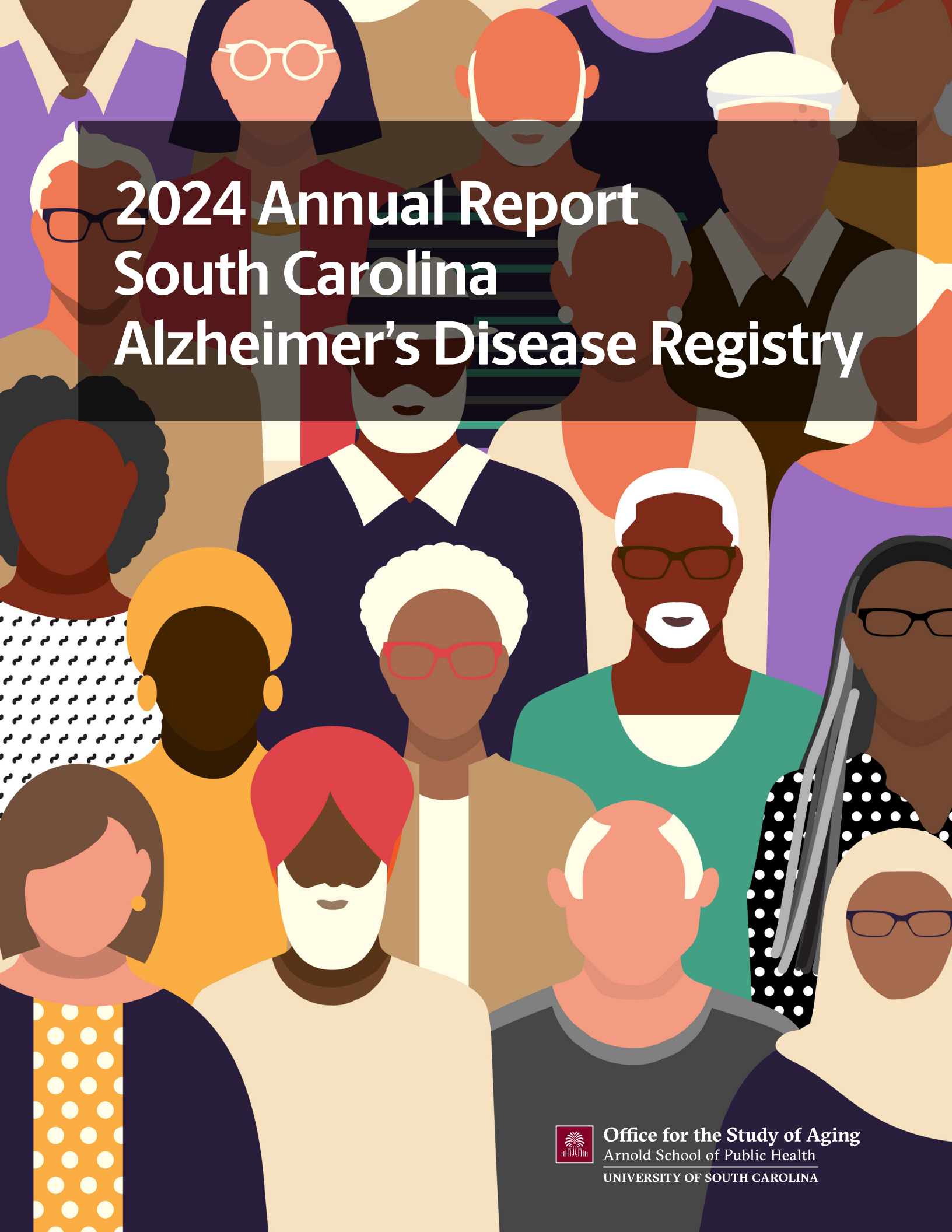

2024 Annual Report South Carolina Alzheimer's Disease Registry

Office for the Study of Aging
Arnold School of Public Health
UNIVERSITY OF SOUTH CAROLINA

2024 Annual Report South Carolina Alzheimer's Disease Registry

OFFICE FOR THE STUDY OF AGING
ARNOLD SCHOOL OF PUBLIC HEALTH
UNIVERSITY OF SOUTH CAROLINA

Promoting broader research, training, and other collaborative activities that enhance quality of life for our state's older adult population, their families, and their caregivers.

The 2024 report includes the most current, available, and comprehensive data: January 1 through December 31 of 2022.

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Executive Summary

The South Carolina Alzheimer's Disease Registry ("Registry") is the nation's first and most comprehensive registry of its kind. It is one of only four statewide population-based registries of Alzheimer's disease and related dementias (ADRD) in the United States. The Registry was established, and has been maintained, by the Office for the Study of Aging (OSA) since 1988.

The annual Registry report is published in fulfillment of the requirement of South Carolina Code of Law §44-36-10 and §44-36-50 which established the Registry for the people of South Carolina and tasked the Arnold School of Public Health and Office for the Study of Aging with its upkeep, management, and the dissemination of an annual report.

Throughout this report, there are continuous abbreviations including ADRD and AD. The abbreviation ADRD is to indicate "Alzheimer's disease and related dementias." The term "related dementias" refers to dementias associated with vascular disease, mixed dementia and with other medical conditions such as Parkinson's disease. Where the report refers specifically to "Alzheimer's disease" (AD), analysis is limited to individuals with AD only.

The Office for the Study of Aging is proud to provide services that strive to improve the quality of life of our older adult population, their families and their caregivers. If you have questions about the Registry or Office's activities, visit our website at osa-sc.org.

Thank you for your continued support.

