Georgia's 2024 Report on Dementia

Table of Contents

Background	3
Section 1: Risk Factors, Prevalence, and Mortality	3
Section 2: Impact and Burden on Families and Caregivers	12
Section 3: Access to Care	14
Section 4: State Action	19
Section 5: Works Cited	20

This report was developed for the Georgia Department of Human Services' Division of Aging Services by the University of Georgia's Carl Vinson Institute of Government. Research, data analysis, and project management provided by Madelyn Cantu, Bennett Hardee, Taylor Hafley, Ashlee Tziganuk, and Greg Wilson. Data visualization by Linet Namuli. Editing by Hannah Hussain and graphic design by Jake Brower.

Thank you to Dina McDonald, Staci Hannah, and Rebekah Davis of the Division of Aging Services for providing support and guidance throughout the development of the report.



Background

In response to the growing number of people with Alzheimer's disease and related dementias (ADRD), the Georgia General Assembly created the Georgia Alzheimer's and Related Dementias State Plan Task Force (GARD) in 2013.¹ The primary focus of the task force was to create a statewide plan to improve dementia research, awareness, training, and care in Georgia. The first GARD State Plan was established in June 2014 and covered a wide range of information, including the prevalence of ADRD in Georgia, existing resources for individuals living with ADRD and their caregivers, the state's capacity to meet ADRD needs, and how to address those needs moving forward.² Updates to the state plan occur every four years, with the most recent update occurring in 2020.³ The 2020 plan focused on creating actionable and measurable goals within the following six priority areas: 1) Research and Data, 2) Workforce Development, 3) Service Delivery, 4) Public Safety, 5) Outreach and Partnership, and 6) Policy.⁴ In addition to updating the state plan, GARD is required by House Bill (H.B.) 571 to submit a report every four years to the governor and General Assembly on the latest data and statistics around dementia in Georgia and progress made towards the goals identified in the state plan.⁵

With assistance from the University of Georgia's Carl Vinson Institute of Government, the Department of Human Services' (DHS) Division of Aging Services (DAS) has developed this report to fulfill the inaugural report required under H.B. 571. This report examines data and trends around ADRD in Georgia within the following three core areas:

- Risk Factors, Prevalence, and Mortality
- Impact and Burden on Families and Caregivers
- Access to Care

These core areas were chosen based on information gathered from stakeholder interviews as well as the prevalence of these topics in existing ADRD literature. Additionally, this report highlights the programs and mechanisms the state is investing in ADRD prevention, treatment, and support.

ALZHEIMER'S DISEASE AND RELATED DEMENTIAS OVERVIEW

Alzheimer's Disease and Related Dementias (ADRD) are conditions characterized by changes in the brain that impact memory, language, problem-solving, and other thinking skills. While dementia is a broad term used to describe this overall group of symptoms, diseases like Alzheimer's are considered causes of dementia. Though Alzheimer's is the most common cause of dementia, other related dementias exist, including conditions such as Lewy body dementia and cerebrovascular disease. It is estimated that 6.9 million Americans are living with Alzheimer's dementia, a number that is projected to climb as the U.S. population ages 65 and older continues to grow. In addition to an increase in the number of people and their families who are impacted by ADRD, the total annual payments for health care and long-term care for people with Alzheimer's disease in the U.S. is projected to increase from \$360 billion in 2024 to \$1 trillion in 2050. These impacts indicate a need to address the multifaceted issues surrounding ADRD moving forward.





Section 1: Risk Factors, Prevalence, and Mortality

To understand the burden of ADRD in Georgia, this section focuses on ADRD risk factors, prevalence, and mortality. The section begins by outlining non-modifiable risk factors such as age and how they align with the characteristics of Georgia's population. Modifiable risk factors, such as obesity and smoking, are also highlighted. To address the magnitude of ADRD's impact on individuals and communities, the prevalence of ADRD in Georgia is presented using data from the Georgia Department of Public Health (DPH) and Medicare. Prevalence data is examined by characteristics such as age, sex, and race and ethnicity. Finally, the section concludes by highlighting mortality data, which examines ADRD deaths across demographic characteristics.

RISK FACTORS

Research suggests ADRD is often associated with multiple risk factors. Understanding risk factors can help with ADRD prevention and diagnosis response. Individuals and their physicians can use risk factor information to support the individual's quality of life and overall prognosis.

Non-Modifiable Risk Factors

The three primary risk factors for Alzheimer's and related dementias are non-modifiable: age, genetics, and family history. Of these, age is the greatest risk factor. This is true of Alzheimer's disease. Additionally, while a variety of genes have been studied in relation to Alzheimer's disease, the e4 form of the APOE gene has the largest impact on risk. Family history is also a risk factor. This is true of Alzheimer's disease. The risk is even higher if a person has multiple first-degree relatives with ADRD.

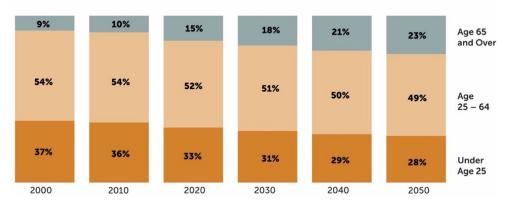
Demographics

Age is the greatest non-modifiable risk factor. Approximately one in nine people ages 65 and older (10.9%) have Alzheimer's in the U.S.¹⁴ Within the 65 and older population, the share of the population that has Alzheimer's increases with age. For example, 5% of people ages 65-74, 13.2% of people ages 75 to 84, and 33.4% of people ages 85 or older have Alzheimer's disease in the U.S.¹⁵ This risk factor is pertinent to Georgia because the 65 and older population is the fastest growing age cohort in the state. The number of Georgians over the age of 65 doubled between 2000 and 2020 and is projected to approach 3 million by 2050. As a result, the number of Georgians who are over the age of 65 is projected to increase. Figure 1 below shows Georgia's age-based demographic shifts between 2000 and 2050.





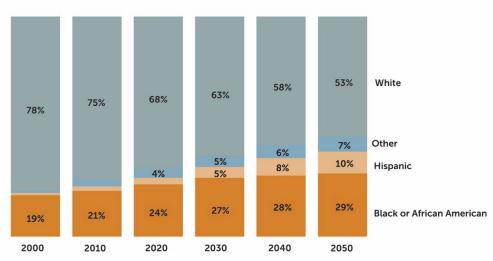
Figure 1. Georgia Population Changes by Age Categories, 2000-2050



Source: U.S. Census Bureau Population Estimates and Governor's Office of Planning and Budget, 2024 Series.

Race and ethnicity are also risk factors. Older Black adults are twice as likely to have Alzheimer's or related dementias as older white adults. ¹⁶ Hispanic older adults are around one and a half times more likely than older white adults. ¹⁷ Figure 2 below shows the population changes of Georgians ages 65 and older by race and ethnicity between 2000 and 2050. The number of Georgians ages 65 and older is projected to increase across all racial and ethnic groups. However, the number of non-white Georgians over the age of 65 has increased faster than white Georgians, a pattern which is projected to continue. As Figure 2 shows, almost 78% of the population ages 65 and older were white in 2000; by 2020, that share was down to about 68%. As the population continues to diversify, the latest projections show that this number will approach 53% by 2050. Given this shift in the composition of older-age Georgians, the projected population changes may be associated with more ADRD cases overall.

Figure 2. Distribution of Georgia's Over Age 65 Population by Race and Ethnicity, 2000-2050



Source: U.S. Census Bureau Population Estimates and Governor's Office of Planning and Budget, 2024 Series.

Modifiable Risk Factors

Some studies estimate that up to 40% of dementia cases are associated with modifiable risk factors. ¹⁸ Common modifiable risk factors include obesity, high blood pressure, diabetes, smoking, insufficient sleep, and lack of exercise. These are listed in Table 1 below.

