

**FACULTY GUIDE**

**Core Module 5:**

**Understanding Early-Stage Dementia for an**

**Interprofessional Team**

November 2018

*This module was developed under a contract from the U.S. Department of Health and Human Services, Health Resources and Services Administration. Some of the views expressed in this presentation module are solely the opinions of the author(s) and do not necessarily reflect the official policies of the U.S. Department of Health and Human Services or the Health Resources and Services Administration, nor does mention of the department or agency names imply endorsement by the U.S. Government.*



**Slide 1:**

- This is the first of four different modules that examine the manifestations and concerns commonly observed during the different stages of dementia. In this module we focus on those issues most frequently seen during early-stage Alzheimer's disease (AD) and related dementias. In Module 6, we focus specifically on the cognitive and behavioral manifestations of middle-stage dementia. Module 7 addresses the common medical concerns associated with dementia. Module 12 addresses issues related to end-stage dementia.
- We acknowledge that not all types of dementia manifest with the same types of symptoms during early-stage dementia. Whenever possible, we identify how other forms of ADRD may differ in their early presentations.
- Again, as we have mentioned many times, there are no clear cut delineations of the stages of dementia, so that some persons in early-stage dementia will have manifestations commonly seen later in the disease.
- The primary reason to distinguish between the stages of dementia is to help the persons living with dementia and the care partners prepare for changes they are likely to encounter in the near future.

**Slide 3:**

- Module 5 addresses the manifestations of the early stages in the most common causes of age-related dementia:
  - Alzheimer's disease, or AD
  - Vascular dementia (VaD) and vascular cognitive impairment (VCI)
  - Lewy body dementia, or LBD
  - Frontotemporal degeneration, or FTD
- During this module, we will identify common manifestations and concerns of early-stage dementia, including behavioral and psychological symptoms of dementia, or BPSD.
- Using the DICE approach—describe, investigate, create and evaluate—we will examine nonpharmacologic strategies for managing BPSD that typically appear during early-stage dementia, and particularly during early-stage Alzheimer's disease.
- We will touch on symptoms that will help you (1) identify when an older adult is transitioning to middle-stage dementia and (2) understand the increasing roles and needs of the care partner.

**Slide 5:**

- By the time we finish with this module, you will be able to:
- Describe the hallmark signs of early-stage dementia.
- List changes in cognitive status that are typical of early-stage dementia.
- Identify common behavioral and psychological symptoms of dementia.
- Discuss general strategies for managing symptoms of dementia.

**Slide 6:**

- Not all types of dementia manifest with the same symptoms during early-stage dementia. Most are characterized by memory impairment that becomes noticeable to others.

- There are no clear delineations of the stages of dementia, and staging can provide information and a framework for medical and psychosocial care needs.
  - People with early-stage dementia remain independent and retain much of their cognitive functioning but can have impairments that interfere with their daily activities.
  - Persons with early-stage dementia have difficulties with instrumental activities of daily living, or IADL, and as the dementia progresses will eventually lose the ability to perform basic activities of daily living, or ADL.

**Slide 7:**

- Specific dementias—including Alzheimer’s disease, Lewy body dementias, and vascular dementia— can damage the visual system and cause hearing loss.
- The behavioral and psychological symptoms of dementia—mood symptoms, sleep disorders, psychosis, and agitation—may first manifest during early-stage dementia and worsen during subsequent stages. These are the most disruptive symptoms for the patient and the care partner.
- Physical activity (PA) may improve cognitive thinking, physical fitness, and mood, but is not curative for dementia and does not slow its progression.
- The benefits of symptomatic treatments are modest at best.
- Care partner roles depend on stage and type of dementia and the residence (home or institutional setting). In the earlier stages, assistance is provided with transportation and housekeeping; in the later stages, personal care and decision-making are provided.

**Slide 8:**

- We begin with an introduction to pertinent issues surrounding early-stage dementia.

**Slide 9:**

- Persons living with dementia undergo progressive deterioration of cognitive and functional abilities.
- Staging of dementia can help provide the framework for medical and psychosocial care needs.
- People with early-stage dementia remain independent and generally retain much of their cognitive functioning. However, people with early-stage dementia have impairments in cognitive and executive functioning that interfere with their daily activities. Consequently, persons living with dementia and their care partners need understanding of the current and future impairments associated with the type and stage of dementia.
- Behavioral and psychological symptoms of dementia are important components of dementia.
- They are often the cause of early institutionalization.
- They are a source of great concern to the older adult and care partner.

**Slide 11:**

- Dementia affects every aspect of the person’s life.
- The medical needs of most persons living with dementia are managed in primary care practices. During the early stage of dementia, persons will typically continue to live at home, either alone or with a care partner, and for as long as possible.

- A particular challenge for health care professionals is the lack of a cure for dementia; progressive mental and cognitive decline is inevitable.
- Currently, there are few medical treatment options. Some medications have been approved by the U.S. Food and Drug Administration for treatment of mild to moderate dementia of Alzheimer’s disease, but they are not curative. We discuss medications in detail in Module 8.
- The traditional and historical biomedical emphasis on “cure” is therefore not appropriate for persons living with dementia. An alternative approach is to focus on “caring” for persons living with dementia—and the care partners—by an interprofessional team.

**Slide 12:**

- Treatment goals include to:
  - Provide symptom relief.
  - Minimize negative effects of dementia on persons living with dementia and care partners.
  - Maximize functional independence of the persons living with dementia.
  - Manage behavioral, psychosocial, and safety issues that may arise.
  - Optimize management of comorbid conditions.
  - Provide guidance and support for care partners.
- When possible, integrate the subjective experiences of the persons living with dementia into the treatment plans.

**Slide 13:**

- Persons living with dementia have specific needs and concerns that are based on the type of dementia they have and the severity of impairment or stage of dementia. Individual characteristics of persons living with dementia —their age, if they have comorbid conditions, their support systems—will also influence their unique individual needs.
- The chronic and progressive nature of dementia requires continuous re-evaluation and adjustments in treatment approaches and goals.
- As dementia progresses, the ability of the persons living with dementia to participate in their own personal health care decisions deteriorates. As we mentioned in Module 4, there are many issues that can (and should) be raised and addressed as soon as a person receives a diagnosis of dementia—while the persons living with dementia are able to express their own wishes and desires about future care planning—whether medical, financial, legal, or otherwise.
  - As dementia progresses, the care partner must assume increasing roles and responsibilities in caring for the persons living with dementia. This added stress can affect not only the care partner, but can interfere with the care provided to the persons living with dementia.
- It is important for the interprofessional team to understand global abilities and impairments associated with each type of dementia during the early, middle, and late stages.
- Module 5 covers the issues that arise during early-stage dementia.

