



Dementia: What You Should Know About Diagnosis, Treatment and Prevention

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Dementia is a general term that describes different symptoms of cognitive decline, like forgetfulness, impairment of thinking and memory loss. In the United States, some 3.7 to 5.8 million people are living with dementia. Most require a level of assistance as they attempt to navigate their daily lives, maintain relationships and participate in activities they enjoy.¹

Annually, the number of people diagnosed with dementia increases, making a

¹ Engineering National Academies of Sciences, and Medicine. "Meeting the Challenge of Caring for Persons Living with Dementia and Their Care Partners and Caregivers: A Way Forward," (Washington, D.C. : The National Academies Press. , 2021).

caregiver's knowledge or familiarity with the signs and symptoms of the condition an important weapon in dealing with the condition. Early diagnosis can help treat symptoms and slow memory loss.

Alzheimer's disease – the most common cause of dementia – is a progressive, irreversible disorder of the brain that eventually destroys thinking and memory skills and slowly affects the ability to complete routine tasks. With more than six million Americans living with Alzheimer's disease, it is fifth leading cause of death in the U.S. among people who are 65 and older.²

Many older adults with late-onset Alzheimer's experience symptoms in their mid-60s. The occurrence of early-onset Alzheimer's is rare, but may occur in people in their 30s to 60s. Among the causes of Alzheimer's are brain cell death and tissue loss; plaques and "tangles" are prime suspects. Plaques are abnormal protein fragments, while tangles are dead or dying cells' twisted strands of another protein. Further, Alzheimer's tissue has far fewer nerve cells and synapses than a healthy brain.

The National Center for Biotechnology Information reports the elderly population (those aged 65 years or older) in the U.S. is expected to double from approximately 35 million today to more than 70 million by 2030. The American Psychological Association tabs the growth from 48 million to 88 million by 2050. With such rapid growth in the number of older Americans, prevention and treatment of chronic diseases of aging will take on growing importance. Dementia is a disease of particular concern because the decline in memory and other cognitive functions that characterizes this condition also leads to a loss of independent function that has a wide-ranging impact on individuals, families and healthcare systems.

Dementia and the latest research

As research into the disease continues, the Alzheimer's Association believes we are in a time of "unprecedented promise" in the quest to defeat dementia. There

2 Kullman, Joe. "Using AI to Battle Alzheimer's." *Full Circle*. Arizona State University, April 4, 2022. <https://fullcircle.asu.edu/research/visualizing-better-ways-to-battle-alzheimers/>.

is progress in the fight against the debilitating condition. Blood tests are being developed to advance early detection of dementia; new gene therapy initiatives are in the works to “fix” inherited gene mutations; lifestyle choices are being studied and advances are being made.

It is important to remember that people with dementia – their care partners and caregivers, too – are entitled to programs that provide care and assistance tailored to their specific needs. It’s promising that many dementia-care strategies have shown early promise.

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Types of dementia

Dementia is divided into several types. Some of them are:

- ***Alzheimer’s.*** In this condition, there is plaque formation between the dead brain cells due to protein abnormalities. Those with Alzheimer’s disease have fewer nerve cells in their brain tissues, and the brain size shrinks.
- ***Parkinson’s disease.*** This disease occurs because of the formation of Lewy bodies (abnormal structures) in the brain. Although Parkinson’s is a movement disorder, it also includes symptoms of dementia.
- ***Mixed dementia.*** When two or more types of dementia are diagnosed in a person, the condition is called mixed dementia. For example, when a person simultaneously shows symptoms of Alzheimer’s disease and vascular dementia (as the result of a stroke), this person is a victim of mixed dementia.