Table 1: Common Modifiable Risk Factors for ADRD

Description	Georgia Data
Obesity - Obesity can put strain on a variety of systems in the body, including the heart and blood vessels which are essential to brain health. ¹⁹ The World Health Organization defines obesity as a body mass index of 30 or higher. ²⁰	From 2012 to 2022, the average obesity rate for Georgians aged 45 and older was 35%. This is higher than the overall obesity national average of 30.9%. ²¹
High Blood Pressure - Brain health is impacted by heart and blood vessel health. High blood pressure and strokes increase the risk of ADRD. ²²	From 2011 to 2021, the average percentage of Georgians with high blood pressure was 34.7%. For Georgians aged 45 and older, the average was 52.6%. ²³
Diabetes - Uncontrolled blood sugars can impact organ function, including the brain. Over time, this can increase the risk of Alzheimer's disease and vascular dementia. ²⁴	As of 2022, the prevalence of diabetes in Georgia is 12.1%. This number is slightly higher than the national average of 11.5%. 25
Smoking tobacco - Smoking is associated with damage to the heart and blood vessels and thus an increased ADRD risk. ²⁶	For Georgians aged 45 and older, tobacco use has dropped in the last decade. Tobacco smoking decreased from 17.4% to 13% from 2012 to 2022. ²⁷
Insufficient sleep - Sleep is essential for brain health and recovery. Poor sleep is associated with an increased risk of ADRD. ²⁸	Georgia ranks 40 th for insufficient sleep nationwide. From 2012 to 2022, on average 37.6% of Georgians reported insufficient sleep. ²⁹
Physical inactivity - Lack of exercise is often associated with heart and blood pressure issues. ³⁰	From 2012 to 2022, the average percentage of Georgians who did not exercise was 26.5%. Physical inactivity rates were even higher for Georgians aged 45 and older, with an average of 36.1%. 31

PREVALENCE

Prevalence data is essential to understanding the magnitude of ADRD's impact on individuals, communities, health systems, and safety net programs. ³² In this case, prevalence is "the number and proportion of people in a population who have ADRD at a given point in time." ³³ The Alzheimer's Association reports that around 188,000 Georgians have Alzheimer's alone. ³⁴





The following prevalence data relies on Medicare beneficiary ADRD data analyzed by Georgia DPH. Medicare is a federal health insurance system for people ages 65 and older. The following estimates are limited to the population enrolled in Medicare. While around 188,000 Georgians ages 65 and older have Alzheimer's, nearly 74,000 of those are Medicare beneficiaries with a formal ADRD diagnosis. There were around 1.9 million Georgia Medicare beneficiaries in 2022. This means the prevalence of formal ADRD diagnoses among all Georgia Medicare beneficiaries was 3.7%. The mean age at diagnosis was 81 for females and 78 for males. The mean age at diagnosis also varied by race and ethnicity: white (80), Black (77), Asian (81), and Hispanic (80). 36

Figure 3 shows the Georgia Medicare beneficiaries by age group and indicates that the number of ADRD cases among Georgia Medicare beneficiaries increases significantly with age, which is in line with national statistics. According to Figure 3, 77% of ADRD cases were in individuals ages 75 years and older in 2022.³⁷ Figure 4 shows that ADRD was more common for women (45,751) than men (28,023). Figure 5 shows that the prevalence of ADRD among Medicare beneficiaries was higher for white individuals (4.2%) than Black (2.9%), Asian (2.2%), or Hispanic (2.1%) individuals. This finding contrasts with studies that suggest Black and Hispanic individuals are more likely to develop ADRD. Potential reasons for this discrepancy include differences in access to care and population differences among racial and ethnic groups in Georgia. Some studies indicate that missed or delayed diagnoses of ADRD are more common for Black and Hispanic older adults than white older adults. ³⁸ Lastly, Appendix C provides the prevalence rates by public health district.

Figure 3. Number of Georgia Medicare Beneficiaries with ADRD by Age, 2022



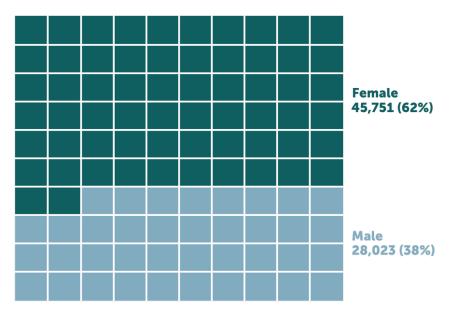
Source: Georgia Department of Public Health. "Alzheimer's Disease & Related Dementias Among Medicare Beneficiaries." 2024.

ⁱ Medicare is also available to individuals under age 65 receiving Social Security Disability Insurance after a waiting period. ADRD data is limited for individuals under 65 years old.



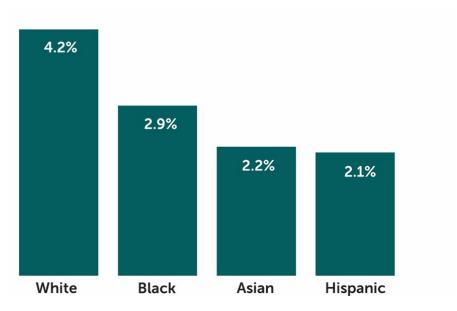
Carl Vinson Institute of Government UNIVERSITY OF GEORGIA

Figure 4. Number of Georgia Medicare Beneficiaries With ADRD by Sex, 2022



Source: Georgia Department of Public Health. "Alzheimer's Disease & Related Dementias Among Medicare Beneficiaries." 2024.

Figure 5. Prevalence of ADRD Among Georgia Medicare Beneficiaries by Race and Ethnicity, 2022



Source: Georgia Department of Public Health. "Alzheimer's Disease & Related Dementias Among Medicare Beneficiaries." 2024.

MORTALITY

Mortality refers to the number of deaths in a group of people over time. According to the Centers for Disease Control and Prevention (CDC), Alzheimer's disease is the seventh leading cause of death in Georgia.³⁹ Figures 6 and 7 contain mortality data from the Online Analytical Statistical Information System (OASIS), Georgia DPH's health data portal. The mortality data is based on death certificates. Figure 6 shows that, for Georgians of all ages, ADRD deaths have increased from 2012 to 2022. Deaths grew from 6,788 to 10,264, or a 51% increase, from 2012 to 2022.⁴⁰

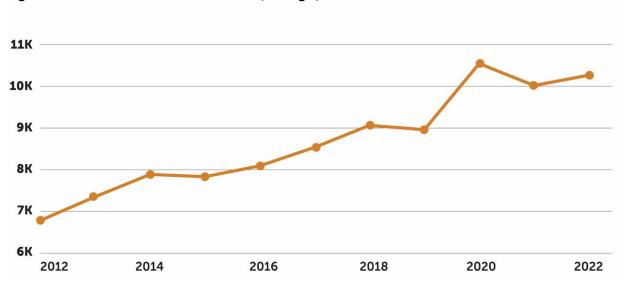


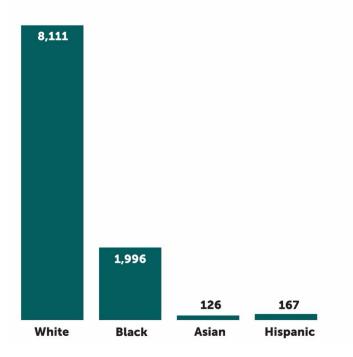
Figure 6. Overall Number of ADRD Deaths, Georgia, 2012 - 2022

 $Source: Georgia\ Department\ of\ Public\ Health.\ "Online\ Analytical\ Statistical\ Information\ System."\ \underline{https://oasis.state.ga.us/trendingtool/MortalityADRD}.$

In 2022, ADRD deaths were higher for women (6,510) than men (3,754). ADRD deaths also varied by race and ethnicity. Figure 7 shows that white individuals had the highest number of ADRD deaths (8,111), followed by Black (1,996), Hispanic (167), and Asian (126) individuals, respectively. Table 2 indicates that ADRD mortality was highest for Georgians 85 years or older, accounting for more than half of ADRD deaths in 2022.



Figure 7. Overall Number of ADRD Deaths by Race and Ethnicity, Georgia, 2022



 $Source: Georgia\ Department\ of\ Public\ Health.\ "Online\ Analytical\ Statistical\ Information\ System."\ \underline{https://oasis.state.ga.us/trendingtool/MortalityADRD}$

Table 2: ADRD Deaths by Age Group, Georgia, 2022

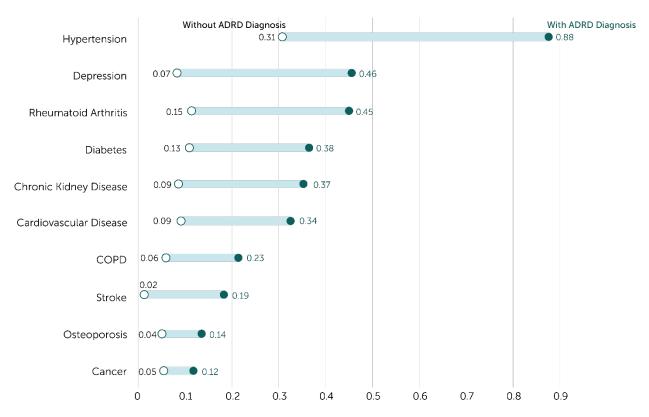
Age Group	Number of Deaths	% of Total
Under 55	41	0.4%
55-64	169	1.6%
65-74	1,060	10.3%
75-84	3,488	34.0%
85+	5,506	53.6%

 $Source: Georgia\ Department\ of\ Public\ Health.\ "Online\ Analytical\ Statistical\ Information\ System."\ \underline{https://oasis.state.ga.us/trendingtool/MortalityADRD.}$

