

A PUBLIC HEALTH APPROACH TO ALZHEIMER'S AND OTHER DEMENTIAS

MODULE 2: ALZHEIMER'S AND OTHER DEMENTIAS — THE BASICS



alzheimer's 
association®


CENTERS FOR DISEASE™
CONTROL AND PREVENTION

 EMORY
ROLLINS
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PUBLIC
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Emory Centers
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Technical Assistance

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ABOUT MODULE 2

This module is part of the Alzheimer's Association curriculum, *A Public Health Approach to Alzheimer's and Other Dementias*. Developed as part of a cooperative agreement with CDC's Alzheimer's Disease and Healthy Aging Program, and in partnership with Emory University's Rollins School of Public Health, this curriculum addresses cognitive health, cognitive impairment, and Alzheimer's disease and is for use by undergraduate faculty in schools and programs of public health and other related disciplines. It can also be adapted for other purposes.

Module 2: Alzheimer's and Other Dementias – The Basics provides background information on Alzheimer's and other dementias. It lays a foundation for what cognitive health is and how changes within the brain may lead to cognitive aging, cognitive impairment, and Alzheimer's and other dementias.

The module then shifts to focus more specifically on Alzheimer's disease. Learners gain a general understanding about the stages of Alzheimer's disease, risk factors, and how the disease is diagnosed and treated. The module also addresses unique aspects of Alzheimer's disease (including financial hardship, stigma, and vulnerability to abuse) and the role of caregivers and caregiving impacts.

Module 2 contains the following topics:

- Cognitive health
- Dementia
- Alzheimer's disease
- Risk factors
- Treatment and management
- Caregivers
- Unique aspects

LEARNING OBJECTIVES

At the end of **Module 2: Alzheimer's and Other Dementias – The Basics**, students will be able to:

- Define cognitive health
- Define and differentiate between dementia and Alzheimer's
- List at least five early signs of Alzheimer's
- Describe the changes that occur during the course of Alzheimer's disease

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- Describe the role of caregivers in the care of someone with Alzheimer's

COMPETENCIES

Module 2 promotes basic learning that supports the development of certain competencies:

Academy for Gerontology in Higher Education (AGHE):

- 1.2.1 Distinguish normal biological aging changes from pathology including genetic factors
- 1.2.4 Recognize common late-life syndromes and diseases and their related bio-psychosocial risk and protective factors

Council on Education for Public Health (CEPH) Foundational Competencies:

- 2. Locate, use, evaluate, and synthesize public health information (bachelors level)
- 4. Interpret results of data analysis for public health research, policy, or practice (masters level)

Council on Linkages Between Academia and Public Health Practice:

- 1A1. Describes factors affecting the health of a community (e.g., equity, income, education, environment)

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LAYOUT OF MODULE 2 FACULTY GUIDE

This guide is laid out in the following sections:

- Slide guide with talking points
- Sample test questions
- Case studies
- Video resources

Note: Some slides in this module duplicate content from other modules and may be removed as needed.

HOW TO USE THE MATERIALS

- ✓ This module is one of four modules in this curriculum that were designed for use either as a set or as stand-alone modules
- ✓ Users are free to make changes to the materials to fit their needs, including: adding, modifying or removing content, graphics, talking points, discussion questions, or learning activities
- ✓ The Faculty Guide for each module includes a slide guide that contains the information as presented in the slide, talking points, space for presenter notes, and references
- ✓ The talking points included in the Faculty Guide should not be read word for word; each presenter should review the materials before delivering the material to ensure familiarity and deliver the information in his/her own style
- ✓ Delivery time will generally be 60-90 minutes per module, depending on class engagement, presenter style, and the addition or elimination of any content, discussion questions, or learning activities
- ✓ Discussion questions are included in the slide deck of each module. These may be modified or removed at the discretion of the presenter. Questions may also be used for other activities such as small group discussion or individual writing assignments
- ✓ Video resources, a list of articles, and case studies are also included to help in learning more about the topics presented in each module
- ✓ Test questions are provided with each module as an additional resource for faculty
- ✓ All materials are 508 compliant. (Note: if changes are made to the curriculum, it is recommended that changes continue to follow 508 compliance guidelines. For more information on 508 compliance visit the Department of Health and Human Services website: <https://www.hhs.gov/web/section-508/making-files-accessible/index.html>)

STUDENT ENGAGEMENT OPTIONS

In addition to the PowerPoint slide deck and guide, there are additional resources included in this guide. These resources are designed to increase student engagement and enhance understanding of the concepts covered in this module. Following the slide guide, there is a series of case studies and a list of video resources. It is recommended that the presenter review these resources to determine if these additional materials would be useful in illustrating the concepts covered in the module.

DISCUSSION QUESTIONS

The following discussion questions are included in the slide deck:

- What is cognitive health? *(Slide 3)*
- What are the characteristics of Alzheimer's? *(Slide 14)*

LEARNING ACTIVITIES

The following learning activities may be used or adapted to enhance student learning:

- Research personal perspectives on Alzheimer's and dementia. What happens to someone's mind, lifestyle, and relationships, in their own words?
- Describe the physiological changes to the brain that occur with Alzheimer's disease. What do scientists know about how the disease develops? What are current focus areas in research?
- Conduct a short interview with 4-5 adults over the age of 50. Develop and ask questions related to their concerns about their risk for Alzheimer's and barriers to getting diagnosed. Summarize their responses and describe implications for a campaign to promote early diagnosis.
- Research the other types of dementia to determine how they are similar in symptoms and if there is a known underlying cause.

ADDITIONAL READING

- Alzheimer's Association. 2019. Alzheimer's Disease Facts and Figures. Chicago, IL: Alzheimer's Association. <http://www.alz.org/facts>
- The NIH Alzheimer's Disease Education and Referral Center: Information about symptoms at each stage of Alzheimer's and how the disease progresses. <https://www.nia.nih.gov/alzheimers>
- Alzheimer's Association. (n.d.) What is Alzheimer's? <https://www.alz.org/alzheimers-dementia/what-is-alzheimers>

SLIDE GUIDE

This slide guide accompanies the PowerPoint presentation for this module. The right margin has been widened to allow the presenter to write notes.

SLIDE 1:

Module 2: Alzheimer's and Other Dementias – The Basics

TALKING POINTS:

This presentation entitled, **Alzheimer's and Other Dementias – The Basics** is part of a curriculum for public health students entitled, *A Public Health Approach to Alzheimer's and Other Dementias*. It was developed by the Emory Centers for Training and Technical Assistance for the Alzheimer's Association with funding from the Centers for Disease Control and Prevention.

This module provides background information on cognitive health, cognitive impairment, dementia, and Alzheimer's disease. It provides essential information on Alzheimer's disease, including what is known about its causes, its progression, risk factors, and care.

SLIDE 2:

Learning Objectives

- Define cognitive health
- Define and differentiate between dementia and Alzheimer's
- List at least 5 early signs of Alzheimer's
- Describe the changes that occur during the course of Alzheimer's
- Describe the role of caregivers

TALKING POINTS:

By the end of the presentation, you will be able to:

- Define cognitive health
- Define and differentiate between dementia and Alzheimer's
- List at least 5 early signs of Alzheimer's
- Describe the changes that occur during the course of Alzheimer's
- Describe the role of caregivers

SLIDE 3:

Discussion Question

What is cognitive health?

Ask: What is cognitive health?

Open responses.

SLIDE 4:

Cognitive Health¹

- Cognition: the ability to think, learn, and remember
 - Cognitive health continuum: “optimal functioning” to severe disability
-

TALKING POINTS:

To understand what happens to a person when he or she develops Alzheimer's or dementia, it is helpful to first consider **cognitive health**.

Cognition refers to the ability to think, learn, solve problems, and remember.

Cognitive health can be viewed along a continuum. At one end is “optimal functioning,” which refers to a healthy brain that can perform the following mental processes:

- Learning new things
- Intuition
- Judgment
- Language
- Remembering

At the other end of the spectrum are people with severe Alzheimer's, dementia, and other brain injuries with limited cognitive functioning.

¹ National Institute on Aging. (n.d.) *Cognitive Health and Older Adults*. Retrieved from <https://www.nia.nih.gov/health/cognitive-health-and-older-adults>

SLIDE 5:

Cognitive Aging^{2,3,4}

- The brain changes as it ages
 - Increase in wisdom and expertise
 - Speed of processing, making decisions, remembering may slow
 - Normal part of aging
-

TALKING POINTS:

Like other organs in the human body, the brain changes as it ages. Physical structures in the brain change, and its ability to carry out various functions tends to decline.

Wisdom and expertise can increase with age, while the speed of processing information, making decisions, and recall of information can slow down.

This process is known as **cognitive aging**, which refers to a decline in memory, decision-making, processing speed, and learning. For example, a person might need longer to learn a new skill, have more difficulty recalling certain words or finding common items such as glasses or keys. These changes are considered a normal part of aging and varies from person to person from day to day.

When changes in a person's cognitive ability affects their daily life, it may be an indication that it is due to something other than normal aging changes. **Subjective Cognitive Decline** is self-reported confusion or memory loss that is happening more often or is getting worse. A growing body of evidence suggests that Subjective Cognitive Decline is one of the earliest warning signs for Alzheimer's and other dementias. In the 2016 Behavioral Risk Factor Surveillance

²Institute of Medicine. (2015) *Cognitive Aging: Progress in Understanding and Opportunities for Action*.

⁴Taylor CA, Bouillon ED, McGuire LC. *Subjective Cognitive Decline Among Adults Aged ≥45 Years — United States, 2015–2016*. MMWR Morb Mortal Wkly Rep 2018; 67:753–757. DOI: <http://dx.doi.org/10.15585/mmwr.mm6727a1>

Image source: Copyrighted image; used with permission from the Alzheimer's Association

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System (BRFSS) surveys conducted by state health departments, one in 9 adults age 45 or older reported experiencing subjective cognitive decline. Over half of those respondents reporting Subjective Cognitive Decline had not talked about their memory issues with a health care provider.

SLIDE 6:

Mild Cognitive Impairment (MCI)^{5,6}

- Difficulty with cognitive processes
- Not severe enough to interfere with daily life
- Increased risk of Alzheimer's or dementia
- May be caused by external factors (vitamin B12 deficiency, depression)

TALKING POINTS:

Mild cognitive impairment (MCI) is a condition in which people have memory or other thinking problems that are noticeable, but their symptoms are not severe enough to interfere with everyday activities.

Symptoms of MCI may include forgetting important information that he or she would have previously recalled easily (such as appointments, conversations, or recent events), or a decreased ability to make sound decisions, judge the time or sequence of steps needed to complete a complex task, or have trouble with visual perception.

A person with MCI is at an **increased risk** of developing Alzheimer's or other dementia.

In some cases, however, the condition may be caused by **external factors**, such as medication, vitamin B12 deficiency, and depression. In these cases, the condition may be reversed if the underlying cause is addressed, reverse on its own, or remain stable.

