Divergent Mortality Patterns Associated With Dementia in the United States: 1999–2020

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Abstract

Objective: To analyze contemporary trends of dementia and dementia-related mortality in the United States between 1999 and 2020 categorized by demographic and regional attributes.

Methods: A retrospective cohort analysis was conducted using mortality data from individuals aged 35 years to ≥85 years, where dementia/Alzheimer disease was recorded as a contributing or underlying cause of death. Data were extracted from the US Centers for Disease Control and Prevention's Wide-Ranging Online Data for Epidemiologic Research database for the years 1999–2020. Mortality rates adjusted for age due to dementia (annual age-adjusted mortality rate [AAMR]) per 10,000 individuals in the United States were categorized by gender, racial and ethnic groups, and geographic regions.

Results: Results revealed 6,601,680 deaths related to dementia between 1999 and 2020. Among these, 85.5% were non-Hispanic (NH) white, 8% NH black, 4.34% Hispanic or Latino, 1.6% NH Asian or Pacific Islander, and 0.3% NH American Indian or Alaska Native adults. The overall AAMR was 17.49, with women experiencing a higher AAMR of 18.19 compared to men (16.05). Ethnic disparities were evident, with NH black adults having the highest AAMR (18.23), followed by NH white (18.09) and Hispanic adults (12.7). Over the study period, the overall AAMR increased from 10.86 in 1999 to 21.42 in 2020, with a notable 18.4% rise in the AAMR from 1999 to 2001. From 2001 to 2020, the average percent change of the AAMR was 1.0%. This upward trend in mortality was observed for both men and women and across all ethnicities.

Conclusions: The study spanning 1999–2020 revealed concerning trends in dementia-related mortality in the United States. There is a critical need for targeted health care policy initiatives aimed at mitigating the increasing dementia burden.

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Presently, dementia ranks as the seventh leading cause of death and stands as a significant contributor to disability and dependency in the older population worldwide. According to 1 report, approximately 50 million individuals are living with dementia globally, and projections indicate a surge to 152 million by the year 2050.[1] As of 2020, over 7 million Americans aged ≥65 years were estimated to have dementia, and the lifetime risk of developing dementia is estimated to be 34.7%.[2] Among the various causes, Alzheimer disease (AD) prevails as the most common, accounting for 60%–70% of cases.[3] AD affects 6.2 million elderly Americans, ranking as the sixth leading cause of death in the United States and the fifth among those aged ≥65 years. With the aging population, AD cases are expected to rise significantly, with every US state projected to witness at least a 6.7% increase between 2020 and 2025.[4] This projection foretells a future marked by increased mortality and morbidity, even as medical advancements occur.

Major neurocognitive disorder in the *DSM-5*, previously labeled as dementia, is a progressive and irreversible condition marked by a deterioration in cognitive functions.[5] Dementia, a diverse syndrome stemming from a range of neurological and medical conditions, is characterized by its heterogeneous nature.[6] Major contributors to this condition include neurodegeneration, vascular injury, and nutritional/metabolic disorders.[6] One study[2] indicated a potential trade-off, where the progress in combatting chronic diseases among future elderly adults in the United States comes with a heightened risk of developing dementia.

Clinical Points

- There was a significant increase in dementia-related mortality rates from 1999 to 2020, which emphasizes the growing public health concern surrounding dementia and the need for improved management strategies.
- Disparities in dementia mortality across racial and ethnic groups, with non-Hispanic black adults experiencing a higher age-adjusted mortality rate compared to other groups, suggest a need for targeted interventions to address these disparities and ensure equitable access to care.
- A higher increase in dementia mortality rates in nonmetropolitan areas compared to urban areas suggests a potential need for increased health care resources and support systems for individuals with dementia residing in rural locations.

The findings imply that with longer life expectancies, individuals are more likely to encounter challenges related to cognitive decline.[2] This heightened probability of facing cognitive issues poses difficulties for both the affected individuals and the support systems designed to assist them, including families and government programs catering to individuals with disabilities.

The dementia study by Livingston et al[1] sheds light on risk factors spanning different life phases. Early life elements such as education contribute, while midlife risks involve hypertension, obesity, hearing loss, traumatic brain injury, and alcohol misuse.[1] In later life, smoking, depression, physical inactivity, social isolation, diabetes, and air pollution are identified as potential contributors to an increased risk of dementia. Nevertheless, the study[1] recognizes that certain late-life factors, such as depression, may exert a bidirectional impact and could also be part of the dementia prodrome.

In a separate study,[7] it might be inferred that, beyond the specific dementia type, key factors strongly linked to mortality due to dementia during follow-up encompass being male, being white, and identifying as non-Hispanic (NH). The consistent observation that male sex, and to a lesser extent gender, is associated with higher mortality or reduced survival aligns with findings from various dementia studies, although disparities exist in the literature.[8] Additionally, the indication that individuals of NH white race/ethnicity may encounter a heightened risk of mortality compared to their African American and Hispanic/Latino counterparts, a trend frequently observed in studies, also displays some variability.[7–9]

We acknowledge that there is a notable dearth of information regarding comparative mortality patterns from dementia among various demographic and regional groups in the United States. Consequently, the objective of this study was to analyze contemporary trends of dementia and dementia-related mortality categorized by demographic and regional attributes. Such analysis not only quantifies the current and impending dementia burden but also guides policymakers by assessing the adequacy of existing policies and emphasizing the need to address the vulnerabilities within specific populations across the United States.

METHODS

Study Sample

We utilized the Centers for Disease Control and Prevention's Wide-Ranging Online Data for Epidemiologic Research (WONDER)[10] to retrieve data concerning dementia-related deaths in the United States. Since the data had been deidentified and made publicly accessible, institutional review board approval was not required. Dementia was selected as a contributing or underlying cause of death on countrywide death certificates using *International Classification of Diseases, Tenth Revision, Clinical Modification* (*ICD-10-CM*) codes F01 (vascular dementia), F03 (unspecified dementia), and G30 (AD) from the multiple cause-of-death public use record death certificates. We obtained population data with 10-year age categories from age 35 years to ≥85 years.

Variables

Dementia-related mortality data spanning from 1999 to 2020 were segmented by age, gender, ethnicity, and race. The categories for ethnicity included Hispanic, NH black/African American, NH white, NH American Indian or Alaska Native, and NH Asian or Pacific Islander. Furthermore, we categorized population data by place of death, region, and US state. To calculate the crude mortality rate, we divided the number of dementia-related deaths by the corresponding US population for each year.