**Slide 14:**

- Frailty is not an impairment associated with dementia; rather, it is a common geriatric syndrome or comorbidity that can influence dementia:

- It can affect any older adult with dementia.
- Frailty is increasingly likely as dementia progresses, but can occur at any stage.
- Frailty manifests as an age-associated decline in physiologic reserve and function:
  - It affects multiple organ systems.
  - It also leads to increasing vulnerability and to adverse health outcomes.
- Frailty is defined as having at least three of the following five phenotypic criteria:
  - Weakness, measured in part by grip strength
  - Slowness, measured in part by walking speed
  - Unintentional weight loss
  - Low level of physical activity
  - Self-reported exhaustion
- The exact effects of frailty on dementia are not well delineated, but frailty has been associated with adverse health outcomes and poorer prognoses, and it is important for the health care team to be sensitive to the general symptoms of frailty.
- By addressing some of the components of frailty, it is theoretically possible to minimize the effect of frailty on the persons living with dementia.

**Slide 15:**

- Referring to our outline, let's begin with an overview of the general manifestations of early-stage dementia.

**Slide 16:**

- Dementia is characterized by cognitive and executive function impairments that eventually lead to loss of ability to perform activities of daily living, or ADL. The rate of progression of the dementia is influenced by the type of dementia and individual characteristics of the persons living with dementia, including their current age, the age of onset, and the presence of comorbid conditions.
- During early-stage dementia PLwD generally retain a fair degree of cognition, capabilities, and personality.
- Memory impairment is influenced by the type of dementia and the location of the brain cell damage.
- Not all forms of dementia are characterized by memory impairments:
  - Initial memory impairment occurs in short-term/working memory and semantic memory.

**Slide 18:**

- Visuoperceptual and other sensory impairments may result from normal aging and/or from progressive damage to the brain. Each type of dementia can affect visuoperceptual abilities differently.
- For example, visual hallucinations are some of the early manifestations of Lewy body dementia, but rarely manifest until later stages of Alzheimer's disease (if at all).
- As with persons without dementia, persons with early-stage dementia have difficulties first with IADL; as the dementia progresses to middle and late stages, persons eventually lose the ability

to perform basic ADL. The difference between persons with and without dementia is that those without dementia may just require longer time to perform IADL, whereas persons living with dementia may not be able to perform them without assistance.

- In addition to cognitive and functional impairments, persons living with dementia may manifest neuropsychiatric and behavioral consequences.
- Depending on the type of dementia, care partners do not usually notice or report substantial changes in the personality of persons living with dementia.

**Slide 19:**

- Neuroanatomic damage leads to impairments not only in memory, but in executive functioning—thinking, reasoning, and functional impairments (Galvin, 2012).
- Beginning in the early stage and progressing throughout the course of the dementia, persons living with dementia initially have difficulties recalling memories (Giebel, Challis, & Montaldi, 2015).
  - The care partner or clinicians will observe increasing functional impairments in language skills, visual perception, and ability to focus and pay attention.
- Persons living with dementia might have increasing difficulty using correct words, recalling names, or conducting a conversation.
- The person might have growing impairments in ability to perform instrumental activities of daily living (IADL)—such as writing checks and making dinner.

**Slide 20:**

- As first mentioned in Module 1, normal aging is associated with structural and functional changes in vision, hearing, and perceptual acuity.
- Consequently, there are visuoperceptual changes and difficulties associated with aging.
  - These include problems with depth perception, sharpness, and loss of peripheral vision, problems adapting to changes in light levels, and impairments in audio-visual speech capabilities (Alm & Behne, 2013; Chang et al., 2015; Huysse et al., 2014).
  - Older adults are also more likely to have issues with cataracts, glaucoma, macular degeneration, and retinal complications from diabetes (Eichenbaum, 2012; NEI, 2011).
  - It is well known that medications—including NSAIDs, antibiotics, drugs for Parkinson's disease, eye medications, and some cardiovascular medications—can affect vision.
  - Medical problems like diabetes, hypertension, and stroke can impair vision.
- Visuoperceptual difficulties can stem from visual and/or perceptual difficulties. For example, if all items in a room are the same color, they can be mistaken for one another—for example, the toilet can be mistaken for the sink, or the person has difficulty distinguishing the sleeve on a sweater. Specific dementias can damage the visual system and cause hearing loss—including Alzheimer's disease, Lewy body dementias, and vascular dementia.
- Each type of dementia can affect visuoperceptual abilities differently, depending on how the type of dementia damages the visual system:
  - There can be difficulties with seeing things:
    - Persons living with dementia may not be able to distinguish between color contrasts—such as black versus white or foreground versus background—or colors, such as red versus purple.

- They may not be able to detect movement with the same visual acuity, and there can be limitations to their visual field.
  - Their depth perception may be impaired, or they may have double vision.
  - They may not be able to handle alterations in light, such as going from sunlight to shade.
- There can be challenges interpreting visual or auditory cues.
- Because of these visuoperceptual changes, persons living with dementia may have difficulties with orientation—and bump into things, miss the door handle, and get lost or disoriented—even in familiar environments.
- The functional consequences of visuoperceptual impairments can include difficulties with reading or writing. These impairments can also cause people experiencing them to have difficulties locating items or persons right in front of them—especially if there is too much distraction, like wallpaper, or too little color distinction, like green clothes in front of grass.
- Persons living with dementia may be confused watching television, believing the images on TV are real people in the room.
- They can misjudge distances—on stairs, for example, or in areas with shadows.
- Persons with certain kinds of dementia (such as Lewy body dementias) may experience visual hallucinations—for example, seeing persons not in the room, bugs crawling on the wall, someone outside the window. In fact, these visual hallucinations can be one of the initial symptoms of LBD. For persons with other kinds of dementia, hallucinations are more typically associated with later-stage dementia and can be very frightening for both the older adult and the care partner.

**Slide 21:**

- Behavioral and psychological symptoms of dementia occur across all stages of dementia, although their type and prominence depend on the stage and individual considerations of the persons living with dementia:
  - The most common types of BPSD include mood disorders, sleep disorders, psychotic symptoms, and agitation.
  - We are going to address each of these categories in this and the following module, according to when and at what stage the symptom is most likely to manifest in persons with Alzheimer’s disease.
- BPSD are among the most complex symptoms to manage, particularly during the later stages of dementia.
- Whereas cognitive and functional impairments generally have a consistent downward trajectory, BPSD are more episodic but may persist for up to 6 months (Kales et al., 2015).
- During advanced stages of dementia, these symptoms may be the only means of communication conveying emotions or discomfort/pain.
- BPSD cause significant suffering to persons living with dementia and their care partners. They are a predominant (if not primary) cause of (premature) institutionalization.

**Slide 22:**

- We will now look at the most common manifestations during early-stage disease of the different types of dementias—beginning with Alzheimer’s disease, and moving through vascular dementia, Lewy body dementia, and frontotemporal degeneration.