The prior data focused on ADRD mortality overall in Georgia. The following data focuses on Georgia ADRD mortality for Medicare beneficiaries. ⁴¹ Four percent of Georgia Medicare beneficiaries died in 2022; 23.4% of Georgia Medicare beneficiaries with ADRD died in the same year. The median time from diagnosis to death was 20 months. ⁴² The top 10 causes of death for Medicare beneficiaries with ADRD were unspecified Alzheimer's disease (12.8%), senile degeneration of brain (8.1%), unspecified dementia (6.1%), COVID-19 (5.7%), atherosclerotic heart disease (3.9%), chronic obstructive pulmonary disease (3.4%), Parkinson's disease (3.1%), congestive heart failure (2.8%), late onset Alzheimer's disease (1.8%), and unspecified heart failure (1.8%). ⁴³

People with ADRD are more likely to have additional chronic conditions than seniors without ADRD. ⁴⁴ Figure 8 compares the top 10 chronic conditions among Medicare beneficiaries with and without ADRD. For example, only 31.2% of Georgia Medicare beneficiaries without ADRD had hypertension. Meanwhile, 88% of Georgia Medicare beneficiaries with ADRD had hypertension. Chronic conditions can worsen dementia symptoms and add further complexity to individual treatment plans. ⁴⁵

Figure 8. Top 10 Chronic Diseases Among Medicare Beneficiaries With and Without ADRD, Georgia, 2022



Source: Georgia Department of Public Health. "Alzheimer's Disease & Related Dementias Among Medicare Beneficiaries." 2024.

Section 2: Impact and Burden on Families and Caregivers

To understand the impact and burden of ADRD on families and caregivers in Georgia, this section highlights the direct and indirect costs of ADRD. The section begins by highlighting direct costs, such as the cost of medical care and residential services, before outlining indirect costs, which are primarily experienced by caregivers who are providing unpaid care. Impacts of these costs on families, caregivers, and the economy are noted. Though data on caregivers in Georgia is limited, the section concludes by highlighting findings from a survey provided to caregivers around the state from the Georgia Memory Net.

COSTS OF ADRD

Direct Costs

ADRD has economic and social costs for individuals, their families, and society at large. ADRD is estimated to be costlier than other public health threats such as pulmonary disorders and diabetes. ⁴⁶ The costs of ADRD stem from direct medical costs, as well as indirect costs such as the value of unpaid caregiver time (i.e., family and friends). ⁴⁷ Direct medical costs can include medical care, caregiver support, and long-term care such as residential services. ⁴⁸ In 2020, typical yearly costs for residential services in the U.S. varied from \$52,000 for home health aides to \$102,000 for a private room in a nursing home. ⁴⁹ In the same year, a study published in *NPJ Aging* estimated that people in the United States spent \$196 billion in direct medical costs for ADRD and an additional \$254 billion in caregiver time. ⁵⁰

Indirect Costs

More than 11 million Americans provide unpaid care to people with ADRD.⁵¹ Caregivers can experience negative impacts on their physical and emotional health due to the stresses of caregiving, especially over time.⁵² Caregivers also experience financial strain as their additional duties make them less productive at work and contribute to out-of-pocket expenses for items like medications and food for the person with ADRD.⁵³

The Alzheimer's Association estimates that there are around 375,000 ADRD caregivers in Georgia providing 775 million total hours of unpaid care per year. ⁵⁴ When translating these "lost" hours into total value of unpaid care, the state economy loses about \$11.4 billion in potential wages annually. ⁵⁵ⁱⁱ In addition to the physical, mental, and financial strain upon caregivers, ADRD caregivers' duties are typically more time-consuming than non-dementia caregivers. Dementia caregivers nationwide typically provide 27 more hours of care per month than other caregivers (92 hours as compared to 65 hours). ⁵⁶

Table 3 provides the latest insights on caregiving for Georgians ages 50 and older according to the Centers for Disease Control and Prevention (CDC). CDC data confirms Alzheimer's Association studies that the number of caregiving hours for those with an ADRD diagnosis increased.

ⁱⁱ To calculate the value of unpaid caregiver hours for each state, the hourly value of care was determined as the average of the state minimum hourly wage and the most recently available state median hourly cost of a home health aide. This is intended to provide a conservative estimate of value.





Table 3: Georgians Ages 50 and Older Caregiving Intensity, 2022

Percentage of older Georgians who have been a caregiver in the past 30 days	23.2%
Percentage of older Georgians who have been a caregiver in the past 30 days to someone with cognitive impairment	26.6%
Percentage of older Georgians averaging 20 or more hours of care per week to a friend or family member	38.2%
Percentage of older Georgians providing care for 6 months or more	72.8%
Percentage of older Georgians who are not currently caregivers but expect to be in the next 2 years	17.0%

Source: U.S. Centers for Disease Control and Prevention Alzheimer's Disease and Healthy Aging Data Portal. https://www.cdc.gov/aging/agingdata/index.html.

Limited information exists on caregivers of people with ADRD in Georgia. The Georgia DPH shares information on caregivers, but ADRD does not rank among the top 10 chronic conditions. Table 4 below summarizes data from the Georgia Memory Net's information on caregivers, according to their surveys.

Georgia Memory Net Data on Caregiver Strain and Burden

In a closer look at the burden on ADRD caregivers in Georgia, Georgia Memory Net (GMN) has captured multiple surveys of their Memory Assessment Clinic (MAC) patient caregivers. iii Among GMN patients, most caregivers are children of the patient (40.2%) or a spouse/partner (34.5%). Only 10% of GMN patients are primarily responsible for their own care. ⁵⁷ Of the caregivers that responded to GMN's surveys, the greatest burden noted was stress from balancing their duty to care for a loved one and their other responsibilities, in addition to uncertainty about how to best provide care. Table 4 features key takeaways from these caregiver surveys that shed light on caregiver burden among GMN patient caregivers.

iii These include the Zarit Burden Instrument (ZBI), the Benjamin Rose Institute (BRI) Caregiver Strain Survey, the Functional Activities Questionnaire (FAQ), and an internal Caregiver Needs Assessment (CNA).





Table 4: Georgia Memory Net Caregiver Survey Takeaways

Data on GMN Caregiver Burden

69% of caregivers note they lack an understanding of dementia

42.2% of caregivers feel their patient is dependent on them for financial needs

40% of caregivers are concerned about the safety of their home due to patient falls, access to firearms, leaving on appliances, etc.

26% of caregivers felt uncertain about how to best care for the patient

25% of caregivers feel downhearted, blue, or sad more often as a result of their duties

16.7% of caregivers feel the relationship with their patient/loved one has been strained

12.3% of caregivers feel that they have lost control of their own lives

Source: Georgia Memory Net Patient Caregiver Surveys, 2020-2024.

Section 3: Access to Care

This section focuses on access to quality medical care and long-term care facilities for ADRD in Georgia. The section begins by examining the ADRD workforce in Georgia, including the prevalence of specialists such as neurologists and geriatricians across the state's counties and regions. Health care workers, such as nurse practitioners, are also examined by prevalence and specialty. Finally, the section concludes by highlighting trends in statewide long-term care facilities.

ACCESS TO PROVIDERS

Access to quality medical care providers and long-term care facilities is important in diagnosing and managing ADRD. In 2017, 91.6% of Georgia residents ages 65 and older indicated that they had seen a doctor within the past 12 months. However, in 2022, only 47% of Medicare recipients ages 65 and older in Georgia had an annual wellness visit. Suisits can be impacted by the availability of providers in one's area, especially in more rural areas where residents sometimes must travel long distances to see a specialist. A widespread shortage of medical professionals across the country has brought attention to the current and future status of the ADRD workforce. As Georgia's population continues to age (see Figure 1), the share of the working age population is projected to decrease, a noteworthy shift as the state considers resource allocation, programming, and workforce needs to support older Georgians. The ADRD workforce functions along a continuum of care which involves screening, diagnosing, and caring for individuals living with dementia throughout their lives. The workforce can include primary care physicians (PCPs), specialists like geriatricians and neurologists, registered nurses, home health aides, and more.

PRE-DIAGNOSIS CARE

There is a nationwide shortage of specialists, such as neurologists and geriatricians, who are best equipped to detect and diagnose ADRD and provide specialized care.⁶³ Projections show that the supply of geriatric physicians and neurologists in Georgia will not meet the demand by 2036.⁶⁴ Although PCPs are most likely to make an initial diagnosis of ADRD, reliance on PCPs has led to delays in diagnoses as PCPs struggle to detect ADRD with limited skills and time constraints.⁶⁵ A 2019 nationwide survey by the Alzheimer's Association found that 55% of PCPs surveyed reported that there were not enough specialists in their area to meet ADRD demand.⁶⁶

According to the licensure data, 27,750 actively licensed physicians practice in Georgia, with only 480 specializing in neurology (1.7%) and 39 specializing in geriatric medicine (0.14%) (see Table 5).⁶⁷ While PCPs are found in most counties throughout the state, licensed neurologists exist in only 41 counties, with 43% of neurologists located in DeKalb and Fulton counties alone.⁶⁸ Those specializing in geriatric medicine practice in only 14 counties, with 46% of these doctors found in DeKalb and Fulton counties.