Statistical Analysis

As previously indicated,[11] age-adjusted mortality rates (AAMR) were determined by standardizing dementia-related deaths to the 2000 US population as a reference. The analysis employed the Joinpoint regression tool version 5.0.2 developed by the National Cancer Institute to assess AAMR patterns through the annual percent change (APC) method.

In this investigation, log-linear regression models were applied to detect and analyze significant fluctuations in AAMR across different time intervals. To estimate the average annual mortality rates for identified line segments connecting join locations, the

Monte Carlo permutation test was used, and the results were presented as adjusted prevalence ratios along with their corresponding 95% CIs.

To assess APCs, we determined whether there was a statistically significant departure from zero in the slope characterizing the mortality variation. This was accomplished through a 2-tailed *t* test, with a significance level set at $P < .05$. The analysis was conducted in July 2023.

RESULTS

During the period spanning from 1999 to 2020, a cumulative number of 6,601,680 fatalities associated with dementia were recorded among individuals aged 35 years to ≥85 years (as indicated in Supplementary eTable 1 of the Supplementary Material). Of these, 2,226,222 (33.7%) were men and 4,375,458 (66.3%) were women. In terms of racial distribution, 5,645,455 (85.5%) were NH white, 530,413 (8%) were NH black, 286,677 (4.34%) were Hispanic or Latino, 107,873 (1.6%) were NH Asian or Pacific Islander, and 19,423 (0.3%) were NH American Indian or Alaska Native (see Supplementary eTables 2–4 of the Supplementary Material). Among the 6,584,630 deaths with available location information, 16.3% (1,071,727 deaths) occurred within medical facilities. Additionally, 55.3% (3,646,943 deaths) occurred in nursing homes or long-term care facilities, 4.1% (271,355 deaths) occurred in hospice, and 18.0% (1,185,570 deaths) took place at home (as shown in Supplementary eTable 5 of the Supplementary Material).

The AAMR observed throughout the study period was 17.49. Notably, the AAMR was found to be higher among women in comparison to men, with rates of 18.19 and 16.05, respectively. Additionally, the AAMR was found to be higher among NH black adults when compared to Hispanic or Latino and NH white adults, with rates of 18.23, 12.7, and 18.09, respectively.

In general, the AAMR for dementia within our group exhibited an upward trend, increasing from 10.86 in 1999 to 21.42 in 2020, as depicted in Figure 1. The annual AAMR exhibited an upward trend from 1999 to 2001, with an average APC of 18.4% (95% CI, 4.7–31.0). Subsequently, the AAMR remained relatively stable from 2001 to 2020, with an APC of 1.0% (95% CI, 0.4–1.4) (Figure 1).

Dementia mortality increased in men and women. The AAMR in men exhibited a notable increase from 10.16 in 1999 to 19.26 in 2020. Similarly, the AAMR in women increased from 11.08 in 1999 to 22.64 in 2020, as depicted in Figure 1. The AAMR demonstrated an increase across all racial and ethnic groupings. The AAMR for adults identifying as NH black or African American exhibited an upward trend, increasing from 10.12 in 1999 to 23.24 in 2020. Similarly, the AAMR for adults identifying as Hispanic or Latino experienced an increase from 6.51 in 1999 to 17.06 in 2020. Furthermore, the AAMR for individuals identifying as NH Asian or Pacific Islander also had an upward trajectory, increasing from 4.23 in 1999 to 11.34 in 2020. The AAMR for NH American Indians or Alaska Natives and for NH whites showed an increase from 6.62 to 14.92 and from 11.23 to 22.29, correspondingly, throughout the identical time frame (Figure 2).

The AAMR in nonmetropolitan areas had the most pronounced increase, from 11.69 in 1999 to 24.06 in 2020. The research period had a comparable increase in mortality rates in both major and medium/small urban areas, as depicted in Figure 3 and Supplementary eTable 6 in the Supplementary Material. There were notable variations in the prevalence of mortality related to dementia across different regions. States such as Tennessee, South Carolina, North Carolina, Oklahoma, Vermont, and Oregon, which fell within the upper 90th percentile of dementia-related mortality, exhibited a considerably higher burden of mortality compared to states in the bottom 10th percentile. This information is visually represented in Figure 4 and can be further explored in Supplementary eTable 7 of the Supplementary Material.

DISCUSSION

This study analyzed a 22-year trend in mortality from 1999 to 2020 from the CDC WONDER database, particularly for those death certificates that mention mortality due to vascular dementia, AD, and unspecified dementia. Across all races, genders, ethnicities, and geographic distributions, the trend is unfortunately upward.

The present study found emerging racial and ethnic differences in dementia-related mortality in the United States with black adults having the highest AAMR (a 13% increase from 1999) followed by NH whites, Hispanics, American Indians, and Asian adults. This increasing trend in black adult mortality due to dementia corroborates the findings of previous studies.[12–15] Genetic variants such as *ABCA7* and *APOE* ε4 have been attributed to a high risk of dementia in black American adults.[16] Nonetheless, numerous additional factors also play a role in this, including health disparities, socioeconomic status, limited health literacy, reduced access to quality education, family income, financial instability, chronic health conditions, stress, and experiences of racial discrimination.[15,17] Research indicates that African American, Hispanic American, and Asian American adults encounter obstacles when trying to access health care services, including specialists and support services for dementia. Furthermore, these groups are less likely to receive an early and precise

Figure 1.