⁵ Alzheimer's Association. (2019) *2019 Alzheimer's Disease Facts and Figures*.

⁶ National Institute on Aging. (n.d.) *What is Mild Cognitive Impairment?* Retrieved from <https://www.nia.nih.gov/alzheimers/topics/mild-cognitive-impairment>

Image source: National Cancer Institute, NCI Visuals Online

SLIDE 7:

Cognitive Impairment⁷

- Difficulty with cognitive processes that affect everyday life
- Spans wide range of functioning
- Can occur as a result of Alzheimer's, dementia, stroke, traumatic brain injury

TALKING POINTS:

Further along the cognitive health continuum is **cognitive impairment**.

When a person has trouble with cognitive processes that begin to affect the things he or she does in everyday life, it is often referred to as **cognitive impairment**.

Cognitive impairment spans a **wide range of functioning**. It can occur as a result of Alzheimer's or other dementias, or with other conditions such as stroke and traumatic brain injury.

⁷ Alzheimer's Association and Centers for Disease Control and Prevention. *Healthy Brain Initiative, State and Local Public Health Partnerships to Address Dementia: The 2018-2023 Road Map*. Chicago, IL: Alzheimer's Association; 2018.

SLIDE 8:

Dementia⁸

- Decline in mental ability severe enough to interfere with daily life
 - Not a specific disease
 - Not normal aging
 - Caused by damage to brain cells from disease or trauma
 - Many dementias are progressive
-

TALKING POINTS:

Dementia is a general term for a **decline in mental ability** severe enough to interfere with daily life.

Dementia is not a specific disease. Rather, it's an overall term that describes a **wide range of symptoms** associated with a decline in memory or other thinking skills.

Dementia is **NOT normal aging**.

It is caused by **damage** to **brain cells** from disease or trauma (such as a brain injury or stroke). This damage interferes with the ability of brain cells to communicate with each other. When brain cells cannot communicate normally, thinking, behavior, and feelings can be affected.

Many dementias are progressive, meaning symptoms start out slowly and gradually get worse.

There are several types of dementia. Alzheimer's is the most common cause of dementia, followed by vascular dementia.

Vascular dementia is a decline in thinking skills caused by conditions that block or reduce blood flow to the brain such as a stroke that deprives brain cells of vital oxygen and nutrients.

Other types of dementia include Lewy Body dementia, frontotemporal, Huntington's disease and others.

⁸ Alzheimer's Association. (n.d.) *What is Dementia?* Retrieved from <http://www.alz.org/what-is-dementia.asp#causes>

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Researchers increasingly believe a large number of dementia cases are **mixed dementia** when a person has multiple types of dementia.

Sometimes dementia-like symptoms can be caused by other conditions, such as depression, vitamin deficiencies, thyroid problems, and some infections, that when treated will result in improvement of dementia-like symptoms. A key difference between these conditions and dementia is that the symptoms usually appear suddenly, whereas dementia develops slowly over time. This is one reason why it is important for someone with memory changes to be seen by a health professional to determine a possible cause of confusion or memory loss.

SLIDE 9:

ALZHEIMER'S DISEASE

TALKING POINTS:

The most common cause of dementia is Alzheimer's disease. We will focus our attention on understanding more about the stages of Alzheimer's as well as risk factors, treatment, and management of the disease.

SLIDE 10:

Alzheimer's History⁹

- Identified in 1906 by Dr. Alois Alzheimer
 - Examined brain of woman who died after living with profound memory loss
 - Found abnormal clumps (plaques) and tangled fibers (tangles) in the brain
-

TALKING POINTS:

Alzheimer's disease was first **identified** in 1906 by Dr. Alois Alzheimer. He noticed certain changes in the brain tissue of a woman in her 50s who had died after several years of progressive cognitive impairment, hallucinations, disorientation, and unpredictable behavior.

Dr. Alzheimer examined her brain after death and found many **abnormal clumps** (now called amyloid plaques) and tangled bundles of fibers (now called neurofibrillary, or tau, tangles). These **plaques** and **tangles** in the brain are still considered some of the hallmarks of Alzheimer's disease, along with the loss of connections between **nerve cells** (neurons) in the brain.

⁹ National Institute on Aging. (n.d.) *Alzheimer's Disease Fact Sheet*. Retrieved from <https://www.nia.nih.gov/health/alzheimers-disease-fact-sheet>

Image source: National Library of Medicine, History of Medicine

SLIDE 11:

Alzheimer's Overview¹⁰

- Most common cause of dementia
 - 60% - 80% of cases
 - Progressive – symptoms gradually worsen over number of years
-

TALKING POINTS:

Alzheimer's disease is the most common cause of dementia. It accounts for an estimated 60% to 80% of cases.

Alzheimer's is a progressive disease, in which brain changes may go unnoticed for years, but gradually worsen over time as the brain deteriorates due to the disease. The image on the slide shows a healthy brain (left side) as compared to a severe Alzheimer's brain (right side). The Alzheimer's brain is significantly smaller than the healthy brain.

Alzheimer's is viewed as a continuum where brain changes can begin a decade or more before symptoms begin to appear. Eventually the brain changes caused by Alzheimer's may result in the first symptoms of cognitive decline, and over time reach the mild cognitive impairment stage. The term **Alzheimer's dementia** refers to the stage of the disease when an individual has observable symptoms such as memory loss, mood/behavior changes, and difficulty with activities of daily living.

In mild (early) stages of dementia, people experience some memory loss, but with severe (late-stage) Alzheimer's, individuals lose the ability to carry on a conversation and respond to their environment. The degenerative nature of the disease means many in the severe stage have difficulty moving, often become bed-bound, and need round-the-clock care.

¹⁰ Alzheimer's Association. (n.d.) *What is Alzheimer's?* Retrieved from <https://www.alz.org/alzheimers-dementia/what-is-alzheimers>

Image source: National Institute on Aging

SLIDE 12:

Alzheimer's Causes¹¹

- Precise changes in brain largely unknown
 - Probably develops as a result of complex interactions among:
 - Age
 - Genetics
 - Environment
 - Lifestyle
 - Coexisting medical conditions
-

TALKING POINTS:

Although research has revealed a great deal about Alzheimer's, the precise **changes** that occur in the brain and trigger the development of the disease remain largely unknown.

Experts agree that in the vast majority of cases, Alzheimer's, like other common chronic conditions, probably develops as a result of complex interactions among multiple factors, including advancing age, genetics, environment, lifestyle, and coexisting medical conditions.

¹¹ Alzheimer's Association. (n.d.) *Causes and Risk Factors*. Retrieved from <https://www.alz.org/alzheimers-dementia/what-is-alzheimers/causes-and-risk-factors>

SLIDE 13:

Alzheimer's Physical Brain Changes¹²

- Brain shrinks dramatically
 - Nerve cell death
 - Tissue loss
 - Plaques: abnormal clusters of protein fragments
 - Tangles: twisted strands of another protein
-

TALKING POINTS:

Alzheimer's leads to **nerve cell death** and **tissue loss** throughout the brain. Over time, the brain **shrinks dramatically**, affecting nearly all its functions.

Scientists are not absolutely sure what causes cell death and tissue loss in the Alzheimer's brain, but **plaques** and **tangles** are prime suspects.

Plaques, abnormal clusters of protein fragments, build up between nerve cells in the brain. Plaques form when protein pieces called **beta-amyloid** clump together.

Dead and dying nerve cells contain **tangles**, which are made up of twisted strands of another protein.

Plaques and tangles tend to spread through the brain in a predictable pattern as Alzheimer's progresses.

**Note: The image on the slide shows a microscopic illustration of Alzheimer's tissue with plaques and tangles.*

Video Supplement: "How Alzheimer's Changes the Brain."

National Institutes of Health.

<https://www.nia.nih.gov/health/what-happens-brain-alzheimers-disease> or <https://youtu.be/OGXv3mHs9AU>

"Inside the Brain: A tour of how the mind works"

Alzheimer's Association. https://www.alz.org/alzheimers-dementia/what-is-alzheimers/brain_tour

¹² Alzheimer's Association. (n.d.) *Inside the Brain- A Tour of How the Mind Works*. Retrieved from https://www.alz.org/alzheimers-dementia/what-is-alzheimers/brain_tour

Image source: National Institute on Aging

SLIDE 14:

Discussion Question

What are the characteristics of Alzheimer's?

Ask: What are the characteristics of Alzheimer's?

Open responses.

SLIDE 15:

10 Early Signs of Alzheimer's¹³

1. Memory loss that disrupts daily life
 2. Challenges in planning or solving problems
 3. Difficulty completing familiar tasks
 4. Confusion with time or place
 5. Trouble understanding visual images and spatial relationships
-

TALKING POINTS:

In the last slide we looked at the physical changes that take place inside the brain as a result of Alzheimer's, but what most people associate with Alzheimer's is the cognitive and behavioral symptoms. These symptoms also change and become more severe as the disease progresses.

Alzheimer's affects people in different ways. The most common symptom begins with **gradually worsening ability to remember new information**. As damage spreads, individuals experience other difficulties.

The following are **ten early signs and symptoms of Alzheimer's**:

1. Memory loss that **disrupts daily life**

One of the most common signs of Alzheimer's dementia, especially in the early stages, is forgetting recently learned information.

Others include: forgetting important dates or events; asking for the same information over and over; relying on family members for things they used to handle on their own.

2. Challenges in **planning or solving problems**

¹³ Alzheimer's Association. (n.d.) *10 Early Signs and Symptoms of Alzheimer's*. Retrieved from https://www.alz.org/alzheimers-dementia/10_signs

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Some people may experience changes in their ability to develop and follow a plan or work with numbers.

They may have trouble following a familiar recipe or keeping track of monthly bills.

They may have difficulty concentrating and take much longer to do things than they did before.

3. Difficulty **completing familiar tasks** at home, at work or at leisure

People with Alzheimer's may have a hard time completing daily tasks. Sometimes, people may have trouble driving to a familiar location, managing a budget at work, or using a cell phone.

4. Confusion with **time or place**

People with Alzheimer's can lose track of dates, seasons, and the passage of time. They may have trouble understanding something if it is not happening immediately. Sometimes they may forget where they are or how they got there.

5. Trouble understanding **visual images** and **spatial relationships**

For some people, having vision problems is a sign of Alzheimer's. They may have difficulty with balance or judging distance, and trip over things at home, or spill or drop things more often. In terms of perception, they may pass a mirror and think someone else is in the room. They may not recognize their own reflection.

SLIDE 16:

10 Early Signs of Alzheimer's (continued)¹⁴

6. New problems with words in speaking or writing
 7. Misplacing things and losing the ability to retrace steps
 8. Decreased or poor judgment
 9. Withdrawal from work or social activities
 10. Changes in mood and personality
-

TALKING POINTS:

6. New problems with words in **speaking** or **writing**

People with Alzheimer's may have trouble following or joining a conversation. They may stop in the middle of a conversation and have no idea how to continue, or they may repeat themselves. They may struggle with vocabulary or call things by the wrong name (e.g., calling a watch a "hand clock").