**Slide 23:**

- Early-stage Alzheimer’s disease is characterized by mild to moderate decline in memory, executive functioning, visual-spatial issues, and the emergence of BPSD.
- The increasing memory loss can be manifested in many ways, including (Galvin, 2012; Giebel et al., 2015; Godefroy et al., 2016; NIA, 2017e):
  - Forgetfulness for newly learned information
  - Losing track of time
  - Repeating questions, stories, and statements
- Executive dysfunction is also common in the early stage of Alzheimer’s disease:
  - Decreased ability to plan and organize
  - Difficulties completing tasks and with IADL: handling money, paying bills, taking longer to complete normal tasks
  - Problems finding words in speaking or writing (NIA, 2017e)
  - Becoming lost or disoriented in familiar places
  - Impairments in judgment and reasoning (NIA, 2017e)
  - Withdrawal from work or social activities (Galvin, 2012)
  - Changes in mood or personality (depression, apathy) (Galvin, 2012; Godefroy et al., 2016; NIA, 2017e)

**Slide 25:**

- Alzheimer’s disease is progressive, although the rate of progression varies widely among individuals.
- Rate of cognitive decline can be measured using commonly accepted assessments.
- Several factors are associated with a slower rate of decline; however, the evidence is inconclusive:
  - Examples include cognitive training, vegetable intake, Mediterranean diet, intake of omega-3 fatty acids, physical activity, and involvement in social or leisure activities.
  - Other factors, such as ingesting antioxidant nutrients, fish, and B vitamins, may be associated with some preservation of cognitive function (Galvin, 2012; Williams et al., 2010).
  - It has been hypothesized that increased cognitive reserve (e.g., alternative cognitive processing approaches, compensatory brain networks) may be protective factors or effective in delaying symptoms of Alzheimer’s disease (Williams et al., 2010).
- Several factors are associated with a faster rate of decline:
  - Age, sex, education level, depression, malnutrition, neurological and psychiatric symptoms, AD stage, risk of falling, and degree of care partner burden are predictive factors of rapid cognitive decline (Aubert et al., 2015; Williams et al., 2010).

- Persons initiating treatment with anticholinergic medications have a significantly more rapid cognitive decline than persons not taking these.
- APOE ε4 genotype, low plasma selenium, depression, diabetes mellitus, metabolic syndrome, and tobacco use are all associated with more rapid cognitive decline in AD (Galvin, 2012).
- Using the Charlson Comorbidity Index—a method of categorizing comorbidities of older adults based on the International Classification of Diseases (ICD) diagnosis codes found in administrative data, such as hospital abstracts data—and MMSE, researchers have found a relationship between greater comorbidity burden and rapid rate of cognitive decline, especially among older adults older than 65 and with moderate Alzheimer’s disease (Aubert et al., 2015).
- Individuals with rapid cognitive decline have an increased risk of falling and early loss of autonomy (Aubert et al., 2015).
- Vascular factors, such as hypertension and hypercholesterolemia, have not been found to be significantly associated with Alzheimer’s disease progression.

**Slide 26:**

- A variety of etiologies can result in vascular dementia. Consequently, there are different clinical features associated with the different etiologies.
- The two types of (pure) vascular dementia are:
  - **Subcortical vascular dementia**, or Binswanger’s disease, usually develops gradually and can progress slowly (like Alzheimer’s disease) (Roh & Lee, 2014). It has a more variable presentation and no consistent pattern of symptom onset or progression.
  - **Stroke-related vascular dementia** may be diagnosed following a significant cerebrovascular event, resulting in the sudden development of symptoms. After the abrupt onset of symptoms, dementia continues with stepwise deterioration — symptoms remain stable for long periods followed by short bursts of worsening (typically with each subsequent stroke). It has a fluctuating course of cognitive impairment. There may be problems with gait, movement, vision, and speech. Signs and symptoms depend on the area of the brain affected and the presence or absence of underlying conditions, including the volume/location of underlying pathology. (Gorelick & Nyenhuis, 2013; Sahathevan, Brotman, & Donnan, 2012).
  - Some persons do not have “pure” vascular dementia, but have manifestations (often apparent on autopsy) of both vascular dementia and Alzheimer’s disease.
- Signs and symptoms depend on the areas of the brain affected by the cerebrovascular damage and the presence (or absence) of comorbid conditions (Sahathevan, Brotman, & Donnan, 2012). If the vascular dementia resulted from a clinical stroke, the volume, location, and number of strokes may determine the extent and pattern of cognitive impairment and behavioral change (Gorelick & Nyenhuis, 2013).
- There can be both focal neurocognitive deficits based on location of the stroke lesion or a more diffuse (global) pattern.
- The dementia may be concomitant with physical symptoms, such as dizziness and balance problems, leg or arm weakness or tremors, shuffling, trouble walking and gait impairment,

impairments in coordination and balance, lack of facial expression, and loss of bladder and/or bowel control.

**Slide 27:**

- Executive dysfunction, including a slower speed of information processing, is a “hallmark” of VCI, but is not specific to cerebrovascular disease.
- There are both similarities and differences in the early manifestations of vascular dementia compared with early Alzheimer’s disease:
  - Memory deficits are less overt in vascular dementia than are seen in Alzheimer’s disease. Persons with vascular dementia are more likely to have problems encoding new information than forgetting information, as is common in Alzheimer’s disease. Encoding involves experiencing, processing, and merging information through using pictures, sounds, smells, and meaning. For example, think about how you remember a phone number. Do you repeat it to yourself or picture how you key it in to your cellphone?
  - In VCI, executive dysfunction and memory deficits are marked by inconsistent acquisition versus rapid forgetting (Gorelick & Nyenhuis, 2013). With VCI, people have difficulty processing the memory, whereas in Alzheimer’s disease, people have difficulty remembering the memory. There are also deficits in planning, organizing, and following instructions.
  - Both types of dementia are associated with personality changes and loss of social skills.
  - There may be mild visuospatial deficits with subcortical vascular dementia, similar to that with Alzheimer’s disease. Affective disturbances are more common in vascular dementia than in Alzheimer’s disease: depression, apathy, irritability, psychomotor retardation:
  - Higher rates of depression in vascular dementia may be related to preservation of insight (Karantzoulis & Galvin, 2011).

**Slide 28:**

- Sensory impairments may occur, including slurred speech and language problems, such as difficulties finding words.
- Persons with vascular dementia may have hallucinations and delusions.
- However, there is no evidence that vascular risk factors have a causal effect on dementia in either Alzheimer’s disease or VCI.