Age-Adjusted Mortality Rate for Dementia Overall and by Gender: 1999–2020

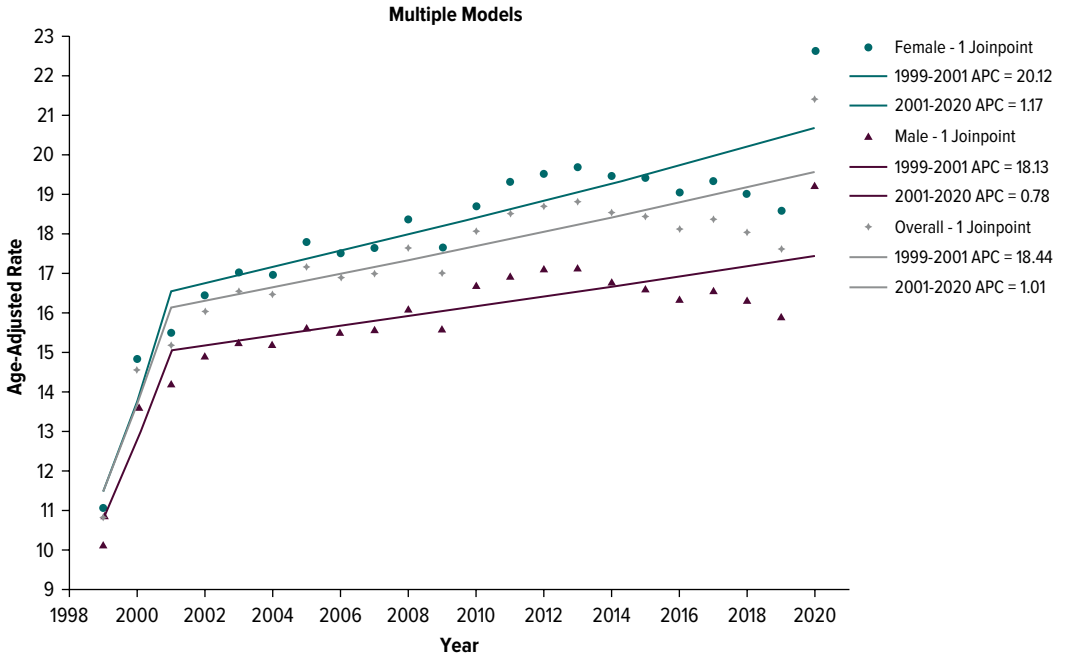


Figure 2.

Age-Adjusted Mortality Rate for Dementia by Race: 1999–2020

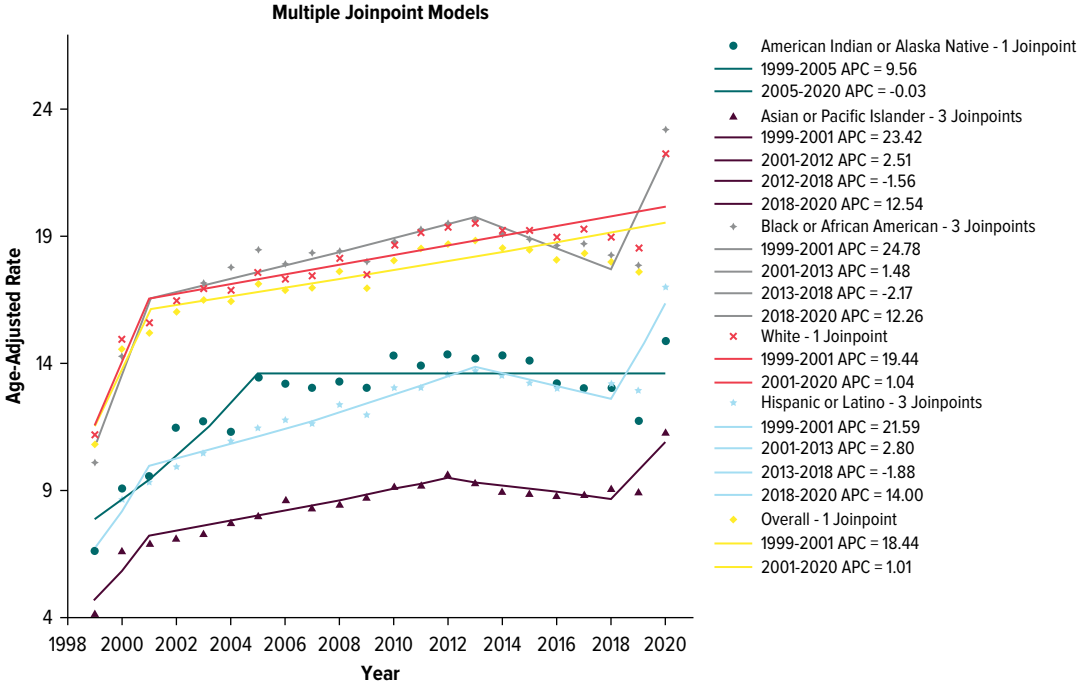
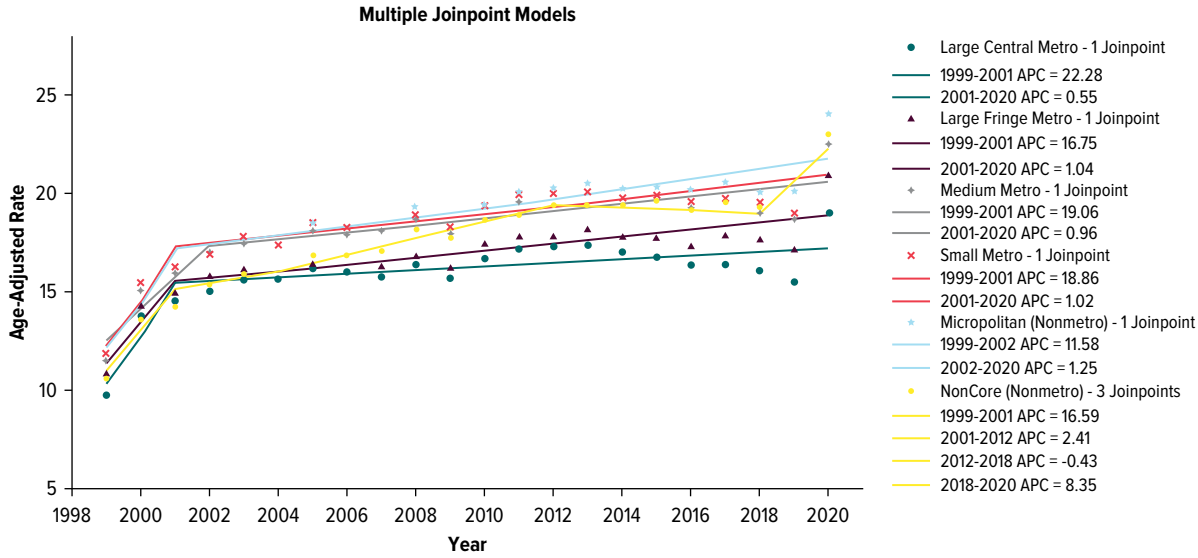


Figure 3.