Sincerely,

Maggi C. Miller, MS, PhD
Co-Director & Registry Manager

Megan Byers, LMSW CSWM
Co-Director & Dementia Dialogues® Manager

Acknowledgments

The growth and development of the Registry and the related research and training programs at OSA have been due to the support of many organizations and agencies. The leadership OSA want to acknowledge the particular contributions of:

- The **Arnold School of Public Health** at USC, for core support;
- The **SC Revenue and Fiscal Affairs Office Health and Demographics Section,** for its extensive cooperation in maintaining the Registry;
- The **USC School of Medicine** (Department of Medicine, Division of Geriatrics), for providing collaboration;
- The **SC Department of Mental Health,** for access to data;
- The **SC Department of Health and Human Services,** for core support and access to data;
- The **SC Public Employee Benefit Authority,** for access to data;
- The **SC Department of Health and Environmental Control, Vital Records and Public Health Statistics;** for access to data; and
- The **SC Department on Aging,** for its continued collaboration.

Since January 1, 1988, the Registry has identified 396,946 cases of ADRD in South Carolina.

Registry Goals:

- Maintain the most comprehensive and accurate state registry of ADRD in the nation
- Provide disease prevalence estimates to enable better planning for social and medical services
- Identify differences in disease prevalence among demographic groups
- Help those who care for individuals with ADRD
- Foster research into risk factors for ADRD

Other Activities of OSA:

In addition to maintaining the Registry and conducting research using this valuable state resource, OSA works to promote broader research, training and other collaborative activities that enhance quality of life for our state's older adult population. Specifically, OSA's activities include the following:

- **Provide education** on ADRD management
- **Develop training** on long-term care issues
- **Contribute technical assistance** for programs for older adults
- **Develop programs** including Dementia Dialogues®
- **Evaluate programs** for the aging population
- **Conduct research** on aging and public health issues

History of the Registry

1988 The Alzheimer's Disease Registry was established in 1988 to record specific information about South Carolinians who develop ADRD.

1990

On May 31, 1990, Governor Carroll A. Campbell, Jr. signed a state law authorizing the Registry. This law (R653, H4924) amended Title 44, Code of Laws of South Carolina 1976, relating to health, by adding Chapter 36 establishing a voluntary Statewide Alzheimer's Disease and Related Dementias Registry located within the School of Public Health at USC. The law has strict confidentiality requirements but does allow Registry staff to contact the families and physicians of persons diagnosed as having ADRD to collect relevant data and provide information about public and private health care resources available to them.

1993 From July 1993 to May 1996, the Registry was moved to the James F. Byrnes Center for Geriatric Medicine, Education, and Research, a geriatric research hospital jointly sponsored by the USC School of Medicine and the South Carolina Department of Mental Health.

1997

The Registry was moved back to the Arnold School of Public Health at USC, where it continues to be maintained by the Office for the Study of Aging. It provides prevalence data to public and private entities for planning and fosters research on risk factors for ADRD, including the risk of institutionalization.

2008 The Registry celebrated its 20th anniversary in 2008.

2015

The 25th Registry report was published, with a celebration of the 25th anniversary of the legislation authorizing the Registry being signed into law.

2018 The 30th Anniversary celebrating thirty years of collecting data since the establishment of the Registry in 1988.

2023

The 35th Anniversary celebrating the establishment of the Registry, which continues to receive widespread support and interest from the academic community, support groups, state agencies, and other public and private organizations as part of a statewide effort to study the growing impact of ADRD on the health and welfare of South Carolinians.

Someone in America develops Alzheimer's every 65 seconds; by mid-century someone will develop Alzheimer's every 33 seconds.[1]

Introduction

In 1988, the U.S. Census Bureau estimated that there were 474,073 people 65 years of age and older living in South Carolina, and the state was ranked 25th among other states with regard to the percentage of persons aged 65 years and older. In 2010, there were 631,784 people 65 years of age and older living in South Carolina, and the state was ranked 23rd. Since that time, the older adult population in South Carolina has grown at a rapid rate. In fact, by 2030, the U.S. Census Bureau projects that South Carolina will be home to 1.1 million people ages 65 years and older, potentially propelling South Carolina to a ranking of 15th in the nation for the percentage of residents over 65 years of age.[1]

ADRD represent an ever-increasing area of concern for families and the healthcare community. An estimated 6.9 million people in the United States are currently living with AD. By 2050, the number of people age 65 and older with AD may grow to a projected 12.7 million.[2] With increasing age as a leading risk factor for AD, South Carolina's rapidly growing population of persons aged 65 years and older presents a challenge to families, communities and those who plan and deliver services for the state.

This report covers data from calendar year 2022. Registry cases in this report are defined as AD, vascular dementia, mixed dementias (mixed) and ADRD in other medical conditions (other). Registry cases are also identified by location of residence; either in a facility (nursing facilities or residential care facilities), in the community (home or adult day care) or in an unknown location. Exclusions of some demographic information are due to the voluntary method of data collection. It should be noted that many cases may be identified at a late stage of the disease rather than at onset. This affects the time from entry into the Registry until death.

In this report, ADRD is an umbrella term that encompasses many types of neurocognitive disorders. The Diagnostic and Statistical Manual of Mental Disorders - 5th Edition (DSM-5) states that AD can be diagnosed with a level of certainty if there is 1) clear evidence of decline in memory and learning and at least one other cognitive domain (based on detailed history or serial neuropsychological testing), 2) steadily progressive, gradual decline in cognition, without extended plateaus, and 3) no evidence of mixed etiology (i.e., absence of other neurodegenerative or cerebrovascular disease, or another neurological, mental, or systemic disease or condition likely contributing to cognitive decline). AD is a type of ADRD with an insidious onset and gradual progression of cognitive and behavioral symptoms.[3] Other types of ADRD include those related to stroke, mixed dementia (with both Alzheimer's and vascular dementia), and dementias associated with medical conditions such as Parkinson's disease, Huntington's disease, dementia with Lewy Bodies (DLB), frontotemporal, AIDS, and alcohol or drug abuse.

[1] US Census Bureau, Population Division, January 2022.