Northwest Georgia Atlanta Regional commissio Northeast Georgia 17 307 Central Savannah **River Area** Three Rivers 46 10 Middle Georgia 16 Heart of Georgia Altamaha 2 Coastal Georgia 22 Southwest Georgia Southern Georgia 10 10

Figure 9. Number of Neurologists by Regional Commission

Source: Georgia Data Analytics Center, Workbook: State of Georgia Physician Workforce, 2021-2022.

Though the number of neurologists increased slightly from the 2019-2020 licensure data (449 to 480), data still show a lack of neurologists outside of the Atlanta Regional Commission. ⁶⁹ In 2022, Georgia had less neurologists per 100,000 people (3.3) than the U.S. (4.4). Additionally, Georgia had fewer physicians practicing geriatric medicine per 100,000 people (6.1) than the U.S. (8.1). ⁷⁰

Table 5. Number of Physicians in Georgia by Specialty and Their Prevalence in Counties

	Primary Care Physicians (PCPs)	Neurologists	Geriatric Medicine
Total	3,255	480	39
Number of counties	143	41	14

Source: Georgia Data Analytics Center, Workbook: State of Georgia Physician Workforce, 2021-2022.



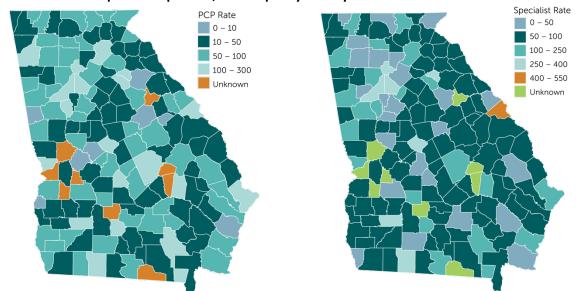


Figure 10. PCPs and Specialists per 100,000 People by County

Source: Georgia Data Analytics Center/Georgia Board of Health Care Workforce 2019-2020 Renewal Survey. U.S. Census Bureau Decennial Census.

Because ADRD predominately impacts those ages 65 and older, it is also important to consider how many of these specialists accept Medicare. While the Georgia Board of Health Care Workforce (GBHCW) did not collect Medicare information in their 2021/2022 survey, data was available for the previous 2019/2020 survey. Of the 449 licensed neurologists in 2019/2020, 71% accepted Medicare. For the 37 geriatric practitioners, 81% accepted Medicare.

POST-DIAGNOSIS CARE

Health Care Workers

After a provider determines a diagnosis, many other health care workers provide treatment and care for individuals with ADRD. For example, physician assistants and nurse practitioners frequently care for those with ADRD. There are much higher numbers of nurse practitioners, physician assistants, registered nurses, and licensed practical nurses in Georgia than specialists like neurologists, and the supply of all are projected to surpass the state's demand by 2036. However, only a few of these providers are certified in gerontology and geriatric medical care. In 2022, 16% of nurse practitioners in the U.S. were certified for gerontology (0.9%), gerontology acute care (6.1%), and gerontology primary care (8.9%). In 2018, less than 1% of physician assistants in the U.S. were certified in geriatric medical care. These trends are similar for registered nurses. In 2021, fewer than 1% of registered nurses in the U.S. were certified in geriatrics.



Table 6. Number of Nurses in Georgia by Type and Prevalence in Counties

	Registered Nurses	Licensed Practical Nurses	Nurse Practitioners	Physician Assistants
Total	113,573	27,066	11,877	4,484
Number of counties	159	158	156	118

Source: Georgia Data Analytics Center, Workbook: State of Georgia Nursing Workforce, 2022-2023.

Home Health and Hospice Care

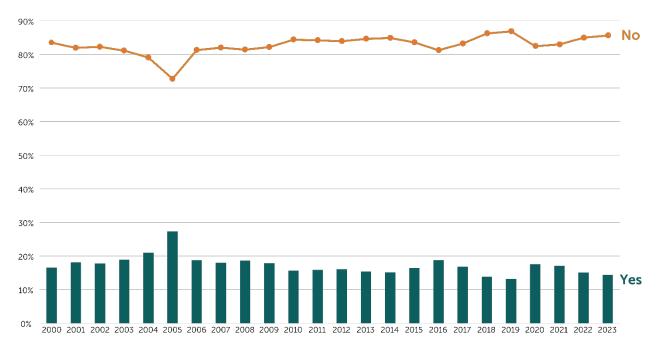
After diagnosis, many people with ADRD require extensive home health care and/or hospice care, especially among the 65 and older population. According to Centers for Medicare & Medicaid Services (CMS) data from 2022, 20,762 traditional Medicare beneficiaries with ADRD utilized home health services. ⁷⁶ The median number of visits per calendar year was 19, with a total among all beneficiaries of 544,475. The total cost to traditional Medicare for these services was nearly \$118 million. For hospice care, a slightly smaller number of beneficiaries (around 18,000) utilized these services. Out of these ADRD beneficiaries, hospice care was utilized 20,842 times, representing 33% of all hospice care services paid for via traditional Medicare. Of those with ADRD who died in 2022, 69% utilized hospice care. The total cost of these hospice services reached over \$311 million, or about 38% of all hospice spending among Medicare beneficiaries in Georgia. ⁷⁷ As the population ages and more individuals experience ADRD, these public health care costs may grow.

ACCESS TO LONG-TERM CARE FACILITIES

In 2018, estimates showed that between 30% and 40% of adults in the U.S. with dementia live in nursing homes and 70% of people with dementia will die in a nursing home. ⁷⁸ Due to the prevalence of people with dementia who will utilize nursing homes, access to quality nursing homes is needed. Access to quality nursing home care has become more difficult since the COVID-19 pandemic due to labor shortages, inflation, and a lack of funding. ⁷⁹ Since the pandemic, the U.S. has seen a decline in the number of available nursing home beds as more facilities closed and few new ones opened. ⁸⁰

As of August 2024, Georgia had 357 nursing homes. ⁸¹ The number of nursing homes in the state has ranged from a peak of 387 in 2000 to a low of 284 in 2014. Since 2000, the percentage of Georgia nursing homes that have an Alzheimer's unit has remained relatively consistent, averaging at 17% (see Figure 12). Like many places in the U.S., nursing homes in Georgia are experiencing staff shortages. To ensure that residents receive clinical care, nursing homes need to provide at least 4.10 nurse staff hours per resident day (HPRD). As of 2024, Georgia's nursing homes were providing 3.42 HPRD, and ranked 48th nationally for this metric. ⁸²

Figure 11. Percentage of Nursing Homes With an Alzheimer's Unit, 2000-2023



Source: Georgia Department of Community Health, State Nursing Home Survey Database.



Section 4: State Action

The final section of this report highlights notable initiatives and state investment focused on ADRD in Georgia. It provides brief descriptions of programs such as Georgia Memory Net and Area Agencies on Aging, as well as other initiatives such as the Georgia Department of Public Health BOLD Grant, UGA Cognitive Aging Research and Education (CARE) Center and Clinics, and Dementia Friends of Georgia. Each description contains background information on each program or initiative and explains what each of these groups is doing to address ADRD needs in the state. Much of the information in this section is sourced from stakeholder interviews with program managers or other coordinators and from internal documents provided during the data collection process.

OVERVIEW

In 2014, Georgia established the GARD State Plan to introduce new ADRD resources and concentrate the efforts of public agencies in Georgia. The GARD Advisory Council and associated workgroups have introduced new goals and strategies to assist Georgians experiencing dementia. Some of the notable initiatives designed to help Georgians living with ADRD covered below include:

- GARD workgroup strategy and goal updates
- Georgia Memory Net (GMN)
 - Memory Assessment Clinics (MACs)
- Area Agencies on Aging (AAAs)
 - o Dementia Care Specialist Program
- Other recent initiatives that are not directly state-funded, such as the BOLD grant, UGA's CARE Center, and Dementia Friends Georgia

The State of Georgia has multiple public agencies focused on ADRD, providing support to those with dementia and their caregivers, and monitoring ADRD-related public health data. The primary organization tasked with the former two activities is the Georgia Department of Human Services' (DHS) Division of Aging Services (DAS). DAS houses the GARD State Plan and manages the Area Agencies on Aging and related dementia programming. ⁸⁴ The Georgia Department of Public Health (DPH) monitors public health data related to ADRD, such as comorbidities, prevalence, and mortality, houses the Georgia Alzheimer's Registry, and performs analyses with data from Medicare on the subject. ⁸⁵ DPH also partners with DHS/DAS to administer and analyze two modules within the Behavior Risk Factor Surveillance Survey (BRFSS): caregiving (even years) and subjective cognitive decline (odd years). Outside of these two lead agencies, Georgia Memory Net works with DPH on the expansion of telehealth diagnostic services.