Diagnosing Alzheimer’s

In the process of diagnosing Alzheimer’s, doctors analyze patients’ signs and symptoms and perform a number of other tests. Such an assessment is the critical first step toward receiving treatment and care, as well as education about and an understanding of future steps. With medical science’s growing understanding of

the condition, it is important to get a proper diagnosis as soon as possible. The following are early signs and symptoms of Alzheimer's that help in detection of the disease:

- Impaired memory, such as problems in remembering events
- Lack of concentration or problem solving
- Confusion
- Difficulty in finishing daily tasks
- Mood changes, such as hyperactivity or depression
- Poor decisionmaking or poor judgment

Tests and measures

Knowledge is power. In the fight against Alzheimer's and other neurodegenerative diseases, early tests and examinations are critical to determine next steps in treatment.

Physical and neurological exam

A physical examination is done by your healthcare provider to determine overall neurological health by testing the following:

- Reflexes
- Muscle strength and muscle tone
- Ability to walk and get up from a chair
- Senses of sight and hearing
- Balance and coordination

Lab tests

Other possible causes of memory loss and confusion, such as thyroid deficiency or vitamin deficiencies, can be ruled out through blood tests.

Mental status and neuropsychological testing

A quick mental status examination can be administered by a doctor to determine a patient's memory and other thinking abilities. When compared to people of a similar age and education level, longer types of neuropsychological testing can provide more information about the mental function. These tests can aid in assessing a diagnosis and can also be used to monitor the disease's progression in the future.

Brain imaging

Brain imaging is also used to identify visible disorders associated with conditions other than Alzheimer's disease, such as strokes, injuries or tumors that may lead to cognitive changes. Doctors may be able to identify complex brain changes caused by Alzheimer's disease, using new imaging applications typically used only in major medical centers or in clinical trials.

Factors of dementia

Left untreated, dementia can lead to neurodegenerative problems such as Alzheimer's. Possible causes of dementia include depression, medication interactions, thyroid abnormalities and vitamin deficiencies. It is important to note that these factors are reversible with proper care and treatment. Another cause is the spread of the HIV virus to the brain. Symptoms of HIV-associated dementia include loss of memory; difficulty thinking, concentrating and/or speaking clearly; lack of interest in activities; and gradual loss of motor skills.

Other possible risk factors of dementia are smoking, diabetes and abnormally high "bad" cholesterol (LDL, or low-density lipoprotein) levels.

Symptoms of dementia

The American Academy of Family Physicians (AAFP) identifies common symptoms of dementia,³ including:

- Difficulties in communication
- Memory loss
- Mood swings
- Irritability
- Fearfulness
- Misplacement of items such as a wallet or keys
- Difficulties completing common tasks such as cooking a meal or making tea

³ Deepak S. Patel, "Dementia," American Academy of Family Physicians, <https://familydoctor.org/condition/dementia/>.

Management of dementia

According to a National Academies of Sciences, Engineering and Medicine report,⁴ there are two basic interventions to help people with dementia: collaborative care models and Resources for Enhancing Alzheimer’s Caregiver Health (REACH) II.⁵

Collaborative care models include both psychosocial and medical support of the dementia patient. Research has concluded that collaborative care models effectively reduce the symptoms of dementia and improve the quality of life.

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REACH focuses on supporting family caregivers, and is a structured, multicomponent intervention that has been successfully adapted to community use. It has been effectively shaped for use with family caregivers of persons with acquired physical disabilities such as spinal cord injuries.

Other quality-of-life care practices

The ultimate objective is to provide the best-possible quality of life for one who is suffering the effects of dementia. To do this, it is important to ensure the patient is living comfortably with as little pain, distress and confusion as possible.

Some ways to do so include:

- Provide steady routines that keep patients physically active as appropriate, including the opportunity to socialize with others.
- Provide a stable and safe environment; minimize changes.
- Provide “clean” surroundings for your patient; sanitary *and* well-organized and free of clutter.

⁴ National Academies of Sciences.

⁵ R. Schulz et al., “Resources for Enhancing Alzheimer’s Caregiver Health (Reach): Overview, Site-Specific Outcomes, and Future Directions,” *Gerontologist* 43, no. 4 (2003).

- Respect your patient. Respect and compassion go hand in hand and are important to a patient’s comfort and well-being.