[2] Alzheimer's Association, 2024 Alzheimer's Disease Facts and Figures.

[3] American Psychiatric Association, 2021, Diagnostic and statistical manual of mental disorders (5th ed.). Washington, DC.

ADRD in South Carolina

The prevalence of AD in the United States is currently estimated to be 11% among persons aged 65 and older.[1] In 2022, there were 1,008,009 South Carolina residents 65 years and older, representing 9.57% of the total population, an almost 112% increase since the Registry began in 1988.[2]

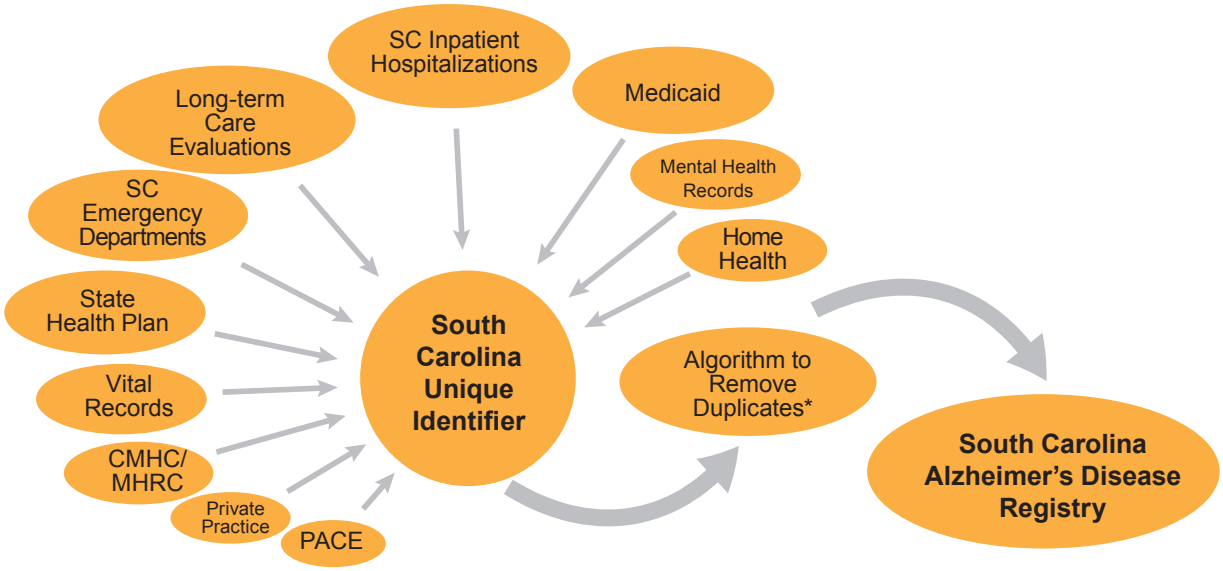
The total number of persons with ADRD in South Carolina is not known with certainty. National estimates of ADRD prevalence vary widely from one study to another. Individuals who have mild forms of the disease, but lack a diagnosis, do not appear in the Registry data. Previous research suggests that the number of individuals with ADRD may be nearly 50% greater than the number with diagnosed ADRD.[3] *With that being said, the South Carolina Alzheimer's Disease Registry is the oldest and most comprehensive population-based Registry of ADRD in the country.* There are only three other such registries in existence. One, is located in West Virginia and began collecting data in 2008 and the second is in Georgia and began collecting data in 2014, and the third was recently established in Virginia.[4, 5, 6]

Individuals with ADRD are usually identified when they or their family members seek provider services. Since no single system identifies all newly diagnosed patients with ADRD, cases in the Registry are collected from several sources (see Figure 1). This ensures that the Registry captures as many diagnoses as possible.

Figure 1

REGISTRY DATA SOURCES

South Carolina Alzheimer's Disease Registry



NOTE: CMHC = Community Mental Health Center; MHRC = Mental Health and Rehabilitation Clinics; PACE = Program of All-inclusive Care for the Elderly

*Duplicates occur because individuals often use more than one name, social security number, or other identifying information when using health or social services.

[1] Alzheimer's Association, 2024 Alzheimer's Disease Facts and Figures.

[2] US Census Bureau, Population Division, Interim State Population Projections, 2018-2019.

[3] Hebert et al. Alzheimer's Disease in the US Population: Prevalence estimates using the 2000 Census. Archives of Neurology, 2003; Vol. 60, 119-1122.

[4] West Virginia Alzheimer's Disease Registry. https://wvadr.hsc.wvu.edu/. Accessed September 2024

[5] Georgia Alzheimer's Disease and Related Dementia Registry. https://dph.georgia.gov/AlzheimersDisease. Accessed September 2024

[6] Virginia Memory Project. https://vcoa.chp.vcu.edu/initiatives/va-memory-project/. Accessed September 2024

Registry Procedures

A definitive diagnosis of ADRD is difficult, especially in the early stages. The Registry staff is not directly involved in diagnosis; the physician's diagnosis is collected from the individual's medical records through codes using the International Classification of Diseases, 10th revision, Clinical Modification (ICD-10-CM, 2010). An individual is then classified into four general categories for reporting purposes as shown in Table 1.

Registry Core Data Items

Individuals with ADRD are usually identified when they or their family members seek provider services. Since no single system identifies all newly diagnosed patients with ADRD, cases are collected from several sources (see Figure 1, page 6).

The registry core data set consists of case-identifying data (for matching purposes, to remove duplicate records, and for linking to other data sources), diagnostic data (ICD 9 + 10 CM codes), the place from which the records were obtained, location of case (facility or community), gender, race, and age. Other information collected, if available, includes other medical diagnoses, educational status, marital status, and name and location of caregiver/contact person for follow up.

