

2019 HEALTHY AGING BRAIN BRIEF & STRATEGIES FOR ACTION

Alzheimer's & Other Dementias



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HEALTHY BRAIN BRIEF | INTRODUCTION

Aging is an inevitable process that we all go through as individuals, as families, as a community. The fear of being diagnosed with Alzheimer's or dementia can create a range of feelings for individuals, their family members, friends, and caregivers; from resolve, to anxiety to hopelessness. How can we improve our ability to live with both the natural process of aging as well as Alzheimer's and other dementia?

Currently, Alzheimer's disease is the 6th leading cause of death in Tennessee. There are over 120,000 people in Tennessee living with Alzheimer's and/or dementia. The state has a long way to go to creating a dementia-capable health workforce, and the Tennessee Department of Health has an integral role to play in raising awareness and inspiring action around Alzheimer's and dementia risk reduction. Addressing this is one important answer to the question.

The long-term vision of the Tennessee Department of Health with regards to Alzheimer's and dementia risk reduction in the state of Tennessee is two-fold:

- 1) To encourage healthy lifestyle choices and create healthy environments to reduce or delay Alzheimer's and other dementias diagnosis, or onset or development of Alzheimer's/dementia symptoms
- 2) To improve the quality of life and patient-centered care of individuals living with Alzheimer's and other dementias, caregivers, and family & friends

While those living with Alzheimer's and/or dementia are the most impacted, these chronic conditions also significantly impact caregivers, family members, healthcare and other service providers plus many more. This brief will illustrate the current state of Alzheimer's & other dementias in Tennessee and provide a collective framework to create momentum in the state around brain health awareness and potentially modifiable risk factors for reducing cognitive decline over the life cycle or as a result of illness or disease processes.

This brief is also meant to inspire, identifying ways in which your work may intersect with the risk reduction of Alzheimer's and other dementias. Scattered throughout the brief are low or no-cost opportunities to integrate brain health promotion into the services we provide at the Tennessee Department of Health. We all have a role to play in reducing the risk of Alzheimer's/dementia through the promotion of healthy lifestyles, provision of high-quality and dementia-informed healthcare services, and creating supportive environments for those living with cognitive impairment to have an increased quality of life. This is particularly true for public health professionals.

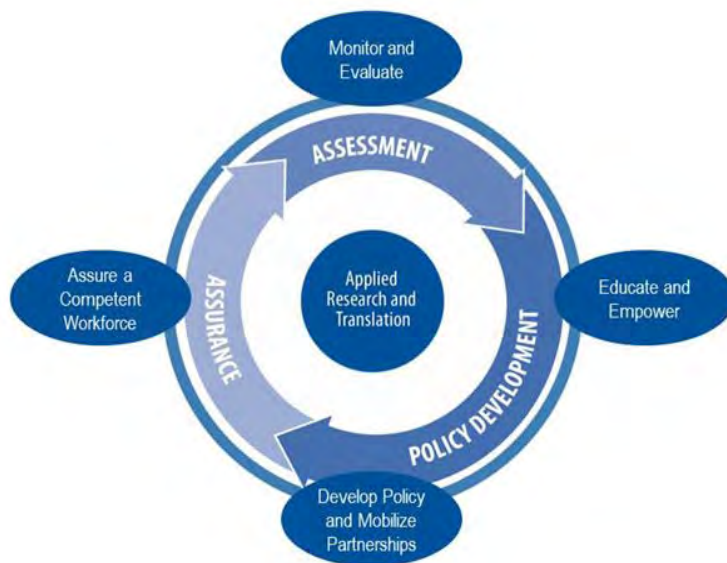
Together, we have the capacity to implement strategies to reduce the risk of Alzheimer's and dementia and improve the quality of life of those who are diagnosed. Together, we can protect, promote, and improve the health of our most underserved populations. Thank you for all that you do for people in Tennessee.



HEALTHY BRAIN BRIEF | OVERVIEW

WHAT IS ALZHEIMER'S & OTHER DEMENTIAS?

Alzheimer's Disease and Other Dementias (ADOD) is an umbrella term for several diseases that affect memory & other cognitive abilities. Cognitive impairment can significantly interfere with a person's ability to maintain the activities of daily living. Alzheimer's disease is the most common form of dementia and may contribute to 60–70% of cases. Other major forms include vascular dementia, dementia with Lewy bodies, and a group of diseases that contribute to frontotemporal dementia. The boundaries between different forms of dementia are indistinct and mixed forms often coexist.



ROADMAP TO HEALTHY BRAIN INITIATIVE

In 2017, The Tennessee Department of Health received a grant in partnership with the Centers for Disease Control & Prevention (CDC), the Association of State and Territorial Health Officials (ASTHO), and the Alzheimer's Association. This grant is part of an initiative to support public health agencies in implementing action items recommended by the CDC within *The Healthy Brain Initiative: The Public Health Road Map for State and National Partnerships, 2013 – 2018*. Through the Healthy Brain Initiative, the Tennessee Department of Health aims to achieve the following:

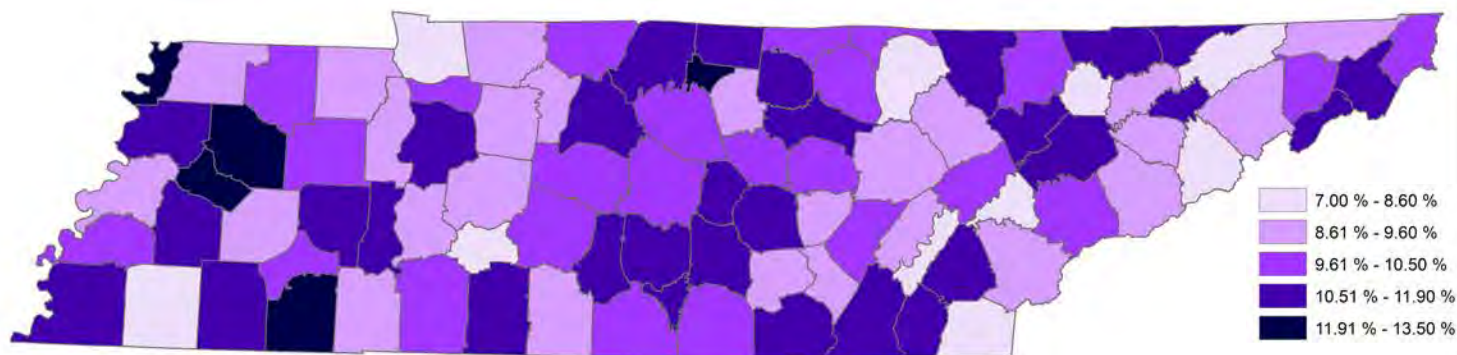
- better understanding of the scope and burden of Alzheimer's disease and other dementias, including disparities for subpopulations
- integration of culturally-appropriate brain health messaging into existing public awareness campaigns
- development and implementation of cognitive decline risk reduction activities into existing chronic disease and primary prevention initiatives and state health plans

The Alzheimer's Association and the Centers for Disease Control and Prevention's (CDC) Healthy Aging Program have developed the second in a series of road maps to advance cognitive health as a vital, integral component of public health. *The Healthy Brain Initiative: The Public Health Road Map for State and National Partnerships, 2013–2018* outlines how state and local public health agencies and their partners can promote cognitive functioning, address cognitive impairment for individuals living in the community, and help meet the needs of care partners.¹

HEALTHY BRAIN BRIEF | PREVELANCE

WHAT IS ALZHEIMER'S & OTHER DEMENTIAS PREVALENCE?