7. **Misplacing** things and losing the ability to retrace steps

A person with Alzheimer's may put things in unusual places. They may lose things and be unable to go back over their steps to find them again. Sometimes, they may accuse others of stealing.

8. Decreased or poor **judgment**

People with Alzheimer's may experience changes in judgment or decision-making. For example, they may use poor judgment when dealing with money, such as giving large amounts to telemarketers. They may pay less attention to grooming or keeping themselves clean.

9. **Withdrawal** from work or social activities

¹⁴ Alzheimer's Association. (n.d.) *10 Early Signs and Symptoms of Alzheimer's*. Retrieved from https://www.alz.org/alzheimers-dementia/10_signs

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A person with Alzheimer's may start to remove themselves from hobbies, social activities, work, or volunteer projects. They may have trouble keeping up with a favorite sports team or remembering how to complete a favorite hobby.

10. Changes in mood and personality

The mood and personalities of people with Alzheimer's can change. They can become confused, suspicious, depressed, fearful, or anxious. They may be easily upset at home, at work, with friends, or in places where they are out of their comfort zone.

SLIDE 17:

Stages of Alzheimer's¹⁵

- Average lifespan 4-8 years after diagnosis; as long as 20 years
 - Progresses slowly in 3 stages:
 - Mild (early-stage)
 - Moderate (middle-stage)
 - Severe (late-stage)
-

TALKING POINTS:

On average, a person with Alzheimer's lives **four to eight years** after diagnosis, but can live as long as 20 years, depending on many factors (such as the progression of the disease, other co-occurring conditions, infections, and unintentional injuries). The symptoms of Alzheimer's worsen over time, although the **rate** at which the disease progresses **varies**.

Alzheimer's typically progresses slowly in **three general stages** –mild (early-stage), moderate (middle-stage), and severe (late-stage).

The beginning of Alzheimer's –or the presymptomatic stage– starts years before there are noticeable changes or symptoms. Eventually the brain changes caused by Alzheimer's may result in the first symptoms of cognitive decline, and over time reach the mild cognitive impairment stage. For many of these individuals, dementia will progress through early, mid, and late stages.

**Note: The image on the slide shows the progression of changes to the brain, from preclinical Alzheimer's (top), mild to moderate (middle), to severe (bottom).*

¹⁵ Alzheimer's Association. (n.d.) *Stages of Alzheimer's*. Retrieved from <https://www.alz.org/alzheimers-dementia/stages>

Image source: National Institute on Aging

SLIDE 18:

Mild Alzheimer's (Early-Stage)¹⁶

- Able to function independently
 - Common difficulties:
 - Forgetting familiar words
 - Losing everyday objects
 - Trouble remembering names
 - Greater difficulty performing tasks
 - Forgetting material just read
 - Increasing trouble with planning, organizing
-

TALKING POINTS:

In the mild stages of Alzheimer's, a person may function **independently**. He or she may still **drive, work**, and be part of **social activities**.

Despite this, the person may feel as if he or she is having **memory lapses**, such as **forgetting familiar words** or the **location of everyday objects**.

Other common difficulties in the mild stage of Alzheimer's include:

- Trouble **remembering names** when introduced to new people
- Having greater difficulty **performing tasks** in social or work settings
- **Forgetting material** that one has just read
- Increasing trouble with **planning** or **organizing**

¹⁶ Alzheimer's Association. (n.d.) *Stages of Alzheimer's*. Retrieved from <https://www.alz.org/alzheimers-dementia/stages>

SLIDE 19:

Moderate Alzheimer's (Middle-Stage)¹⁷

- Requires increasing care
 - Symptoms include:
 - Forgetfulness of personal history
 - Confusion about place or time
 - Need for help with bathing, toileting, dressing
 - Changes in sleep patterns
 - Increased risk of wandering
 - Personality and behavioral changes
-

TALKING POINTS:

As the disease progresses, a person with Alzheimer's will require a **greater level of care**.

In the moderate stage, **damage to nerve cells** in the brain can make it difficult to express thoughts and perform routine tasks.

During this stage, symptoms will be noticeable to others and may include:

- Forgetfulness of events or about one's own personal history
- Confusion about where they are or what day it is
- The need for help choosing proper clothing for the season or the occasion
- Trouble controlling bladder and bowels in some individuals
- Changes in sleep patterns, such as sleeping during the day and becoming restless at night
- An increased risk of wandering and becoming lost
- Personality and behavioral changes, including suspiciousness and delusions or compulsive, repetitive, behavior like hand-wringing or tissue shredding

¹⁷ Alzheimer's Association. (n.d.) *Stages of Alzheimer's*. Retrieved from <https://www.alz.org/alzheimers-dementia/stages>

SLIDE 20:

Severe Alzheimer's (Late-Stage)¹⁸

- Typically longest stage
 - Requires full-time care
 - Loss of awareness of recent experiences and surroundings
 - Changes in physical abilities (walking, sitting, swallowing)
 - Vulnerable to infections
-

TALKING POINTS:

The severe stage of Alzheimer's is typically the **longest stage** and can last for many years. In the severe stage of Alzheimer's, individuals lose the ability to respond to their environment, to carry on a conversation, and, eventually, to control movement. They may still say words or phrases, but **communicating** becomes difficult.

As memory and **cognitive skills** continue to worsen, **personality** changes may take place, and individuals need **extensive help** with daily activities. At this stage, individuals may:

- Require full-time, round-the-clock **assistance** with daily personal care
- Lose **awareness** of recent experiences as well as of their surroundings
- Experience changes in **physical abilities**, including the ability to walk, sit, and eventually, swallow
- Become **vulnerable to infections**, especially pneumonia

¹⁸ Alzheimer's Association. (n.d.) *Stages of Alzheimer's*. Retrieved from <https://www.alz.org/alzheimers-dementia/stages>

Image source: Copyrighted image; used with permission from the Alzheimer's Association

SLIDE 21:

RISK FACTORS

TALKING POINTS:

Let's look at the risk factors for Alzheimer's disease.

SLIDE 22:

Risk Factors: Age^{19,20 21}

- #1 risk factor is advancing age
 - Risk doubles every 5 years after age 65
 - 1 in 3 people age ≥85
-

TALKING POINTS:

Currently, researchers don't fully understand what causes Alzheimer's disease in most people. As described earlier, in most cases it is likely a combination of **genetic**, **environmental**, and **lifestyle** factors that take place over a long period of time.

A number of risk factors have been identified that contribute to the development of Alzheimer's. Other risk factors are associated with dementia but need additional research.

The greatest risk factor for Alzheimer's dementia is **advancing age**. Most individuals with Alzheimer's diagnoses are age 65 or older. However, Alzheimer's and dementia are not normal parts of aging.

The risk of developing Alzheimer's increases with age. It approximately doubles every five years after age 65. In persons age 85 or older, about one in three have Alzheimer's.

¹⁹ Alzheimer's Association. (n.d.) *Causes and Risk Factors*. Retrieved from <https://www.alz.org/alzheimers-dementia/what-is-alzheimers/causes-and-risk-factors>

²⁰ Alzheimer's Association. (2019) *2019 Alzheimer's Disease Facts and Figures*.

²¹ Alzheimer's Association. (n.d.) *Younger/Early Onset*. Retrieved from <https://www.alz.org/alzheimers-dementia/what-is-alzheimers/younger-early-onset>

Image source: pexels.com

SLIDE 23:

Younger-Onset Alzheimer's Disease²²

- Affects people younger than 65
 - Many are in their 40s and 50s
 - 200,000 have younger onset (in U.S.)
 - Up to 5% of population with Alzheimer's
-

TALKING POINTS:

While the vast majority of Alzheimer's occurs in older adults, Alzheimer's disease is not just a disease of old age. Younger-onset Alzheimer's (also known as early-onset) affects people beginning in their 40s and 50s. Although it is not known why younger-onset cases occur, scientists have identified rare genes that directly cause Alzheimer's in a few families.

In the U.S., it is estimated that approximately 200,000 people have younger-onset Alzheimer's disease- up to 5% of the population with Alzheimer's.

²² Alzheimer's Association. (n.d.). *Younger/Early Onset*. Retrieved from website: <https://www.alz.org/alzheimers-dementia/what-is-alzheimers/younger-early-onset>

Image source: National Cancer Institute, NCI Visuals Online, Rhoda Baer (Photographer)

SLIDE 24:

Risk Factors: Family History, Education²³

- Family history
 - Environmental factors
 - Years of formal education
-

TALKING POINTS:

In addition to advancing age, another strong risk factor is **family history**. People who have an immediate family member—a parent, brother, sister, or child—with Alzheimer's are more likely to develop the disease. This risk increases if more than one family member has the disease.

When diseases tend to run in families, either **hereditary (genetics)** or environmental factors, or both, may play a role.

Scientists have identified a number of **hereditary genes** that either increase the likelihood or guarantee that people with the gene will develop Alzheimer's.

Researchers are trying to determine the link between dementias and possible environmental factors such as exposure to pesticides, food additives, air pollution, and other problematic chemical compounds.

Several studies have demonstrated that fewer years of formal **education** and lower levels of **cognitive engagement may be** risk factors for dementia. People who have more years of formal education have lower rates of Alzheimer's and other dementias than those with less education. Additional studies suggest that remaining socially and mentally active throughout life may support brain health and possibly reduce the risk of Alzheimer's and other dementias.

Some researchers have proposed a "**cognitive reserve**" hypothesis to explain why some people maintain cognitive

²³ Alzheimer's Association. (n.d.) *Causes and Risk Factors*. Retrieved from <https://www.alz.org/alzheimers-dementia/what-is-alzheimers/causes-and-risk-factors>

Image source: Copyrighted image; used with permission from the Alzheimer's Association

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functioning even when damage to the brain from Alzheimer's is present. They posit that mental activity and stimulation over the life course (such as through education, mentally stimulating jobs, or leisure activities) enable some brains to flexibly and efficiently use cognitive networks (networks of neuron-to-neuron connections) in ways that may mask or delay appearance of symptoms.

SLIDE 25:

Risk Factors: Race & Ethnicity²⁴

- African-Americans: 2 times greater risk
 - Hispanics: 1.5 times greater risk
 - Cardiovascular risk factors more common
 - Lower levels of education, socioeconomic status
-

TALKING POINTS:

Race and ethnicity may also contribute to increased risk of developing Alzheimer's and other dementias. In the U.S., older **African-Americans** are about **two times more likely than** older whites to have Alzheimer's. Older **Hispanics** are about **one and one-half times more likely** than older whites to have Alzheimer's.

Variations in health, lifestyle, and socioeconomic circumstances across racial groups likely account for most of the differences in risk of Alzheimer's and other dementias by race. For example, African-American and Hispanic communities have higher incidence of certain Alzheimer's risk factors:

- Conditions such as **high blood pressure** and **diabetes** which are risk factors for Alzheimer's, are more common in African-Americans and Hispanic populations than in whites.
- Lower levels of **education** and other **socioeconomic** characteristics (such as lower income and access to quality care) among older racial and ethnic minorities may also contribute to increased risk.