Table 1

CLASSIFICATION OF ADRD BY ICD-10-CM CODES

South Carolina Alzheimer's Disease Registry

ALZHEIMER'S DISEASE	
F03.90 – F03.91	Senile or presenile dementia
G30.0 – G30.9	Alzheimer's Disease
VASCULAR DEMENTIA	
FO1.50 – F01.51	Arteriosclerotic dementia
G45.0 – G45.9	Cerebrovascular disease (with a dementia code*)
I67.0-I67.9	
I69.00-I69.998	
MIXED DEMENTIA (see note below)	
Both Alzheimer's disease and Vascular dementia	
DEMENTIA IN OTHER MEDICAL CONDITIONS	
F10.27 – F10.97	Alcohol dementia
F19.97	Drug-induced dementia
F02.80-F02.81	Dementia with other conditions
G31.83	Dementia with Lewy bodies
G31.01	Pick's Disease
G31.09	Frontotemporal dementia

The following conditions are included with a dementia code*:

A81.00-A81.09	Creutzfeldt-Jakob disease
F04-F09	Organic brain syndrome
F48.2	
F07.81	Chronic traumatic encephalopathy
G31.1 – G31.9	Other cerebral degeneration
G91.0-G91.9	
G93.7-G94	
G20	Parkinson's disease
G21.11-G21.8	
G10	Huntington's disease
B20 HIV	

NOTE: In the case where a person's record contains multiple indicators of the above categories, Alzheimer's disease and vascular dementia take precedence, except in the case where there are indications of both Alzheimer's disease and vascular dementia. In this case, the person is classified as having mixed dementia. Those classified with dementia in other medical conditions have no indications of Alzheimer's disease or vascular dementia.

*One of the following dementia codes must also be present: F03.90 – F03.91, G30.0 – G30.9, FO1.50 – F01.51, F10.27 – F10.97, F19.97, F02.80-F02.81, G31.83

2022 Registry Data Report

South Carolina Population Prevalence of ADRD

- In 2022, the Registry maintained information on 125,538 individuals living with ADRD.
- Based on the Registry and 2022 population estimates from the United States Census:
  - 11% of South Carolinians age 65 or over have ADRD;
  - 55% of South Carolinians age 85 or over have ADRD;
  - ADRD prevalence rates vary notably among SC counties; and
  - African Americans are at notably higher risk of an ADRD diagnosis than are non-Hispanic whites. At ages 65 and older, for example, **African American South Carolinians are 32% more likely to have ADRD as are non-Hispanic whites.**

Registry Overview:

Of South Carolinians with diagnosed ADRD in 2022:

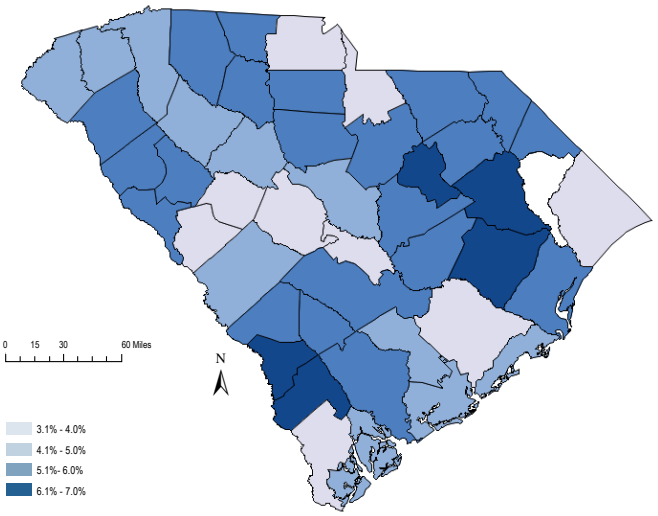
- 73% have AD;
- 9% have a dementia due to stroke;
- 16% have a dementia related to other chronic conditions;
- 23% live in an institution at the time of diagnosis;
- 61% are women;
- 22% are African American; and
- 45% of those with AD are 85 years or older.

ADRD Prevalence across South Carolina Counties

Figure 2 shows the percentage of individuals age 50 or over with ADRD in 2022. The county prevalence rates vary from a low of about 3.1% to a high of 7.0%. This county variation provides an important starting point for epidemiological studies of ADRD. It should be noted that counties with a larger older adult population are likely to have greater percentages of individuals with ADRD. This is because the risks of ADRD rise dramatically at older ages. The map is useful because it illustrates where the greatest service needs are for the oldest old, who are more likely than others to require institutional care.

Figure 2

ADRD Prevalence in South Carolina, 2022



Characteristics of ADRD in South Carolina

Since 1988, 396,346 cases of ADRD have been identified in South Carolina. This report describes demographic characteristics and medical information for the 125,538 cases who were alive on January 1, 2022 displayed by type of ADRD.

Type of ADRD

Among the 125,538 Registry cases in 2022, 73% had a diagnosis of AD and 9% had a diagnosis of vascular dementia, which is often associated with stroke. In the event of records showing both AD and vascular dementia, the case was reported in a mixed dementia category (2% of all Registry cases). The additional 16% for the total number of "Other Conditions" had a dementia related to other medical conditions, such as Parkinson's disease (see Table 3 for complete listing). The diagnosis shown represents the most current diagnosis in the data received.

Location

As shown in Figure 3, more Registry cases resided in the community (70%) than in a nursing facility (23%) or unknown locations (7%). The distribution of the types of ADRD was similar in the community and in nursing facilities (Table 2, Figure 4).