Prevalence is the number of current cases (new and preexisting) of a certain health condition at a specific point in time. An Alzheimer's & other dementias prevalence estimate is an estimate of the number of people that are living with Alzheimer's and/or dementia. Nationwide, the prevalence of Alzheimer's & other dementias among Medicare beneficiaries is around 10%.²



Source: 2015 Medicare Fee-For-Service data from the Chronic Conditions Data Warehouse. [Click here to retrieve.](#)

FOCUSING ON ALZHEIMER'S & OTHER DEMENTIAS IN TENNESSEE

The impact of Alzheimer's and other dementias in the state of Tennessee is significant. Below are some statistics from the 2018 Alzheimer's Disease Facts and Figures report:²

- Alzheimer's was the **6th leading cause of death** in Tennessee (7th leading cause of death nationwide) in 2017
- There was a **205% increase** in Alzheimer's deaths from 2000 to 2017
- There were **120,000 people** living with Alzheimer's and/or dementia in 2017
- **\$989 million** Medicaid dollars were spent caring for people living with Alzheimer's in 2017
- **\$6.25 billion** of unpaid caregiver hours were given in 2017

Compared to other states...

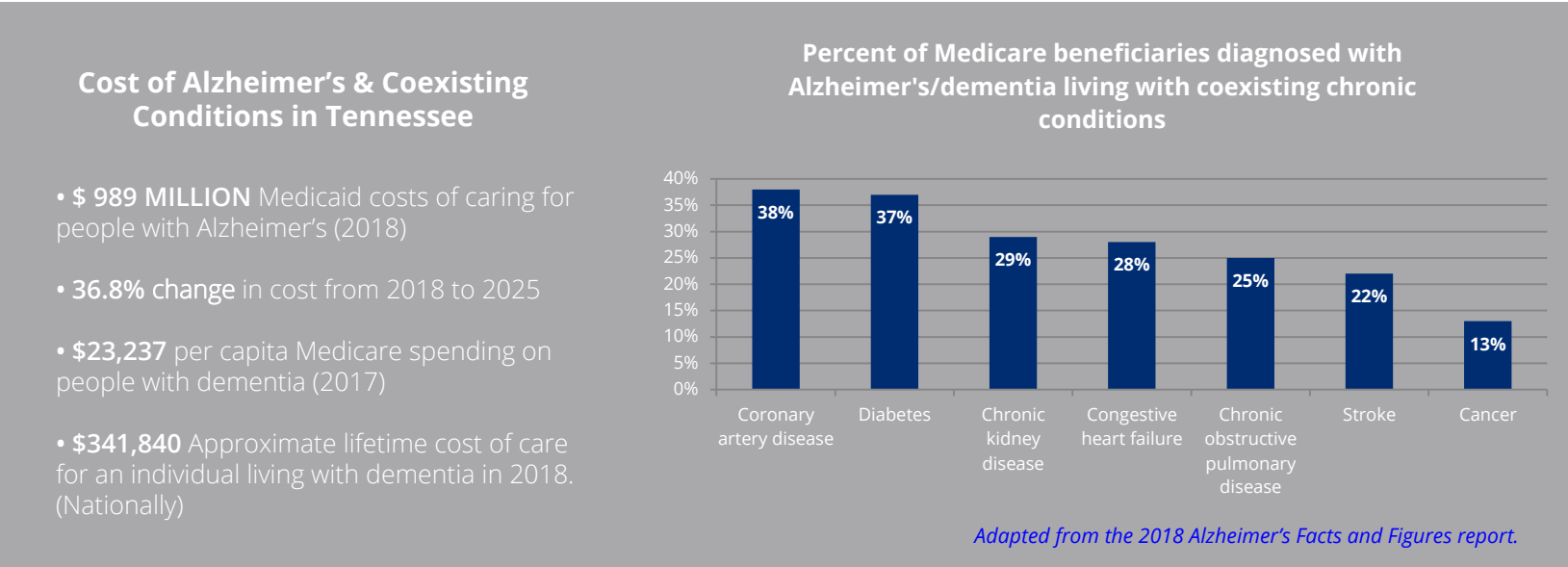
- Tennessee had the **12th highest number of emergency department visits** of people diagnosed with dementia
- Tennessee had the **14th highest number of hospitalizations** of people diagnosed with dementia

These numbers are expected to increase as the Baby Boomer generation continues to age. Implementing effective, evidence-based low or no-cost strategies statewide can alleviate the health and cost burden attributed to Alzheimer's & other dementias in the state. This is one strategy the Tennessee Department of Health can utilize in achieving their vision of becoming one of the nation's ten healthiest states in the nation.

HEALTHY BRAIN BRIEF | COEXISTING CONDITIONS

ALZHEIMER’S & OTHER CHRONIC CONDITIONS

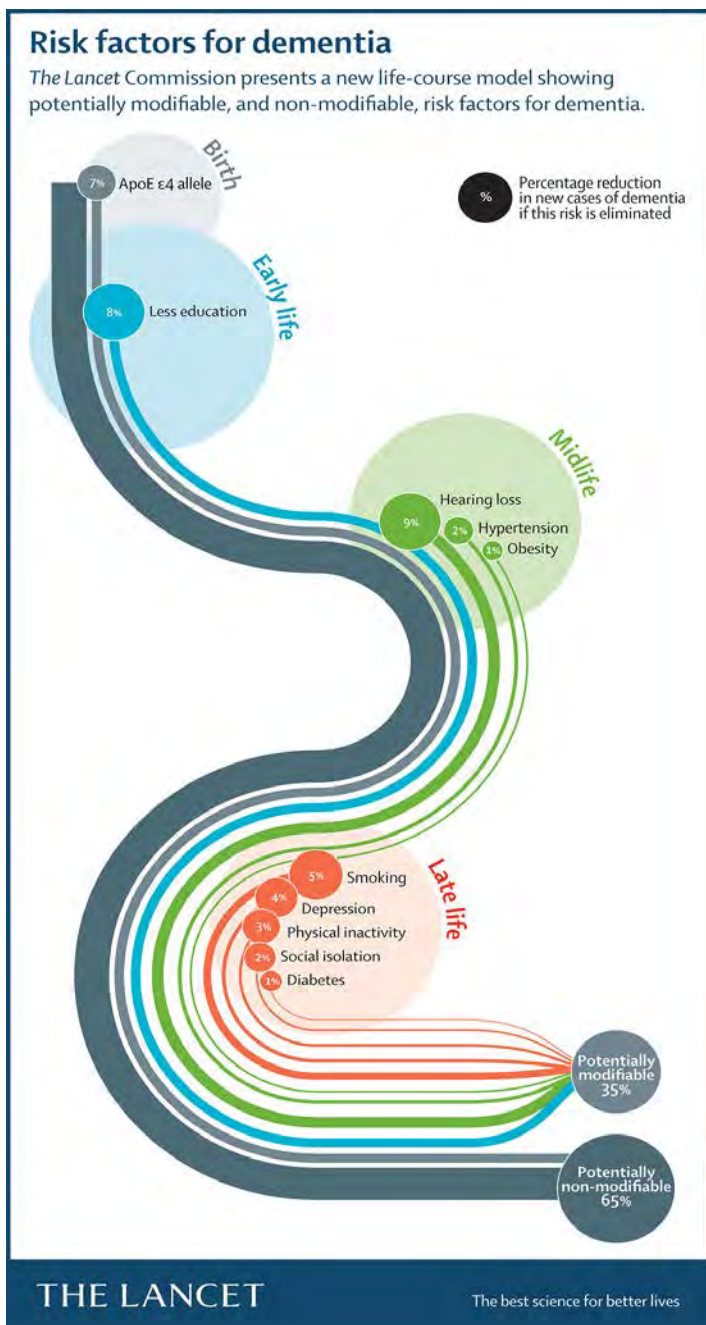
Ninety-five percent of Medicare beneficiaries nationwide living with Alzheimer's disease have one or more other chronic conditions, such as coronary heart disease, congestive heart failure, diabetes, etc.² Living with Alzheimer's disease and other coexisting conditions compounds medical costs and the burden of disease due to a lack of self-management of their chronic conditions. Medicare beneficiaries diagnosed with Alzheimer's disease and other chronic conditions have more hospital stays, emergency department visits, and higher nursing home payments per year than other older people.