Some studies suggest that differences based on race and ethnicity do not persist in rigorous analyses that account for such risk factors.

²⁴ Alzheimer's Association. (2019) *2019 Alzheimer's Disease Facts and Figures*.

SLIDE 26:

Risk Factors: Women^{25,26}

- 2/3 of affected population
 - 16% of women age ≥ 71 (11% of men)
 - After age 65, have more than 1 in 5 chance (1 in 11 for men)
-

TALKING POINTS:

Almost 2/3 of U.S. adults with Alzheimer's are **women**.

Among those aged 71 and older, **16% of women have Alzheimer's** and other dementias, compared with 11% of men.

At age 65, women without Alzheimer's have more than a **one in five chance** of developing Alzheimer's during the remainder of their lives, compared with a one in 11 chance for men.

This may be partially explained by the fact that women live longer, on average, than men. Men who live longer may also be healthier and not have some of the chronic conditions such as cardiovascular disease that can heighten risk for Alzheimer's and other dementias.

However, researchers are questioning whether Alzheimer's risks for women could be higher at any age due to biological and/or genetic variations or differences in life experiences such as educational attainment.

Although rates of Alzheimer's are higher among women, the risk for some other types of dementia, such as vascular dementia, are greater in men.

²⁵ Alzheimer's Association. (2019) *2019 Alzheimer's Facts & Figures*.

²⁶ Podcasy, J. & Epperson, C. (2016) Considering Sex and Gender in Alzheimer Disease and Other Dementias. *Dialogues in Clinical Neuroscience*, 18(4), 437–446.

Image source: National Cancer Institute, NCI Visuals Online, Daniel Sone (Photographer)

SLIDE 27:

Modifiable Risk Factors: Head Trauma²⁷

- Moderate and severe traumatic brain injury
 - Moderate injury: 2.3 times greater risk
 - Severe injury: 4.5 times greater risk
 - Risk remains for years after injury
-

TALKING POINTS:

There are some risk factors that may be changed or prevented to help reduce the risk of developing Alzheimer's.

Research has linked **moderate and severe traumatic brain injury** to a greater risk of developing Alzheimer's or another type of dementia years after the original head injury.

One of the key studies showing an increased risk found that older adults with a history of **moderate traumatic brain injury** (unconsciousness lasting more than 30 minutes) had a 2.3 times greater risk of developing Alzheimer's than their peers with no history of head injury.

Those with a history of **severe traumatic brain injury** (unconsciousness lasting more than 24 hours) had a 4.5 times greater risk of Alzheimer's. Also, people with repeated head injuries (such as boxers, football players, and combat veterans) are at an even higher risk of developing dementia.

²⁷ Alzheimer's Association. (n.d.) *Traumatic Brain Injury*. Retrieved from https://www.alz.org/alzheimers-dementia/what-is-dementia/related_conditions/traumatic-brain-injury

SLIDE 28:

Modifiable Risk Factors: Lifestyle^{28,29}

- Increases risk
 - Current smoking
 - Midlife obesity
 - Decreases risk
 - Physical activity
 - Heart-healthy diets: DASH, Mediterranean diet
 - Mental and social activity
-

TALKING POINTS:

Certain **lifestyle factors** may help to lower the risk for developing Alzheimer's and other dementias.

There is fairly strong evidence that **current smoking** increases the risk of cognitive decline and possibly also dementia, and that quitting smoking may reduce the associated risk to levels comparable to those who have never smoked.

Diet and **physical activity** may help to prevent against obesity; **midlife obesity** has been shown to increase risk for Alzheimer's and other dementias.

Exercise may also directly benefit brain cells by increasing blood and oxygen flow in the brain.

Current evidence also suggests that eating a **heart-healthy diet** may also help protect the brain against cognitive decline.

²⁸ Morris, MC, Tangney, CC, Wang, Y, Sacks, FM, Bennett, DA, and Aggarwal, NT. (2015) MIND Diet Associated with Reduced Incidence of Alzheimer's Disease. *Alzheimer's & Dementia*, 11(9), 1007–1014. doi:10.1016/j.jalz.2014.11.009

²⁹ Alzheimer's Association. (n.d.) *Prevention*. Retrieved from https://www.alz.org/alzheimers-dementia/research_progress/prevention

Image source: National Cancer Institute, NCI Visuals Online

Two diets that have been studied and may be beneficial are the **DASH (Dietary Approaches to Stop Hypertension) diet** and the **Mediterranean diet**.

- The **DASH diet** emphasizes vegetables, fruits, and fat-free or low-fat dairy products; includes whole grains, fish, poultry, beans, seeds, nuts, and vegetable oils, and limits sodium, sweets, sugary beverages, and red meats.
- The **Mediterranean diet** includes relatively little red meat and emphasizes whole grains, fruits and vegetables, fish and shellfish, and nuts, olive oil, and other healthy fats.

More recently, researchers have been studying a combined version of the DASH and Mediterranean diet called the **MIND diet**, which stands for Mediterranean-DASH Intervention for Neurodegenerative Delay. This diet has more emphasis on foods that support a healthy brain, such as those with omega-3 fatty acids.

Some studies have also indicated that staying **cognitively** and **socially active** may help reduce the risk of cognitive decline. This involves mentally stimulating activities and social connections.

SLIDE 29:

Modifiable Risk Factors: Cardiovascular^{30,31}

- Heart-head connection
 - Cardiovascular risk factors:
 - High blood pressure in midlife
 - Heart disease
 - Stroke
 - Diabetes
-

TALKING POINTS:

Growing evidence suggests that the health of the brain is closely linked to the overall health of the **heart** and **blood vessels**.

The brain is nourished by one of the body's richest networks of blood vessels. With every beat, the **heart pumps blood to the head**, where brain cells use the food and oxygen carried by the blood in order to function normally. As a result, many factors that damage the heart or blood vessels may also damage the brain and may increase the risk for developing Alzheimer's and other dementias.

Several conditions known to increase the risk of **cardiovascular disease**, including high blood pressure, heart disease, stroke, and diabetes, appear to increase the risk of developing dementia. Some autopsy studies show that as many as **80% of individuals** with Alzheimer's also have cardiovascular disease.

Controlling high blood pressure may reduce the combined risk of mild cognitive impairment and dementia. In addition to treating high blood pressure, reducing the risk for cardiovascular disease also includes not smoking, preventing or effectively managing diabetes, as well as avoiding obesity. This is especially important for people in their 40s-50s (midlife) when the early brain changes of Alzheimer's can begin.

³⁰ Alzheimer's Association. (n.d.) *Prevention*. Retrieved from https://www.alz.org/alzheimers-dementia/research_progress/prevention

³¹ Yaffe, K. (2019) Prevention of Cognitive Impairment with Intensive Systolic Blood Pressure Control. *JAMA*, 321(6), 548-549.

Image source: pixabay.com

SLIDE 30:

TREATMENT & MANAGEMENT

TALKING POINTS:

Next, we will discuss how Alzheimer's dementia is diagnosed, treated, and managed.

SLIDE 31:

Diagnosing Alzheimer's Dementia³²

- No single test
 - Medical evaluation
 - Medical history
 - Mental status testing
 - Information from family and friends
 - Physical and neurological exams
 - Rule out other causes
-

TALKING POINTS:

Physicians can almost always determine if a person has **dementia**; however, it can be difficult to identify the exact cause.

Establishing a diagnosis for Alzheimer's can be more challenging. There is no single test that can show whether a person has Alzheimer's.

A careful medical evaluation is required, which includes:

- A thorough medical history
- Mental status testing
- Information from family and friends
- Physical and neurological exams
- Tests (such as blood tests and brain imaging) to rule out other causes of dementia-like symptoms

³² Alzheimer's Association. (n.d.) *Diagnosis*. Retrieved from <https://www.alz.org/alzheimers-dementia/diagnosis>

SLIDE 32:

Treating & Managing Alzheimer's³³

- No cure
 - Drug and non-drug treatments
 - Goals of existing treatment
 - Maintain quality of life
 - Maximize functioning in daily activities
 - Foster safe environment
 - Promote social engagement
-

TALKING POINTS:

Currently, there is no cure for Alzheimer's and no treatment that slows the progression of the disease. Drug and non-drug treatments may help with both cognitive and behavioral *symptoms*, but don't affect the underlying disease.

Medications are used to treat symptoms and are more effective if administered after early diagnosis.

The chief goals of existing treatment are to:

- Maintain quality of life
- Maximize function in daily activities
- Enhance cognition, mood, and behavior
- Foster a safe environment
- Promote social engagement, as appropriate

Clinical trials are ongoing for a search for a cure and better treatment of the Alzheimer's and other dementias.

Researchers need people at-risk of or living with dementia, caregivers, and healthy individuals to participate in clinical trials to test potential treatments and methods of prevention.

³³ Alzheimer's Association. (2019) *2019 Alzheimer's Disease Facts and Figures*.

SLIDE 33:

Alzheimer's: Co-Morbidities^{34,35}

- Additional chronic conditions (e.g., heart disease, diabetes, depression)
 - Difficult to manage
 - Higher rates of hospitalizations and costs
 - Preventable hospitalizations
-

TALKING POINTS:

Treating people with Alzheimer's often requires the management of **co-morbidities**. Co-morbidities refer to additional chronic conditions –such as heart disease, diabetes, depression, and arthritis– that are present in combination with a primary disease. People with Alzheimer's and other dementias are **more likely** to have co-morbidities than other older people without dementia. It is estimated that more than 95% of people with dementia have one or more chronic conditions.

The cognitive problems associated with Alzheimer's and dementia can lead to **poor self-management** of co-morbidities. On average, people with dementia have twice as many **hospital stays** and have significantly higher **Medicare costs** of other older people.

Most of the hospitalizations are not for Alzheimer's itself, but for these other conditions that are often complicated by, or result from, Alzheimer's, such as falls. Many of these hospitalizations are preventable (or potentially avoidable) with better quality care and management of co-morbidities and injury risks.

³⁴ Alzheimer's Association and Centers for Disease Control and Prevention. *Healthy Brain Initiative, State and Local Public Health Partnerships to Address Dementia: The 2018-2023 Road Map*. Chicago, IL: Alzheimer's Association; 2018.

³⁵ Alzheimer's Association. (2019) *2019 Alzheimer's Disease Facts and Figures*.

Image source: pixabay.com

SLIDE 34:

Alzheimer's: Unique Aspects³⁶

- Financial hardship
 - May lose income and savings
 - Increased reliance on public programs
 - Stigma
 - Vulnerability to abuse
 - Caregiver burden
-

TALKING POINTS:

People with younger-onset dementia may **lose income and savings** when they become unable to work. Those with dementia at any age may need to pay for additional services, especially as the disease progresses.

As the need for care intensifies, many people with Alzheimer's and dementia may live in nursing homes for long periods of time. The financial burden of this care can result in turning to **Medicaid** and other **public programs** to help pay for their services and support.