Age-Adjusted Mortality Rate for Dementia by Urbanization: 1999–2020[a]



[a]The large central metro category contains counties in metropolitan statistical areas (MSAs) of 1 million or more population that have been identified by National Center for Health Statistics classification rules as central because they contain all or part of a principal city of the area. The large fringe metro category contains the remaining counties (similar to suburbs) in MSAs of 1 million or more. Counties in MSAs of 250,000–999,999 population are assigned to the medium metro category, and counties in MSAs with populations under 250,000 are assigned to the small metro category. Nonmetropolitan counties that are designated by the Office of Management and Budget as belonging to a micropolitan statistical area are assigned to the micropolitan category, and the remaining nonmetropolitan counties are assigned to the noncore category. The large central metro category is the most "urban" category, and the noncore category is the most "rural" category.[10]

dementia diagnosis compared to NH white adults, potentially leading to missed opportunities for timely intervention and support.[18,19]

Our results also depict significant geographic variations in dementia-related mortality, with nonmetropolitan states having the highest increase in the AAMR over time. Our findings are in line with a recent similar study depicting difference in dementia-related mortality.[20] The study's findings reveal a concerning urban-rural divergence in AD and related dementias (ADRD) mortality in the United States, with nonmetropolitan areas experiencing a rapid increase in ADRD mortality rates. This emerging trend is contributing significantly to the urban-rural life expectancy gap, particularly among women, surpassing the impact of other leading causes of death.[20] These similar findings can be attributed to rapidly aging rural areas of the United States. These regions are facing adverse mortality trends and increasing disadvantages in terms of socioeconomic resources and health care infrastructure, which can be challenging to address.

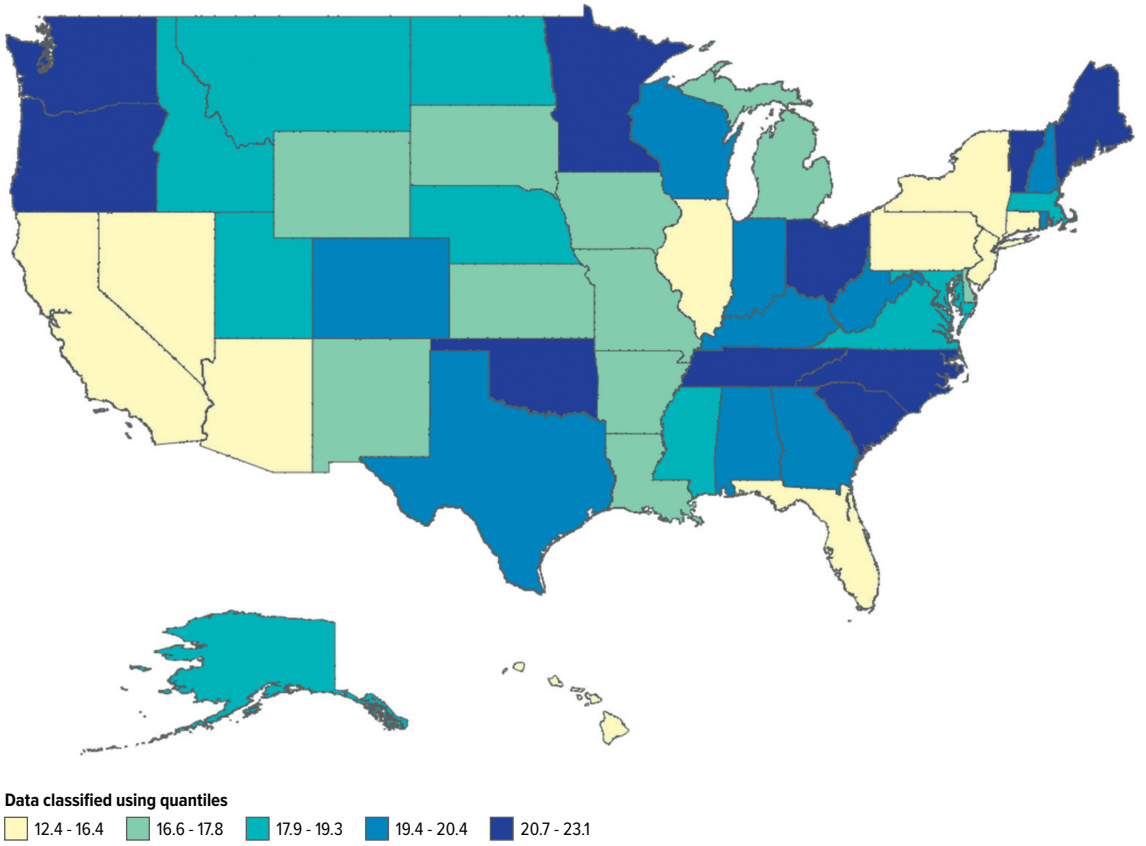
The higher prevalence of dementia among women can be primarily attributed to their longer lifespan, as age stands out as the most significant risk factor for AD (the most prevalent form of dementia).[21] However, it's worth noting that, regardless of age, women exhibit a higher risk of developing dementia compared to men.[22] These findings align with data from the Framingham Study,[23] and we can infer that there is a striking disparity in the remaining lifetime risk of AD and dementing illnesses between men and women. Specifically, for a 65-year-old woman, the lifetime risk of developing AD is approximately twice as high as that of a man of the same age.[23] These findings highlight the importance of delving deeper into the genetic and environmental factors that may elevate women's susceptibility to dementia.

Enhancing public health awareness regarding dementia risk factors, promoting screening and early detection, ensuring equitable health care access, and implementing effective health policy interventions hold the promise of substantially mitigating regional and racial disparities in dementia mortality across the United States. Tailored interventions can be crafted to cater to the specific needs and challenges of specific populations and geographic areas. Ongoing research into regional and racial variations in dementia mortality can offer insights into emerging trends and the assessment of intervention efficacy. Collaborative efforts involving public health authorities, health care providers, community organizations, and policymakers can foster holistic and integrated approaches to dementia care and mortality reduction in the United States.

This study has several limitations to consider. First, the use of *ICD-CM* codes and reliance on death certificates may have led to instances where dementia was misclassified as a cause of death. Second, an increase in dementia diagnoses in electronic health

Figure 4.

Visual Geographic Regional Representation of Age-Adjusted Mortality Rate/10,000 Population



records might have contributed to higher reporting on death certificates, potentially affecting the accuracy of trends in dementia-related mortality as a predictive measure of actual dementia mortality trends. Additionally, the database lacks information on disease characteristics that could offer a more comprehensive characterization of the dementia phenotype, including neurological and neuropsychological examinations, electroencephalograms, computed tomography scans, magnetic resonance imaging, and genetic testing.

