

## ALZHEIMER'S DISEASE: An Emerging Public Health Concern

### Introduction

Alzheimer's disease is a chronic condition that consists of a loss or decline in memory and other thinking abilities. It is the most common form of dementia, accounting for 70% of all dementia cases. Alzheimer's disease has been linked to various diseases and conditions that affect the brain and can be found in the presence of other forms of memory loss, including those caused by vascular disease or stroke.<sup>1-3</sup>

Presently, there is no cure for Alzheimer's disease and researchers cannot definitively say what causes it. However, considerable progress has been made in the field of brain research. Several medications have been developed that control symptoms in persons with Alzheimer's, and we now have a better understanding of how changes in lifestyle and behavior can potentially reduce the risk of developing this disease.<sup>2</sup> In addition, caregivers of persons with this disease can now access better support and training than they could in the past.<sup>4</sup>

### Societal Burden of Alzheimer's

#### National and Local Trends

Alzheimer's disease is an emerging public health problem that poses a huge societal burden. Its prevalence has been estimated to be about 10% overall among persons over the age of 65, and almost 50% among those over the age of 85.<sup>1,2</sup> Nationally, there are approximately 4.5 million Americans living with Alzheimer's disease today. This number is expected to double by 2030, largely because the number of older adults will grow dramatically in the upcoming decades as the baby boomers (those born between 1946-1964)

reach age 65. In 2005, Alzheimer's disease was the 7th leading cause of death in both the United States and in Los Angeles County.<sup>1,5,6</sup>

#### Did You Know?

- At least 147,000 Angelenos currently are living with Alzheimer's disease<sup>5</sup>
- Over 300,000 adults in Los Angeles County have provided care in the past month to someone with memory loss or Alzheimer's disease
- Over 325,000 baby boomers living in the County today are expected to develop Alzheimer's disease during their remaining lifetime<sup>5</sup>

#### Economic Costs of Caregiving

Alzheimer's disease places a large economic as well as social burden on families and society. In 2007, almost 10 million Americans provided unpaid care for someone with Alzheimer's disease. This accounted for approximately 8.4 billion hours of care, valued at almost \$89 billion.<sup>1,5</sup> Locally, the 2007 Los Angeles County Health Survey (LACHS) found that 310,000 Los Angeles County residents had provided assistance or care during the past month to a person with Alzheimer's disease or a related form of memory loss. As the 65 and older population in our County grows, from 1 million now to over 2.4 million by 2030, costs attributed to this caregiving are expected to double.

1. 2008 Alzheimer's Disease Facts and Figures. Alzheimer's Association, 2008.

2. Scalco MZ, van Reekum R. Prevention of Alzheimer disease. *Encouraging evidence. Can Fam Physician.* 2006;52:200-207.

3. Van der Flier WM, Selbets P. Epidemiology and risk factors of dementia. *J Neurol Neurosurg Psychiatry.* 2005;76:2-7.

4. California Workgroup on Guidelines for Alzheimer's Disease Management. *Guideline of Alzheimer's Disease Management. Final Report 2008. State of California, Department of Public Health, 2008.*

5. Ross LK, Brennan C, Nazareno J, Fox P. Alzheimer's Disease Facts and Figures in California: Current Status and Future Projections. Prepared for the Southland Chapter of the Alzheimer's Association. Institute for Health & Aging, University of California San Francisco (2008, in press).

6. Los Angeles County Department of Public Health, Office of Health Assessment and Epidemiology. *Mortality in Los Angeles County 2005: Leading causes of death and premature death, July 2008.*



## Risk Factors for Alzheimer's Disease

Most experts agree that certain risk factors probably contribute to the development of Alzheimer's disease.<sup>2,6</sup> Advancing age is the greatest known risk factor for this condition. Heredity is another important risk factor; research suggests that those who inherit the APOE e4 gene have increased risk of developing Alzheimer's disease.<sup>1,2</sup> Recently, studies have found that vascular (blood vessel) disease may play a contributing role in the development of Alzheimer's. Behaviors that maintain vascular health, such as regular exercise and a healthy diet, are associated with a lower risk of Alzheimer's disease and other dementias.<sup>2</sup>