People with dementia report being **afraid** of the reactions of others and a **lower perceived status** within society because of the diagnosis. The stigma associated with dementia may contribute to **social exclusion**, a reluctance to seek **help** or even a diagnosis, a sense of **shame** and **inadequacy**, and **low self-esteem**.

People with Alzheimer's and other dementias tend to be especially **vulnerable to abuse** because the disease may prevent them from reporting the abuse or recognizing it. Abuse can occur anywhere, including at home and in care settings. Abuse can take many forms: physical or emotional abuse, neglect, and/or financial misuse.

Another unique aspect of Alzheimer's is the level of care that must be provided as the disease progresses and the

³⁶ Alzheimer's Association. (n.d.) *Abuse*. Retrieved from <https://www.alz.org/help-support/caregiving/safety/abuse>

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stress this can put on the caregiver. An individual with Alzheimer's will need ever-increasing levels of care. Most people with Alzheimer's disease have a primary caregiver, often a family member, who is crucial to ensuring appropriate care. As the person with Alzheimer's declines, the primary caregiver often takes on an increasing role in advocating for and attending to all aspects of the person's health and well-being as well as all their financial affairs. Given the level, duration, and intensity of care needed, caregivers for people with dementia have a greater burden of care than non-dementia caregivers.

SLIDE 35:

Alzheimer's: Caregivers³⁷

- Types of care activities include daily living activities, medication management, financial management
 - Level of care needed increases and often results in complete dependence
 - Caregiving has significant physical and emotional stress
-

TALKING POINTS:

The term **caregiver** is used to describe a person who provides a level of care and support for another that exceeds typical responsibilities of daily life.

Caregiving responsibilities, especially in the moderate and severe stages, often include:

- Helping with **dressing, bathing, using the toilet, and eating**
- **Shopping, meal preparation, transportation, medication management, and financial management**
- Providing **emotional support**

People with Alzheimer's require **increasing levels of care** as the disease progresses; more severe stages may require constant supervision and result in complete dependence on caregivers (paid or unpaid).

Being a caregiver for someone with Alzheimer's can take a significant **physical** and **emotional** toll.

- Caregivers of someone with Alzheimer's or other dementias are at increased risk for negative health impacts
- Nearly 60% of Alzheimer's and dementia caregivers rate the emotional stress of caregiving as high or very high

³⁷ Alzheimer's Association. (n.d.) *Caregiving*. Retrieved from <https://www.alz.org/help-support/caregiving>

SLIDE 36:

Role of Public Health

- 4 key ways public health can have an impact :
 - Surveillance/monitoring
 - Risk reduction/primary prevention
 - Early detection and diagnosis
 - Safety and quality of care
-

TALKING POINTS: (see module 3 for more information)

Public health plays an important part in addressing Alzheimer's. Four key public health intervention tools that can reduce the burden of Alzheimer's disease are:

- **Surveillance/monitoring** that allows public health to compile data and use it to:
 - Develop interventions
 - Inform public policy
 - Guide research
 - Educate populations
- **Promoting primary prevention** can be used to promote **risk reduction** and **promote cognitive health**
- Public health may play an important role increasing **early detection and diagnosis** of Alzheimer's disease
- **Safety and quality of care:** Caring for those with Alzheimer's and dementia requires specialized knowledge about the disease continuum and skill to effectively communicate and care for individuals and their family caregivers. Providing training for health care providers and caregivers can increase the quality care for and safety of the individual, as well as help caregivers sustain their role. Information sharing is also important for those in the community who may interact with individuals with Alzheimer's such as first responders, public transportation providers, pharmacies, faith communities, etc.

Image source: Copyrighted image; used with permission from the Alzheimer's Association

SLIDE 37:

Dementia Capable Systems and Dementia Friendly Communities

- Dementia capable systems
 - Support services
 - Workforce training
 - Dementia friendly communities
-

TALKING POINTS: (see module 4 for more information)

Public health also has a role to play in supporting dementia capable systems and dementia friendly communities. At a larger level, states, and communities can become dementia capable in accommodating the needs of a population with Alzheimer’s and other dementias.

A **dementia capable system** is a system or infrastructure that works to meet the needs of a people with dementia and their caregivers through providing education, support, and services. Public health can contribute to a **dementia capable system** through:

- Ensuring access to **support services** for people with dementia and their caregivers
- Workforce **training** and **education**
- Public health can also support the creation of **dementia friendly communities**. These are cross-sector, community-wide efforts to have support services, resources, and safe environments that allow people with dementia and their caregivers to stay connected to the community. This can include enhancing support services and resources, addressing accessibility and mobility issues, providing dementia training for health care, police, EMS, and firefighters, and providing resources to support family caregivers such as respite care services.

Image source: Copyrighted image; used with permission from the Alzheimer’s Association

SLIDE 38:

For More Information

For more information, please visit:

Alzheimer's Association: <http://www.alz.org>

CDC's Alzheimer's Disease and Healthy Aging Program:
<https://www.cdc.gov/aging/>

TALKING POINTS:

For more information on the topics covered in this presentation, please go to the Alzheimer's Association website at <http://www.alz.org> or the Centers for Disease Control and Prevention's Alzheimer's Disease and Healthy Aging Program at <https://www.cdc.gov/aging/>. There you can find resources, latest research and information.

SLIDE 39:

Competencies:

Academy for Gerontology in Higher Education (AGHE):

- 1.2.1 Distinguish normal biological aging changes from pathology including genetic factors.
- 1.2.4 Recognize common late-life syndromes and diseases and their related bio-psycho-social risk and protective factors.

Council on Education for Public Health (CEPH) Foundational Competencies

- 2. Locate, use, evaluate, and synthesize public health information (bachelors level)
- 4. Interpret results of data analysis for public health research, policy, or practice (masters-level)

Council on Linkages Between Academia and Public Health Practice:

- 1A1. Describes factors affecting the health of a community (e.g., equity, income, education, environment)
-

TALKING POINTS: *(this slide can be edited as needed or removed)*

The content in this presentation supports the development of the following competencies:

Academy for Gerontology in Higher Education (AGHE):

- 1.2.1 Distinguish normal biological aging changes from pathology including genetic factors.
- 1.2.4 Recognize common late-life syndromes and diseases and their related bio-psycho-social risk and protective factors.

Council on Education for Public Health (CEPH) Foundational Competencies

- 2. Locate, use, evaluate and synthesize public health information (bachelor's level)
- 4. Interpret results of data analysis for public health research, policy or practice (master's-level)

Council on Linkages Between Academia and Public Health Practice:

- 1A1. Describes factors affecting the health of a community (e.g., equity, income, education, environment)

SAMPLE TEST QUESTIONS

1- Dementia is a decline in mental ability that is a normal part of aging.

- a. True
- b. False

Answer: B

2- The number one risk factor for Alzheimer's disease is:

- a. Getting older
- b. High blood pressure
- c. High cholesterol
- d. Heredity/genetics
- e. Lack of mental stimulation

Answer: A

3- The more years of education a person has may decrease his/her risk for getting Alzheimer's disease.

- a. True
- b. False

Answer: A

4- The lifespan for someone after being diagnosed with Alzheimer's can be up to 20 years.

- a. True
- b. False

Answer: A

5- Which of the following statements is true about Alzheimer's disease:

- a. Can be diagnosed through a blood test
- b. Is a progressive disease
- c. Is reversible with proper medication
- d. All of the above
- e. None of the above

Answer: B

Selected Case Studies- Module 2

Based on faculty requests, a set of case studies have been developed for use with one or more of the curriculum modules. The case studies can be used in class or as an outside assignment.

The case studies are designed to be used in conjunction with the article or video listed. All case study videos come from the curriculum's video resource list, and there are several well done documentaries that cover various aspects of Alzheimer's and its impacts on individuals and families. For video-based case studies, the program title, run time, web link, keywords, relevance to modules, a program description and discussion questions are listed for each piece. However, if time and/or internet access is limited, each case study has a summary that provides enough information to generate discussion or conversation without needing to access the video/audio.

1. "Inside Alzheimer's: What's It Like to Live with Early-Onset Alzheimer's Disease? Greg O'Brien Offers a Glimpse," NPR special series (2015).

- **Audio/Transcript Link:** <http://www.npr.org/series/389781574/inside-alzheimers>
- **Run Time:** 4-6 minutes per segment (audio)
- **Key Terms:** progression, younger-(early) onset, cancer, long term care, end of life decisions, caregiver burden, spouse/partner relationship, family relationship, loss of appetite, loss of smell, loss of taste, hallucinations, medications, GPS app, loss of identity
- **Modules:** 1, 2, 4

Description:

A nine part series of articles and audio clips that chronicle aspects of one man's journey with Alzheimer's disease; audio clips are 4-6 minutes each.

Writer Greg O'Brien was diagnosed with younger-onset Alzheimer's disease six years ago when he was 59 years old. Not only was he diagnosed with younger-onset Alzheimer's, but he was also diagnosed with stage-three prostate cancer a few years later. Greg is a journalist and writer living in Cape Cod with his wife, Mary Catherine, and their three children. Greg began demonstrating signs of Alzheimer's dementia, such as memory loss and getting lost, as his own mother was in the end stages of Alzheimer's.

Mary Catherine says that Alzheimer's changed Greg's personality in many ways. On one hand, Greg discusses certain topics with her more openly than he would have in the past, but she also has noticed that he gets angry now, something he never used to do before. In the past, Greg was a loud, outgoing

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man who was often was at the center of discussion. Now he is quieter and more solitary, even disappearing into a different room when crowds of visitors become overwhelming for him. Greg also used to run upwards of six miles daily as a part of his daily routine; however, he began getting lost and switched to running in a gym.

Greg's personality is not the only thing that has changed since his younger-onset Alzheimer's diagnosis. Greg's appetite and sense of taste and smell have declined. Greg says that food now often tastes the same, like "rolled up newspaper." Greg does buy frozen fruit bars and states that although they have no taste, they do feel cold, which is a different and enjoyable sensation.

As Greg's Alzheimer's has progressed over the past six years, so have his hallucinations. Hallucinations are a rarely discussed aspect of Alzheimer's but can often accompany memory loss. According to Greg's doctors, these hallucinations are due to the changes in his brain as a result of the disease.

Mary Catherine's and Greg's outlook on life has also changed over time. For example, Mary Catherine says that she no longer can get impatient, which is difficult, but important. In the beginning of his diagnosis, Greg used to get very angry, but now he no longer does as he tries to focus on the moment instead of the past or future. Mary Catherine believes their marriage has gotten even stronger.

Because of Greg's Alzheimer's, Greg and Mary Catherine have had to make many difficult decisions, including deciding to sell their house that Greg built, where they raised their three children and planned to grow old together. Growing old in that house together is no longer a realistic possibility.