CONCLUSION

The study spanning 1999–2020 revealed concerning trends in dementia-related mortality in the United States. Overall, there was a substantial increase in mortality rates, affecting both men and women across various ethnicities. Nonmetropolitan areas saw the steepest rise in dementia-related deaths. There is a critical need for targeted health care policy initiatives aimed at mitigating the increasing dementia burden. These measures should prioritize prevention, early detection, and the reduction of disparities in dementia care.

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Supplementary Material

Article Title: Divergent Mortality Patterns Associated With Dementia in the United States: 1999–2020

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LIST OF SUPPLEMENTARY MATERIAL FOR THE ARTICLE

DISCLAIMER

eTable 1

Year Code	Deaths	Population	Crude Rate	Age Adjusted Rate
1999	150007	140230363	10.7	10.9
2000	204163	142092916	14.4	14.6
2001	216915	144833606	15	15.2
2002	232076	146858382	15.8	16.1
2003	243425	148846634	16.4	16.5
2004	245929	150938828	16.3	16.5
2005	262004	153292737	17.1	17.2
2006	264379	155624180	17	16.9
2007	272247	157690314	17.3	17
2008	288826	159587617	18.1	17.7
2009	284340	161383674	17.6	17
2010	307826	162828035	18.9	18.1
2011	326129	164802438	19.8	18.6
2012	337259	166516716	20.3	18.7
2013	347518	168240727	20.7	18.8
2014	349538	170292776	20.5	18.5
2015	355405	172416615	20.6	18.5
2016	355491	173964174	20.4	18.1
2017	367769	176104659	20.9	18.4
2018	369642	177613416	20.8	18.1
2019	367582	179040846	20.5	17.6
2020	453210	180565367	25.1	21.4
TOTAL	6601680	3553765020	18.6	17.5

eTable 2

Race	Year	Deaths	Population	Crude Rate	Age Adjusted Rate
American Indian or Alaska Native	1999	276	910688	3.03	6.62
American Indian or Alaska Native	2000	427	955348	4.47	9.1
American Indian or Alaska Native	2001	449	977323	4.59	9.61
American Indian or Alaska Native	2002	545	998120	5.46	11.52
American Indian or Alaska Native	2003	573	1017915	5.63	11.78
American Indian or Alaska Native	2004	561	1038537	5.4	11.33
American Indian or Alaska Native	2005	690	1060482	6.51	13.47
American Indian or Alaska Native	2006	695	1082240	6.42	13.22
American Indian or Alaska Native	2007	720	1101869	6.53	13.05
American Indian or Alaska Native	2008	764	1120641	6.82	13.38
American Indian or Alaska Native	2009	776	1137888	6.82	13.06
American Indian or Alaska Native	2010	887	1150707	7.71	14.36
American Indian or Alaska Native	2011	921	1173278	7.85	13.97
American Indian or Alaska Native	2012	1004	1191029	8.43	14.39
American Indian or Alaska Native	2013	1056	1208343	8.74	14.22
American Indian or Alaska Native	2014	1140	1227491	9.29	14.36
American Indian or Alaska Native	2015	1201	1247498	9.63	14.12
American Indian or Alaska Native	2016	1203	1266253	9.5	13.26
American Indian or Alaska Native	2017	1243	1284318	9.68	13.09
American Indian or Alaska Native	2018	1334	1303661	10.23	13.11
American Indian or Alaska Native	2019	1250	1321325	9.46	11.77
American Indian or Alaska Native	2020	1708	1340940	12.74	14.92
American Indian or Alaska Native (total)		19423	25115894	7.73	12.92
Asian or Pacific Islander	1999	995	4877641	2.04	4.23

Asian or Pacific Islander	2000	1702	5093222	3.34	6.75
Asian or Pacific Islander	2001	1936	5416185	3.57	6.98
Asian or Pacific Islander	2002	2129	5671354	3.75	7.2
Asian or Pacific Islander	2003	2347	5938950	3.95	7.38
Asian or Pacific Islander	2004	2636	6216832	4.24	7.8
Asian or Pacific Islander	2005	2953	6519207	4.53	8.07
Asian or Pacific Islander	2006	3402	6822146	4.99	8.71
Asian or Pacific Islander	2007	3480	7127857	4.88	8.36
Asian or Pacific Islander	2008	3793	7434665	5.1	8.52
Asian or Pacific Islander	2009	4157	7735384	5.37	8.8
Asian or Pacific Islander	2010	4582	7964644	5.75	9.23
Asian or Pacific Islander	2011	5077	8294271	6.12	9.26
Asian or Pacific Islander	2012	5784	8632452	6.7	9.72
Asian or Pacific Islander	2013	6064	8957213	6.77	9.38
Asian or Pacific Islander	2014	6309	9383521	6.72	9.03
Asian or Pacific Islander	2015	6792	9791081	6.94	8.96
Asian or Pacific Islander	2016	7128	10012088	7.12	8.86
Asian or Pacific Islander	2017	7720	10472996	7.37	8.9
Asian or Pacific Islander	2018	8392	10724510	7.83	9.12
Asian or Pacific Islander	2019	8770	10999716	7.97	8.98
Asian or Pacific Islander	2020	11725	11276772	10.4	11.34
Asian or Pacific Islander	(total)	107873	175362707	6.15	8.89
Black or African American	1999	10586	14580512	7.26	10.12
Black or African American	2000	15227	14867175	10.24	14.34
Black or African American	2001	16266	15294221	10.64	15.3
Black or African American	2002	17626	15603446	11.3	16.54

Black or African American	2003	18529	15908361	11.65	17.2
Black or African American	2004	19408	16219929	11.97	17.81
Black or African American	2005	20699	16573957	12.49	18.51
Black or African American	2006	20522	16932748	12.12	17.96
Black or African American	2007	21520	17265166	12.46	18.38
Black or African American	2008	22238	17580035	12.65	18.47
Black or African American	2009	22380	17872656	12.52	18.03
Black or African American	2010	23996	18110790	13.25	18.83
Black or African American	2011	25443	18413616	13.82	19.32
Black or African American	2012	26956	18696173	14.42	19.58
Black or African American	2013	28032	18977747	14.77	19.68
Black or African American	2014	28154	19309795	14.58	19.1
Black or African American	2015	28911	19651365	14.71	18.89
Black or African American	2016	29412	19925009	14.76	18.67
Black or African American	2017	30568	20272524	15.08	18.72
Black or African American	2018	30908	20520138	15.06	18.27
Black or African American	2019	31188	20786886	15	17.87
Black or African American	2020	41844	21062614	19.87	23.24
Black or African American	(total)	530413	394424863	13.45	18.23
White	1999	134420	108671177	12.37	11.23
White	2000	181551	109467727	16.58	14.98
White	2001	192315	110642551	17.38	15.64
White	2002	205132	111445345	18.41	16.48
White	2003	214774	112188731	19.14	17
White	2004	215493	113002416	19.07	16.88
White	2005	229102	113945911	20.11	17.61