Table 2

REGISTRY CASES BY DEMENTIA TYPE AND PLACE OF RESIDENCE

SOUTH CAROLINA ALZHEIMER'S DISEASE REGISTRY, 2022

Dementia Type	Community		Nursing Facility		Unknown		Total	
	N	%	N	%	N	%	N	%
Alzheimer's disease	63,728	73	21,654	73	5,773	70	91,155	73
Vascular dementia	7,291	8	2,916	10	668	8	10,875	9
Mixed dementia	1,917	2	1,077	4	275	4	3,269	2
Other conditions	14,846	17	3,888	13	1,505	18	20,239	16
Total	87,782	70	29,535	23	8,221	7	125,538	100

NOTE: Mixed dementia = both Alzheimer's and Vascular dementia; Other conditions = dementia in other medical

Figure 3

REGISTRY CASES BY PLACE OF RESIDENCE AT TIME OF DIAGNOSIS

South Carolina Alzheimer's Disease Registry, 2022

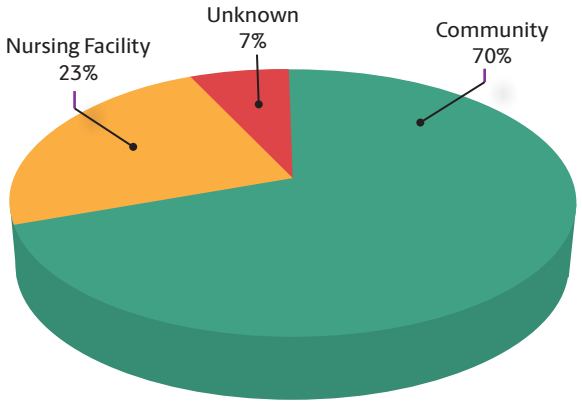
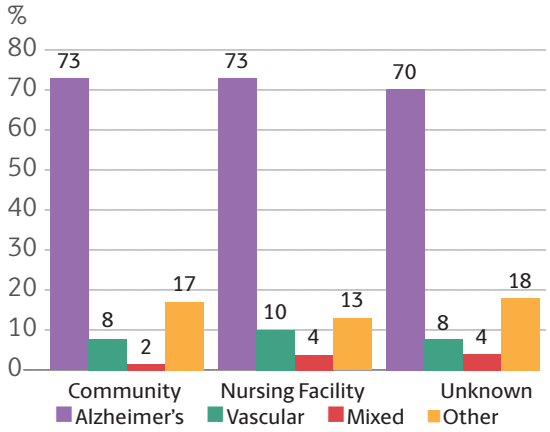


Figure 4

REGISTRY CASES BY PLACE OF RESIDENCE AND DEMENTIA TYPE

South Carolina Alzheimer's Disease Registry, 2022



Dementia in Other Medical Conditions

In addition to AD, the Registry tracks dementias that are associated with other medical conditions, such as Parkinson's disease, alcohol and drug abuse, and HIV/AIDS. In the 2022 Registry, there were 18,778 persons with a dementia associated with one of these conditions who did not also have a diagnosis of AD or vascular dementia. Nineteen percent had dementia associated with Parkinson's disease and 57% had an indication of dementia associated with some other medical condition (Table 3 footnote). The percentages in the table are not mutually exclusive due to the fact that some records indicate more than one medical condition.

Dementia with Lewy Bodies

Dementia with Lewy Bodies (DLB) is a progressive brain disease characterized by abnormal round structures in the areas of the brain that control thinking and movement. Hence, DLB causes symptoms similar to those commonly associated with both AD and Parkinson's disease. Like AD, it can cause confusion, memory loss, and depression, while other possible symptoms are slowed movement, rigid muscles, and tremors, symptoms normally found in those with Parkinson's disease. Persons with DLB may also have hallucinations and experience day-to-day changes in their symptoms. Currently, there is no cure for DLB. Medications used to treat AD, Parkinson's disease, and depression are typically used to manage DLB symptoms. National estimates suggest that DLB accounts for approximately 10-25% of all dementia cases.[1] In the South Carolina Registry, DLB accounted for 10% of the dementia in other medical conditions category and only 2% of all dementia cases.

[1] Alzheimer's Association. http://www.alz.org/dementia/dementia-with-lewy-bodies-symptoms.asp Accessed October 30, 2023.

Table 3

DEMENTIA WITH OTHER MEDICAL CONDITIONS BY AGE GROUP

South Carolina Alzheimer's Disease Registry, 2022

	Under 65	65–74	75–84	85+	Total	
	%	%	%	%	N	%
Alcohol dementia	25	12	5	2	1,418	8
Drug-induced dementia	2	0	0	0	77	0
Organic brain syndrome	1	1	1	0	108	1
Other cerebral degenerations	17	45	42	38	7,226	38
Parkinson's disease	8	20	27	15	3,574	19
Huntington's disease	1	0	0	0	47	0
HIV/AIDS dementia	8	2	0	0	269	2
Dementia with Lewy Bodies	4	9	12	10	1,864	10
Frontotemporal dementia	4	4	2	1	404	1
Pick's disease	1	0	0	0	49	0
Creutzfeldt-Jakob disease	0	0	0	0	10	0
Traumatic Brain Injury Dementia	1	1	1	0	112	1
Chronic Traumatic Encephalopathy	1	0	0	0	54	0
Dementia with other conditions*	60	52	63	53	10,684	57
Total (N)	2,004	4,226	5,733	6,815	18,778	

NOTE: The percentages in the table are not mutually exclusive due to the fact that some records indicate more than one medical condition.

*Dementia with other conditions includes those with an ICD-10-CM code F02.80 - F02.81 (dementia in conditions classified elsewhere) on their medical record. This code is listed along with the ICD-10-CM code of the dementia-causing condition. However, the dementia-causing condition may not be identifiable from the record, and therefore, may not be in the above table.

Age and ADRD in South Carolina

Table 4 shows that in 2022, 45% of persons with AD were 85 years of age or older. Figure 5 shows this information graphically for all dementias included in ADRD, with 43% of persons over 85 years of age. Figure 6 indicates that for people with ADRD, 71% of those 75 - 84 years of age were being cared for in the community at the time of diagnosis. Living in the community is most often the location of choice for the individual with ADRD and the family. However, as Figure 6 indicates, with age comes an increase in the numbers of those who reside in nursing facilities.