ALZHEIMER’S & DEMENTIA: CHRONIC CONDITION OR MENTAL ILLNESS?

There is much confusion about whether Alzheimer’s and other dementias are classified as chronic conditions or mental illnesses. While Alzheimer’s and other dementias do affect mental health, it is important to realize that they are not mental illnesses. Alzheimer’s and other dementias are chronic conditions that develop over time and cause memory loss and communication difficulties. Several symptoms of dementia, such as confusion and erratic behavior, along with the fact that behavioral expressions often accompany dementia, also contribute to the incorrect classification.³ These discrepancies often result in missed or misdiagnoses. As Tennessee Department of Health employees, our providers can take an active role in recognizing and accurately diagnosing Alzheimer’s & other dementias as complex chronic conditions.

HEALTHY BRAIN BRIEF | MODIFIABLE RISKS



Source: Livingston, G. et. al (2017) Dementia prevention, intervention, and care. *The Lancet*, 390 (10113).

ALZHEIMER'S & OTHER DEMENTIAS LIFESTYLE RISKS

Increasing scientific studies show the connection between Alzheimer's & other dementias and lifestyle-related risk factors contributing to other chronic conditions, such as heart disease, diabetes, etc. Brain changes associated with Alzheimer's may begin 20 or more years before symptoms appear.

These lifestyle-related risk factors are also known as **modifiable risk factors**. Reducing an individual's or a population's exposure to these potentially modifiable risk factors, beginning in childhood and extending throughout the lifespan, can strengthen individual and population-level capacity to make healthier choices and follow lifestyle patterns for good health.

One study which modeled the elimination of the seven most important modifiable risk factors found a **30% reduction in dementia** incidence.⁴ Increased attention is going to modifiable risk factors to determine what preventive measures can be taken to reduce risk of Alzheimer's & other dementias. One study reported that more than one third of global dementia cases may be preventable through addressing lifestyle factors that impact an individual's risk. These potentially modifiable risk factors have been identified at multiple phases across the life-span, not just in old age.⁵

TENNESSEE'S "BIG FOUR"

The Tennessee Department of Health identified and now emphasizes primary prevention of the "big four" factors contributing to the leading causes of death and disease in the state.⁶



Physical inactivity



Obesity



Tobacco use



Substance abuse

HEALTHY BRAIN BRIEF | DISPARITIES

DEFINING HEALTH DISPARITIES

Across the state of Tennessee, there are certain populations that have higher prevalence rates of Alzheimer's and/or dementia than others. These differences in prevalence rates, also known as health disparities, are most apparent when looking at race and sex. Almost two-thirds of individuals diagnosed are women. Studies show older black adults are twice as likely to have Alzheimer's or other dementias than older white adults. Hispanic adults are 1.5 times more likely to have Alzheimer's or other dementias than older white adults.⁷ Missed diagnoses and misdiagnoses are also more common in black and Hispanic communities, but exists across all racial and ethnic minority groups.



Adapted from the 2018 Alzheimer's Facts and Figures report.

WHY DISPARITIES EXIST RELATIVE TO ALZHEIMER'S & OTHER DEMENTIAS

While genetic risk factors were also attributed to racial and ethnic disparities in Alzheimer's and/or dementia in Tennessee, recent research shows that differences in socioeconomic or lifestyle-related risk factors (both modifiable and non-modifiable) account for most of the differences in Alzheimer's and other dementias prevalence by race.^{7,8} Studies have shown that lower levels of education, higher rates of poverty, and greater exposure to early life adversity and discrimination also increase the risk of Alzheimer's in black and Hispanic communities.

ELIMINATING HEALTH DISPARITIES RELATED TO ALZHEIMER'S & OTHER DEMENTAS

Elimination of health disparities requires strategies and efforts across the lifespan and across the continuum of care (ranging from risk reduction measures to care management and palliative care). There are many low- or no-cost ways in which public health professionals can work towards eliminating disparities related to Alzheimer's and other dementias. Below are suggested actions for Tennessee state employees:

- **Special attention towards risk reduction:** Data from the 2016 Behavioral Risk Factor Surveillance System shows health disparities across race and ethnicity with regards to the "Big Four," especially physical activity. In 2016, Hispanic and Black adults both reported lower rates of physical activity than white adults.⁹ Health department staff play a vital role in ensuring that all populations recognize the role of healthy lifestyle behaviors towards reducing their risk of Alzheimer's and/or dementia in Tennessee.
- **Ensuring cultural competency in health care settings:** Minority individuals face many barriers to receiving high quality healthcare, including lack of clear communication, misunderstandings about diagnoses, and bias. Studies show that minority individuals have different experiences in healthcare settings, even when they have similar medical conditions and similar healthcare coverage.¹⁰ Health department staff can utilize interpretive services to provide culturally and linguistically appropriate services and resources.
- **Increased outreach to minority populations:** Utilizing county-level prevalence data, educational programs and targeted outreach to minority populations (e.g.—messaging through church communities) can bridge the educational gap about Alzheimer's & dementia.¹¹

HEALTHY BRAIN BRIEF | PHYSICAL ACTIVITY

PROTECTIVE EFFECTS OF PHYSICAL ACTIVITY ON ALZHEIMER'S & OTHER DEMENTIAS PREVALENCE

Numerous population-level studies have found that physical activity, along with management of other cardiovascular risk factors, can lower the risk of cognitive decline. Physical activity increases blood flow to the brain and body, reducing potential dementia risk factors such as high blood pressure, diabetes, and high cholesterol. Physical activity also preserves cognitive and physical functioning, reducing the impact of dementia on the body and improving their quality of life. An active lifestyle may also delay the need for costly long-term care.¹² An estimated 2 million Tennessee residents reported receiving no physical activity in 2017.⁷ Approximately 45% of adults are not sufficiently active to achieve any substantial health benefits. Promoting physical activity and highlighting its connection to brain health is an essential role that health department staff can play.



Source: Robert Wood Johnson Foundation County Health Rankings (2014 CDC Diabetes Interactive Atlas). [Click here](#) to retrieve.

WAYS TO PROMOTE PHYSICAL ACTIVITY TO REDUCE RISKS OF ALZHEIMER'S & OTHER DEMENTIA

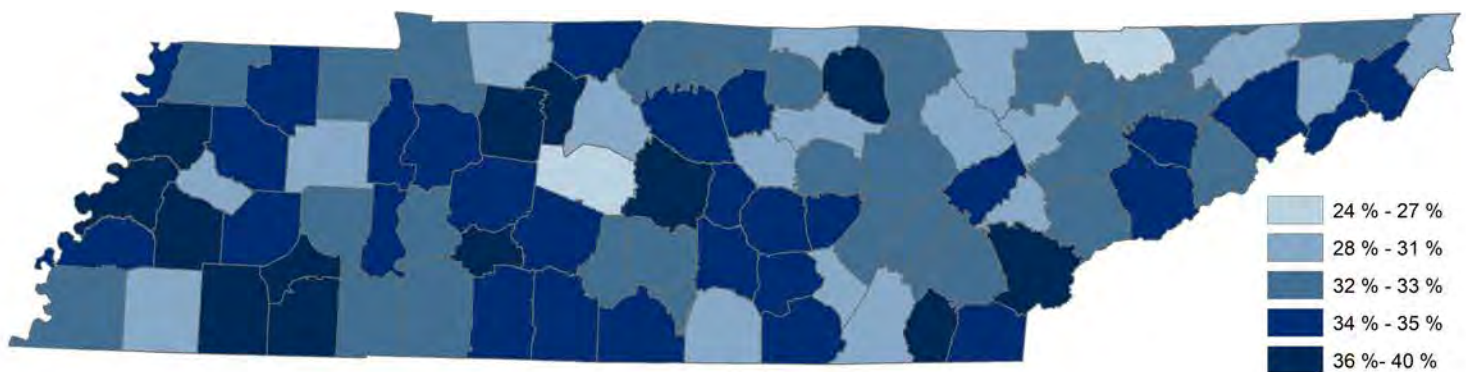
There are many low or no-cost ways in which public health professionals can promote physical activity as a mechanism for Alzheimer's and other dementia prevention or partner with other sectors. Below are suggested strategies for Tennessee Department of Health employees:

- **Integrated messaging:** Existing campaigns about physical activity promotion, such as Primary Prevention Initiative projects, can include information about brain health in their campaigns to emotionally resonate with families personally affected by Alzheimer's and/or dementia.
- **Encourage physical activity among patients with a family history of Alzheimer's and/or dementia:** To promote health across the lifespan, providers can play a role in encouraging patients of all ages to adopt healthy lifestyle choices around physical activity. Physical activity can also be encouraged through the new Parks Prescription program—visit www.tn.gov/health for more information.
- **Inclusive built environment strategies:** Partnering with local stakeholders, Tennessee Department of Health staff can encourage physical activity across the lifespan through ADA-compliant health-promoting community design to encourage and enable everyone to build physical activity into their daily lives.
- **Intergenerational physical activity programming:** Providers can encourage the formation of programmatic physical activity interventions, such as run clubs or walking groups, that promote shared understanding among different generations.

HEALTHY BRAIN BRIEF | OBESITY/DIET

EFFECTS OF OBESITY & DIET ON ALZHEIMER'S & OTHER DEMENTIAS PREVALENCE

Studies show that obesity during midlife, or adult obesity, is linked to increased risk of Alzheimer's disease and other dementias in addition to being linked to earlier age of onset of Alzheimer's disease.¹² Obesity is also linked with many other cardiovascular diseases, including high-blood pressure and diabetes, both of which are also linked to increased risk of Alzheimer's and other dementias.² Tennessee's adult obesity rate is 45.1 percent for Blacks; 33 percent for Latinos; and 31.3 percent for Whites.⁶ Tennessee Department of Health staff can take a role in encouraging Tennessee adults to practice obesity prevention through lifestyle modification to prevent cognitive decline.



Source: Robert Wood Johnson Foundation County Health Rankings (2014 CDC Diabetes Interactive Atlas). [Click here](#) to retrieve.

PREVENTING OBESITY/ PROMOTING HEALTHY DIET TO REDUCE RISKS OF ALZHEIMER'S & OTHER DEMENTIAS

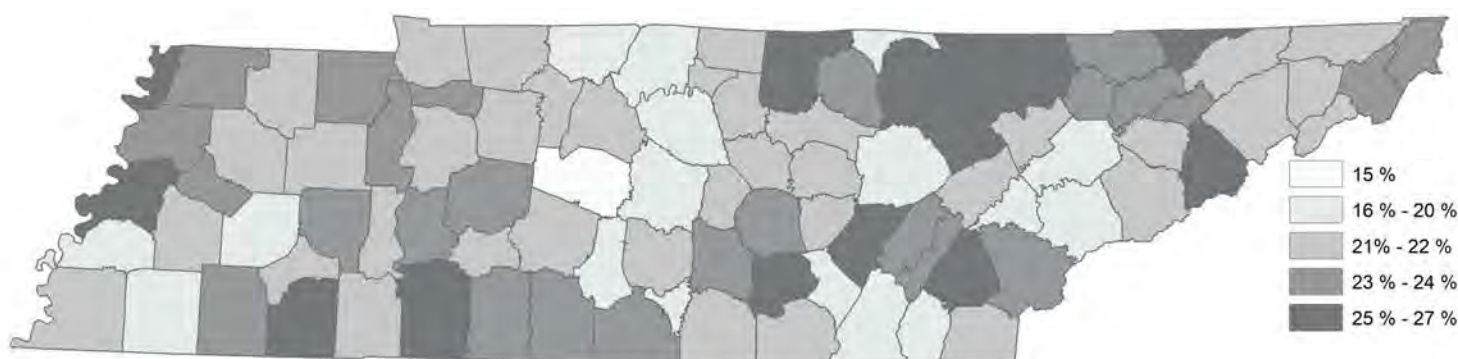
There are many low- or no-cost ways in which public health professionals can encourage healthy eating and obesity risk-reduction efforts as a mechanism for Alzheimer's and other dementia prevention. Below are a suggested actions for Tennessee Department of Health employees:

- **Promote a Mediterranean diet:** Diets high in fish, fruit, and vegetables have been associated with a lower risk of dementia.⁵
- **Integrate messaging:** Existing campaigns about obesity prevention and healthy diet promotion, such as Primary Prevention Initiative projects, can include brain health information in media campaigns to educate the public on the ties between brain health and the Big 4.
- **Encourage healthier lifestyle practices among patients that have a family history of Alzheimer's and/or dementia:** To promote health across the lifespan, Tennessee Department of Health staff can play a role in encouraging patients of all ages to adopt healthy lifestyle choices and help them understand what constitutes a healthy diet in order to prevent obesity.
- **Partner with community food system organizations to promote dementia awareness:** Collaborating with stakeholders invested in furthering healthy diet promotion in Tennessee, such as local food banks or farmers markets, can expand the reach of dementia awareness.

HEALTHY BRAIN BRIEF| TOBACCO USE

EFFECTS OF TOBACCO USE ON ALZHEIMER'S & OTHER DEMENTIAS PREVALENCE

Smoking tobacco, smokeless tobacco use, and other forms of tobacco consumption contribute to oxidative stress and inflammation in the brain, which can contribute to development of Alzheimer's disease. Tobacco use is also associated with obesity and heart disease, both of which are correlated with higher risk of Alzheimer's and/or dementia.⁵ Quitting smoking may reduce the associated risk levels comparable to those who have not smoked. Approximately one in seven US adults still smoke, and about 3.9 million middle and high school students reported using at least one tobacco product. While smoking is connected to brain health, few adults know of its correlation with Alzheimer's and/or dementia ([click here for more information](#)).



Source: Robert Wood Johnson Foundation County Health Rankings (2016 Behavioral Risk Factor Surveillance System). [Click here](#) to retrieve.

WAYS TO PREVENT TOBACCO USE TO REDUCE RISKS OF ALZHEIMER'S & OTHER DEMENTIAS

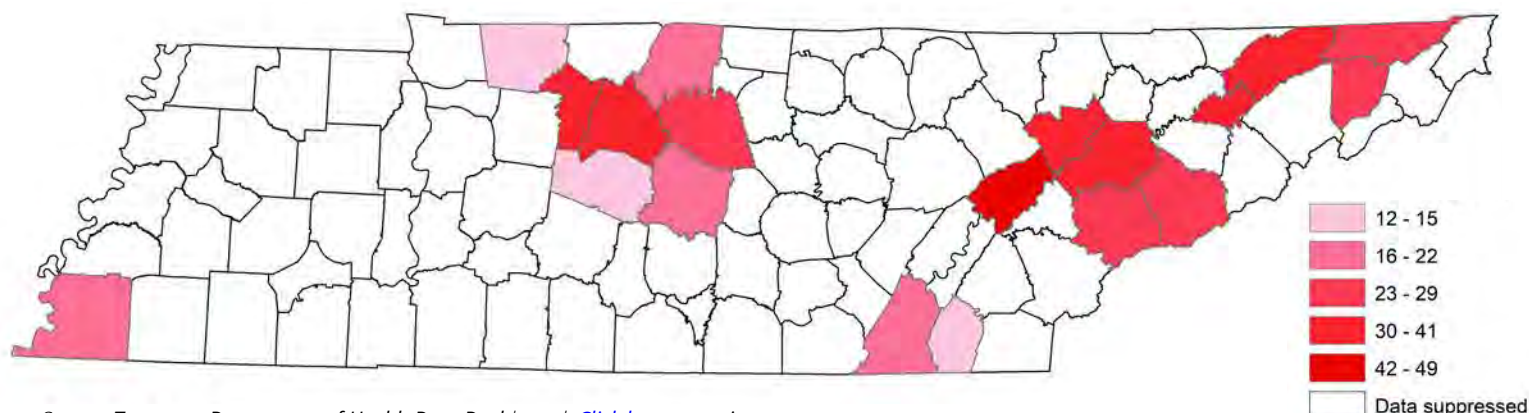
There are several low or no-cost ways in which public health professionals can promote tobacco cessation as a mechanism for Alzheimer's and other dementia risk reduction. Below are a suggested actions for Tennessee Department of Health employees:

- **Creation of smoke-free workplaces and buildings:** Establishing smoke-free workplaces and buildings not only impacts those who use tobacco, but also those who ingest second-hand smoke. Creation of smoke-free environments also has the potential to reduce tobacco use across the lifespan.
- **Integrated messaging into tobacco cessation or substance abuse services:** Existing campaigns or services about tobacco cessation can include information about brain health in campaigns to emotionally resonate with families personally affected by Alzheimer's and/or dementia or those who are a higher risk for an Alzheimer's or dementia diagnosis.