A recent study has found that brain training, or brain exercises, is also effective in improving dementia symptoms and cognitive functions. This includes the use of mnemonics (imagery and visualization, acronyms and acrostics, rhymes and “chunking” – breaking up larger blocks of information into smaller, easy-to-remember chunks; think telephone numbers!) and computerized recall devices.

One of the main challenges facing patients with dementia in Arizona is access to appropriate care.

Dementia in Arizona

Dementia is a significant health concern in Arizona, as more people relocate to the state to enjoy their golden years. According to the Arizona Department of Health Services (ADHS), the number of residents aged 65 and older is projected to increase by 50 percent by 2030.⁶ This demographic shift will likely lead to an increase in the number of individuals living with dementia.

One of the main challenges facing patients with dementia in Arizona is access to appropriate care. Many individuals with dementia require specialized care, which can be expensive and difficult to find. A study by the Alzheimer's Association (2018) found that the number of memory care units in Arizona is not keeping pace with the growing demand for this type of care.⁷ Additionally, there is a shortage of healthcare professionals trained to provide care for individuals with dementia, which can make it difficult for patients to receive the care they need.

Another concern in Arizona is the lack of community support. Many individuals with dementia require assistance with daily activities, such as shopping, paying bills and managing medications. However, many communities in Arizona do not

6 Arizona Department of Health Services. (2018). Arizona’s Dementia State Plan. Retrieved from <https://www.azdhs.gov/preparedness/epidemiology-disease-control/dementia/dementia-state-plan/index.php>.

7 Alzheimer’s Association. (2018). 2018 Alzheimer’s Disease Facts and Figures. Retrieved from <https://www.alz.org/media/HomeOffice/Facts%20and%20Figures/facts-and-figures.pdf>.

have adequate support systems in place to help individuals with dementia and their caregivers. A study by the ADHS (2018) found that many of the existing support services for individuals with dementia in Arizona are underutilized due to a lack of awareness among caregivers and individuals with dementia.⁸

There are, however, resources and programs available to support individuals with dementia and their caregivers (see “Living Well with Dementia” by Dr. Maribeth Gallagher in this Special Issue for more resources. In Arizona, other local resources

include: Alzheimer's Association, Area Agency on Aging Region One Incorporated, Family Caregiver Support Program (FCSP), Duet – Partners in Health & Aging).

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A key trend in the study of dementia in Arizona has been a focus on identifying risk factors for the development of dementia. For example, a study conducted by the Banner Alzheimer's Institute⁹

found that individuals with high blood pressure and hypertension may be at an increased risk for developing dementia. Another approach in dementia research in Arizona has been the development of early detection and intervention methods. For example, a study conducted by Arizona State University found that a combination of cognitive testing and brain imaging can help to identify individuals at an early stage of dementia.¹⁰

In the future, dementia research in Arizona will likely focus on developing new treatments and therapies for individuals living with dementia, including the use of technology, such as virtual reality, to improve the quality of life for individuals with dementia. Additionally, research in the area of prevention and risk reduction

8 Arizona Department of Health Services. (2018). Arizona's Dementia State Plan. Retrieved from <https://www.azdhs.gov/preparedness/epidemiology-disease-control/dementia/dementia-state-plan/index.php>

9 Banner Alzheimer's Institute. "Hypertension in Midlife Increases Risk for Dementia." *Science Daily*, 22 Jan. 2019, <https://www.sciencedaily.com/releases/2019/01/190122113515.htm>.

10 Kullman, Joe. "Using AI to Battle Alzheimer's." *Full Circle*. Arizona State University, April 4, 2022. <https://fullcircle.asu.edu/research/visualizing-better-ways-to-battle-alzheimers/>.

will likely be a priority, as well as how to improve care and support for individuals with dementia and their caregivers.