Table 4

REGISTRY CASES BY AGE GROUP AND DEMENTIA TYPE

South Carolina Alzheimer's Disease Registry, 2022

	AD		Vascular		Mixed		Other		Total	
	N	%	N	%	N	%	N	%	N	%
Under 65	4,482	5	1,208	12	113	3	2,015	11	7,818	7
65 – 74	14,383	17	2,403	23	494	16	4,229	22	21,509	18
75 – 84	28,873	33	2,968	29	1,009	32	5,735	31	38,585	32
85 +	39,378	45	3,669	36	1,544	49	6,819	36	51,410	43
Total	87,116	73	10,248	8	3,160	2	18,798	16	119,322	100

*6,216 records for individuals have missing values for the variables required for inclusion in this table or have ages either less than 50 or greater than 110.

NOTE: AD=Alzheimer's disease; Vascular=vascular dementia; Mixed=both Alzheimer's disease and vascular dementia; Other=dementia with other medical conditions.

Figure 5

REGISTRY CASES BY AGE GROUP

South Carolina Alzheimer's Disease Registry, 2022

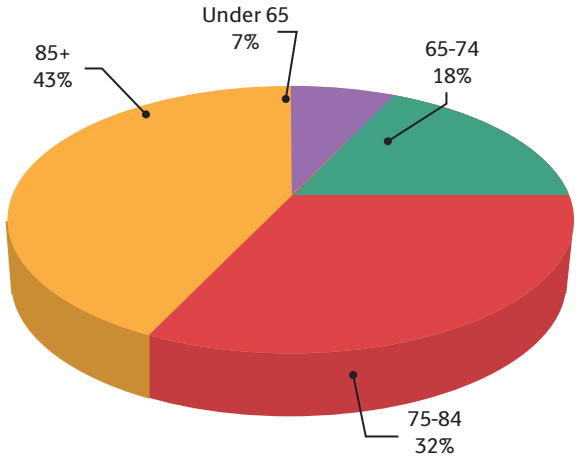
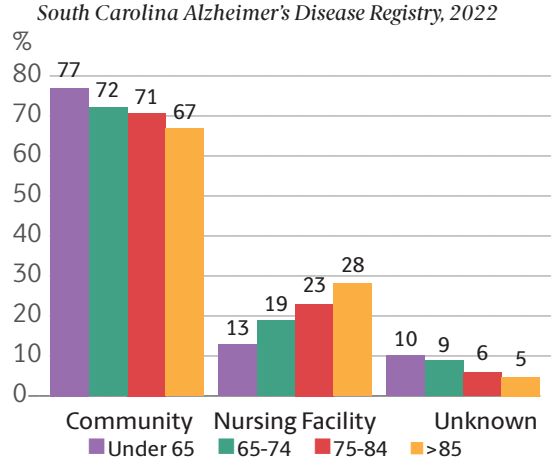


Figure 6

REGISTRY CASES BY AGE GROUP AND PLACE OF RESIDENCE AT TIME OF DIAGNOSIS

South Carolina Alzheimer's Disease Registry, 2022



Gender and ADRD in South Carolina

Table 5 shows Registry cases by gender, ADRD type, and age group. For each dementia type, the number of women was notably larger than the number of men in all but the youngest age category. In particular, among those age 85 or over, the number of women with ADRD was more than two times the number of men with ADRD. More women than men in this population were diagnosed with ADRD (Figure 7). This is likely due to the larger number of women alive after age 75. The differences in the ADRD diagnoses by gender are shown graphically in Figure 8.

Table 5

REGISTRY CASES BY GENDER, AGE GROUP AND ADRD TYPE

South Carolina Alzheimer's Disease Registry, 2022

	AD		Vascular		Mixed		Other		Total	
	N	%	N	%	N	%	N	%	N	%
Male										
Under 65	1,582	6	435	11	64	5	1,045	13	3,126	7
65 – 74	5,666	19	996	26	255	19	2,137	26	9,054	21
75 – 84	10,874	36	1,162	30	440	34	2,575	31	15,051	35
85 +	11,919	40	1,262	33	547	42	2,528	30	16,256	37
Female										
Under 65	1,779	3	396	8	41	2	720	7	2,936	4
65 – 74	7,136	14	975	19	226	13	1,877	19	10,214	15
75 – 84	16,177	32	1,447	29	553	31	2,985	31	21,162	31
85 +	25,900	51	2,174	44	981	54	4,117	43	33,172	49

*8,351 records for individuals have missing values for gender or have ages either less than 50 or greater than 110.

NOTE: AD=Alzheimer's disease or senile dementia; Vascular=Vascular dementia; Mixed=both Alzheimer's disease and Vascular dementia; Other=dementia in other medical conditions.

Figure 7

REGISTRY CASES BY GENDER

South Carolina Alzheimer's Disease Registry, 2022

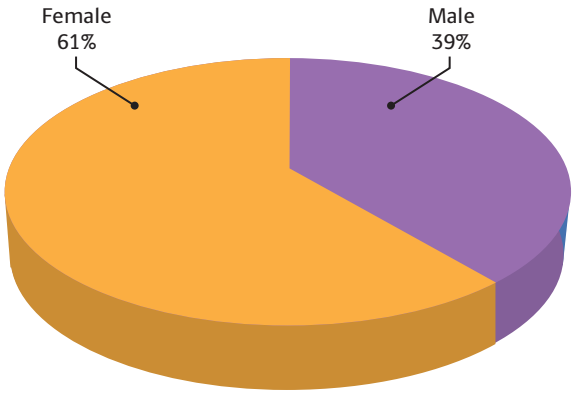
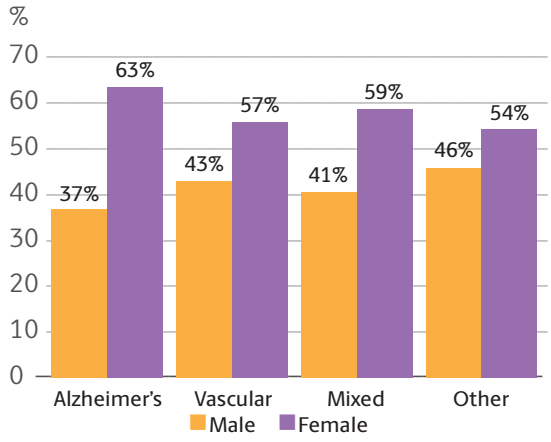