### Risk Factors for Alzheimer's Disease<sup>2</sup>

- Age
- Family History (first-degree relative with dementia)
- Heredity (genetic risk, e.g., Apolipoprotein E-e4 gene)
- Lower educational attainment
- Chronic Conditions
  - Parkinson's disease
  - Heart disease and stroke
  - Diabetes
  - High blood pressure
  - High cholesterol
- Head injury
- Mild cognitive impairment
- Exposure to certain pesticides & other toxins
- Physical inactivity

## Warning Signs of Alzheimer's Disease

Although the development of Alzheimer's disease symptoms may differ from person to person and progress differently over a period of years, there are warning signs that can alert a person or his or her family to a decline in brain health.<sup>4,7-9</sup> These warning signs include:

- Memory loss that affects job skills
- Difficulty performing familiar tasks
- Often forgetting simple words
- Disorientation to time and place
- Poor or decreased judgment
- Problems with abstract thinking
- Misplacing things
- Changes in mood or behavior
- Changes in personality
- Loss of initiative

Since many of these warning signs also may occur with normal aging, it is important to consult a physician when these changes occur.

## Who Takes Care of Persons with Alzheimer's Disease?

Alzheimer's disease is often called a "family disease" because the decline in memory and thinking abilities is usually gradual, requiring loved ones to increasingly provide assistance to the person as the condition worsens.<sup>2,9</sup> People with Alzheimer's disease rely heavily on caregivers to help them with their daily activities and to maintain their quality of life and safety.

In Los Angeles County, this caregiving burden is considerable:

- The 2007 LACHS estimates that among the 1.3 million Angelenos who reported providing care in the past month to an adult with a long-term illness or disability, 25% provided assistance or care to an adult with memory loss or Alzheimer's disease (Table 1).

- Most (77%) of the people receiving care for memory loss or Alzheimer's were related to their caregiver: over one-third (35%) were either the caregiver's mother or mother-in-law and another 14% were the caregiver's father or father-in-law.

7. Hogan DB, Bailey B, Carswell A, Clarke B, Cohen C, Forbes D, Man-Son-Hing M, Lanctot K, Morgan D, Thorpe L. Management of mild to moderate Alzheimer's disease and dementia. *Alzheimer's & Dementia*. 2007;3:355-384.

8. Verghese J, Lipton RB, Katz MJ, Hall CB, Derby CA, Kuslansky G, Ambrose AF, Sliwinski, Buschke. Leisure activities and the risk of dementia in the elderly. *NEJM*. 2003;348:2508-2516.  
9. Strengthening Caregiving for Alzheimer's Disease. Expert Panel Discussion Report. The Rosalinde and Arthur Gilbert Foundation. June 2007.



- More females than males cared for someone with memory loss (27% and 23%, respectively).
  - A higher percentage of African Americans and Asians/Pacific Islanders (33% and 30%, respectively) reported caring for an adult with memory loss or Alzheimer's than whites (25%) or Latinos (21%).
  - Respondents with at least some college education reported a higher prevalence of caring for an adult with memory loss or Alzheimer's than did those with a high school education or less.
- The economic and social burden of Alzheimer's disease caregiving in Los Angeles County is also significant:
- Over one-third (37%) of caregivers reported spending the equivalent of a part-time job (20 or more hours per week) caring for an adult with memory loss or Alzheimer's.
  - The average number of hours per week reported caring for someone with memory loss or Alzheimer's was 22.
  - Nearly one-half (48%) of those caring for someone with memory loss or Alzheimer's were also employed 35 or more hours per week.
  - Among those working 35 or more hours per week, these caregivers reported spending on average another 18 hours caring for someone with memory loss or Alzheimer's.
  - Furthermore, among those working 35 or more hours per week, 36% of them spent another 20 or more hours per week caring from someone with memory loss or Alzheimer's (Figure 1).

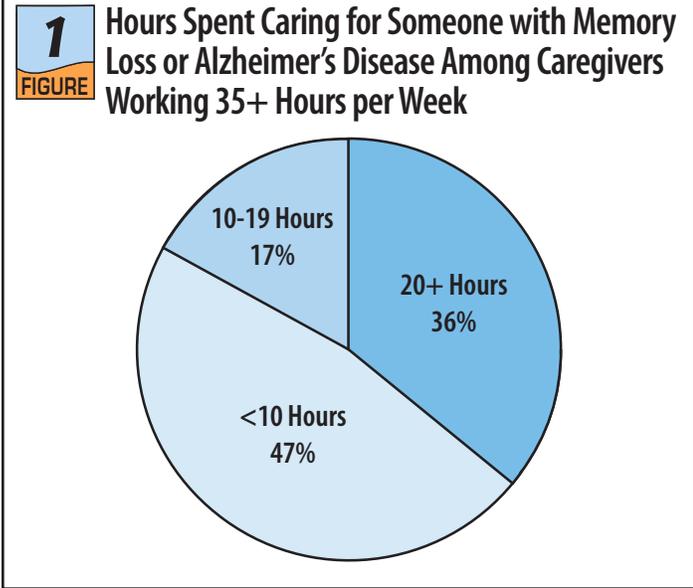
### What Can Be Done? Recommendations for Action