White	2006	230394	114854903	20.06	17.32
White	2007	236861	115526424	20.5	17.47
White	2008	250961	116032089	21.63	18.2
White	2009	245714	116468238	21.1	17.51
White	2010	265523	116844185	22.72	18.66
White	2011	280664	117270718	23.93	19.21
White	2012	287632	117680177	24.44	19.37
White	2013	295416	118075471	25.02	19.55
White	2014	295868	118443612	24.98	19.31
White	2015	299263	118948037	25.16	19.28
White	2016	298170	119388345	24.97	18.97
White	2017	307423	119801011	25.66	19.32
White	2018	307099	120143911	25.56	18.99
White	2019	304261	120432332	25.26	18.59
White	2020	367419	120754171	30.43	22.29
White	(total)	5645455	2550027482	22.14	18.09
Overall total		6303164	3144930946	20.04	17.78

eTable 3

Hispanic Origin	Year	Deaths	Population	Crude Rate	Age Adjusted Rate
Hispanic or Latino	1999	3391	11190345	3.03	6.51
Hispanic or Latino	2000	4784	11709444	4.09	8.69
Hispanic or Latino	2001	5464	12503326	4.37	9.35
Hispanic or Latino	2002	6060	13140117	4.61	9.96
Hispanic or Latino	2003	6762	13792677	4.9	10.5
Hispanic or Latino	2004	7451	14461114	5.15	11.04

Hispanic or Latino	2005	8240	15193180	5.42	11.46
Hispanic or Latino	2006	9020	15932143	5.66	11.81
Hispanic or Latino	2007	9416	16668998	5.65	11.67
Hispanic or Latino	2008	10634	17420187	6.1	12.42
Hispanic or Latino	2009	10895	18169508	6	11.98
Hispanic or Latino	2010	12447	18757709	6.64	13.09
Hispanic or Latino	2011	13664	19650555	6.95	13.1
Hispanic or Latino	2012	15190	20316885	7.48	13.64
Hispanic or Latino	2013	16355	21021953	7.78	13.75
Hispanic or Latino	2014	17310	21928357	7.89	13.55
Hispanic or Latino	2015	18163	22778634	7.97	13.3
Hispanic or Latino	2016	18844	23372479	8.06	13.05
Hispanic or Latino	2017	20050	24273810	8.26	13.09
Hispanic or Latino	2018	21251	24921196	8.53	13.22
Hispanic or Latino	2019	21571	25500587	8.46	12.97
Hispanic or Latino	2020	29715	26130870	11.37	17.06
Hispanic or Latino (total)		286677	408834074	7.01	12.7
Not Hispanic or Latino	1999	146277	129040018	11.34	11.01
Not Hispanic or Latino	2000	198907	130383472	15.26	14.75
Not Hispanic or Latino	2001	210966	132330280	15.94	15.42
Not Hispanic or Latino	2002	225432	133718265	16.86	16.28
Not Hispanic or Latino	2003	236223	135053957	17.49	16.79
Not Hispanic or Latino	2004	238098	136477714	17.45	16.7
Not Hispanic or Latino	2005	253444	138099557	18.35	17.43
Not Hispanic or Latino	2006	255013	139692037	18.26	17.15
Not Hispanic or Latino	2007	262581	141021316	18.62	17.28

Not Hispanic or Latino	2008	277756	142167430	19.54	17.93
Not Hispanic or Latino	2009	273027	143214166	19.06	17.29
Not Hispanic or Latino	2010	294988	144070326	20.48	18.37
Not Hispanic or Latino	2011	312105	145151883	21.5	18.87
Not Hispanic or Latino	2012	321376	146199831	21.98	19.03
Not Hispanic or Latino	2013	330568	147218774	22.45	19.17
Not Hispanic or Latino	2014	331471	148364419	22.34	18.88
Not Hispanic or Latino	2015	336167	149637981	22.47	18.8
Not Hispanic or Latino	2016	335913	150591695	22.31	18.49
Not Hispanic or Latino	2017	346954	151830849	22.85	18.77
Not Hispanic or Latino	2018	347733	152692220	22.77	18.42
Not Hispanic or Latino	2019	345469	153540259	22.5	18.02
Not Hispanic or Latino	2020	422696	154434497	27.37	21.78
Not Hispanic or Latino	(total)	6303164	3144930946	20.04	17.78
Not Stated	1999	339	Not Applicable	Not Applicable	Not Applicable
Not Stated	2000	472	Not Applicable	Not Applicable	Not Applicable
Not Stated	2001	485	Not Applicable	Not Applicable	Not Applicable
Not Stated	2002	584	Not Applicable	Not Applicable	Not Applicable
Not Stated	2003	440	Not Applicable	Not Applicable	Not Applicable
Not Stated	2004	380	Not Applicable	Not Applicable	Not Applicable
Not Stated	2005	320	Not Applicable	Not Applicable	Not Applicable
Not Stated	2006	346	Not Applicable	Not Applicable	Not Applicable
Not Stated	2007	250	Not Applicable	Not Applicable	Not Applicable
Not Stated	2008	436	Not Applicable	Not Applicable	Not Applicable
Not Stated	2009	418	Not Applicable	Not Applicable	Not Applicable
Not Stated	2010	391	Not Applicable	Not Applicable	Not Applicable