Figure 8

REGISTRY CASES BY GENDER AND ADRD TYPE

South Carolina Alzheimer's Disease Registry, 2022



Race and ADRD in South Carolina

Compared with whites, African Americans, who comprise approximately 22% of the population 65 years and older, were over-represented in vascular dementia of the South Carolina and in the overall Registry (29%; Table 6). At ages 65 and older, for example, African American South Carolinians were 32% more likely to have ADRD than non-Hispanic whites*. Seventy-five percent of African Americans with ADRD resided in the community compared to 70% of whites (Figure 10).

Table 6

REGISTRY CASES BY RACE AND ADRD TYPE

*South Carolina Alzheimer's Disease Registry, 2022**

	AD		Vascular		Mixed		Other		Total	
	N	%	N	%	N	%	N	%	N	%
Race										
White	57,027	62	5,138	47	1,793	55	12,419	61	76,377	61
African-American	19,257	21	3,119	29	921	28	4,838	24	28,135	22
Hispanic	568	1	80	1	15	0	198	1	861	1
All Others	14,303	16	2,538	23	540	17	2,784	14	20,165	16
Total	91,155	73	10,875	9	3,269	2	20,239	16	125,538	100

*AD=Alzheimer's disease or senile dementia; Vascular=Vascular dementia; Mixed=both Alzheimer's disease and Vascular dementia; Other=dementia in other medical conditions.

Figure 9

REGISTRY CASES BY RACE

South Carolina Alzheimer's Disease Registry, 2022

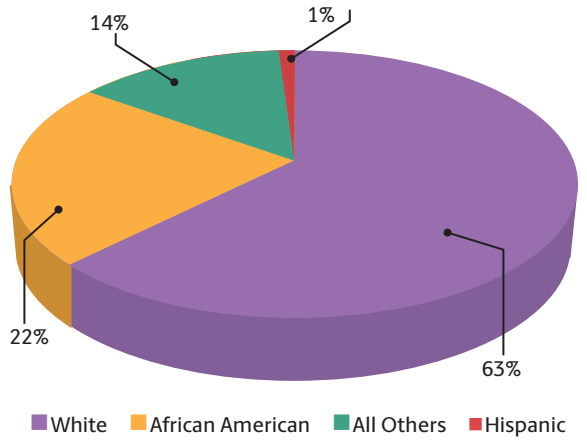
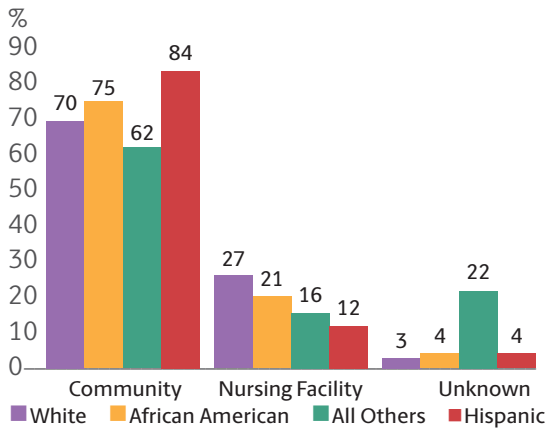


Figure 10

REGISTRY CASES BY AGE IN COMMUNITY, NURSING FACILITY, OR UNKNOWN LOCATION

South Carolina Alzheimer's Disease Registry, 2022



Deaths Among Individuals in the Registry

The individual's first date of diagnosis may not be known to the Registry in every instance. For example, if an individual is first diagnosed during a physician office visit, then that diagnosis is not available to the Registry. The Registry uses the first date that a person entered one of the systems reporting to us as their entry date. The Alzheimer's Disease Registry data are linked with death certificates to summarize the deaths occurring among persons in the Registry. Of those people identified with ADRD since 1988, 287,036 have died. Table 7 illustrates the number of years from date of diagnosis to death.

* Odds ratio was calculated comparing prevalence of ADRD in 65+ African Americans and Whites.

Table 7

LENGTH OF TIME IN REGISTRY BY ADRD TYPE

*South Carolina Alzheimer's Disease Registry, 2022**

	AD		Vascular		Mixed		Other		Total	
Years in Registry	N	%	N	%	N	%	N	%	N	%
< 2 years	107,778	53	15,943	55	6,654	52	22,969	54	153,344	53
2–5 years	54,651	27	7,319	25	3,784	29	10,367	25	76,121	27
5 + years	40,160	20	5,938	20	2,406	19	9,067	21	57,571	20
Total	202,589	70	29,200	10	12,844	4	42,403	15	287,036	100

AD=Alzheimer's disease or senile dementia; Vascular=Vascular dementia; Mixed=both Alzheimer's disease and Vascular dementia; Other=dementia in other medical conditions.

Table 8 lists the top 10 underlying causes of death for persons 65 years of age or older in the Registry who died during 2022. The #1 underlying cause of death for these persons was attributed to Alzheimer's Disease. The leading causes of death for persons ages 65 years and older nationally were heart disease, malignant neoplasms, infectious diseases, COVID-19, cerebrovascular diseases, chronic lower respiratory diseases, Alzheimer's Disease, heart failure, accidents and diabetes.[1] As can be seen in Table 8, the underlying causes of death for those with ADRD in the Registry closely mirror the national trend.