GARD WORKGROUPS

The State Plan on ADRD established six workgroups. The six workgroups are: 1) Workforce Development, 2) Service Delivery, 3) Outreach & Partnerships, 4) Policy, 5) Public Safety, and 6) Health Care, Data, and Research Collection. ⁸⁶ These workgroups are tasked with making progress on goals, objectives, and strategies identified in the state plan. The individual workgroups typically meet monthly. All groups combined, known as "the GARD Collaborative," meet quarterly and include stakeholders such as medical professionals, caregivers, advocates, and people living with dementia. All members of the GARD Collaborative volunteer





their time and experience for these efforts, as the workgroups do not receive appropriations for their activities.⁸⁷ Details on workgroup updates are in Appendix 2.

GEORGIA MEMORY NET

Georgia Memory Net (GMN) was established in July 2017 through a partnership between the Georgia DHS and the Goizueta Alzheimer's Disease Research Center at Emory University. ⁸⁸ The program is managed at Emory University. After GMN's initial funding of \$4.12 million in Fiscal Year (FY) 2018, the Georgia General Assembly has supported the program's growth by increasing funding levels to \$7.12 million annually in FY 2023. The primary goal of GMN is to provide earlier diagnoses, which is done by increasing the number of cognitive screenings so that specific dementia diagnoses are possible and services are available for citizens, particularly those in medically underserved areas and populations. ⁸⁹

Georgia Memory Net opened five Memory Assessment Clinics (MACs) by July 1, 2018. Facilities have opened in Savannah and Gainesville since FY 2023, and another MAC is set to open in Vidalia. MACs are state-funded, privately managed clinics where individuals screened by their PCPs for dementia can receive more precise diagnoses, care plans related to their diagnoses/symptoms, and scheduling for other tests, such as MRIs. 90 Each MAC is staffed by a physician lead, a community services educator, a neuropsychological tester, and coordinators/clinic managers. Additional staffing is at the discretion of each clinic. Each of these professionals provides multiple types of service in the GMN model, and MACs are instructed to cross-train their staff.91

The services at each MAC are operated by partner health organizations, such as Phoebe Putney Health System in Albany and Grady Health System/Morehouse College in Atlanta, and employees are subcontracted through the Emory School of Medicine. Partner institutions were chosen with the goal of expanding care to underserved populations while working with providers who already engage in ADRD research and workforce training in their region. As a result of these partnerships and state funding, these institutions can offer the full range of ADRD-related services, such as neuropsychological screenings and access to a social worker, at a roughly break-even cost. 92 iv

As of July 15, 2024, GMN has served nearly 2,500 Georgians. ⁹³ Over 70% of these individuals live outside the metro Atlanta area. The majority of people who have visited a MAC are Black (55.4%). More than half of those who have received services from a MAC have no college education (57.1%) and one out of five people who received services from a MAC have less than a high school diploma/GED. ⁹⁴ In addition to these traditionally underserved populations, GMN

offers services to those with mobility issues and/or without internet access. The locations of all MAC and telehealth sites can be found in Figure 12.

iv This subcontracting arrangement between GMN and private providers allows local institutions to offer care through their existing facilities while benefiting from research partnerships with Emory and financial support from the state government. GMN's financial assistance often enables these partner institutions to provide care in fields of practice that are often considered unprofitable in most cases. To learn more about Georgia Memory Net and their model, visit Memory Care Patient FAQs - Georgia Memory Net (gamemorynet.org).





Memory Assessment Clinics
Telehealth Memory Assessment Clinics
Future Memory Assessment Clinic

Figure 12: Georgia Memory Net Memory Assessment Clinics

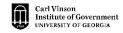
AREA AGENCIES ON AGING

Georgia has also invested in serving citizens facing ADRD through existing infrastructure at the Area Agencies on Aging (AAA). These federal- and state-funded resource hubs are supported by the DHS/DAS and offer a range of aging-related services to seniors living in Georgia^{95v}. There are currently 12 AAAs spread across Georgia's service delivery regions. While most AAA services are not targeted directly for ADRD, these sites help provide services for Georgians facing cognitive decline.⁹⁶

Two of the main ways AAAs assist with ADRD is through the provision of resources under the federal Older Americans Act (OAA) and dementia caregiver support groups. Concerning ADRD, the OAA provides Americans primarily ages 60 and older with services like physician/clinic referrals, congregate or home-delivered meals, homemaker assistance, caregiver respite, transportation assistance, and/or personal care services. ⁹⁷ The dementia caregiver support groups provide support and a community to caregivers for Georgia's aging

^v Historically, most OAA services were limited to individuals age 60 and older. Through the reauthorization of the OAA in 2020, provisions of the Younger-Onset Dementias Act were included that allow AAAs to provide some services to individuals with early-onset and other dementias and their caregivers.





population with dementia. These groups are managed independently by each AAA but are all designed to offer a source of respite and additional resources to those caring for someone facing ADRD.⁹⁸

Finally, while services under the OAA have traditionally only been available to the population age 60 and older, the expansion of services under the reauthorization of OAA in 2020 means new segments of the population now have access to assistance. These resources provide seniors, their families, other caregivers, and now those under age 60 who experience ADRD, with resources to understand what they are facing, how to manage their cognitive health, and how to access forms of financial support, such as Medicare/Medicaid enrollment. Specifically, the Younger-Onset Alzheimer's Dementias Act that was included as part of the 2020 OAA reauthorization expands these AAA services to those diagnosed with a different form of dementia, such as frontotemporal dementia, a type of dementia that commonly affects younger individuals and those who have traditionally had to rely on a more burdensome process involving Social Security Disability Insurance eligibility and additional wait periods. 99

Dementia Care Specialist Program

One resource available at each AAA is the Dementia Care Specialists Program. This newly created initiative places a dementia care specialist within AAA service regions and aims to create a "dementia-capable" aging network across the state. These dementia care specialists will serve as community catalysts for collaboration among dementia health care providers and focus on both normalizing memory screenings and increasing education across the community. They provide dementia-specific resources and support to populations across Georgia, such as education, training, and outreach, to create a more "dementia-capable" network across the state. The Georgia General Assembly initially funded the Dementia Care Specialist Program in FY 2023 with an investment of \$1.25 million; this funding has remained the same for FY 2024.

OTHER RECENT INITIATIVES

BOLD Grant

One recent initiative for dementia in Georgia is the federal Building Our Largest Dementia (BOLD) Infrastructure grant, which is being managed by the Georgia DPH's Injury Prevention Program. BOLD was initially funded by the CDC in 2020 for three years; the DPH team was awarded the newest round of funding in 2023 for a five-year term. This grant aims to create and increase community-clinical linkages in Georgia to promote a comprehensive, systems-level approach to dementia risk reduction, diagnosis, care, and support.

The Georgia BOLD team is focused on addressing the Healthy People 2030 goals by supporting the actions outlined in the *Healthy Brain Initiative, State and Local Public Health Partnerships to Address Dementia: The 2018-2023 Road Map.* DPH has used these funds in several ways with a focus on breaking down "silos" of work and ensuring that different public and private initiatives are complementary, not duplicative. Specifically, the BOLD team has empowered public health clinics to incorporate risk reduction into chronic disease management, conduct memory screenings, and partner with both community health workers and dementia care specialists as a regular part of their public health work.

Other major areas of focus for these funds include workforce development, such as creating dementia training modules for emergency medical services workers, and encouraging more timely diagnoses for Georgians, including increasing access to diagnostic tools and partnering with Emory University to increase





the number of dementia diagnoses across the state. Funds for the GMN tablet program under the Telehealth Initiative and the University of Georgia's (UGA) Cognitive Aging Research and Education (CARE) Center were also partially provided from the BOLD grant. This combination of activities will drive a more robust path towards earlier diagnosis and comprehensive care after diagnosis.