Greg, Mary Catherine, and his physician have discussed "exit strategies" for Greg while he is still aware and able to make these types of decisions. One of these exit strategies includes not treating his stage three prostate cancer. Greg's physician says that not treating the prostate cancer will most likely shorten his life, but Greg is okay with this because he would rather his life be shortened by the prostate cancer than by Alzheimer's. Greg states that he is most afraid of the "in-between." He loves living and he is not afraid to die, but he fears the middle portion, the loss of identity and independence, and dreads his family's suffering as they watch his slow decline.

Discussion Questions:

- Why is it important that individuals with Alzheimer's disease are diagnosed early?
- In what ways can Greg can maintain his independence as his Alzheimer's progresses?
- Discuss the importance of end of life planning and role of public health in encouraging people to make plans.
- Discuss the importance of a strong social network and family support.

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- Discuss the advantages and disadvantages of deciding not to treat stage-three prostate cancer as Alzheimer's progresses.

2. “Can Technology Ease the Burden of Caring for People with Dementia?” NPR (2015).

- **Audio/Transcript Link:**
<http://www.npr.org/templates/transcript/transcript.php?storyId=417205451>
- **Run Time:** 4:35 minutes (audio)
- **Key Terms:** care givers burden, financial burden, healthcare system, family support, technology, monitoring systems, long term care
- **Modules:** 2, 3, 4

Description:

Aurora is 78 years old and lives with her husband, Arturo, in a small apartment in San Rafael. Aurora's daughter, Maria, comes by their apartment almost daily to help her mother bathe, grocery shop, do laundry, provide medical care, and do many other tasks around the house to help her father and care for her mother.

Early in her Alzheimer's disease diagnosis, Aurora began wandering at night. Afraid that she might wander into the street, Arturo, began sleeping on the floor in front of the bedroom door in order to keep Aurora from leaving the apartment. Maria had the idea of attaching wind chimes to the door so that Arturo can hear when the door is opened and closed.

Maria and Arturo are currently able to provide all the necessary care for Aurora to live safely in her own home. However, caring for people living with Alzheimer's tends to be mentally and financially exhausting. As Aurora's Alzheimer's progresses, her safety in the apartment becomes an increasing concern.

The story discusses ways that technology, such as remote sensor monitoring systems, can help people with dementia stay independent longer while giving caregivers a way to monitor activity and safety.

Discussion Questions:

- What are some technologies available to help monitor the health of people diagnosed with Alzheimer's disease?
- What are ethical dilemmas about these kinds of technologies that may be considered invasive of an individual's privacy and health?
- What are other ideas for technology that will allow for increased safety and prolonged independence of older adults with Alzheimer's disease?
- What is the role of public health with assistive technologies?

3. My Typical Day

- **Website Link:** <http://www.mytypicalday.org/>
- **Key Terms:** mild cognitive impairment, caregiving, photograph diary, identity
- **Module:** 2, 3, 4

Description:

This photography project features seventeen older adults with mild cognitive impairment (MCI) as they share their world with researchers through images, rather than words. The project is a collaboration of Penn Memory Center, Penn Healthy Brain Research Center, Penn Medicine CAREs grant, and Penn Neurosciences. Explore the stories of each individual.

Discussion Questions:

- In what ways has life changed since their diagnoses?
- How have they reacted to their diagnoses? Positively? Negatively?
- How have they adapted their everyday routines?
- What support do they have?
- What changes have they noticed?
- What role do their families and friends play?

4. “Following a Couple from Diagnosis to the Final Stages of Alzheimer’s,” CBS News (2018).

- **Video Link:**
https://www.cbs.com/shows/60_minutes/video/NdL7R_Ds72aHh9tZg8nacFW_5ZB4wMC/following-a-couple-from-diagnosis-to-the-final-stages-of-alzheimer-s/
- **Run Time:** 13:18 minutes
- **Key Terms:** caregiver’s burden, family relationships, financial burden, end of life planning
- **Module:** 1, 2

Description:

This 60 Minutes segment follows Dr. Jon LaPook’s who has been checking in on Carol Daly, a woman diagnosed with Alzheimer’s, and her caregiver husband, Mike, each year for the last 10 years to see how the disease progresses. The segment illustrates the devastating impact the disease has on both of them over the decade.

Discussion Questions:

- Describe some of the physiological changes that occur for Carol over the course of the video.

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- In what ways is Mike impacted by the disease?
- What are some of the challenges, changes, and tough decisions Mike and Carol experienced?

The following case studies (10-14) are pulled directly from the Health Brain Initiative 2018-2023 Road Map, which was developed by the Alzheimer’s Association and the Centers for Disease Control and Prevention (CDC) to advance cognitive health as an integral component of public health.

Source: Alzheimer’s Association and Centers for Disease Control and Prevention. *Healthy Brain Initiative, State and Local Public Health Partnerships to Address Dementia: The 2018-2023 Road Map*. Chicago, IL: Alzheimer’s Association; 2018.

5. “Educating African Americans, Asian Americans and Pacific Islanders about Dementia,” Healthy Brain Initiative Road Map: Washington

- **Key Terms:** cultural context, African American, Asian American, Pacific Islander, prevention, stigma, education, community outreach, healthcare, service provider
- **Modules:** 2, 3
- **Supplemental video:** start at 25:55 minutes and end at 37:12 minutes.
<http://www.astho.org/generickey/GenericKeyDetails.aspx?contentid=20941&folderid=5162&catid=7254>
- **Supplemental materials:** Healthy Brain Initiative Roadmap
 - <https://www.alz.org/media/Documents/healthy-brain-initiative-road-map-2018-2023.pdf>
 - <https://www.alz.org/media/Documents/healthy-brain-initiative-executive-summary.pdf>

Description:

As a partner in Washington State’s Dementia Action Collaborative, a voluntary statewide workgroup charged with implementing the state’s Alzheimer’s plan, the Washington Department of Health (DOH) began a two-part initiative to increase awareness of brain health among African Americans and encourage cognitive assessments among Asian Americans and Pacific Islanders (AAPIs). These efforts support implementation of the *Washington State Plan to Address Alzheimer’s Disease and Other Dementias* regarding culturally-appropriate strategies to educate the public about reducing risk for cognitive decline and possibly dementia.

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DOH prioritized African American women as a main audience for cognitive health education based on national prevalence data. DOH then reviewed evidence-based, brain health messages developed by the Alzheimer's Association for the Healthy Brain Initiative. After securing approval from Washington's state health officer, DOH partnered with the Seattle based, nonprofit Center for MultiCultural Health (CMCH) to help tailor and disseminate brain health messages to African American audiences. CMCH identified African American churches as a promising venue to reach women and recommended creating hand fans printed with culturally-tailored messages.

Additionally, the National Asian Pacific Center on Aging (NAPCA) and the University of Washington Healthy Brain Research Network (UW-HBRN) partnered to conduct outreach and education for Seattle AAPIs. Through six focus groups, they solicited input from local Chinese and Japanese adults with at least one living relative age 65 or over. The focus groups assessed the acceptability of messages developed by the University of Pennsylvania HBRN Center to encourage non-Hispanic white or African American urban adults concerned about the cognitive health of an older relative to accompany that relative to an appointment with a healthcare provider. NAPCA and UW-HBRN released two briefs on their findings: *Connecting with AAPIs about Dementia: An Action Guide for Service Providers* and *Connecting with AAPIs about Dementia: An Action Guide for Policymakers*. Each offers dementia resources and information on treatment options. The importance of early detection of cognitive impairment is emphasized in the guide for service providers, as these professionals play a crucial role in facilitating older AAPIs' and their caregivers' access to cognitive assessment resources. The Dementia Action Collaborative provided guidance on the action briefs and also helped to disseminate them. UW-HBRN received a 2017 Seattle Innovation Fund grant for its work on the AAPI action briefs.

If you would like to learn more about this case study, a supplemental video has been provided to illustrate public health in action.

Discussion Questions:

- Why is cultural humility and respect important in public health?
- How did the Washington DOH address Alzheimer's disease in a culturally competent and relevant way?
- What stakeholders did the Washington DOH involve in this two-part initiative?
- How do these efforts align with the Health Brain Initiative Road Map goals?

6. “ Using Social Media to Promote Engagement,” Healthy Brain Initiative: Puerto Rico

- **Key Terms:** education, cultural context, stigma, community outreach, caregiver, prevention, family support, increasing aging population, progression, healthcare
 - **Modules:** 2, 3
- Supplemental materials:** Healthy Brain Initiative Roadmap
- <https://www.alz.org/media/Documents/healthy-brain-initiative-roadmap-2018-2023.pdf>
 - <https://www.alz.org/media/Documents/healthy-brain-initiative-executive-summary.pdf>

Description:

The Puerto Rico Department of Health worked with the Prevention Research Center’s South Carolina Healthy Brain Research Network at the University of South Carolina to implement the *Puerto Rico Alzheimer’s Action Plan*, with a special focus on education and empowerment of individuals and families. One component was a collaborative educational initiative called *Un café por el Alzheimer*. With special attention toward decreasing stigma, this initiative used social media and in-person gatherings to support informal but structured conversations with experts about Alzheimer’s disease, risk factors, diagnosis, pharmacological and non-pharmacological treatments, management of behavioral changes, and healthy living. The Alzheimer’s cafés enabled participants to have informal conversations in coffee shops across the island. Participants could raise questions at any time and were encouraged to share testimonials and comments. At the end of the gatherings, the participants were invited to continue the conversation online by following the Facebook page. These social media efforts reinforced key messages and helped engage and educate the wider audience.

Pre/post surveys in four sessions with a total of 212 participants showed improved knowledge and high satisfaction ratings. All participants said they learned something new from the program, and 80% said most of the information presented was new to them. A total of 250 messages were posted on the *Un café por el Alzheimer* community Facebook page over a seven-month period. An average increase of nearly 65% in the number of people reached by the Facebook page offered evidence of the program’s success in helping participants remain actively engaged while fostering social support and reducing stigmas and myths surrounding the disease.

Discussion Questions:

- How did public health professionals help to reduce social stigma surrounding Alzheimer’s disease?

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- Why do you think this educational initiative was successful?
- How could this model be implemented in your community? What would you change or keep the same?
- How does this initiative align with the Health Brain Initiative Road Map goals?

7. “Encouraging Advance Care Planning for People with Dementia,” Healthy Brain Initiative: Maryland

- **Key Terms:** increasing prevalence, increasing aging population, family support, caregiver burden, policy, healthcare, advance directive, end of life decisions, education, community outreach, long term care
- **Modules:** 2, 3, 4
- **Supplemental materials:** Healthy Brain Initiative Roadmap
 - <https://www.alz.org/media/Documents/healthy-brain-initiative-road-map-2018-2023.pdf>
 - <https://www.alz.org/media/Documents/healthy-brain-initiative-executive-summary.pdf>

Description:

Maryland’s population of people with Alzheimer’s dementia is projected to rise—from 110,000 people in 2018 to 130,000 in 2025, an 18% increase in eight years. As the number of people with dementia rises, so too does the need to assist families in planning for future care needs. The passage of Maryland House Bill 1385 in May 2016 aimed to increase advance care planning among families impacted by dementia. Among other mandates, the law directs the Maryland Department of Health (MDH) to encourage the use of electronic advance directives, develop an electronic platform to connect with healthcare providers at point-of-care using the state-designated health information exchange, and conduct outreach to increase public awareness of the Advance Directive Program. An early assessment found that advance care planning in Maryland is offered primarily through hospitals and hospice providers, with limited free care planning services available through Maryland Legal Aid and Maryland Volunteer Lawyers Service Pro Bono Resource Centers.