Table 8

TOP 10 UNDERLYING CAUSES OF DEATH AMONG REGISTRY CASES 65 YEARS OR OLDER

South Carolina Alzheimer's Disease Registry, 2022

Rank	
1	Alzheimer's disease, unspecified
2	Senile degeneration of brain, not elsewhere classified
3	Unspecified dementia
4	COVID-19
5	Atherosclerotic heart disease of native coronary artery without angina patoris
6	Chronic obstructive pulmonary disease, unspecified
7	Parkinson's disease
8	Stroke, not specified as hemorrhage or infarction
9	Heart failure
10	Mental and behavioral disorders due to multiple drug use and other psychoactive substances

*Only includes persons who died during the 2022 calendar year.

**Excludes pneumonia caused by tuberculosis or sexually transmitted disease.

[1] CDC NCHS https://www.cdc.gov/nchs/nvss/mortality_tables.htm Accessed October 18, 2024

Additional Programs at the OSA

A. Dementia Dialogues®

Dementia Dialogues® provides the most current and practical information about how to care for people with dementia. This program is a nationally registered, evidence-informed, intervention program. Dementia Dialogues® is a 5-module training course designed to educate community members and caregivers (formal or informal) for persons who exhibit signs and symptoms of Alzheimer's disease and related dementias (ADRD). The modules cover valuable information and recommendations including an overview of dementia, strategies for effective communication, understanding the environment and ways to promote independence, addressing challenging behaviors, and creative problem solving. Dementia Dialogues® is offered nationwide by Certified Instructors in-person and virtually, and as a virtual self-guided training at no cost to participants.

B. Graduate Student Scholarship in Aging

The Arnold School of Public Health is committed to developing future leaders in aging research. Therefore, it has established the Graduate Student Scholarship in Aging to recognize up to two outstanding graduate students who exemplify the highest standards of scholarship focused on aging.

C. Research Fellowship in Aging

The Arnold School of Public Health (ASPH) is committed to advancing research and education on aging related issues. The Research Fellowship is designed to support faculty and professional staff in the ASPH to conduct research in the multidisciplinary field of aging.

D. Arnold Aging Lecture

The Arnold Aging Lecture is sponsored by the OSA and the Gerry Sue and Norman J. Arnold Institute on Aging. The lecture's goal is to promote healthy aging across the lifespan through sharing of current research by experts in the field. The lecture is offered to the public and USC students, faculty, and staff without charge.

E: Certificate of Graduate Study in Aging

The Certificate of Graduate Study in Aging is designed to address the educational needs of graduate students and professionals who are or plan to be, engaged in work with older adults. The overarching goal of the CGA is to prepare students and professionals for competent and compassionate practice to be better able to promote the health and well-being of, and improve the quality of life for, older adults. Students learn to assess a variety of domains (e.g., functional and cognitive status, health literacy), apply relevant theories in a health promotion and social and environmental context, and choose and implement effective interventions specifically for older adults.

F. South Carolina's Operation to Confront Isolation and Loneliness

South Carolina's Operation to Confront Social Isolation and Loneliness (SOCIAL Aging), is a state-wide coalition dedicated to reducing social isolation in older adults. Members are comprised of state-level and community experts and those with lived expertise. The OSA serves as the coalition's backbone infrastructure.

OSA Leadership

The OSA is comprised of a core team dedicated to achieving its missions of education, research, and service to the aging community. The team supports and facilitates collaborations with affiliated members from within and outside the University. For a comprehensive list of advisors, partners and collaborators, and affiliates, visit our website at osa-sc.org.

Maggi Miller, MS, Ph.D., *Co-Director and Alzheimer's Disease Registry Manager*

Maggi Miller has 20 years of experience in aging-related public health research and practice. She received her MS in health promotion from the University of Delaware and a PhD in epidemiology from the University of South Carolina Arnold School of Public Health. She is a research assistant professor in the Department of Epidemiology and Biostatistics. At the OSA, Dr. Miller manages the SC Alzheimer's Disease Registry and focuses on dementia and aging research, in addition to, program evaluation. Her research interests include Alzheimer's disease and related dementias and caregivers of individuals with dementia.

Megan Byers, MSW, LMSW, CSWM, *Co-Director and Dementia Dialogues® Manager*

Megan Byers (she/her) has worked in the field of aging for over a decade. She has developed policies and training curricula, monitored legislative sessions to determine their impact on vulnerable adults, educated stakeholders on issues of adult maltreatment and dementia, taught at universities as an adjunct instructor, presented at state and national conferences, and is a published author. She holds a Master of Social Work, a Graduate Certificate in Gerontology, and Certificates in Research Administration, and in Innovative and Experimental Learning. Ms. Byers is a Licensed Master Social Worker in South Carolina.

Matthew Lohman, Ph.D., *Research Faculty*

Dr. Lohman is an Assistant Professor of Epidemiology in the Department of Epidemiology and Biostatistics and is a core faculty member of the OSA. His primary research areas are in psychiatric epidemiology, gerontology, geriatric mental health services, and the epidemiology of adverse health outcomes such as falls, hospitalizations, and acquired disabilities among older adults. Dr. Lohman is particularly interested in the role of long-term care services and settings, such as nursing homes and home health care nursing, in the prevention of age-related cognitive and physical decline. He is the current recipient of a grant from the National Institute on Aging to study mechanisms increasing fall risk among older adults with depression. He currently teaches epidemiological methods and psychiatric epidemiology for masters and doctoral students.

Mansi Verma, MPH, Ph.D. Candidate, *Graduate Assistant*

Eric Mishio Bawa, MLSD, MPhil, Ph.D. Candidate*, Graduate Assistant*

Daniel Amoatika, RN, MPhil, BCQS, *Graduate Assistant*

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