UGA CARE Center and Clinics

The UGA CARE Center is a research, education, and service clinic located at the UGA College of Public Health with affiliated clinics in rural counties across the state. ¹⁰¹ The main CARE Center in Athens, Georgia, provides end-to-end dementia care, including intake, medication assessment, geriatrician visits, cognitive assessments, lab and imaging work, and post-diagnosis service, to any Georgian in need of care. Funding for the CARE Center comes from a variety of sources, including the BOLD grant, private donations, and internal UGA funding. The clinic currently operates on a "free-of-charge" basis and, on average, has provided around \$80,000 worth of services per patient per year since inception in 2021. The Athens clinic also incorporates students into all facets of the dementia health care process, from the initial visit to patient diagnosis and treatment planning, which is intended to help build the state's ADRD workforce of the future. ¹⁰²

Additionally, the CARE Center has established ten partner clinics in rural areas across Georgia, while planning to establish another two clinics. According to the CARE Center, these sites will increase access to services in rural areas and ensure that the different regions of Georgia have access to at least one CARE clinic. Most of these partner clinics were chosen in collaboration with UGA Archway, building off existing work to help community development in eight rural counties. When establishing partner clinics, the CARE Center facilitates a process that involves hosting health fairs, town halls, and other tactics to garner feedback from dementia stakeholders in each county, followed by the development of a community action plan and follow-up implementation and evaluation work. ¹⁰³

Dementia Friends Georgia

Dementia Friends is an international movement that began in the U.K. and has spread to the U.S. via Dementia Friendly America.vi

Georgia acquired the license to deliver this programming in 2019, and its purpose is to help everyday citizens have a better understanding of what dementia is and how it affects people in order to create more dementia-friendly communities. ¹⁰⁴ These efforts bring together those impacted by dementia, their caregivers, family, and other loved ones in support groups to help share their experiences and lean on a community of fellow dementia-impacted individuals and families. There are currently about 3,000 Dementia Friends and 100+certified Dementia Friends Champions who deliver the programming in the state.

vi For more information on the Dementia Friends movement, please visit the website of Dementia Friendly America at https://dfamerica.org/#:~:text=Living,%20engaging%20and%20thriving%20in.





Appendix A. Data Limitations

This report relies on publicly available data from various sources, including the Centers for Disease Control and Prevention (CDC), Alzheimer's Association, and Georgia Department of Public Health (DPH). The lack of comprehensive state-level ADRD data is a common challenge and a point that readers should consider as they review this report. Some data is restricted to Medicare recipients, which can make it more difficult to determine the full scale of the financial burden of ADRD in the state because Medicare does not pay for many services required by those with ADRD, such as long-term stays in memory care units and other assisted living settings. The reliance on Medicare data leads to a lack of insight on those who are under age 65, which makes it difficult to account for those with early-onset ADRD or those experiencing dementias that typically arise earlier in life, such as frontotemporal dementia (FTD).

Georgia Memory Net (GMN) has also been working to establish information technology infrastructure and data architecture to better facilitate data collection and reporting across its various clinics. These efforts will be helpful to future research as they will 1) give researchers access to more Georgia-specific data on those facing ADRD at various ages and across the state, 2) further research into ADRD data about those outside of what is captured via Medicare, and 3) provide more answers as to specific diagnoses for all dementias, such as Alzheimer's Disease, but also rarer forms of dementia, like FTD and Lewy body dementia (LBD), that are being diagnosed more frequently. These efforts are in the early stages but may factor into future reports on the subject of ADRD in Georgia.

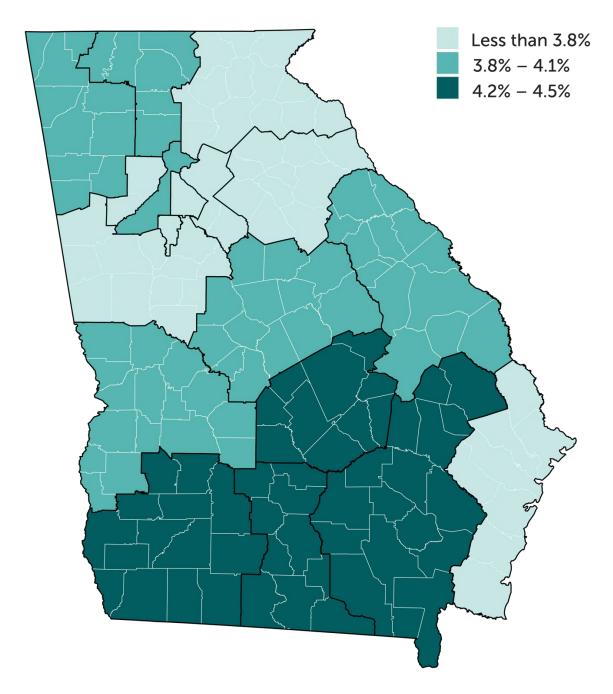


Appendix B. GARD Workgroup Update

Workgroup	Description	Sample Goals
Workforce Development	The Workforce Development group is tasked with identifying goals and strategies to help build a workforce in Georgia that is designed to work with people living with cognitive changes/dementia and their caregivers.	1. Develop a "person-centered" dementia workforce; 107 2. Implement a "tiered career and training model" to improve job quality and quality of care among Georgia's direct-care workforce; 3. Improve job quality and retention of the state's dementia workforce.
Service Delivery	The Service Delivery group was established to ensure that individuals living with dementia in Georgia have the proper support systems and health care access that they and their caregivers need to live healthy and dignified lives.	1. Improve consumer and caregiver access to services and information, including identifying eligibility factors for different services; 2. Support training for care partners and volunteers using a "person-centered" approach; 3. Improve consumer access and experience, focusing on informal service networks.
Outreach and Partnerships	The Outreach and Partnerships group has been tasked by the GARD State Plan to identify ways Georgia and its health care partners can better identify, collect, and analyze data related to individuals with ADRD, caregivers, and state services for ADRD.	1. Identify communication channels in each Area Agency on Aging region to disseminate educational information and resource awareness; 2. Increase dementia-friendly education across the community; 3. Explore new strategic partnerships to promote brain health and help individuals access ADRD-support resources.
Policy	Unlike other groups that focus on identifying goals and strategies for improving Georgia's ADRD care and support apparatus, the Policy workgroup has one major goal: to "inform state budgetary, legislative, and regulatory actions that impact individuals living with cognitive decline and dementia and their care partners."	Educate state policymakers on cognitive decline/health and its impact; 2. Collaborate with other GARD workgroups to advance statelevel action items.
Public Safety	The Public Safety group focuses on goals related to the safety of individuals with ADRD and their caregivers, related not only to their physical safety but also their financial viability and legal rights.	Reduce injury rates of individuals living with ADRD; 2. Enhance legal protections for those experiencing cognitive decline; 3. Ensure state emergency preparedness plans include considerations for cognitive decline.
Health Care, Data, and Research Collection (Research and Data)	The Research and Data group focuses on improving and expanding data used for ADRD research purposes. They also evaluate the efficacy of current state initiatives and cognitive health care provision/access across the state.	1. Strengthen data collection efforts, such as quarterly updates of GMN service numbers to GARD; 2. Expand research opportunities, including promoting the use of the Behavior Risk Factor Surveillance Survey modules; 3. Support data sharing with key stakeholders and audiences.



Appendix C. ADRD Prevalence Among Medicare Beneficiaries by Public Health District



Source: Georgia Department of Public Health. 2024. "Alzheimer's Disease & Related Dementias Among Medicare Beneficiaries."



Works Cited

- ¹ Georgia Department of Human Services, Division of Aging Services. "Georgia Alzheimer's & Related Dementias State Plan." 2020. https://aging.georgia.gov/get-involved/georgia-alzheimers-related-dementias-state-plan.
- ² Georgia Alzheimer's and Related Dementias Collaborative. "Georgia Alzheimer's & Related Dementias State Plan 2020 Progress Report." 2021.
- ³ Georgia Alzheimer's and Related Dementias Advisory Council. "State Plan 2020-2023." 2020.
- ⁴ Ibid.
- ⁵ Georgia Alzheimer's and Related Dementias State Plan, H.B. 571, 2023-2024 Regular Session. 2024.
- ⁶ Alzheimer's Association. "Alzheimer's Disease Facts and Figures." 2024. https://www.alz.org/alzheimers-dementia/facts-figures; Rajan, Kumar B., Jennifer Weuve, Lisa L. Barnes, Elizabeth A. McAninch, Robert S. Wilson, and Denis A. Evans. "Population Estimate of People with Clinical Alzheimer's Disease and Mild Cognitive Impairment in the United States (2020–2060)." Alzheimer's Dement. 17, no. 12 (May 27, 2021): 1966–75.
- ⁷ Ibid.
- 8 Ibid.
- ⁹ Ibid.
- ¹⁰ Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures." https://www.alz.org/alzheimers-dementia/facts-figures.
- ¹¹ U.S. Department of Health and Human Services. 2023. "National Plan to Address Alzheimer's Disease: 2023 Update."

https://aspe.hhs.gov/sites/default/files/documents/3c45034aec6cf63414b8ed7351ce7d95/napanational-plan-2023-update.pdf.

Related Dementias." Nature Genetics 54, 412-436. https://doi.org/10.1038/s41588-022-01024-z.

- ¹² Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures."
 https://www.alz.org/alzheimers-dementia/facts-figures; Bellenguez, Celine, F
 Küçükali, Iris E Jansen, et.al. 2022. "New Insights into the Genetic Etiology of Alzheimer's Disease and
- ¹³ Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures."

 https://www.alz.org/alzheimers-dementia/facts-figures; Green, Robert. 2002. "Risk of Dementia among White and African American Relatives of Patients with Alzheimer Disease." *JAMA Network* 287, no. 3: 329-336. https://doi.org/10.1001/jama.287.3.329.