Many people do not realize that memory loss or the development of Alzheimer's disease is not an inevitable part of aging. Although more research is needed, emerging data suggest that there are steps people can take to potentially reduce their risk of developing this debilitating condition.<sup>2, 4, 7, 8</sup>

**1** Prevalence of Caregiving for Alzheimer's/ Memory Loss Among All Caregivers of Adults in Los Angeles County, 2007

|   | Percent (%) | 95% CI    | Est #   |
|---|-------------|-----------|---------|
| <b>Los Angeles County</b>                 | 25.1        | 22.2-28.0 | 310,000 |
| <b>Gender</b>                             |             |           |         |
| Male                                      | 22.6        | 18.4-26.7 | 130,000 |
| Female                                    | 27.3        | 23.4-31.3 | 180,000 |
| <b>Age Group</b>                          |             |           |         |
| 18-39                                     | 21.3        | 15.6-26.9 | 95,000  |
| 40-64                                     | 27.9        | 24.2-31.5 | 177,000 |
| 65 and over                               | 24.8        | 18.9-30.6 | 37,000  |
| <b>Race/Ethnicity</b>                     |             |           |         |
| Latino                                    | 21.2        | 16.5-25.8 | 101,000 |
| White                                     | 24.9        | 20.5-29.2 | 102,000 |
| African-American                          | 32.9        | 22.5-43.3 | 41,000  |
| Asian/Pacific Islander                    | 29.8        | 21.4-38.2 | 58,000  |
| <b>Education</b>                          |             |           |         |
| Less than high school                     | 21.4        | 14.1-28.7 | 41,000  |
| High school                               | 21.3        | 14.8-27.9 | 51,000  |
| Some college or trade school              | 27.0        | 21.4-32.5 | 96,000  |
| College or post graduate degree           | 27.9        | 23.2-32.7 | 120,000 |
| <b>Federal Poverty Level <sup>§</sup></b> |             |           |         |
| 0-99% FPL                                 | 22.8        | 16.2-29.4 | 63,000  |
| 100-199% FPL                              | 24.8        | 18.5-31.1 | 72,000  |
| 200%-299% FPL                             | 22.6        | 16.0-29.3 | 39,000  |
| 300% or above FPL                         | 27.4        | 23.0-31.8 | 137,000 |
| <b>Service Planning Area</b>              |             |           |         |
| Antelope Valley                           | 28.5        | 18.1-38.9 | 11,000  |
| San Fernando                              | 21.9        | 16.3-27.5 | 60,000  |
| San Gabriel                               | 21.9        | 16.3-27.5 | 54,000  |
| Metro                                     | 24.6        | 15.9-33.4 | 34,000  |
| West                                      | 27.5        | 17.0-38.0 | 20,000  |
| South                                     | 32.3        | 20.8-43.9 | 36,000  |
| East                                      | 21.2        | 14.4-27.9 | 32,000  |
| South Bay                                 | 31.3        | 22.2-40.4 | 63,000  |

<sup>§</sup> Based on U.S. Census 2006 Federal Poverty Level (FPL) thresholds which for a family of four (2 adults, 2 dependents) correspond to annual incomes of \$20,444 (100% FPL), \$40,888 (200% FPL) and \$61,332 (300% FPL). These thresholds were the values at the time of survey interviewing.