Not Stated	2011	360	Not Applicable	Not Applicable	Not Applicable
Not Stated	2012	693	Not Applicable	Not Applicable	Not Applicable
Not Stated	2013	595	Not Applicable	Not Applicable	Not Applicable
Not Stated	2014	757	Not Applicable	Not Applicable	Not Applicable
Not Stated	2015	1075	Not Applicable	Not Applicable	Not Applicable
Not Stated	2016	734	Not Applicable	Not Applicable	Not Applicable
Not Stated	2017	765	Not Applicable	Not Applicable	Not Applicable
Not Stated	2018	658	Not Applicable	Not Applicable	Not Applicable
Not Stated	2019	542	Not Applicable	Not Applicable	Not Applicable
Not Stated	2020	799	Not Applicable	Not Applicable	Not Applicable
Not Stated (total)		11839	Not Applicable	Not Applicable	Not Applicable
		6601680	3553765020	18.58	17.49

eTable 4

Year	Gender	Deaths	Population	Crude Rate	Age Adjusted Rate
1999	Female	102058	74178002	13.8	11.1
1999	Male	47949	66052361	7.3	10.2
1999		150007	140230363	10.7	10.9
2000	Female	138532	75092907	18.4	14.8
2000	Male	65631	67000009	9.8	13.6
2000		204163	142092916	14.4	14.6
2001	Female	146915	76417365	19.2	15.5
2001	Male	70000	68416241	10.2	14.2
2001		216915	144833606	15	15.2
2002	Female	157265	77408924	20.3	16.5
2002	Male	74811	69449458	10.8	14.9

2002		232076	146858382	15.8	16.1
2003	Female	164943	78392375	21	17
2003	Male	78482	70454259	11.1	15.3
2003		243425	148846634	16.4	16.5
2004	Female	165978	79401299	20.9	17
2004	Male	79951	71537529	11.2	15.2
2004		245929	150938828	16.3	16.5
2005	Female	177427	80550141	22	17.8
2005	Male	84577	72742596	11.6	15.6
2005		262004	153292737	17.1	17.2
2006	Female	177856	81702102	21.8	17.5
2006	Male	86523	73922078	11.7	15.5
2006		264379	155624180	17	16.9
2007	Female	182665	82725237	22.1	17.6
2007	Male	89582	74965077	11.9	15.6
2007		272247	157690314	17.3	17
2008	Female	193599	83668745	23.1	18.4
2008	Male	95227	75918872	12.5	16.1
2008		288826	159587617	18.1	17.7
2009	Female	189540	84566756	22.4	17.7
2009	Male	94800	76816918	12.3	15.6
2009		284340	161383674	17.6	17
2010	Female	204113	85285569	23.9	18.7
2010	Male	103713	77542466	13.4	16.7
2010		307826	162828035	18.9	18.1
2011	Female	216673	86258145	25.1	19.3

2011	Male	109456	78544293	13.9	17
2011		326129	164802438	19.8	18.6
2012	Female	223028	87118300	25.6	19.5
2012	Male	114231	79398416	14.4	17.1
2012		337259	166516716	20.3	18.7
2013	Female	229437	87969686	26.1	19.7
2013	Male	118081	80271041	14.7	17.2
2013		347518	168240727	20.7	18.8
2014	Female	230347	89035329	25.9	19.5
2014	Male	119191	81257447	14.7	16.8
2014		349538	170292776	20.5	18.5
2015	Female	233930	90109298	26	19.4
2015	Male	121475	82307317	14.8	16.6
2015		355405	172416615	20.6	18.5
2016	Female	232833	90913408	25.6	19.1
2016	Male	122658	83050766	14.8	16.4
2016		355491	173964174	20.4	18.1
2017	Female	239673	92006715	26	19.3
2017	Male	128096	84097944	15.2	16.6
2017		367769	176104659	20.9	18.4
2018	Female	239735	92778933	25.8	19
2018	Male	129907	84834483	15.3	16.3
2018		369642	177613416	20.8	18.1
2019	Female	237197	93503291	25.4	18.6
2019	Male	130385	85537555	15.2	15.9
2019		367582	179040846	20.5	17.6

2020	Female	291714	94283865	30.9	22.6
2020	Male	161496	86281502	18.7	19.3
2020		453210	180565367	25.1	21.4
	Overall total	6601680	3553765020	18.6	17.5

eTable 5

Place of Death	Year	Deaths
Medical Facility - Inpatient	1999	29135
Medical Facility - Inpatient	2000	40349
Medical Facility - Inpatient	2001	42133
Medical Facility - Inpatient	2002	44125
Medical Facility - Inpatient	2003	45131
Medical Facility - Inpatient	2004	43723
Medical Facility - Inpatient	2005	45247
Medical Facility - Inpatient	2006	44960
Medical Facility - Inpatient	2007	44602
Medical Facility - Inpatient	2008	46302
Medical Facility - Inpatient	2009	40843
Medical Facility - Inpatient	2010	43669
Medical Facility - Inpatient	2011	44389
Medical Facility - Inpatient	2012	43085
Medical Facility - Inpatient	2013	41681
Medical Facility - Inpatient	2014	40541
Medical Facility - Inpatient	2015	41378
Medical Facility - Inpatient	2016	39568
Medical Facility - Inpatient	2017	40139

Medical Facility - Inpatient	2018	39458
Medical Facility - Inpatient	2019	39148
Medical Facility - Inpatient	2020	52758
Medical Facility - Inpatient (total)		932364
Medical Facility - Outpatient or ER	1999	3560
Medical Facility - Outpatient or ER	2000	4719
Medical Facility - Outpatient or ER	2001	4954
Medical Facility - Outpatient or ER	2002	5126
Medical Facility - Outpatient or ER	2003	5257
Medical Facility - Outpatient or ER	2004	5431
Medical Facility - Outpatient or ER	2005	5679
Medical Facility - Outpatient or ER	2006	5450
Medical Facility - Outpatient or ER	2007	5559
Medical Facility - Outpatient or ER	2008	5424
Medical Facility - Outpatient or ER	2009	5617
Medical Facility - Outpatient or ER	2010	6022
Medical Facility - Outpatient or ER	2011	6078
Medical Facility - Outpatient or ER	2012	6216
Medical Facility - Outpatient or ER	2013	6413
Medical Facility - Outpatient or ER	2014	6376
Medical Facility - Outpatient or ER	2015	6122
Medical Facility - Outpatient or ER	2016	5829
Medical Facility - Outpatient or ER	2017	6024
Medical Facility - Outpatient or ER	2018	5930
Medical Facility - Outpatient or ER	2019	5741
Medical Facility - Outpatient or ER	2020	7096