HEALTHY BRAIN BRIEF|SUBSTANCE ABUSE

EFFECTS OF SUBSTANCE ABUSE ON ALZHEIMER'S & OTHER DEMENTIAS PREVALENCE

Chronic substance abuse can intensify existing dementia, bring out genetic predispositions to dementia, or in some cases, cause this condition outright. In many cases, dementia caused by addiction is treatable or even reversible. It is estimated that up to 20% of dementia cases are brought about by alcohol abuse.¹³ Tennessee is facing an epidemic of prescription drug overdose and addiction. In 2017, 18.3% of deaths in the state of Tennessee were related to substance abuse.⁶



Source: Tennessee Department of Health Data Dashboard. [Click here](#) to retrieve.

Note: Any county with fewer than 10 deaths ANY year (2012-2016) can not be calculated or display a rate.

WAYS TO PREVENT OR REDUCE SUBSTANCE ABUSE TO REDUCE RISKS OF ALZHEIMER'S & OTHER DEMENTIAS

There are several low or no-cost ways in which public health professionals can address substance abuse issues as a mechanism for Alzheimer's and other dementias prevention. Below are a suggested actions for Tennessee Department of Health employees:

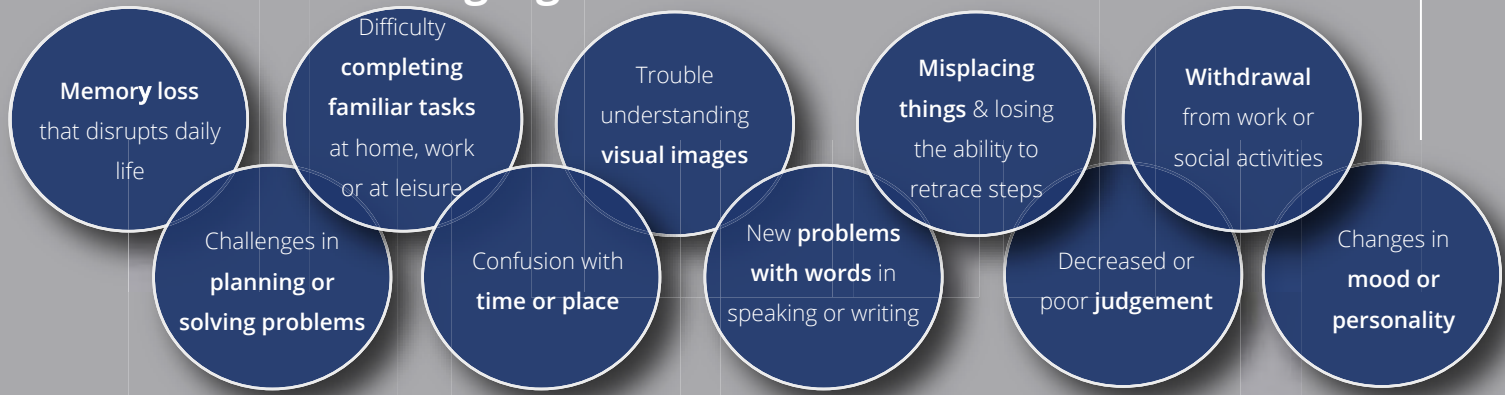
- **Explore treatment alternatives for prescription pain medications:** Physicians are encouraged to work with individuals across the lifespan, along with their caregivers and support team, to identify alternatives to pain management other than opioid prescriptions.⁶
- **Leverage existing data sources to identify opioid abuse:** Public health professionals can utilize Controlled Substance Monitoring Database (CSMD) data to work with established Qsource care transitions communities across the state which include local healthcare providers such as hospital systems, acute care centers, and other providers and medication safety workgroups to reduce opioid abuse through effective patient and provider education.
- **Integrate messaging into existing substance abuse campaigns:** Existing campaigns or services about substance use can incorporate information about brain health into their campaigns to emotionally resonate with families personally affected by Alzheimer's and/or dementia.

HEALTHY BRAIN BRIEF | DETECTION & DIAGNOSIS

EARLY DETECTION & DIAGNOSIS

Diagnosing dementia in a timely manner has many benefits. Individuals can live for up to 20 years after an Alzheimer's or dementia diagnosis. Receipt of an early Alzheimer's diagnosis allows individuals to develop plans for their future while they are cognitively able to make decisions. It is estimated that more than 50% of people living with dementia in the US have never received a diagnosis although 90% of individuals said they would want to know.² In addition to significantly improving the quality of life and care provided to diagnosed individuals, early and accurate diagnosis of Alzheimer's and other dementias could save up to \$7.9 trillion in medical and care costs.²

The 10 Warning Signs of Alzheimer's & Other Dementias



WAYS TO IMPROVE EARLY & ACCURATE DIAGNOSIS OF ALZHEIMER'S & OTHER DEMENTIAS

Healthcare providers can increase their understanding of the warning signs of dementia in order to improve detection and accurate diagnosis of Alzheimer's & other dementias. Early diagnosis gives patients the opportunity to develop advanced care, financial, and quality-of-life plans before cognitive function declines. There are several low or no-cost ways in which public health and healthcare professionals can improve early & accurate diagnosis:

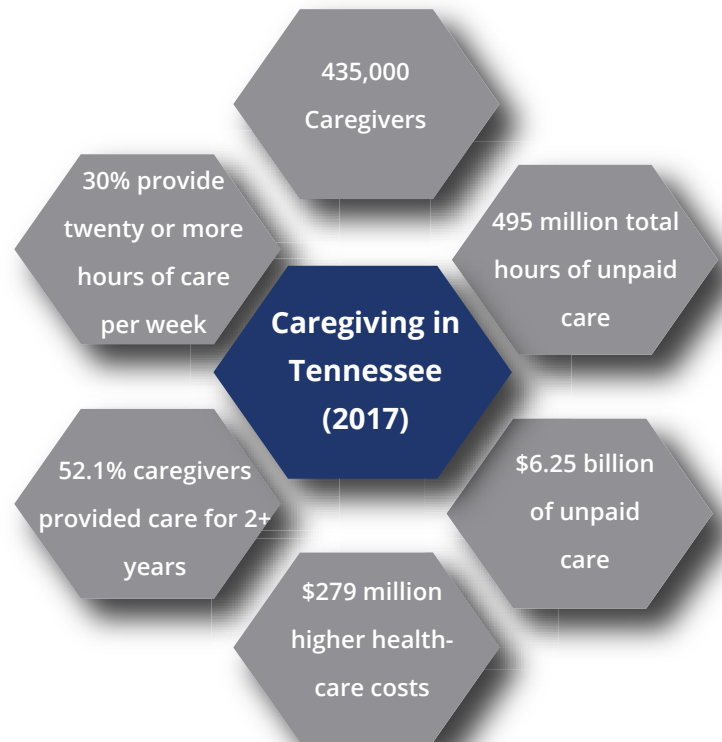
- **Utilization of Subject Matter Experts:** Tennessee Department of Health staff may consider inviting the Alzheimer's Association to conduct an educational workshop for employees or community stakeholders on the early warning signs of Alzheimer's and other dementias and the importance of early detection.
- **Raise provider awareness concerning the new 99483 Cognitive Impairment Care Planning billing code:** The Current Procedural Terminology (CPT) billing code 99483 allows clinicians to be reimbursed for providing comprehensive care planning to cognitively impaired individuals. The code requires clinicians to provide detailed, person-centered care planning, caregiver assessments, and referrals to community resources. Public health efforts to ensure systematic delivery of this service would likely improve care and quality of life for people with dementia and their caregivers.
- **Educating Health Care Professionals:** Promote the importance of timely assessments and disclosure of diagnosis for individuals living with Alzheimer's and their caregivers. In primary care settings, encourage care planning, care coordination, and connect individuals and their caregivers to the Alzheimer's Association for education and community resources.