**Slide 29:**

- Lewy body dementia, or LBD, involves two types of dementia: dementia with Lewy bodies (DLB) and Parkinson’s disease dementia (PDD).
- Defining features of LBD include cognitive impairment, motor Parkinsonism, behavior and mood changes, plus alterations in sleep and autonomic function

**Slide 30:**

- Dementia with Lewy bodies and PDD share many clinical and pathological similarities and have generally been considered as different points on a spectrum, beginning with Parkinson’s disease and progressing to DLB or PDD, depending on which symptoms appear first:

- PDD is characterized by a period of pure motor symptoms first. Cognitive impairments occur at least one year after the appearance of the movement problems.
  - In comparison, persons are diagnosed with DLB if they develop cognitive impairments within the first year after the appearance of Parkinson-like motor symptoms (Aarsland, 2016). DLB is often associated with a more severe course than PDD.
- As the dementia progresses, symptoms of both types of LBD become very similar.
- Greater impairments are associated with DLB than with PDD.

**Slide 31:**

- There are marked attentional and executive function disorders in LBD, which may explain the fluctuations in cognition that are characteristic. Persons with LBD have difficulties with complex attentional tasks; they are more easily distracted and have more difficulty engaging in one task and shifting to another compared with persons with Alzheimer’s disease. (Karantzoulis & Galvin, 2011).
- LBD is marked by significant fluctuations in cognitive functioning (Lee, Taylor & Thomas, 2012):
  - These fluctuations are described as “spontaneous alterations in cognition, attention and arousal” (Lee, Taylor & Thomas, 2012). They may include frequent episodes of sleepiness or napping, long periods of staring blankly into space, and disorganized speech.
  - Up to 90 percent of people with LBD experience these cognitive fluctuations, compared with about 20 percent of people with AD and up to 50 percent of people with vascular dementia (Lee et al., 2012).
  - There is no clear or consistent definition of or criteria for “cognitive fluctuations.”
- Rapid eye movement (REM) behavioral disorder (RBD) is a sleep difficulty predominantly associated with LBD.
- LBD is characterized by fluctuations in all symptoms.
- MCI is present at the time of Parkinson’s disease diagnosis in about one-third of individuals and in approximately half of all nondemented Parkinson’s disease patients after 5 years.
- The presence of Parkinson’s disease-MCI is a strong predictor for developing PDD. Cognitive decline in Parkinson’s disease dementia includes the following:
  - The decline initially involves executive, attentional, and visuospatial problems. There may be memory impairment, but that manifests more as retrieval difficulties secondary to executive impairment or storage deficits associated with medial temporal changes (Aarsland, 2016).
  - As PDD progresses, cortical and subcortical cognitive symptoms and behavioral symptoms (e.g., apathy, hallucinations, agitation) begin to manifest (Aarsland, 2016).
- Once diagnosed with PDD, the older adult often experiences rapid decline (Aarsland, 2016).
- Hallucinations are among the most common core features of DLB prior to the initial evaluation, followed by Parkinsonism and cognitive fluctuations. In fact, recurrent visual hallucinations may occur in up to 80 percent of persons with DLB (Tarawneh & Galvin, 2007):
  - Psychiatric symptoms (hallucinations/psychosis) may be related to medications for Parkinson’s disease (Wood, Neumiller, Setter, & Dobbins, 2010). The health care

provider should first try reducing dosages. The provider may need to use quetiapine or clozapine (Wood et al., 2010).

**Slide 32:**

- Comparison of Lewy body dementia versus Alzheimer's disease found similarities and differences:
- Persons with Lewy body dementia are more likely to have psychiatric symptoms and more functional impairments at the time of diagnosis compared with persons with Alzheimer's disease. Hallucinations and delusions are far more frequent with LBD than with Alzheimer's disease; delusions tend to be more common in LBD and are often related to visual hallucinations.
  - Impulse control disorders and addictive symptoms can occur with the use of dopaminergic drugs. These symptoms are either associated with pathologic changes within relevant brain areas from disease process or due to side effects associated with dopaminergic replacement therapies (Connolly & Fox, 2013).
  - There is a high prevalence of psychiatric disorders with PD. Psychiatric morbidity is associated with poorer outcome (Grover, Somaiya, Kumar, & Avasthi, 2015).
  - Persons with LBD are more likely to have sleep disturbances, cognitive fluctuations, well-formed visual hallucinations, and muscle rigidity or Parkinsonian movement problems early in the disease whereas these symptoms often occur later with AD.
- Pronounced visuospatial impairments in LBD appear earlier in the disease course than is seen in AD. There are more visuoperceptual dysfunctions in LBD versus in AD lead to difficulties perceiving objects accurately (and therefore problems with naming objects). Persons with AD perform significantly better with letters than categories, whereas persons with LBD have challenges with both letters and categories (Karantzoulis & Galvin, 2011).
- Memory may be relatively intact in early LBD; in later stage disease, LBD is harder to differentiate from AD. Nonmotor BPSD are common. In addition to sleep disturbances, nonmotor BPSD can include gastrointestinal symptoms, autonomic dysfunction (cardiovascular, urinary, or thermoregulation problems), and/or swallowing disorders, especially as disease progresses.

**Slide 33:**

- Frontotemporal degeneration (FTD) is also known as frontotemporal disorder, frontotemporal dementia, or frontotemporal lobar degeneration.
- FTDs are a heterogeneous group of diseases with overlapping clinical symptoms but different causative genes and differing underlying pathologies.
- Persons with FTD generally have rapid progression associated with damage to frontal and/or temporal lobes, which are responsible for behavior, emotion, and language.
- As discussed in Module 1, there are 3 distinct clinical syndromes, with heterogeneous neuropathology.
- There is progressive behavior/personality decline. Behavioral variant FTD, or bvFTD, is the most common variant. It is characterized by marked personality changes and changes in social conduct. A person living with bvFTD may also display uncharacteristic behaviors/changes, such as distraction, rudeness, loss of inhibition, ritualized behavior, and compulsions.

- FTD involves progressive language decline. Primary progressive aphasia, or PPA, is subdivided into two different syndromes, both of which are (at least initially) mostly language related:
  - Semantic dementia (sFTD), or loss of general knowledge memory in both verbal and non-verbal domains
  - Progressive nonfluent aphasia, or PNFA, which refers to progressive loss of language skills (Mioshi et al., 2010; Piguet, Hornberger, Mioshi, & Hodges, 2011). Some patients with PNFA develop full-blown corticobasal syndrome as the disease progresses (Mioshi et al., 2010)
  - Progressive logopenic aphasia (PNA), or impairments in repetition and naming difficulties (Kremen et al., 2011)
- Progressive motor decline is less common. These FTD variations include corticobasal syndrome, amyotrophic lateral sclerosis, or supranuclear palsy.

**Slide 34:**

- Persons with FTD demonstrate changes in behavior and personality, language problems, and motor problems.
  - Blunting of affect and apathy; lability, anxiety, irritability, and euphoria also common.
  - Depression in up to 40 percent of persons with bvFTD (Ferrari et al., 2011).
- Memory impairment is minimal in early stages.