¹⁴ Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures."

https://www.alz.org/alzheimers-dementia/facts-figures; Rajan, Kumar B., Jennifer Weuve, Lisa L. Barnes, Elizabeth A. McAninch, Robert S. Wilson, and Denis A. Evans. 2021. "Population Estimate of People with Clinical Alzheimer's Disease and Mild Cognitive Impairment in the United States (2020–2060)." Alzheimer's Dement. 17, no. 12:1966–75. https://doi.org/10.1002/alz.12362.

15 Ibid.

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures."

https://www.alz.org/alzheimers-dementia/facts-figures; Livingston, Gill, Jonathan Huntley, and Andrew Sommerlad. 2020. "Dementia Prevention, Intervention, and Care: 2020 Report of The Lancet Commission." *The Lancet* 396, no. 10248): 413–46. https://doi.org/10.1016/s0140-6736(20)30367-6.

¹⁹ Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures."

https://www.alz.org/alzheimers-dementia/facts-figures; Kivimaki M, Luukkonen R, Batty GD, Ferrie JE, Pentti J, Nyberg ST, et al. 2018. Body mass index and risk of dementia: Analysis of individual-level data from 1.3 million individuals. Alzheimers Dement. 14: 601-609. https://doi.org/10.1016/j.jalz.2017.09.016.

- ²⁰ World Health Organization. "Obesity." https://www.who.int/health-topics/obesity#tab=tab 1.
- ²¹ U.S. Centers for Disease Control and Prevention. "Behavioral Risk Factor Surveillance System Prevalence and Trends Data." https://www.cdc.gov/brfss/brfssprevalence/index.html.
- Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures." Kuźma E, Lourida I, Moore SF, Levine DA, Ukoumunne OC, Llewellyn DJ. 2018. "Stroke and dementia risk: A systematic review and meta-analysis." Alzheimers Dement 14, no. 11: 1416-26. https://doi.org/10.1016/j.jalz.2018.06.3061.
- ²³ Ibid.
- ²⁴ Alzheimer's Association. 2023. "Diabetes and Cognitive Decline." https://www.alz.org/media/documents/alzheimers-dementia-diabetes-cognitive-decline-ts.pdf.
- ²⁵ Ibid.
- ²⁶ Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures." https://www.alz.org/alzheimers-dementia/facts-figures; Peters R, Poulter R, Warner J, Beckett N, Burch L, Bulpitt C. 2008. "Smoking, dementia and cognitive decline in the elderly, a systematic review." BMC Geriatr 8, no. 36. https://doi.org/10.1186/1471-2318-8-36.

²⁷ Ibid.



- ²⁸ Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures." https://www.alz.org/alzheimers-dementia/facts-figures; Insel PS, Mohlenhoff BS, Neylan TC, Krystal AD, Mackin RS. 2021. "Association of sleep and a-amyloid pathology among older cognitively unimpaired adults." JAMA Network Open 4, no. 7:1-12. https://doi.org/10.1001/jamanetworkopen.2021.17573.
- ²⁹ America's Health Rankings- United Health Foundation. "Insufficient Sleep in Georgia." <u>https://www.americashealthrankings.org/explore/measures/sleep/GA.</u>
- ³⁰ Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures." https://www.alz.org/alzheimers-dementia/facts-figures; Ogino E, Manly JJ, Schupf N, Mayeux R, Gu Y. 2019. "Current and past leisure time physical activity in relation to risk of Alzheimer's disease in older adults." *Alzheimer's and Dementia* 15, no 12: 1603-11. https://doi.org/10.1016/j.jalz.2019.07.013.
- ³¹ U.S. Centers for Disease Control and Prevention. "Behavioral Risk Factor Surveillance System Prevalence and Trends Data." https://www.cdc.gov/brfss/brfssprevalence/index.html.
- 32 Ibid.
- 33 Ibid.
- ³⁴ Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures." https://www.alz.org/alzheimers-dementia/facts-figures; Dhana, Klodian, Todd Beck, Pankaja Desai, Robert Wilson, Denis Evans, and Kumar Rajan. 2023. "Prevalence of Alzheimer's Disease Dementia in the 50 U.S. States and 3142 Counties: A Population Estimate Using the 2020 Bridged-race Postcensal from the National Center for Health Statistics." *Alzheimer's and Dementia* 19, no. 10. https://doi.org/10.1002/alz.13081.
- ³⁵ Georgia Department of Public Health. 2024. "Alzheimer's Disease & Related Dementias Among Medicare Beneficiaries."
- 36 Ibid.
- ³⁷ Ibid.
- ³⁸ Gianattasio, Kan Z., Christina Prather, M. Maria Glymour, Adam Ciarleglio, and Melinda C. Power. 2019. "Racial Disparities and Temporal Trends in Dementia Misdiagnosis Risk in the United States." *Alzheimer's and Dementia: Translational Research & Clinical Interventions* 5, no. 1: 891–898. https://doi.org/10.1016/j.trci.2019.11.008; Lin, Pei-Jung, Allan T. Daly, Natalia Olchanski, Joshua T. Cohen, Peter J. Neumann, Jessica D. Faul, Howard M. Fillit, and Karen M. Freund. 2021."Dementia Diagnosis Disparities by Race and Ethnicity." *Medical Care* 59, no. 8: 679–86. https://doi.org/10.1097/mlr.000000000000001577.
- ³⁹ U.S. Centers for Disease Control and Prevention- National Center for Health Statistics. "Georgia". https://www.cdc.gov/nchs/pressroom/states/georgia/ga.htm.
- ⁴⁰ Georgia Department of Public Health. "Online Analytical Statistical Information System." https://oasis.state.ga.us/trendingtool/MortalityADRD.



- ⁴¹ Georgia Department of Public Health. 2024. "Alzheimer's Disease & Related Dementias Among Medicare Beneficiaries."
- 42 Ibid.
- 43 Ibid.
- 44 Ibid.
- ⁴⁵ Alzheimer's Association. 2022. "Alzheimer's and Multiple Chronic Conditions." https://www.alz.org/media/Documents/alzheimers-and-multiple-chronic-conditions.pdf.
- ⁴⁶ Nandi, Arindam, Nathaniel Counts, Janina Bröker, Sabrina Malik, Simiao Chen, Rachael Han, Jessica Klusty, et al. 2024. "Cost of Care for Alzheimer's Disease and Related Dementias in the United States: 2016 to 2060." npj Aging 10, no. 1. https://www.nature.com/articles/s41514-024-00136-6 Sec3.
- ⁴⁷ National Academy of Sciences. 2021. "Reducing the Impact of Dementia in America: A Decadal Survey of the Behavioral and Social Sciences." Washington (DC): National Academies Press (US); Economic Costs of Dementia. Available from: https://www.ncbi.nlm.nih.gov/books/NBK574335/.
- ⁴⁸ Skaria, Anita Pothen. 2022. "The Economic and Societal Burden of Alzheimer Disease: Managed Care Considerations." *The American Journal of Managed Care* 28, no. Suppl 10. https://www.ajmc.com/view/the-economic-and-societal-burden-of-alzheimer-disease-managed-care-considerations.
- ⁴⁹ National Academy of Sciences. 2021. "Reducing the Impact of Dementia in America: A Decadal Survey of the Behavioral and Social Sciences." Washington (DC): National Academies Press (US); Economic Costs of Dementia. Available from: https://www.ncbi.nlm.nih.gov/books/NBK574335/.
- ⁵⁰ Nandi, Arindam, Nathaniel Counts, Janina Bröker, Sabrina Malik, Simiao Chen, Rachael Han, Jessica Klusty, et al. 2024. "Cost of Care for Alzheimer's Disease and Related Dementias in the United States: 2016 to 2060." npj Aging 10, no. 1. https://www.nature.com/articles/s41514-024-00136-6#Sec3.
- ⁵¹ Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures." https://www.alz.org/alzheimers-dementia/facts-figures.
- 52 Skaria, Anita Pothen. 2022. "The Economic and Societal Burden of Alzheimer Disease: Managed Care Considerations." The American Journal of Managed Care 28, no. Suppl 10.
 https://www.ajmc.com/view/the-economic-and-societal-burden-of-alzheimer-disease-managed-care-considerations.
- ⁵³ Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures." https://www.alz.org/alzheimers-dementia/facts-figures.
- 54 Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures." https://www.alz.org/alzheimers-dementia/facts-figures.
- 55 Ibid.



56 Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures." https://www.alz.org/alzheimers-dementia/facts-figures; ASPE, 2014. "Disability and Care Needs of Older Americans by Dementia Status: An Analysis of the 2011 National Health and Aging Trends Study." https://aspe.hhs.gov/reports/disability-care-needs-older-americans-dementia-status-analysis-2011-national-health-aging-trends-1.

⁵⁷ GMN Portal Data Extract, July 15, 2024.