HEALTHY BRAIN BRIEF | CAREGIVING

CAREGIVING & ALZHEIMER'S

Caregiving is an important component of the quality of life and the care provided to an individual living with Alzheimer's and/or dementia. Eighty-three percent of the help provided to older adults in the United States comes from unpaid caregivers, usually family or friends.² The financial implications of being a caregiver, along with the adverse health impacts, are listed below:

- **Financial Implications:** US businesses lose from \$17.1 billion to \$33.6 billion per year in productivity due to the impact of caregiving responsibilities on full-time employees.¹⁶ In addition, dementia caregivers reported nearly twice the average out-of-pocket costs than non-dementia caregivers.²
- **Health Implications:** While caring for an individual with dementia can be rewarding, many caregivers report significantly higher levels of emotional stress, depression, and anxiety disorders than non-caregivers or caregivers of those living with other chronic conditions.¹⁷



Adapted from the 2018 Alzheimer's Facts and Figures report.

Caregiver interventions are designed to support caregivers physically, financially, and emotionally. These interventions include support groups, counseling, psychoeducational approaches (holistic, structured programs about caregiving), and respite care (provision of planned, temporary relief services through substitute care). Learn more at the Alzheimer's & Dementia Caregiver Center by [clicking here](#).

WAYS TO REDUCE ADVERSE IMPACTS OF CAREGIVING

There are several low or no-cost ways in which public health professionals can support caregivers:

- **Create workplace support services for caregivers:** Respite care, counseling, or even increased awareness and educational outreach about Alzheimer's & dementia among staff are employer-provided strategies utilized around the world. Providing support ensures that caregivers are mentally and physically healthy while balancing work and caregiving responsibilities. Caregivers can also leverage employee assistance programs (EAPs) to receive support.
- **Encourage caregivers to attend structured, educational programs:** Provide Chronic Disease Self-Management Program and National Diabetes Prevention Program classes to targeted caregivers (African American and Hispanic caregivers are more at risk). Visit the Alzheimer's Association website for more information by [clicking here](#) and to find a program near you.

TENNESSEE RECOMMENDATIONS

Public health initiatives are based on population-level data and the development of evidence-based strategies to either prevent, control or eliminate disease. Tennessee Department of Health employees have a role to play in the promotion of healthy lifestyles to reduce the risk of Alzheimer's and other dementias. Tennessee Department of Health can utilize data gathered from available surveillance sources, such as the Behavioral Risk Factor Surveillance System's optional modules for Cognitive Decline and Caregiving, to inform public health programming related to modifiable risk factors for dementia and the importance of brain health across the lifespan. Below are a few recommended strategies for population health professionals:

HEALTHY BRAIN MESSAGING

Develop and distribute a state-specific "Brain Health" toolkit and resource guide to regional, metro, and county level staff in electronic and print formats. These resources will highlight the connection between brain health and the "Big Four" and will provide staff guidance on how to integrate materials into already existing campaigns.

STATEWIDE COLLABORATION

Collaborate with statewide partners to update the Tennessee Alzheimer's State Plan. Coordinate strategies to reduce modifiable risk factors for cognitive decline, strengthen awareness of the importance of early detection and diagnosis, and support optimal health for Tennesseans diagnosed with cognitive impairment and their caregivers.

TDH DIVISION CHAMPION

By identifying a division champion, the topic of Alzheimer's and related dementias will have a "home" at the Tennessee Department of Health, and employees at the state, regional, and local levels will have a point of contact to learn more about modifiable risk factors for cognitive decline.

EMPHASIS IN STATE HEALTH PLAN

Declaring brain health as a state health priority by including it in the 2019 State Health Plan would elevate the topic of Alzheimer's and other dementias at the Tennessee Department of Health, along with setting the stage to collaborate with federal, state, and community partners on brain health initiatives.

FACILITATION OF DEMENTIA TRAINING

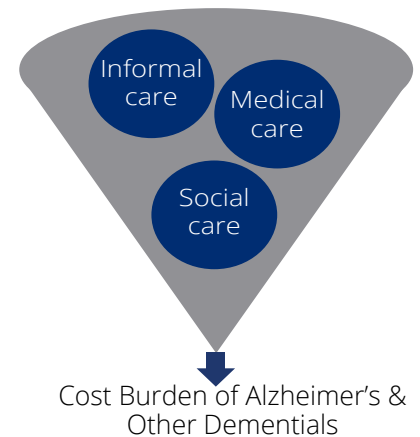
Dissemination of on-line educational materials related to Alzheimer's & other dementias in Tennessee to increase cognitive health knowledge, dementia awareness, diagnosis, and activism among our public health workforce in order to reduce modifiable risk factors and cognitive decline in communities.

BRAIN HEALTH & PRIMARY PREVENTION INITIATIVE

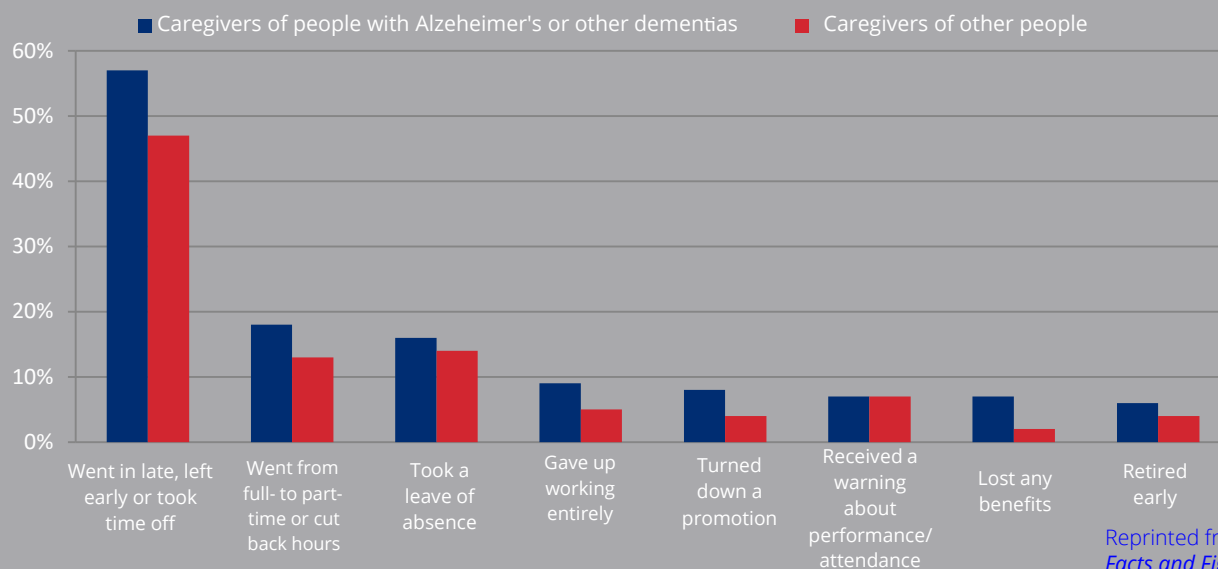
Engage local health department staff, faith-based organizations, business leaders, and other community stakeholders to strengthen local action through the development of primary prevention initiatives to target at-risk populations and reduce modifiable risk factors associated with cognitive decline.