**What individuals and families can do**

• Reduce your potential risk – Research suggests that some healthy behaviors are associated with a lower risk of Alzheimer's disease. They are also generally effective for reducing your risk for other chronic conditions including heart disease, stroke,

and diabetes. These healthy lifestyle practices include:

- Make time to be physically active in your everyday life. Activities such as gardening, walking, housecleaning, or playing with grandchildren can improve your fitness as well as your mood.
- Eat a healthy diet that includes fruits and vegetables and other foods rich in antioxidants.
- Maintain healthy blood pressure, cholesterol, and blood sugar levels.
- Learn new things and keep your mind active by reading, dancing (which requires anticipating and memorizing dance steps), doing crossword puzzles, etc.
- Stay socially active by engaging in community groups or joining classes that stimulate the mind and body, such as bridge clubs and walking or other social groups.



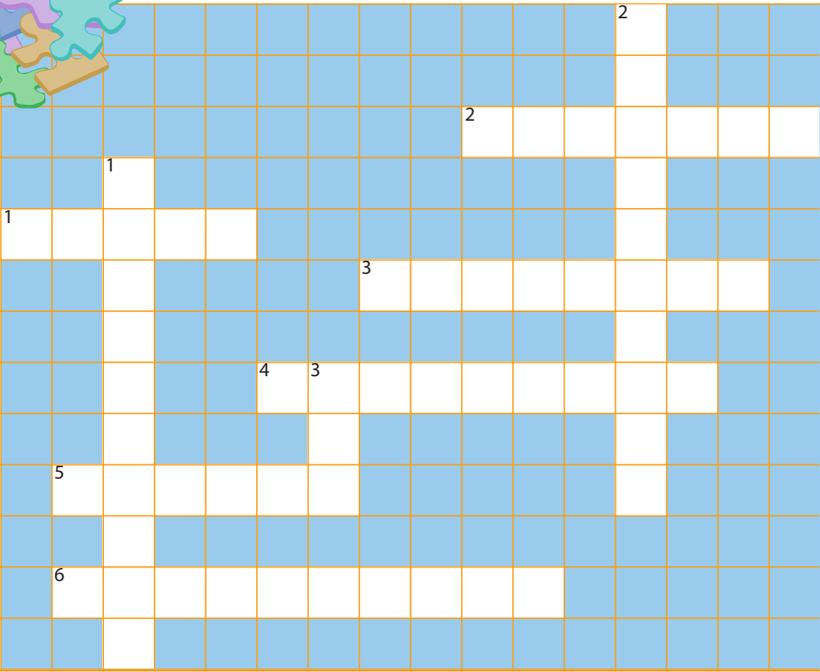
**Keep your mind active**

**Across**

1. The organ affected by Alzheimer's disease.
2. Keeping your mind active by reading or doing \_\_\_\_\_ may lower your risk for Alzheimer's.
3. Keeping your body active through physical \_\_\_\_\_ may lower your risk for Alzheimer's.
4. A person who provides care or assistance to an adult with a chronic disease or disability (e.g., Alzheimer's).
5. Cases of Alzheimer's disease are expected to \_\_\_\_\_ by 2030.
6. A warning sign of Alzheimer's disease.

**Down**

1. The dramatic increase expected in the number of people being affected by Alzheimer's disease can largely be attributed to this population.
2. Name of the most common form of memory loss or dementia.
3. One of the major risk factors for Alzheimer's disease.





## on the web



- Visit your doctor early if you are experiencing symptoms. For people with memory loss or a decline in thinking abilities, early diagnosis can provide important opportunities for effective management of memory problems, sleep disturbances, agitation, and mood changes.<sup>4</sup>

Early diagnosis of Alzheimer’s disease can also provide an opportunity for identifying emotional support and caregiving needs, and for life planning, including financial and legal planning. For example, it is important to designate a Power of Attorney for health care, in which your loved one assumes responsibility for making your health care decisions when you are no longer able to do so yourself.

- Seek needed support if you are a caregiver of a person with memory loss or Alzheimer’s disease. Chronic stress from caregiving can lead to health and emotional problems, including depression. There are many community resources that can help you manage your stress and better care for the person with Alzheimer’s (see [on the web](#)).