To increase advance care planning, MDH collaborated with the Maryland Faith Health Network to lead a year-long series of community engagement activities on electronic advance directives. More than 500 Marylanders learned about advance care planning through health fairs, faith-based events, and end-of-life seminars. In addition, three local health improvement coalitions hosted seven advance-planning educational sessions, with a combined total of 144 participants. More than twice as many participants were able to identify core legal and financial advance planning documents post-session (25%) as pre-session (10%). Also, a greater number of participants (post-session compared

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with pre-session) reported understanding the importance of involving people with cognitive impairment in advance planning.

The medical director of the MDH Center for Chronic Disease Prevention and Control served as a co-chair (along with a representative from the Maryland Department of Aging) of the governor-appointed Virginia I. Jones Alzheimer's Disease and Related Disorders Council during this time. The Council monitors implementation of the *Maryland State Plan on Alzheimer's Disease and Related Disorders*. As a tenet of the Maryland State Plan, MDH used this unique opportunity to engage partners to discuss potential cognitive health education and establish interventions in Maryland's public health programming.

Discussion Questions:

- Why is it important for an individual diagnosed with Alzheimer's disease to have an advance directive?
- What challenges may arise if an individual with Alzheimer's disease does not have an advanced directive? Consider the different perspectives of the individual, family, and medical providers.
- Discuss the different levels of action taken to promote the use of advance directives among persons with dementia. Who were the key players or stakeholders?
- How does this study align with the Health Brain Initiative Road Map goals?
- Test your knowledge! Do you know what information is included in an advanced directive? Find your states advanced directive to learn more.

Selected Video Resources- Module 2

The following videos are listed as suggested accompaniments to the curriculum modules. These could be shown in class or as suggested viewing outside of class. Please note that some of the videos listed are only for purchase. Check with your specific institution to see if some videos may be available through your universities' library resources for free.

1. "6 Siblings Living in the Shadow of Alzheimer's," TODAY Show (2017).

- **Video Link:** <https://www.youtube.com/watch?v=dLiu07V4cUI>
- **Run Time:** 6:20 minutes
- **Keywords:** early onset, caregiver, genetic
- **Modules:** 1, 2, 3

Description:

The DeMoe family are fighting a unique battle against Alzheimer's disease. Five of the six DeMoe siblings have tested positive for early onset Alzheimer's disease. Their father was diagnosed with Alzheimer's in his 40s. They share their story and how their own children have been impacted by the disease.

2. "14 Days with Alzheimer's: A Film By Lisa Cerasoli," Lisa Cerasoli (2012).

- **Video Link:** http://www.amazon.com/14-Days-Alzheimers-Film-Cerasoli/dp/1589850998/ref=sr_1_1?s=movies-tv&ie=UTF8&qid=1427304005&sr=1-1&keywords=14+days+with+alzheimer%27s
- **Run Time:** 29:00 minutes
- **Keywords:** caregiver burden, family relationship
- **Modules:** 1, 2, 3
- **Purchase Price:** \$18.22*

Description:

Winner of the Audience Choice Award at the Life and Death Matters Film Festival, Boulder, Colorado. Based on the memoir, *As Nora Jo Fades Away*, this short documentary examines 14 days in the life of the filmmaker's grandmother.

3. "Caregivers," HBO (2009).

- **Video Link:** <http://www.hbo.com/alzheimers/caregivers.html>
- **Run Time:** 48:48 minutes (each segment is approximately 10 minutes)

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- **Key Terms:** stigma, caregiver relationship, life after caregiving, duties and responsibility, assisted living facilities
- **Modules:** 2, 3, 4
- **Purchase Price:** HBO subscription required

Description:

This documentary shares the stories of 5 caregivers and demonstrates the struggle and resilience of the caregiver when a family member is diagnosed with Alzheimer’s disease. These caregivers struggle to balance their own lives and responsibilities with the daily duties and responsibilities of caring for a loved one with Alzheimer’s disease. This documentary illustrates the many challenges and sacrifices of a caregiver, such as personal responsibilities and the social stigma of caring for a loved one whether in their family home or in professional medical facilities.

4. “Diagnosing Alzheimer’s: The Case for Public Health Action” Alzheimer’s Association (2019).

- **Video Link:** https://www.youtube.com/watch?v=O_sQ4arm8UU&index=19&t=0s&list=PLb15WDa0LdCYxu4ZX9pISVFCtNCxrpnU
- **Run Time:** 59:33 minutes
- **Key Terms:** early diagnosis, education, public health
- **Modules:** 2, 3

Description:

This webinar explains why early diagnosis of Alzheimer's and other dementias is a public health priority. Lauren Seemeyer of the Alzheimer's Association provides best practices and resources that can aid public health agencies in promoting early diagnosis, and Lynn Meinor of the Utah Department of Health highlights Utah's successes in educating health care providers about the need for early diagnosis as well as increasing the general public's understanding of dementia warning signs and community resources.

5. “A Different Visit: Montessori-Based Activities for People with Alzheimer’s/Dementia,” Center for Applied Research in Dementia (2012).

- **Video Link:** <https://www.youtube.com/watch?v=FLDwzgRTbVA>
- **Run Time:** 8:07 minutes
- **Key Terms:** caregivers, emotional health, meaningful visits
- **Modules:** 1, 2, 3, 4

Description:

This clip gives suggestions about how to have a meaningful visit with someone who has been diagnosed with Alzheimer’s disease. The video emphasizes focusing on positive feelings. If conversation is not an option, do a simple, safe activity by focusing on the individual’s interests and abilities. The most important thing is for the individual to feel good about the visit at the end. The first half of the clip is applicable to Alzheimer’s disease, and the second half discusses the theory behind their suggestions (Montessori-based activities).

6. “Family Caregiving: The Frontline of Dementia Care,” Alzheimer’s Association (2018).

- **Video Link:**
<https://www.youtube.com/watch?v=ecp7lgQS1v0&index=23&list=PLb15WDa0LdCYxu4ZX9pISVFCtNCxxrpnU>
- **Run Time:** 1:01:52 minutes
- **Key Terms:** caregiver, BRFSS, surveillance, public health, Healthy Brain Initiative Road Map
- **Module:** 1, 2, 3

Description:

Webinar presented by the Alzheimer’s Association discussing overview of 2016 BRFSS Caregiver Module in New York, and the origin and first year results of the Alzheimer’s Disease Caregiver Support Initiative (ADCSI) in New York. Featured speakers include Dr. Erin Bouldin, Dr. David Hoffman, and Dr. Mary Gallant.

7. “Following a Couple from Diagnosis to the Final Stages of Alzheimer’s,” CBS News (2018).

- **Video Link:**
https://www.cbs.com/shows/60_minutes/video/NdL7R_Ds72aHh9tZg8nacFW_5ZB4wMC/following-a-couple-from-diagnosis-to-the-final-stages-of-alzheimer-s/
- **Run Time:** 13:18 minutes
- **Key Terms:** caregiver’s burden, family relationships, financial burden, end of life planning
- **Modules:** 1, 2, 3, 4

Description:

This 60 Minutes segment follows Dr. Jon LaPook’s who has been checking in on Carol Daly, a woman diagnosed with Alzheimer’s, and her caregiver husband, Mike, each year for the last 10 years to see how the disease progresses. The segment illustrates the devastating impact the disease has on both of them over the decade.

8. “Healthy Aging: Promoting Well-being in Older Adults,” CDC (2017).

- **Video Link:** <https://www.cdc.gov/grand-rounds/pp/2017/20170919-senior-aging.html>
- **Run Time:** 1:05:04 minutes
- **Key Terms:** prevention, health behaviors, intervention, aging, workforce, chronic disease
- **Modules:** 1, 2, 3, 4

Description:

CDC's Public Health Grand Rounds in September 2017 focuses on aging, chronic disease (including Alzheimer's disease), role of caregivers, and the role of public health.

9. “How Alzheimer's Changes the Brain,” National Institutes of Health, National Institute on Aging (2017).

- **Video Link:** https://www.nia.nih.gov/health/video-how-alzheimers-changes-brain?utm_source=20180612_animation&utm_medium=email&utm_campaign=ealert
- **Run Time:** 4:00 minutes
- **Key Terms:** neurobiology of Alzheimer's disease, beta amyloid, tau
- **Modules:** 2, 3

Description:

This video describes how Alzheimer's disease biologically affects the brain.

10. “Inside the Brain: An Interactive Tour,” Alzheimer's Association (2018).

- **Web Link:** http://www.alz.org/alzheimers_disease_4719.asp
- **Run Time:** interactive tour of brain
- **Key Terms:** Alzheimer's disease, brain activity, neurotransmitters, amyloid plaques, tangles
- **Modules:** 2, 3

Description:

This interactive tour helps explain the basic components of the brain and how Alzheimer's disease affects the brain. The tour teaches the participant the different parts of the brain, how Alzheimer's disease damages the brain and brain activity, and the different stages of the disease.

11. “A Marriage to Remember,” The New York Times (2014).

- **Video Link:** <https://www.youtube.com/watch?v=PZu51MngfF4>
- **Run Time:** 8:34 minutes
- **Key Terms:** progression, early onset, caregiver
- **Modules:** 2, 3

Description:

Filmmaker Banker White filmed this documentary about his parents. His mother was diagnosed with Alzheimer's disease and his father has become her caregiver. They share their thoughts as the disease progresses.

12. “ASTHOConnects Series on Brain Health,” ASTHO (2019).

- **Video Link:** See individual video links below
- **Run Time:** See individual video links below
- **Key Terms:** public health, programs, road map, caregiving, communication, Alzheimer's disease, brain health
- **Modules:** 2, 3, 4

Description:

This learning series brings experts in their field to the table to discuss brain health and aging.

A. “Series on Brain Health: Virtual Open House” (part 1):

- **Video Link:**
<http://www.astho.org/generickey/GenericKeyDetails.aspx?contentid=20481&folderid=5162&catid=7254>
- **Run Time:** 59:34 minutes
- **Key Terms:** public health, programs, road map, implementation
- **Modules:** 2, 3, 4

Description:

This webinar highlights national partners at the CDC's Alzheimer's Disease and Healthy Aging Program, Alzheimer's Association, and International Association for Indigenous Aging about the HBI Road Map. Speakers present a national overview of the HBI Road Map, how it was developed, and current approaches for distribution and implementation.