COLLABORATION & ECONOMIC DEVELOPMENT

In order to maintain a healthy workforce, it's important to identify policies and programs to reduce the costs of social care (e.g.—long-term skilled nursing home facility care) and informal care (e.g.—care provided by a relative or friend).¹⁸



Work-Related Changes Among Caregivers of People with Alzheimer's or other Dementias Who Had Been Employed at Any Time Since They Began Caregiving



WAYS ECONOMIC DEVELOPMENT SECTOR CAN ENGAGE WITH ALZHEIMER'S & OTHER DEMENTIA ISSUES

Prevention of Alzheimer's and related dementias and the creation of dementia-friendly communities would significantly reduce the cost burden of Alzheimer's and related dementias. Below are some suggested strategies:

- **Promotion of alternative workplace strategies:** A better work-life balance for caregivers through more choice and flexibility would improve overall worker productivity and retention of employees.¹⁹
- **Provision of employee support services:** Respite care, training and counseling are all employer-provided strategies implemented around the world to ensure caregivers are mentally and physically healthy, increasing worker productivity.¹⁹
- **Partnerships to create dementia-friendly communities:** Creation of dementia-friendly communities, or communities that have infrastructure and resources to support individuals with dementia and their caregivers, require the collaboration of many sectors, including economic development.²⁰ For more information on creating a dementia-friendly community, refer to [Wisconsin's Building Dementia-Friendly Communities toolkit](#).

HEALTHY BRAIN BRIEF | HEALTHCARE

COLLABORATION & HEALTHCARE

As our population ages, it's important to consider ways to better allocate our resources to meet the healthcare needs of Tennessee residents. Below are ways in which Alzheimer's and other dementias affect the healthcare sector, and areas of opportunity.

- **Population Health:** An estimated 90,000 people in the state of Tennessee that are diagnosed with Alzheimer's and/or dementia are also living with another chronic condition such as diabetes or heart disease. Care management for these individuals is challenging, and treatment plans are generally not customized to their specific needs.²
- **Experience of Care:** According to a report by the Alzheimer's Association, surveys conducted among individuals living with Alzheimer's and/or dementia revealed that the process of receiving information about care was overwhelming and confusing.²¹
- **Per Capita Costs:** In the state of Tennessee alone, over \$989 billion Medicaid dollars will be spent in 2018 caring for individuals with Alzheimer's and/or dementia. The per-capita Medicare cost of Alzheimer's and/or dementia is over \$23,000. Prevention of Alzheimer's and/or dementia through health & wellness promotion along with care coordination efforts would reduce per capita costs.²

WAYS THE HEALTHCARE SECTOR CAN ENGAGE WITH ALZHEIMER'S & OTHER DEMENTIA ISSUES

Providers and insurers have a vital role to play with regards to improving high-quality preventative and care services for individuals living with Alzheimer's & related dementias. Below are several low or no-cost strategies for the healthcare sector:

- **Co-create treatment plans with caregivers:** Providers are encouraged to work with individuals living with Alzheimer's and/or dementia along with their caregivers and support team to identify the most appropriate treatment for the individual.
- **Emphasize the delivery of personalized, compassionate care:** Providers can play a role in educating individuals living with Alzheimer's disease and other dementias. Participation in care coordination initiatives linked to hospitalizations, emergency department visits and transitions of care help in reducing healthcare costs.
- **Collaborate with public health professionals to identify prevention & care management opportunities:** Providers & insurers around the country are partnering with the national Alzheimer's Association to identify risk reduction & cost-cutting opportunities. ([click here to learn more](#))
- **Build upon existing partnerships:** Utilizing clinical partnerships, promote preventive services for adults 50-64 years of age.

COLLABORATION & TOURISM

Currently, approximately 1.6 million adults over the age of 60 live in Tennessee. By 2020, 22% of Tennesseans will be 65 and older. Tennessee is one of five states across the country with a formal retiree recruitment program. Retire TN, an initiative housed in the Tennessee Department of Tourism Management, encourages older adults to choose Tennessee for their retirement location.²²



WAYS THE TOURISM SECTOR CAN ENGAGE WITH ALZHEIMER'S & OTHER DEMENTIA ISSUES

Highlighting Tennessee as a state invested in the health and well-being of older adults through the creation of dementia-friendly communities aligns with the mission of Retire Tennessee. Below are some suggested strategies:

- **Encourage Retire TN partners to participate in dementia trainings hosted by the Department of Health:**

The Tennessee Department of Health is hosting a series of online workshops to increase the dementia capability of our workforce. These workshops are publicly available, and can be accessed by [clicking here](#).

- **Assist local Tennessee communities with becoming dementia-friendly:** Only two communities in the state of Tennessee are registered as age-friendly communities with the American Association of Retired Persons (AARP).²³ Creating age-friendly communities involves the support of many different sectors, including the public sector. Assessing how communities are age-friendly as well as promoting/marketing community assets of age-friendliness are ways to support retirees with Alzheimer's and/or dementia.

- **Partnerships to create dementia-friendly communities:** Creation of dementia-friendly communities, or communities that have infrastructure and resources to support individuals with dementia and their caregivers, require the collaboration of many sectors, including economic development.²⁰ For more information on creating a dementia friendly community, refer to [Wisconsin's Building Dementia-Friendly Communities toolkit](#).

HEALTHY BRAIN BRIEF | ASSETS & RESOURCES

AGING & HEALTH RESOURCES

[Tennessee CHOICES Program](#) – Medicaid program in Tennessee which Provides medical and/or personal long-term services and support in the home or in a licensed facility.

[Tennessee Commission on Aging and Disability](#)– online directory with information about various services for seniors including housing, transportation, food services and in-home care.

[Alzheimer's Association Middle Tennessee Chapter](#) – helpline and community resource/education center for caregivers.

[Tennessee Long- Term Care Ombudsman](#) – works to resolve problems or complaints involving long-term care residents through investigation, mediation, and counseling.

[Tennessee Department of Human Services – Adult Protective Services](#) – investigates alleged abuse, neglect, or financial exploitation of adults that are elderly, physically or mentally disabled who may be living at home or in a facility.

LEGAL RESOURCES

[Tennessee Bar Association 214 Legal Handbook for Seniors](#) — contains information about legal planning, including Social Security benefits, long-term care considerations and estate planning, as well as completely new sections addressing online security and new health care legislation.

[Justice For All: A Tennessee Supreme Court Initiative](#) - contains phone numbers and addresses for Legal Aid offices throughout Tennessee.

DIAGNOSTIC RESOURCES

[General Practitioner Assessment of Cognition \(GPCOG\)](#)– Assessment tool, available in multiple languages

[Mini-Cog](#) - Screening tool for cognitive impairment in older adults

[Memory Impairment Screen](#) - PDF screening tool for cognitive impairment and recall, available at the Alzheimer's Association

CAREGIVING RESOURCES

[Best Practices in Workplace: Eldercare](#) — study from the National Alliance for Caregiving that identifies current trends and innovations in workplace policies and practices that support employees with eldercare responsibilities.

[Employer Resource Guide: Four Steps for Supporting Employees with Caregiving Responsibilities](#)—resource guide assists front-line managers and human resource executives in taking action to support their employee caregivers. It provides an understanding for the first steps to take when supporting caregiving employees with tips for taking actions and links to relevant research and resources.

LANGUAGE RESOURCES

[AVAZA Language Services Corp.](#) - Comprehensive language services solution which provides support in 120 languages and provides meaningful language assistance to those communities whom are Limited-in-English Proficiency. Call toll-free 1-800-482-8292.