**Slide 35:**

- Frontotemporal degeneration (FTD) is a progressive disorder, but there are no clear indications of transition points between stages. There is no consensus on manifestations determining severity.
- Persons with early-stage bvFTD demonstrate the following:
  - Substantially greater functional and behavioral changes compared with PPA
  - Marked variability in initial symptomatic presentations
  - Problems with executive functioning, particularly problems with planning and sequencing (thinking through which steps come first, second, third, and so on), prioritizing (doing more important activities first and less important activities last), multi-tasking (shifting from one activity to another as needed), and self-monitoring and correcting behavior
  - Higher levels of apathy, disinhibition, euphoria, and aberrant motor behaviors compared with persons with early-stage Alzheimer's disease (NIA, 2017b); greater emotional blunting, a lack of empathy, poor personal hygiene, hyperorality, and stereotyped (repetitive) behaviors; depression presenting more with irritability and agitation than other more classic symptoms; emotional swings, uncharacteristic changes in behavior and judgment, and personality changes (Ferrari, Kapogiannis, Huey, & Momeni, 2011; Piguet, Hornberger, Mioshi, & Hodges, 2011)
  - Initial symptoms often appearing at a younger age, with much shorter survival, than in AD
  - Perseveration: a tendency to repeat the same activity or to say the same word over and over, even when it no longer makes sense

- Impairments in self-monitoring or impulsive and compulsive behaviors: eating, touching, social disinhibition, and hypersexuality (Karantzoulis & Galvin, 2011) that can lead to binge eating (Ferrari et al., 2011; Piguet et al., 2011)
- Intact visuo-perceptual skills (which can be used to distinguish FTD from Alzheimer's disease)
- Impaired visuospatial tasks requiring executive function (Karantzoulis & Galvin, 2011)
- Lack of insight (understanding, acknowledgment) of their unusual behaviors (Piguet et al., 2011)
- Psychotic features, however, are uncommon (Piguet et al., 2011).
- PPA variations are characterized by progressive language decline, including impaired ability to speak, understand, read, and write (NIA, 2017b). Present are impairments to knowledge regarding meaning of words and objects:
  - Persons with semantic variety FTD have preserved episodic and autobiographical memory, with a selective loss of semantic memory.
  - Persons with PNFA have a severe disruption of speech output and mild episodic and semantic memory impairments.
  - Behavioral or language symptoms plus motor symptoms can be present.
  - Extrapyramidal symptoms (EPS) are common in PNFA and PLA but not in svPPA (Kremen, Mendez, Tsai, & Teng, 2011).
  - Full-blown corticobasal syndrome can develop as the disease progresses (Mioshi et al., 2010).
  - Language symptoms include:
    - [Aphasia](#): The person has impaired ability to use or understand words and to retain physical ability to speak properly. In other words, the person has the physical ability to form words but cannot find the correct word or cannot understand what is being said. With primary progressive aphasia, over time the person slowly loses the ability to talk, read, write, or comprehend language.
    - [Dysarthria](#): The person has impairment in physical ability to speak properly (e.g., slurring), but the message is normal.
- FTD with progressive motor decline is characterized by movement problems/ slowed movement, muscle rigidity (Parkinsonian symptoms), body stiffness, changes in behavior or language:
- [Dystonia](#): Abnormal postures of body parts (e.g., hands or feet)
  - Gait disorder: Shuffling, sometimes with frequent falls
  - [Tremors](#)
  - Clumsiness
  - [Apraxia](#): Despite normal strength, inability to make common motions, such as combing hair or using a knife and fork
  - Neuromuscular weakness and cramping

#### Slide 36:

- One of the key characteristics of a person living with early-stage bvFTD is disinhibition—which can lead to sexuality issues, dangerous driving behaviors, and criminality.

- Research provides conflicting information about sexuality manifestations during early-stage bvFTD. Many studies suggest an increase in sexual behaviors (hypersexuality) whereas others suggest a decrease (hypo sexuality):
  - Sexuality changes are likely associated with right anterior temporal-limbic involvement. They are associated only with bvFTD and not with PPA.
  - Hypersexual behavior is not clearly defined. It is not listed in the new DSM-5 (APA, 2013). It is often considered to be an “increased awareness of heightened sexual activity, source of personal distress and functional impairment” (Mendez & Shapira, 2013).
  - It may affect up to 18 percent of older adults with bvFTD.
  - Partners or other care partners may report:
    - Dramatic increase in patient’s sexual frequency versus premorbid levels
    - Older adults actively seeking sexual stimulation (from self, partner, others)
    - Widened sexual interests
  - Hypersexual behavior is often concerning to patient and care partner and represents a substantial difference from premorbid personality. This may be an initial indication of bvFTD. Other research suggests that early-stage bvFTD is characterized by hypo sexual behavior—described as decreased affection, initiation, and response to advances by partners and a decreased frequency of sexual relations—particularly when compared with early-stage Alzheimer’s patients and people with semantic FTD.
- Driving is typically not a primary concern during early-stage dementia. Most research on driving has been on patients with Alzheimer’s disease. Few studies address other dementias:
  - However, older adults with bvFTD are more likely to show dangerous driving behaviors in the early stage compared with patients with Alzheimer’s disease.
  - These patients are at a higher risk of causing an accident compared with patients with Alzheimer’s disease.
  - In a recent study, patients with bvFTD had more problems with distractions, had difficulty judging intervehicle distances, and ignored road signs or traffic signals.
  - As with sexuality differences, these behavioral deviations are of concern and may be initial signs of bvFTD.

**Slide 37:**

- Another possible early manifestation of FTD—either bvFTD or PPA/sFTD—is new-onset criminal behaviors, such as theft, traffic violations, sexual advances, trespassing, public urination, and others:
  - A retrospective study of nearly 2,400 older adults (including 545 with Alzheimer’s disease, 171 with bvFTD, and 90 with sFTD, among others) found that 8.5 percent had a history of criminal behavior that emerged during the illness. Of these patients, the highest percentage had a diagnosis of bvFTD (37.4 percent), and 27 percent had sFTD, compared with 7.7 percent who had Alzheimer’s disease.

**Slide 38:**

- We are now going to examine general strategies that providers and care partners can use to address common manifestations of dementia. Many of these strategies will be of value only

during the early or middle stages of dementia, while the persons living with dementia retain at least some cognitive and functional abilities.

- It is important to note that ‘problem’ behaviors often are an attempt by PLwD to communicate unmet needs.