### What communities, health professionals, and local agencies can do

- Promote awareness and educate the public about normal aging and the biological basis of behaviors associated with Alzheimer’s disease; this can help reduce the social stigma that often comes with being diagnosed with this condition.
- Raise awareness among health professionals about the need for early detection if their patients are experiencing symptoms of Alzheimer’s.
- Promote standard post-diagnostic care among clinicians using the California Guidelines for Alzheimer’s Disease Management.<sup>4</sup>

The **Alzheimer’s Association** is the leading voluntary health organization in Alzheimer’s care, support and research. Their mission is to eliminate Alzheimer’s disease through 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. (800) 272-3900 [www.alz.org](http://www.alz.org)

The U.S. Congress created the **Alzheimer’s Disease Education and Referral (ADEAR) Center** in 1990 to “compile, archive, and disseminate information concerning Alzheimer’s disease” for health professionals, people with AD and their families, and the public. (800) 438-4380 [www.niapublications.org/adear](http://www.niapublications.org/adear)

**Area Agencies on Aging** provides information on senior independent living, elderly programs, senior communities, assisted living, retirement homes, senior health care, retirement planning, and senior citizen help. (800) 510-2020 [www.c4aging.org](http://www.c4aging.org)

The mission of **City of Los Angeles, Department of Aging** is to improve the quality of life, independence, health and dignity of the City’s older population by managing community based senior programs that are comprehensive, coordinated and accessible, and to advocate for the needs of older citizens. (213) 252-4030 [www.lacity.org/DOA](http://www.lacity.org/DOA)

**County of Los Angeles, Community & Senior Services** provides direct services to seniors and at-risk individuals through a network of over 500 community agencies. (213) 738-2600 <http://css.lacounty.gov>

Founded in 1977, **Family Caregiver Alliance (FCA)** addresses the needs of families and friends providing long-term care at home. FCA’s National Center on Caregiving advances the development of high-quality, cost effective programs and policies for caregivers in every state in the country. (800) 445-8106 [www.caregiver.org](http://www.caregiver.org)

The **Los Angeles Caregiver Resource Center (LACRC)** is a nonprofit organization that serves family caregivers of brain impaired or frail, older adults in LA County. LACRC is part of a statewide system that offers free or low cost resources, information, support groups, counseling, family consultations, respite, workshops, classes, web-based resources, retreats and legal and financial consultations. (800) 540-4442 [www.losangelescrc.org](http://www.losangelescrc.org)



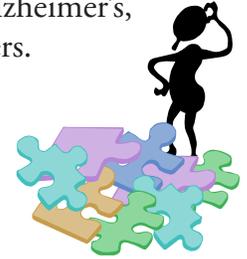
- Advance and promote effective practices in caregiving by making caregiver training more widely available. Provide greater access to basic information about responsibilities caregivers face and the resources they may need in caring for someone with Alzheimer’s disease.

### What policymakers can do

- Develop a statewide coordinated and collaborative plan among public and private agencies, and other stakeholders, to better support persons with Alzheimer’s disease and their caregivers.<sup>9</sup>
- Develop a national policy agenda of strategies to improve financial support and create workforce reform for caregivers. Employer-based policies, including flexible work hours and telecommuting,

would ease the social and economic burden on family caregivers.<sup>9</sup>

- Advocate for additional funding for basic research on Alzheimer’s disease and efforts to find effective treatments.
- Advocate for a fully funded system of care to support people living with Alzheimer’s, their families, and their caregivers.



#### PUZZLE ANSWERS:

|                |
|----------------|
| 6. Memory Loss |
| 5. Double      |
| 4. Caregiver   |
| 3. Activity    |
| 2. Alzheimer's |
| 1. Baby Boomer |
| Down           |
| 1. Brain       |
| 2. Puzzles     |
| 3. Caregiver   |
| 4. Caregiver   |
| 5. Double      |
| 6. Memory Loss |

Suggested Citation: Los Angeles County Department of Public Health, Office of Health Assessment & Epidemiology, *Alzheimer's Disease: An Emerging Public Health Concern*, LA Health; October 2008.

The Los Angeles County Health Survey is a periodic, population-based telephone survey that collects information on sociodemographic characteristics, health status, health behaviors, and access to health services among adults and children in the county. The 2007 survey collected information on a random sample of 7,200 adults and 5,728 children. The survey was conducted for the Los Angeles County Department of Public Health by Field Research Corporation and was supported by grants from First 5 LA, the Tobacco Control and Prevention Program, the Emergency Response and Bioterrorism Preparedness Program and various Department of Public Health programs.

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- Acknowledgements:** Special thanks to Margaret Shih, MD, PhD; Rachel Tyree, Barbara McClendon, and Debra Cherry, PhD for their helpful review.

For additional information about the L.A. County Health Survey, visit: [www.publichealth.lacounty.gov/ha](http://www.publichealth.lacounty.gov/ha)



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