58 "BRFSS Survey: OASIS (Online Analytical Statistical Information System): Georgia Department of Public Health." Oasis BRFSS Survey. Accessed October 2, 2024. https://oasis.state.ga.us/brfss/.

⁵⁹ Centers for Medicare & Medicaid Services Data. Accessed August 28, 2024. https://data.cms.gov/tools/mapping-medicare-disparities-by-population.

- ⁶⁰ Lin, Chun Chieh, Chloe E. Hill, Kevin A. Kerber, James F. Burke, Lesli E. Skolarus, Gregory J. Esper, Adam de Havenon, Lindsey B. De Lott, and Brian C. Callaghan. 2023. "Patient Travel Distance to Neurologist Visits." Neurology 101, no. 18. https://doi.org/10.1212/wnl.0000000000207810.
- 61 Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures." https://www.alz.org/alzheimers-dementia/facts-figures.

62 Ibid.

63 Ibid.

- ⁶⁴ National Center for Health Workforce Analysis. "Workforce Projections." Accessed August 28, 2024. https://data.hrsa.gov/topics/health-workforce/workforce-projections.
- ⁶⁵ Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures."

https://www.alz.org/alzheimers-dementia/facts-figures; Bernstein, Alissa, Kirsten M. Rogers, Katherine L. Possin, Natasha Z.R. Steele, Christine S. Ritchie, Joel H. Kramer, Michael Geschwind, et al. 2019. "Dementia Assessment and Management in Primary Care Settings: A Survey of Current Provider Practices in the United States." BMC Health Services Research 19, no. 1; Neprash, Hannah T., Alexander Everhart, Donna McAlpine, Laura Barrie Smith, Bethany Sheridan, and Dori A. Cross. 2020. "Measuring Primary Care Exam Length Using Electronic Health Record Data." Medical Care 59, no. 1: 62–66.

66 Ibid.

⁶⁷ Georgia Data Analytics Center. "State of Georgia Physician Workforce." Workbook: State of Georgia Physician Workforce. Accessed August 27, 2024.

https://prod.insights.georgia.gov/views/StateofGeorgiaPhysicianWorkforce/PhysicianWorkforceOverview?%3Aembed=y&%3Aiid=1&%3AisGuestRedirectFromVizportal=y.

68 Ibid.

69 Ibid.



- "U.S. Physician Workforce Data Dashboard." AAMC. Accessed August 27, 2024.
 https://www.aamc.org/data-reports/report/us-physician-workforce-data-dashboard.
- ⁷¹ Alzheimer's Association. 2024. "Alzheimer's Disease Facts and Figures." https://www.alz.org/alzheimers-dementia/facts-figures.
- ⁷² National Center for Health Workforce Analysis." Workforce Projections." Accessed August 28, 2024. https://data.hrsa.gov/topics/health-workforce/workforce-projections.
- ⁷³ "NP Fact Sheet." American Association of Nurse Practitioners. Accessed August 28, 2024. https://www.aanp.org/about/all-about-nps/np-fact-sheet.
- ⁷⁴ Kozikowski, Andrzej, Trenton Honda, Freddi Segal-Gidan, and Roderick S. Hooker. 2020. "Physician Assistants in Geriatric Medical Care." *BMC Geriatrics* 20, no. 1. https://bmcgeriatr.biomedcentral.com/counter/pdf/10.1186/s12877-020-01831-1.pdf.
- ⁷⁵ Rowe, John W. 2021. "The U.S. Eldercare Workforce Is Falling Further Behind." https://www.nature.com/articles/s43587-021-00057-z.
- ⁷⁶ Georgia Department of Public Health. 2024. "Alzheimer's Disease & Related Dementias Among Medicare Beneficiaries."
- ⁷⁷ Ibid.
- ⁷⁸ Jett, Lauren. 2018. "Nursing Homes with Dementia Special Care Units Provide Better Quality of Care." Nursing Homes with Dementia Special Care Units Provide Better Quality of Care | Health Care Policy, https://hcp.hms.harvard.edu/news/nursing-homes-dementia-special-care-units-provide-better-quality-care.
- ⁷⁹ American Health Care Association. "Access to Care Report August 2023." Accessed August 28, 2024. https://www.ahcancal.org/News-and-Communications/Fact-Sheets/FactSheets/Access%20to%20Care%20Report%20August%202023.pdf.
- 80 Ibid.
- 81 Centers for Medicare & Medicaid Services Data. 2024. "Provider Information." https://data.cms.gov/provider-data/dataset/4pq5-n9py.
- 82 Long Term Care Community Coalition. 2024. "Interactive: Nursing Home Staffing Data (Q1 2024)." https://nursinghome411.org/data/staffing/staffing-q1-2024/map/.
- ⁸³ Georgia Department of Human Services, Division of Aging Services. 2020. "Georgia Alzheimer's & Related Dementias State Plan." https://aging.georgia.gov/get-involved/georgia-alzheimers-related-dementias-state-plan.
- ⁸⁴ Georgia Department of Human Services Division of Aging Services. Accessed October 4, 2024. https://aging.georgia.gov/.



85 Georgia Department of Public Health. 2024. "Alzheimer's Disease."

 $\frac{\text{https://dph.georgia.gov/AlzheimersDisease\#:} \sim \text{:text=Over} \% 20130\% 2000\% 20 Georgians\% 200 f\% 20 all }{20 ages\% 20 are\% 20 estimated, surveillance\% 20 on\% 20 ADRD\% 20 using\% 20 data\% 20 from\% 20 several\% 20 sources.}$

- 86 Ibid.
- ⁸⁷ Dina McDonald (GARD Coordinator) in discussion with the authors, September 2024.
- ⁸⁸ Georgia Department of Human Services. 2024. "Georgia Memory Net." https://dhs.georgia.gov/georgia-memory-net.
- 89 Georgia Department of Human Services, Division of Aging Services. 2023. "Addressing Dementia in Georgia."
- 90 Ibid.
- ⁹¹ Rebecca McIntosh (Program Director, Cognitive Neurology, Emory University) interview with the authors, August/September 2024.
- 92 Ibid.
- 93 GMN Portal Data Extract, July 15, 2024.
- 94 Ibid.
- 95 Congressional Research Service. 2020. "Older Americans Act: 2020 Reauthorization." https://crsreports.congress.gov/product/pdf/R/R46439.
- ⁹⁶ "Find a Location." Georgia Department of Human Services Division of Aging Services. Accessed October 4, 2024. https://aging.georgia.gov/locations.
- ⁹⁷ "Older Americans Act: Overview and Funding." 2024. Congressional Research Service.

 https://crsreports.congress.gov/product/pdf/R/R43414#:~:text=The%20Older%20Americans%20Act%20(OAA;%20P.L.
- ⁹⁸ Dina McDonald (GARD Coordinator) in discussion with the authors, September 2024.
- ⁹⁹ Alzheimer's Association. 2020. "The Supporting Older Americans Act of 2020 Signed Into Law." https://www.alz.org/news/2020/the-supporting-older-americans-act-of-2020-signed#:~:text=The%20Supporting%20Older%20Americans%20Act%20of.
- ¹⁰⁰ Georgia Department of Human Services, Division of Aging Services. 2023. "Addressing Dementia in Georgia."
- ¹⁰¹ CARE Center. 2024. "About CARE Center." May 2, 2024. https://carecenter.uga.edu/about/.



- ¹⁰² Ibid.
- ¹⁰³ University of Georgia. "An Act of Love by University of Georgia." Exposure. Accessed October 4, 2024. https://universityofgeorgia.exposure.co/an-act-of-love.
- ¹⁰⁴ Georgia Department of Human Services Division of Aging Services. 2024. "Dementia Friends." https://aging.georgia.gov/get-involved/georgia-alzheimers-related-dementias-state-plan/dementia-friends.
- National Academies of Sciences, Engineering, and Medicine; Division of Behavioral and Social Sciences and Education; Board on Behavioral, Cognitive, and Sensory Sciences; Committee on the Decadal Survey of Behavioral and Social Science Research on Alzheimer's Disease and Alzheimer's Disease-Related Dementias. 2021. Reducing the Impact of Dementia in America: A Decadal Survey of the Behavioral and Social Sciences. Washington (DC): National Academies Press (US); 8, Strengthening Data Collection and Research Methodology. Available from: https://www.ncbi.nlm.nih.gov/books/NBK574337/.
- ¹⁰⁶ "Does Medicare Pay for Assisted Living?" National Council on Aging. Accessed October 4, 2024. https://www.ncoa.org/article/does-medicare-pay-for-assisted-living/.
- ¹⁰⁷ Sam Fazio, Douglas Pace, Janice Flinner, Beth Kallmyer. 2018. "The Fundamentals of Person-Centered Care for Individuals With Dementia," *The Gerontologist*, Volume 58, Issue suppl_1, Pages S10–S19, https://doi.org/10.1093/geront/gnx122.