**Slide 39:**

- A provider or care partner can use many general—non-behavior-specific—strategies to help manage BPSD. No one strategy will work for all persons living with dementia or for every BPSD:
  - Physical activity: engaging persons living with dementia into activities based on their prior interests or capabilities; recommend activities that involve repetitive motions (e.g., folding towels)
  - Communication
  - Environmental changes
  - Task simplification
- Nonpharmacologic interventions are preferable to medication. It should be noted, however, that most studies of nonpharmacologic strategies focus on short-term rather than long-term benefits or effects (Cohen-Mansfield et al., 2015), and many of the studies have methodological limitations. Nevertheless, this discussion will address a wide range of strategies or interventions aimed at helping the provider or care partner deal with the cognitive and BPSD problems common to persons with middle- or late-stage dementia. Not all of them will be appropriate or effective for any given person, and the provider or care partner will need to carefully select which approaches best fit the person and the specific situation.

**Slide 40:**

- Engagement with persons living with dementia appears to contribute to a greater sense of well-being among these persons, better care relationships, more positive affect, less restless and tense behavior, and improved social relations.
- Person-centered care approaches:
  - Provide and promote participation in everyday activities, leading to improved quality of life and higher cognitive scores (Edvardsson, Petersson, Sjogren, Lindkvist, & Sandman, 2013).
  - Facilitate the person’s meaningful engagement in everyday life, involving the person in his or her world and environment (Keating & Gaudet, 2012). Such activities can be as simple as walking the dog, going to a friend’s house, folding towels, and planting flowers.
  - Rely on the care partner to really understand who persons living with dementia are now and not see the persons as who they once were. It involves care partners understanding that it is the disease talking and acting, not their loved one. The care partner needs to focus on the person’s current abilities, not prior skills (Ortigara & Scher McLean, 2013).
  - Recognize that environmental influences affect persons living with dementia—and there may be a need for familiarity. These approaches also emphasize ensuring safety and altering the environment to soothe and to minimize distractions, including by using or adjusting music and lighting. However, the research on environmental influences is limited (Keating & Gaudet, 2012; Trahan, Kuo, Carlson, & Gitlin, 2014).

- Social support networks benefit both persons living with dementia and their care partners. Examples of social support networks include cousins' clubs, weekly card groups, social organizations, fraternal orders, avocational groups, and church groups. Other support networks specifically focus on helping persons living with dementia and their care partners—such as the Alzheimer's Association or the Lewy Body Dementia Association. There may be local or regional meetings or groups as well as on-line access to help and support. Examples can be found in the Resources list at the end of this module.

**Slide 41:**

- There is no doubt that physical activity, or PA, affords many health-related benefits.
- PA includes walking, gardening, riding a stationary bicycle, climbing stairs, and throwing a ball. It can also include brisk walking, dancing, swimming, or other aerobic exercises for persons with early-stage dementia who are interested and physically capable. However, it need not involve structured or organized activities. There should not be an “expectation of success” associated with the activity; in other words, no speed walking or planting five flowers in a specific amount of time! Activities should be fun, attainable, and appropriate for the diminishing capabilities of persons living with dementia.
- PA increases physical fitness, helps with overall functioning of the brain and its structures, and perhaps helps with cognitive improvement. Studies show that PA is not curative for cognitive impairment, but it does provide benefits for improved balance, stride length, motor sequencing, and performance of activities of daily living, and it may improve cognitive abilities and enhance mood:
- For example, a study involving dance therapy (ballroom dancing) found no evidence of benefit on dementia (Kiepe, Stockigt, & Keil, 2012). Studies suggest that PA positively affects cognitive function in AD (Phillips, Baktir, Das, Lin, & Salehi, 2015) and that moderate-intensity exercise (such as brisk walking) can improve cognitive thinking.
- Large prospective studies have demonstrated that Parkinson's disease risk (and later risk of dementia) is significantly reduced by midlife exercise. Persons with Parkinson's disease who exercise have improved cognitive scores.
- There is also indirect accumulating evidence suggesting that ongoing vigorous exercise may have a neuroprotective effect in Parkinson's disease.
- However, a 2015 Cochrane report noted that although there is promising evidence that exercise programs may improve the ability to perform ADL in persons living with dementia, there is no clear evidence supporting the benefits of physical activity on cognition, neuropsychiatric symptoms, or depression.
- Activities can also be simple—such as activities that involve repetitive motions (like folding towels or counting coins or setting the table. If necessary, the care partner can help set up the activity and help persons living with dementia participate.
- Engaging persons living with dementia in some kind of physical activity has benefits on many levels, but it will not cure the dementia. As persons living with dementia progress from moderate- to late-stage dementia, incontinence and impairments in gait and mobility will make physical activity increasingly difficult.

**Slide 43:**

- It can be challenging to communicate with persons living with dementia, even during early stages.
- Cognitive impairments and executive dysfunction, along with general aging, can result in slower processing times. This requires patience on the part of the listener, allowing the persons living with dementia ample time to respond to comments or questions before providing cues (if appropriate).
- Cognitive impairments and executive dysfunction might also require that the care partner or provider break down instructions into small steps, using simple objective verbal commands or suggestions.
- The tone of voice can be important: most persons, and not just persons living with dementia, are more likely to respond to calm, reassuring voices than to angry or harsh tones with sarcasm or negativity.

**Slide 44:**

- In cognitive stimulation therapy a range of activities aims to stimulate thinking, concentration, and memory in social settings:
  - These activities are based on the belief that lack of cognitive stimulation can lead to cognitive decline.
  - Evidence supports some benefit in persons with mild to moderate dementia, but cognitive stimulation does not appear to have any benefit nor to be appropriate for persons with severe dementia.
  - Cognitive stimulation activities are often done as group sessions and might involve playing simple board games, singing songs, or discussing current events. You can help the care partner search for structured cognitive stimulation therapy groups that are nearby, or you can adapt and develop activities in your own group.

**Slide 45:**

- Dementia affects all of the senses.
- Music therapy and white noise, with and without calming sounds, have been investigated as strategies to calm agitation or improve physical or mental well-being. They are typically provided in a quiet room for a short period of time; for example, 30 minutes. We all know that songs can influence our mood; unexpectedly hearing a favorite song can quickly brighten our day. Yoga and meditation may use calming sounds to facilitate serenity. Studies on dementia suggest that active music therapy, like singing, may have some benefit, but there is less information on passive music therapy; in other words, listening (Cohen-Mansfield et al., 2015).
- Arts and crafts can also be therapeutic and calming for persons living with dementia. Crafts can be used as memory triggers for reminiscence therapy: knitting, sewing, baking, and other safe handiwork can remind persons living with dementia of leisure activities from their younger days.