HEALTHY BRAIN BRIEF | REFERENCES

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County	2016: All Drug Overdose Rate	2016: % Adult Smoking	2014: % Adult Obesity	2014: % Physically Inactive	2015: % Alzheimer's Disease	2016: % Hispanic	2016: % Black/African American
Anderson	40.8	21	31	34	10.9	2.5	5.0
Bedford	Data suppressed	21	32	33	11.2	11.5	9.8
Benton	Data suppressed	23	34	35	9	2.2	3.0
Bledsoe	Data suppressed	26	32	34	10.3	2.1	4.5
Blount	27.2	19	33	29	10.4	3.0	3.6
Bradley	15.3	20	37	34	10.8	5.6	5.4
Campbell	Data suppressed	25	33	31	10	1.2	0.7
Cannon	Data suppressed	21	34	33	11	1.9	1.8
Carroll	Data suppressed	21	31	37	10.5	2.4	11.5
Carter	Data suppressed	24	35	33	10.7	1.6	1.9
Cheatham	37.6	21	37	29	8.8	2.6	2.0
Chester	Data suppressed	21	36	33	10.5	2.3	9.9
Claiborne	Data suppressed	23	27	33	10.7	1.1	1.4
Clay	Data suppressed	25	31	34	10	2.2	1.4
Cocke	Data suppressed	25	33	40	8.1	2.1	2.9
Coffee	Data suppressed	23	34	35	11.8	4.0	2.9
Crockett	Data suppressed	24	29	33	13.1	9.9	14.5
Cumberland	Data suppressed	20	33	32	8.9	2.7	0.8
Davidson	33.2	21	30	26	11.2	10.0	28.8
Decatur	Data suppressed	21	34	35	10.9	3.1	3.5
DeKalb	Data suppressed	22	31	30	9.8	7.2	2.3
Dickson	Data suppressed	21	36	36	9.3	3.1	5.3
Dyer	Data suppressed	23	37	34	11.8	3.1	14.9
Fayette	Data suppressed	19	31	30	8.1	2.4	28.0
Fentress	Data suppressed	25	32	32	8.3	1.3	0.6
Franklin	Data suppressed	21	31	32	9.8	2.9	4.5
Gibson	Data suppressed	22	35	39	12.2	2.5	19.2
Giles	Data suppressed	23	34	33	9.3	2.1	11.1
Grainger	Data suppressed	23	32	30	8.8	2.9	1.1
Greene	Data suppressed	22	34	37	9.4	2.7	2.9
Grundy	Data suppressed	25	35	35	9	0.2	0.8
Hamblen	34.5	24	32	32	11.9	11.2	5.7
Hamilton	19.3	20	31	28	11.7	5.1	20.7
Hancock	Data suppressed	26	32	34	11.2	0.7	0.9
Hardeman	Data suppressed	24	40	32	10.8	1.6	42.2
Hardin	Data suppressed	22	32	33	9.6	2.1	4.5
Hawkins	37.1	21	31	38	8.4	1.3	1.8
Haywood	Data suppressed	22	36	35	10.8	4.2	51.1
Henderson	Data suppressed	24	33	34	10.9	2.2	9.4
Henry	Data suppressed	23	33	34	9.5	2.2	8.9
Hickman	Data suppressed	24	35	31	8.9	2.2	5.4
Houston	Data suppressed	23	33	31	10.1	2.1	4.3
Humphreys	Data suppressed	22	34	30	10.7	2.1	3.8
Jackson	Data suppressed	26	33	34	11.6	1.8	0.7
Jefferson	Data suppressed	21	34	34	9	3.4	2.9
Johnson	Data suppressed	24	30	35	10	1.8	4.4
Knox	38.1	20	32	27	10.8	3.8	10.0

Alzheimer's Source: 2015 Medicare Fee-For-Service data from the CMS Chronic Conditions Data Warehouse

Obesity Source: Robert Wood Johnson Foundation County Health Rankings (2014 CDC Diabetes Interactive Atlas)

Physical Inactivity Source: Robert Wood Johnson Foundation County Health Rankings (2014 CDC Diabetes Interactive Atlas)

Tobacco Source: Robert Wood Johnson Foundation County Health Rankings (2016 Behavioral Risk Factor Surveillance System)

Substance Abuse Source: Data Dashboard, Tennessee Department of Health

Hispanic & Black/African American Population Source: US Census Bureau (American FactFinder 2012-2016 American Community Survey Demographic and Housing Estimates)

County	2016: All Drug Overdose Rate	2016: % Adult Smoking	2014: % Adult Obesity	2014: % Physically Inactive	2015: % Alzheimer's Disease	2016: % Hispanic	2016: % Black/African American
Lake	Data suppressed	27	35	34	12.9	2.1	29.8
Lauderdale	Data suppressed	26	38	34	9.3	2.4	35.6
Lawrence	Data suppressed	23	35	32	10.9	1.9	2.2
Lewis	Data suppressed	22	36	36	8.3	2.2	2.4
Lincoln	Data suppressed	24	35	38	10	3.1	6.2
Loudon	Data suppressed	18	30	28	8.6	7.9	1.8
McMinn	Data suppressed	25	32	36	11.5	3.6	4.5
McNairy	Data suppressed	26	36	34	12.8	1.9	6.7
Macon	Data suppressed	22	32	34	10.8	4.8	0.5
Madison	Data suppressed	19	35	28	9.3	3.6	38.1
Marion	Data suppressed	22	34	31	11	1.7	2.1
Marshall	Data suppressed	20	33	34	10.7	4.8	7.7
Maury	Data suppressed	21	35	29	10.4	5.3	13.0
Meigs	Data suppressed	23	32	33	7.9	1.5	2.7
Monroe	Data suppressed	23	36	33	9.2	3.9	2.6
Montgomery	14.8	21	31	28	8.9	9.5	21.8
Moore	Data suppressed	19	33	32	11.5	0.3	3.5
Morgan	Data suppressed	26	30	32	9.1	1.1	4.9
Obion	Data suppressed	23	33	39	9	3.8	11.5
Overton	Data suppressed	24	38	36	10.5	1.3	1.0
Perry	Data suppressed	24	32	34	9.4	2.2	3.3
Pickett	Data suppressed	20	33	37	10.2	0.6	0.9
Polk	Data suppressed	22	34	32	8.1	1.8	0.4
Putnam	Data suppressed	22	29	27	11.2	5.8	2.7
Rhea	Data suppressed	24	32	38	9.2	4.4	3.1
Roane	49.2	21	35	33	10	1.6	3.3
Robertson	Data suppressed	19	35	33	10	6.1	8.2
Rutherford	18.2	20	36	29	10.4	7.2	15.2
Scott	Data suppressed	25	31	38	10.9	0.7	0.8
Sequatchie	Data suppressed	20	30	33	8.8	3.4	1.4
Sevier	26.1	21	34	40	9.2	5.4	1.3
Shelby	21.1	21	33	27	11.2	6.0	54.2
Smith	Data suppressed	21	35	31	9.5	2.5	3.1
Stewart	Data suppressed	21	33	35	8.1	2.5	2.4
Sullivan	27.4	22	32	31	9.5	1.7	2.9
Sumner	22	19	32	34	11.1	4.3	7.6
Tipton	Data suppressed	20	35	35	10.5	2.6	19.4
Trousdale	Data suppressed	21	32	31	13.5	0.4	11.8
Unicoi	Data suppressed	22	35	30	11	4.3	1.0
Union	Data suppressed	23	32	34	7	1.5	0.5
Van Buren	Data suppressed	22	34	34	8.9	0.9	0.4
Warren	Data suppressed	23	34	28	11.5	8.5	1.7
Washington	29.3	21	29	32	10	3.2	5.1
Wayne	Data suppressed	25	33	37	10	1.9	6.9
Weakley	Data suppressed	21	34	36	10.1	2.2	9.8
White	Data suppressed	21	32	36	10.2	2.3	2.9
Williamson	12.3	15	24	21	10.3	4.6	4.8
Wilson	25.6	19	34	29	9.9	3.7	7.4