B. “Series on Brain Health: Conversation and Cup of Joe” (part 2):

- **Video Link:**
<http://www.astho.org/generickey/GenericKeyDetails.aspx?contentid=20941&folderid=5162&catid=7254>
- **Run Time:** 58:39 minutes

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- **Key Terms:** public health, programs, road map, caregiving, communication
- **Modules:** 2, 3

Description:

In this video from the Association of State and Territorial Health Officials (ASTHO), learn from CDC and featured state public health experts about ongoing efforts to implement brain health and Alzheimer's disease programs, including approaches using the Healthy Brain Initiative (HBI) Road Map. The CDC's Alzheimer's disease and Healthy Aging Program presents data from the BRFSS optional modules on cognitive decline and caregiving. Speakers from health departments in Tennessee and Washington share their experiences using the HBI Road Map to incorporate brain health messages into state public health programs.

C. “ASTHOConnects Series on Aging: Ask the Experts” (part 3):

- **Video link:**
<http://www.astho.org/generickey/GenericKeyDetails.aspx?contentid=21412&folderid=5162&catid=7254>
- **Run Time:** 60:00 minutes
- **Key Terms:** caregiving, brain health, Alzheimer’s disease
- **Modules:** 2, 3

Description:

This webinar engages with experts from the national and state level about specific ways to incorporate brain health, Alzheimer’s disease, and caregiving content into programs in your jurisdiction. Participants are provided tools, examples, and practical tips.

13. “Still Alice,” Sony Pictures Classics (2014).

- **Video Link:** <http://sonyclassics.com/stillalice/>
- **Run Time:** 101:00 minutes
- **Key Terms:** Alzheimer’s disease, academia, family relationships, end of life planning, early onset, caregiver
- **Modules:** 2, 3
- **Purchase Price:**
 - Digital Rent (Amazon): \$2.99
 - DVD (Amazon): \$8.64
 - Available on additional rental platforms

Description:

A blockbuster movie featuring Oscar-winning actress Julianne Moore, based on the book of the same title. Still Alice is the story of Alice Howland, a renowned

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linguistics professor, happily married with three grown children, who starts to forget words. When she receives a diagnosis of younger-onset Alzheimer's disease, Alice and her family find their bonds thoroughly tested. Her struggle to stay connected to who she once was is frightening, heartbreaking, and inspiring.

14. “Still Here,” Wake Forrest (2018).

- **Video Link:** <https://vimeo.com/279478897/788d394e8f>
- **Run Time:** 35:05 minutes
- **Key Terms:** American Indian communities, community, care taking
- **Modules:** 1, 2, 3, 4

Description:

This documentary examines caregiving and the impact of Alzheimer's disease and other dementias in American Indian communities. The film focuses on American Indian families and tribal communities in North Carolina.

15. “Take Brain Health to Heart: Evidence and Public Health Action Webinar,” Alzheimer's Association (2018).

- **Video Link:** <https://www.youtube.com/watch?v=LYG9QLjelzM&index=22&list=PLb15WDa0LdCYxu4ZX9pISVFctNCxxrpnU>
- **Run Time:** 50:43 minutes
- **Key Terms:** prevention, intervention, health behavior, risk factors
- **Modules:** 2, 3

Description:

Webinar presented by the Alzheimer's Association discuss the results of the Lancet International Commission on Dementia Prevention, Intervention and Care, and modifiable risk factors backed by scientific evidence. The South Carolina Department of Health and Environmental control's brain health campaign is featured.

16. Teepa Snow (2018).

- **Video Links:** <https://teepasnow.com/resources/about-dementia/>
- **Run Time:** 2- 6 minutes each
- **Key Terms:** dementia, caregivers, activities, behavior
- **Module:** 1, 2, 4

Description:

Teepa Snow is an occupational therapist with 40 years of clinical practice experience. In 2005, she founded Positive Approach to Care (PAC) to provide dementia care training, services, and products to professionals and family

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caregivers to change the culture of dementia care and increase awareness.

Videos include the following topics:

- **Activities:** Reviews four categories of activity that help individuals feel valued, productive, and purposeful. The categories are work, leisure, self-care, and rest and restoration.
- **Behaviors:** Discusses the ways providers can approach behavior change among individuals with dementia, in a productive and respectful manner.
- **Brain change:** A brief overview of how the brain is changed due to dementia.
- **Dementia 101:** Overview of early signs of dementia and what is and is not normal aspects of aging.
- **Teepa’s GEMS®:** Teepa’s model builds upon existing progression models that define changes in an individual due to dementia and focuses on ability, rather than skills lost.
- **Music:** Reviews the benefits of music therapy for individuals with dementia and providers.

17. “Your Fantastic Mind,” Georgia Public Broadcasting (2019).

- **Video Link:** <http://www.gpb.org/television/shows/your-fantastic-mind/episode/893dced9-2604-4029-a41d-c7fbb0f2f22d>
- **Run Time:** 11:50 (stop video at 11:50 minutes)
- **Key Terms:** early onset, caregiver, prevention, risk reduction, Alzheimer’s research
- **Modules:** 1, 2, 3

Description:

Cecile Bazaz was a high-level banking executive in her 40s when she was diagnosed with Alzheimer’s disease at 49 years old. This video discusses early onset Alzheimer’s disease and who it impacts. Leading researchers also discuss how you can lower your risk of developing Alzheimer’s disease.

Additional Learning Activities

The following suggestions are additional learning activities that can be used to increase student interaction and engagement with the, *A Public Health Approach to Alzheimer's and Other Dementias* curriculum.

Reverse Classroom Approach

The reverse classroom, also known as the flipped classroom, is an approach that provides students with instructional materials to review outside of the classroom and encourages assignments that mirror homework to be used during the designated instructional time. Examples of incorporating this approach are as follows:

- **Think, Pair, and Share.** Assign students to review the curriculum, video, case study, or related assignment and propose a question about the material at the start of the next class. Students will first think quietly for a minute or two to collect their thoughts and questions about the material. Next, students will pair up and discuss their thoughts with a partner or small group. Finally, each pair will briefly share their discussion with the class. This activity can be used at the start of class to help students review any assignments. Alternatively, this activity can also be used at the end of class to help students reflect on the day's teachings.
- **Mini Curriculum.** Divide the class into four groups and have each group present one module to the class. Ask students to create a "mini curriculum" to teach their peers about Alzheimer's disease and the role public health and related disciplines plays. This assignment is meant to be creative and allows students to use any platform they think would work best for their peers to learn the material by using video, lecture, handout, games, or discussion. This may also provide insight into your students' preferred learning style.
- **Reflection Paper.** Reflection papers allow students not only to reflect on the curriculum, but also on the larger effect Alzheimer's and other dementias have on society. Students will review a module, case study, or video as assigned and then write a reflection paper that will be used to guide discussion during the next class. These reflections should ask students to critically think about the topic at hand, but do not need to be a specific length. This activity may also be done during class time by setting a 5-minute timer and asking students to write down their reflections from the class that day.

Learning Lab

A learning lab instructional approach is participatory and results-oriented with the sole objective of students working together to innovatively solve an issue or public health challenge. In each activity, students are tasked with thinking through various potential actions to solve the challenges raised using a public health lens.

Examples of incorporating this approach are as follows:

- **Assistive Technology.** Break the class into groups and ask them to come up with an innovative assistive technology or monitoring system to support individuals living with dementia and their caregivers. This is meant to be a creative project and students do not have to produce an actual product; however, students should demonstrate their knowledge of the behavioral and physical changes associated with Alzheimer's and other dementias.
- **Policy Brief.** Ask students to write a one-page policy brief and present it to the class. Using what they have learned from the curriculum, videos, and case studies, students should be able to identify a need of someone living with dementia or their caregiver that can affect policy change. The policy brief should include the following sections: title, summary, scope of problem, policy alternatives, policy recommendations, and sources. Students should also have a specific audience in mind for the policy brief, such as a Member of Congress. This activity can be done by an individual or group.
- **What's Happening in the News?** Ask students to find a recent scholarly article or news article related to Alzheimer's. Students may find articles related to prevention, clinical trials, interventions, or other related topics and be prepared to briefly explain them to the class. The purpose of this activity is to expose students to the current state of Alzheimer's research and to learn more about public health and related disciplines in action. Helpful resources may include the National Institutes of Health, Centers for Disease Control and Prevention, Alzheimer's Association, credible newspapers, scholarly articles, and research happening at your own university.
- **Case Study Stations:** This activity allows students to get up and move around the class as they visit different case studies placed around the room. It is suggested that you use the My Typical Day case studies (available at <http://www.mytypicalday.org/>) for this activity, but feel free to use any examples from the provided case studies in the curriculum. Print a copy of each case study you have selected (as many as appropriate for your class size) and place them around the classroom. Students will then break into small groups and rotate around the room to read and discuss each case study. Students should discuss each case both from the perspective of the individual, but also the caregiver and others involved if applicable. Prompts for the students are listed below.

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- In what ways has life changed since their diagnosis?
- How have they reacted to their diagnosis? Positively? Negatively?
- How have they adapted their everyday routine?
- What support do they have?
- What changes have they noticed?
- What role do their family and friends play?
- **Dementia Friendly Communities.** The sources below provide visual images and key takeaways on how communities can be dementia friendly. After reviewing the example images as a class, students will be asked to draw their own community and identify ways in which their community is dementia friendly and ways their community could improve. Students may choose the town or city where the university is located or even their own hometown if they would like to offer a different example to the class. If you would like to make this a group activity, project a map of your university on a chalkboard or whiteboard and have students draw directly on it during class time.
 - Fostering Dementia Friendliness:
<https://www.dfamerica.org/communities-overview>
 - Building Dementia –Friendly Communities: A Priority for Everyone:
<https://dementiapartnerships.com/resource/building-dementia-friendly-communities/>
 - Dementia Friendly Community Toolkit:
<https://www.actonalz.org/dementia-friendly-toolkit>

Guest Speakers

Pairing the curriculum with guest speakers is an instructional approach that allows students to learn from the experiences of people who have been affected by Alzheimer's and other dementias or work in a related field.

Examples of guest speakers include:

- Caregivers of someone with dementia.
- An individual with early stage dementia.
- Local Alzheimer's Association chapter.
- Nonprofit organization working on issues related to dementia.
- A local department of public health, another government agency, or a community-based group such as an Area Agency on Aging.
- Nurses, doctors, social workers, and other professionals who work with individuals with dementia.
- Faculty and staff at your university who are conducting related research.

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Test Your Knowledge

Quiz the class using the Alzheimer's Disease Knowledge Scale (ADKS). The ADKS contains 30 true or false items to assess their knowledge about Alzheimer's disease. The scale addresses topics such as risk factors, assessment and diagnosis, symptoms, course, life impact, caregiving, treatment, and management. This is a quick way to gauge what the students have learned, without creating a formal exam. Students can take the quiz independently (5 to 10 minutes) and then review the answers as a class. The ADKS and answers to each question can be found at the Resources for the Alzheimer's Disease Knowledge Scale website using this link: <https://pages.wustl.edu/geropsychology/adks>