**Slide 47:**

- Environmental modifications can help persons living with dementia, although there is no way to know which of the many approaches will work for a given person or on a given day. Such approaches include the following:

- Remove clutter.
- Use labels, visual cues (signs, arrows pointing to bathroom).
- Make changes to the “objects and properties” of activities; in other words, make changes to the tools, materials, and equipment used in activities. Examples include using oversized playing cards, large-sized books, and electric rather than manual can openers.
- Make changes to “space demands,” meaning the physical environment, such as adjustments to lighting or ambient noise levels.
- Make changes to the “social demands” of activities, such as using specific prompts and praise statements. Examples include reminding persons living with dementia to say thank you or to wait patiently in line at the bank and then rewarding with praise.
- Make changes to “sequence and timing,” such as simplifying an activity or breaking it down into manageable, smaller steps or providing written or gestural cueing to help persons living with dementia move through a multistep activity.

**Slide 48:**

- As has been discussed, persons with early-stage dementia have difficulties with executive functions, particularly with organization and planning activities.
- One means for helping persons living with dementia to complete challenging IADLs is to break the large task into simple steps and to use cues or prompts at each stage.
- For example, help with baking a cake could be broken down into putting all of the ingredients out, prompting which items should be mixed together, putting batter into pan, put into oven, remove, and let cool.
- Creating a predictable structured routine can help persons living with dementia in performing certain daily tasks, like setting the table or walking the dog.

**Slide 49:**

- Numerous other nonpharmacological approaches are under investigation.
- Animal-assisted interventions, such as therapy dogs and other pets, may be used as a means of calming persons living with dementia. However, not much has been published outside of anecdotal comments.
- Some older adults use complementary medicine approaches—including massage, reflexology, chiropractic, and herbal or dietary supplements—along with their conventional treatment approaches. Most are benign and may be of some (minimal) benefit. However, it is important to remind care partners to be wary of internet claims of substances that “cure” dementia, “reverse aging,” or “prevent Alzheimer’s.” There are no substances that cure dementia:
  - Despite substantial methodological limitations, studies on massage suggest that it may reduce behavioral disorders.
  - Less is known regarding the benefits of reflexology or chiropractic for dementia, although there may be benefits for concomitant medical concerns.
- It is important for care partners and health care professionals to carefully check out any herbal or dietary supplements and inform the primary care providers and all members of the health care team about these additions.

**Slide 49:**

- Persons with early-stage dementia struggle with memory impairments and executive dysfunction, as well as some BPSD. Among the most common BPSD in early-stage dementia are mood disorders, including apathy; or lack of interest, enthusiasm, and concern; and depression:
  - Some persons with behavioral variants of frontotemporal degeneration may exhibit euphoria.
  - Anxiety, which is not considered a mood disorder in the APA Diagnostic and Statistical Manual of Mental Disorder, 5th Edition (DSM-5), often coexists with depression.
- It is important to note that driving and the ability to manage finances and medications are often affected during the early stage of dementia; this will be addressed in Module 6.

**Slide 52:**

- The care partner (or health care provider) can provide oral or physical cues or prompts to help persons living with dementia who are struggling with memory problems.
- The care partner (or health care provider) can use a calm and reassuring demeanor and voice and, when appropriate, a calming touch to provide reassurance.
- Providing structure to the daily routine can be beneficial: it can establish a routine for daily tasks and integrate meaningful activities into each day.
- Persons living with dementia can be distracted and refocused elsewhere, if needed.
- Persons living with dementia can be informed the day of an event instead of days or weeks in advance to avoid confusion or frustration.
- To address difficulties with IADL, care partners can simplify the necessary tasks involved with the activity. For example, baking a cake can be broken up into taking out the recipe, taking out all of the ingredients, taking out the measuring tools and the pots and pans, and so forth.

**Slide 53:**

- Apathy is a common behavioral disturbance in all types of dementia and across all stages of dementia. Apathy is commonly reported by family members across all stages of dementia, and it tends to worsen over time.
- It may be related to structural atrophy and functional deficits in medial and frontal regions (associated with motivation and reward mechanisms).
- Its prevalence increases with increasing cognitive impairment.
- Apathy is more common in persons with Lewy body dementia, FTD, and vascular dementia than with those with Alzheimer's disease:
  - In AD, apathy is related to older age and depression (Brodaty & Burns, 2012).
- Apathy is often ignored by clinicians, especially in later stages of dementia, but it contributes to poorer quality of life for both the persons living with dementia and the care partner.
- Apathy is distinct from depression, although they may share common manifestations: lack of interest, lack of energy, lack of motivation, all of which can interfere with a person's quality of life. However, apathy is a symptom, whereas depression may be a clinical diagnosis. Depression can involve guilt, suicidal ideation, depressed mood, and changes in appetite, none of which are associated with apathy:

- Apathy does not necessarily coexist with other mood disturbances, whereas depression does.

**Slide 55:**

- Although research is limited, evidence supports nonpharmacological management to reduce apathy:
  - Examples of strategies we have discussed include engaging persons living with dementia, the use of repetitive activity, sensory stimulation, and environmental changes.

**Slide 56:**

- Depression is another common mood disorder in dementia.
- The prevalence of clinically significant depression (major and minor depression) decreases with increasing cognitive impairment. The more insight, or understanding, persons living with dementia have into their dementia, the more depressed they may be. This reflects their awareness of their impairments. Persons in early-stage dementia may be aware that they can no longer remember names and that they have other cognitive impairments. As the cognitive impairment progresses and persons living with dementia lose insight, there is less depression and more apathy:
  - This may seem counter-intuitive at first. Another way to look at this is that a person who understands the extent of his or her impairments, who realizes that he or she now has difficulties with IADLs, with executive functioning, with memory is more likely to be depressed over his or her losses than a person who does not realize that he or she has these impairments. As the dementia progresses, there is less emotionality in general—and more apathy.
- Depression is common in vascular dementia and Alzheimer’s disease (Kales et al., 2015).
- Depression often coexists with anxiety symptoms, especially in middle-stage AD. Anxiety appears to be more common in Alzheimer’s disease than it is in vascular dementia.
- The causal relationship between depression and dementia is complex and not well understood:
  - There is consistent evidence supporting early life depression as a risk factor for later life dementia and later life depression as prodrome to dementia.
  - Treating depression does not alter the progression of the dementia, but it can improve the quality of life of persons living with dementia and their care partners.
- Dementia and depression show similar neurobiological changes—especially white matter disease—which are either shared risk factors or a shared pattern of neuronal damage:
  - Neuroimaging and biomarker investigations demonstrate decreased monoaminergic neurotransmitter function and decreased frontoparietal metabolism (Kales et al., 2015).

**Slide 57:**

- Persons with depression present with depressive symptoms similar to those of persons without dementia. They may have low mood, irritability, anger, low energy, low appetite, poor motivation, and lack interest in social or other activities.
- Major depressive episodes are more common in older persons with than without dementia, and there may be differences in incidence between the various types of dementia.