Make it easy, take it easy

While research into Alzheimer's and dementia continues, and as treatment and care practices are reviewed, shared and sometimes improved, there are tips patients can use to help cope with the changes in memory and thinking, while also preparing for the future. The National Institute on Aging suggests:¹¹

Organizing your days – Write down to-do lists, appointments and events in a notebook or calendar. Some people have an area, such as an entryway table or bench, where they store important items they need each day.

Paying bills – Setting up automated payments or asking a trusted friend or family member to assist in such accounting matters is an easy way to pay your bills correctly and on time without having to write checks.

Shopping for meals – Many stores offer grocery delivery services. You can order fresh or frozen meals online or by phone. Meals on Wheels America (1-888-998-6325) delivers free or low-cost meals to your home, and sometimes includes a short visit and safety check. Other sources of meals may include houses of worship and senior centers. If you make your own meals at home, consider easy-to-prepare items, such as foods that you can heat in the microwave.

Taking medications – Several products can help you manage medications, such as a weekly pillbox, a pillbox with reminders (like an alarm) or a medication dispenser. You may need someone to help you set these up.

Getting around – Take seriously family and friends who express concerns about your driving. Consider public transportation options such as a community ride share program.

11 National Institute on Aging (NIA), "Tips for Living Alone with Early-Stage Dementia," National Institute on Aging (NIA). Accessible from <https://www.nia.nih.gov/health/tips-living-alone-early-stage-dementia#every-day-tasks>.

Taking it easy doesn't mean to drop exercise from your daily routine. Find exercise where you can! More ideas from the National Institute on Aging include:

Exercise – Light housework, gardening, walking around the neighborhood can have benefits. Experts recommend both aerobic exercise (such as walking) and strength training (such as lifting weights). Take the time to learn more about exercise and physical activity.

Eat right – A healthy diet is proven to influence heart health, which relates to brain health. Learn more about healthy eating.

Sleep well – Lack of sleep and poor-quality sleep are linked to memory problems. Try to get 7 to 8 hours of sleep per night.

Be mindful – Help manage stress and reduce anxiety and depression through mindfulness. Be aware of what's happening in the present, both inside and outside your body.

Stay social – People with dementia who live alone do not manage daily activities as well when they feel lonely. Join a support group, chat with someone regularly, or volunteer at a local school or community organization.

The last word

The number of senior citizens in need of care for dementia-related disease is growing, across the country and here in Arizona. The care necessary for a person with dementia will increase over time, straining individual caregivers, as well as the healthcare industry. Problems with memory, thinking and behavior often present challenges for those with dementia as well as for their family members.

The journey should never be taken alone. What you should know about dementia is that whether the disease is in early or late stages, there are support systems, resources, and services that can help.

About the Authors

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Christopher Zambakari is the owner and operator of three assisted living residences in Arizona, and has spent a decade focused on the high-quality care and treatment of senior citizens in need of such attention. A tireless advocate on behalf of this growing population, Zambakari has built into his mission of service a priority on lending voice and guidance to the challenges – both physical and emotional – faced by his residents. His three properties – Apollo Residential Assisted Living in Glendale, Desert Haven Home Care in Phoenix, and Villa Fiore Assisted Living-Prescott Valley – offer the highest levels of customized care, administered by respectful licensed medical and caregiving professionals.

A Rotary Peace and Paul Harris Fellow, Zambakari is a Doctor of Law and Policy, and the founder and CEO of The Zambakari Advisory, an international consulting team of experts in the areas of strategic intelligence, program design and transitional processes. The Advisory provides innovative solutions to societal challenges in the areas of peace, security and economic development, while informing decision making at policy leadership levels.

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Nathalia Zambakari is a board-certified Acute Care Nurse Practitioner and a licensed medical professional responsible for short-term care patients suffering from severe conditions. As part of the Desert Haven/Apollo/Villa Fiore care team, she reviews the medical records of incoming residents, helping the professional staff to manage patient regimens, and performs caregiver education to ensure the best care possible for the communities' residents. She is currently a consultant for the New York City Health and Hospitals and a chronic venous insufficiency expert at Premier Vein of Alaska.