk factors; Prevalence; Incidence; Mortality; Morbidity; Caregivers; Family caregiver; Spouse caregiver; Sandwich generation caregiver; Health care costs; Health care expenditures; Long-term care costs; Medicare spending; Medicaid spending; Long-term care insurance; Biomarker; Cerebrospinal fluid; Brain imaging

1. About this report

2017 Alzheimer's Disease Facts and Figures is a statistical resource for U.S. data related to Alzheimer's disease, the most common cause of dementia. Background

and context for interpretation of the data are contained in the overview. Additional sections address prevalence, mortality and morbidity, caregiving, and use and costs of health care, long-term care and hospice. The Special Report (doi: 10.1016/j.jalz.2017.02.006) examines what we have learned about the diagnosis of Alzheimer's disease through research, and how we could identify and count the number of people with the disease in the future.

^{*}Email: sciencestaff@alz.org. Tel.: +1-312-335-5893; Fax: +1-866-521-8007.

1.1. Specific information in this year's report

Specific information in this year's *Alzheimer's Disease Facts and Figures* includes:

- Proposed guidelines for diagnosing Alzheimer's disease from the National Institute on Aging and the Alzheimer's Association.
- How the diagnosis of Alzheimer's disease has evolved from 1984 to today.
- Overall number of Americans with Alzheimer's dementia nationally and for each state.
- Proportion of women and men with Alzheimer's or other dementias.
- Lifetime risk for developing Alzheimer's dementia.
- Number of deaths due to Alzheimer's disease nationally and for each state, and death rates by age.
- Number of family caregivers, hours of care provided, economic value of unpaid care nationally and for each state, and the impact of caregiving on caregivers.
- Cost of care for individuals with Alzheimer's or other dementias in the United States in 2017, including costs paid by Medicare and Medicaid and costs paid out of pocket.
- Health care and long-term care payments for Medicare beneficiaries with Alzheimer's or other dementias compared with beneficiaries without dementia.
- Medicaid costs for people with Alzheimer's and other dementias, by state.

The Appendices detail sources and methods used to derive statistics in this report.

This report frequently cites statistics that apply to individuals with dementia regardless of the cause. When possible, specific information about Alzheimer's dementia is provided; in other cases, the reference may be a more general one of "Alzheimer's or other dementias."

1.2. What is "Alzheimer's Dementia"?

As discussed in the overview, under the 1984 diagnostic guidelines, an individual with Alzheimer's disease must have symptoms of dementia. In contrast, under the proposed revised guidelines of 2011, Alzheimer's disease encompasses an entire continuum from the initial pathologic changes in the brain before symptoms appear through the dementia caused by the accumulation of brain changes. This means that Alzheimer's disease includes not only those with dementia due to the disease, but also those with mild cognitive impairment due to Alzheimer's and asymptomatic individuals who have verified biomarkers of Alzheimer's. As a result, what was "Alzheimer's disease" under the 1984 guidelines is now more accurately labeled, under the 2011 guidelines, as "dementia due to Alzheimer's" or "Alzheimer's dementia" — one stage in the continuum of the disease.

This year's *Alzheimer's Disease Facts and Figures* reflects this change in understanding and terminology. That is, the term "Alzheimer's disease" is now used only in those instances that refer to the underlying disease and/or the entire continuum of the disease. The term "Alzheimer's dementia" is used to describe those in the dementia stage of the continuum. Thus, in most instances where past reports used "Alzheimer's disease," this year's report now uses "Alzheimer's dementia." The data examined are the same and are comparable across years - only the way of describing the affected population has changed. For example, 2016 Alzheimer's Disease Facts and Figures (DOI: http://dx.doi.org/ 10.1016/j.jalz.2016.03.001) reported that 5.4 million individuals in the United States had "Alzheimer's disease." The 2017 report states that 5.5 million individuals have "Alzheimer's dementia." These prevalence estimates are comparable: they both identify the number of individuals who are in the dementia stage of Alzheimer's disease. The only thing that has changed is the term used to describe their condition.

2. Overview of Alzheimer's disease

Alzheimer's disease is a degenerative brain disease and the most common cause of dementia [1,2]. Dementia is a syndrome—a group of symptoms—that has a number of causes. The characteristic symptoms of dementia are difficulties with memory, language, problem-solving and other cognitive skills that affect a person's ability to perform everyday activities. These difficulties occur because nerve cells (neurons) in parts of the brain involved in cognitive function have been damaged or destroyed. In Alzheimer's disease, neurons in other parts of the brain are eventually damaged or destroyed as well, including those that enable a person to carry out basic bodily functions such as walking and swallowing. People in the final stages of the disease are bed-bound and require around-the-clock care. Alzheimer's disease is ultimately fatal.

2.1. Dementia

When an individual has symptoms of dementia, a physician will conduct tests to identify the cause. Different causes of dementia are associated with distinct symptom patterns and brain abnormalities, as described in Table 1. Studies show that many people with dementia symptoms, especially those in the older age groups, have brain abnormalities associated with more than one cause of dementia [3–7].

In some cases, individuals with symptoms of dementia do not actually have dementia, but instead have a condition whose symptoms mimic those of dementia. Common causes of dementia-like symptoms are depression, delirium, side effects from medications, thyroid problems, certain vitamin deficiencies and excessive use of alcohol. Unlike dementia, these conditions often may be reversed with treatment. One meta-analysis, a method of analysis in which results of multiple studies are examined, reported that 9 percent of people with dementia-like symptoms did not in fact have dementia, but had other conditions that were potentially reversible [8]. Download English Version:

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