- Because of the similarities in the symptoms of depression and dementia, it may be difficult to determine an accurate diagnosis
- Management of depression in dementia can be similar to that of depression in the person without dementia. Nonpharmacologic strategies, such as engaging the person, activity, and structured environment, may be of benefit to some persons. Counseling and particularly cognitive behavioral therapies can help, but only in persons in early-stage dementia who have a mild degree of cognitive impairment. For persons with moderate to severe depression, pharmacotherapy with an antidepressant may be necessary. Typically, selective serotonin reuptake inhibitors (SSRI) are recommended as first-line agents, although additional agents may be used. Referral to a specialist (psychiatrist or neuropsychiatrist) might be warranted.
- The benefits and risks of electroconvulsive therapy (ECT) for depression in persons living with dementia remain unknown.

**Slide 58:**

- This is just a brief overview of the topic. Module 8 will cover all the medications used in the management of dementia and its consequences.
- Overall, the benefits of symptomatic treatments for cognitive impairment in Alzheimer's disease are modest at best.
- Cholinesterase inhibitors were developed based on the original theory that AD was associated with the loss of neurons in nucleus basalis, the main origin of cholinergic neurotransmission to the cortex. Although the current hypothesis focuses on the amyloid theory, current treatments still focus on overcoming a cholinergic deficit, predominantly by reducing the naturally occurring breakdown of acetylcholine, which is normally degraded via acetylcholinesterase enzyme.
- None of these medications afford immediate benefits, and they may take up to 6 weeks before persons living with dementia or a care partner notes any apparent improvement (Uriri-Glover et al., 2012).
  - Donepezil is indicated for both mild-to-moderate and moderate-to-severe Alzheimer's disease.
  - Rivastigmine and galantamine are indicated for mild-to-moderate Alzheimer's disease.
- Memantine HCl is an *N*-methyl-d-aspartate (NMDA) noncompetitive glutamate receptor antagonist indicated for moderate-to-severe Alzheimer's disease.
- A combination of donepezil with memantine may be appropriate for persons with moderate-to-severe AD.

**Slide 59:**

- It should be noted that not all persons living with dementia will have a care partner, particularly during the early stages of dementia.
- Helping the care partner to address the BPSD is an important component of treatment. Some of the BPSD behaviors may be a reflection of or reaction to care partner stress or depression, both of which are very common. There can be important interpersonal dynamics involved, depending on the relationship of the person providing the caregiving and persons living with dementia. Is the former the spouse? An adult child? A paid care partner?
- One technique for addressing problematic behaviors is to zero in on what is going on and try to identify the triggers of the behavior:

- What is the behavior that concerns the care partner and what is it related to? Objectively define what the problematic issue is, and then have the care partner answer the following questions to see whether there is a pattern to the behavior or a cause and effect relationship:
  - When does the behavior happen? Does it occur same time every day? Does it occur in reaction to the same event, such as changing care partner shifts, mealtime, or bath time?
  - Where does it happen? Is it an environmental issue?
  - Who is with the persons living with dementia when it happens? Does it occur in reaction to a specific person?
  - Why does it happen? Does it indicate fear, pain, confusion, or something else?
  - Does the behavior need to change or can the care partner live with it?

**Slide 61:**

- Joellen, once an excellent cook, is beginning to experience difficulty in the kitchen. Her husband and primary caregiver is taking over many of the duties in the kitchen. His main challenge is how to keep his wife safely engaged in a task she has previously enjoyed doing and in which she was once quite accomplished. The problem is that she is at risk of causing potentially dangerous situations, such as putting a metal bowl in the microwave or putting a dish towel on the burner or leaving the stove on. Her husband solved this problem by arranging for them to cook meals together with him providing more supervision, asking Joellen to contribute by taking specific steps such as washing fruit and vegetables or assembling a salad, or having her assist with mealtime tasks outside of the kitchen such as setting the table.

**Slide 62:**

- The care partner's roles and needs depend on the stage of dementia, the type of dementia, and where the person resides (home or inpatient setting). In general, care partners have increasing levels of responsibility and assume more roles as the dementia progresses, particularly for persons living with dementia who continue to live at home:
- In early-stage dementia, care partners provide assistance with transportation and housekeeping. At this stage, persons living with dementia need minimal or no assistance with basic ADL, but, as we have been discussing, has some difficulty with IADL.
- In middle-stage dementia, persons living with dementia encounter greater difficulty with IADL, such as paying bills and cooking meals. Care partners must therefore assume more responsibility in assisting persons living with dementia in IADL, while continuing to provide assistance with transportation and housekeeping. They are now more likely to be called on to assist with mobility, protection, and safety. See Module 6.

**Slide 63:**

- The final topic of this module regards how to identify symptoms that persons living with dementia are transitioning from early- to middle-stage dementia.

**Slide 64:**

- There are no biomarkers or other objective indicators to help identify transitions to dementia stages for any cause of dementia.
- Increasing neurologic damage interferes with the ability to express thoughts and perform routine tasks and ADL.
- The person's memory problems become more obvious as the person.
  - Becomes unable to recall address, phone number, high school, or college.
  - Gets lost in familiar places.
  - Needs reminders and cues about completing AD.
- The person's confusion escalates and adds:
  - Confusion about location or day/date.
  - Difficulties completing sentences and understanding others.
  - Difficulties with mathematical calculations such as making change during cash transactions.
- Other behavioral and psychological symptoms of dementia include:
  - Exhibiting more symptoms at greater frequency and greater severity
  - Sleep disorders, psychotic manifestations of delusions and hallucinations, and increased agitation.
- The person requires increasing levels care and attention and:
  - Needs help choosing appropriate clothing.
  - Needs cues and assistance in initiating and completing tasks.
- The person shows increasing neurologic and behavioral symptoms such as appearing withdrawn, depressed, irritable, and agitated.

**Slide 66:**

- The older adult with early-stage dementia generally remains capable of living at home, retains ability to perform activities of daily living, but demonstrates some manifestations of cognitive impairment and functional deterioration.
- Most forms of dementia are characterized by memory impairment, which becomes noticeable to family and friends during early-stage dementia.
- Often, it is the behavioral and psychological symptoms of dementia—mood symptoms, sleep disorders, psychosis, and agitation—that may first manifest during early-stage dementia and continue to become more overt during subsequent stages. These are the most disruptive symptoms for the older adult and the care partner. In general, sleep disorders and mood changes are more likely to appear during early-stage dementia than are psychotic symptoms and agitation.
- All clinicians working with persons living with dementia must coordinate their care and provide support and education not only to the older adult but also to the care partner.

**Slide 67:**

These items are provided to allow faculty to evaluate what students have learned. The items can be used in several ways including given at the end of the lecture to assess knowledge or as a pre-post test

to assess knowledge gain. These items have face validity. Psychometric testing was not conducted on these items.

Answers:

1. c. Impairments in short-term memory
2. a. Their ability to focus and pay attention

**Slide 68:**

Answers:

3. b. Mood disorders
4. b. Nonpharmacologic interventions