Medical Facility - Outpatient or ER (total)		124623
Medical Facility - Dead on Arrival	1999	1011
Medical Facility - Dead on Arrival	2000	1174
Medical Facility - Dead on Arrival	2001	1067
Medical Facility - Dead on Arrival	2002	934
Medical Facility - Dead on Arrival	2003	807
Medical Facility - Dead on Arrival	2004	736
Medical Facility - Dead on Arrival	2005	699
Medical Facility - Dead on Arrival	2006	544
Medical Facility - Dead on Arrival	2007	565
Medical Facility - Dead on Arrival	2008	431
Medical Facility - Dead on Arrival	2009	404
Medical Facility - Dead on Arrival	2010	465
Medical Facility - Dead on Arrival	2011	449
Medical Facility - Dead on Arrival	2012	439
Medical Facility - Dead on Arrival	2013	809
Medical Facility - Dead on Arrival	2014	419
Medical Facility - Dead on Arrival	2015	328
Medical Facility - Dead on Arrival	2016	325
Medical Facility - Dead on Arrival	2017	268
Medical Facility - Dead on Arrival	2018	284
Medical Facility - Dead on Arrival	2019	255
Medical Facility - Dead on Arrival	2020	290
Medical Facility - Dead on Arrival (total)		12703
Medical Facility - Status unknown	1999	311
Medical Facility - Status unknown	2000	513

Medical Facility - Status unknown	2001	597
Medical Facility - Status unknown	2002	616
Medical Facility - Status unknown	2003	Missing
Medical Facility - Status unknown	2004	Missing
Medical Facility - Status unknown	2005	Missing
Medical Facility - Status unknown	2006	Missing
Medical Facility - Status unknown	2007	Missing
Medical Facility - Status unknown	2008	Missing
Medical Facility - Status unknown	2009	Missing
Medical Facility - Status unknown	2010	Missing
Medical Facility - Status unknown	2011	Missing
Medical Facility - Status unknown	2012	Missing
Medical Facility - Status unknown	2013	Missing
Medical Facility - Status unknown	2014	Missing
Medical Facility - Status unknown	2015	Missing
Medical Facility - Status unknown	2016	Missing
Medical Facility - Status unknown	2017	Missing
Medical Facility - Status unknown	2018	Missing
Medical Facility - Status unknown	2019	Missing
Medical Facility - Status unknown	2020	Missing
Medical Facility - Status unknown (total)		2037
Decedent's home	1999	16106
Decedent's home	2000	22103
Decedent's home	2001	24635
Decedent's home	2002	27343
Decedent's home	2003	30168

Decedent's home	2004	32709
Decedent's home	2005	35689
Decedent's home	2006	37866
Decedent's home	2007	40425
Decedent's home	2008	43821
Decedent's home	2009	46723
Decedent's home	2010	54662
Decedent's home	2011	59233
Decedent's home	2012	65061
Decedent's home	2013	69634
Decedent's home	2014	71684
Decedent's home	2015	73203
Decedent's home	2016	76735
Decedent's home	2017	79860
Decedent's home	2018	83021
Decedent's home	2019	84238
Decedent's home	2020	110651
Decedent's home (total)		1185570
Hospice facility	1999	Missing
Hospice facility	2000	Missing
Hospice facility	2001	Missing
Hospice facility	2002	Missing
Hospice facility	2003	379
Hospice facility	2004	845
Hospice facility	2005	3215
Hospice facility	2006	5098

Hospice facility	2007	7184
Hospice facility	2008	9035
Hospice facility	2009	9921
Hospice facility	2010	13072
Hospice facility	2011	15780
Hospice facility	2012	18294
Hospice facility	2013	19343
Hospice facility	2014	21431
Hospice facility	2015	23297
Hospice facility	2016	23529
Hospice facility	2017	24465
Hospice facility	2018	24441
Hospice facility	2019	25097
Hospice facility	2020	26929
Hospice facility (total)		271355
Nursing home/long term care	1999	95375
Nursing home/long term care	2000	128202
Nursing home/long term care	2001	134981
Nursing home/long term care	2002	143315
Nursing home/long term care	2003	148867
Nursing home/long term care	2004	148376
Nursing home/long term care	2005	157643
Nursing home/long term care	2006	156241
Nursing home/long term care	2007	158410
Nursing home/long term care	2008	164032
Nursing home/long term care	2009	157051

Nursing home/long term care	2010	169769
Nursing home/long term care	2011	178296
Nursing home/long term care	2012	180243
Nursing home/long term care	2013	182770
Nursing home/long term care	2014	185083
Nursing home/long term care	2015	188089
Nursing home/long term care	2016	184272
Nursing home/long term care	2017	190349
Nursing home/long term care	2018	189549
Nursing home/long term care	2019	185225
Nursing home/long term care	2020	220805
Nursing home/long term care (total)		3646943
Other	1999	4480
Other	2000	7057
Other	2001	8494
Other	2002	10555
Other	2003	12388
Other	2004	13660
Other	2005	13334
Other	2006	12537
Other	2007	14393
Other	2008	15221
Other	2009	16764
Other	2010	20070
Other	2011	21777
Other	2012	23790

Other	2013	26742
Other	2014	23792
Other	2015	22892
Other	2016	25189
Other	2017	26583
Other	2018	26878
Other	2019	27829
Other	2020	34610
Other (total)		409035
Place of death unknown	1999	29
Place of death unknown	2000	46
Place of death unknown	2001	54
Place of death unknown	2002	62
Place of death unknown	2003	428
Place of death unknown	2004	449
Place of death unknown	2005	498
Place of death unknown	2006	1683
Place of death unknown	2007	1109
Place of death unknown	2008	4560
Place of death unknown	2009	7017
Place of death unknown	2010	97
Place of death unknown	2011	127
Place of death unknown	2012	131
Place of death unknown	2013	126
Place of death unknown	2014	212
Place of death unknown	2015	96

Place of death unknown	2016	44
Place of death unknown	2017	81
Place of death unknown	2018	81
Place of death unknown	2019	49
Place of death unknown	2020	71
Place of death unknown (total)		17050
Overall total		6601680

eTable 6

2013 Urbanization	Year	Deaths	Population	Crude Rate	Age Adjusted Rate
Large Central Metro	1999	37871	41089762	9.22	9.79
Large Central Metro	2000	54285	41601730	13.05	13.82
Large Central Metro	2001	57838	42367124	13.65	14.56
Large Central Metro	2002	60251	42871322	14.05	15.03
Large Central Metro	2003	63529	43359083	14.65	15.62
Large Central Metro	2004	64251	43838872	14.66	15.64
Large Central Metro	2005	68047	44408779	15.32	16.19
Large Central Metro	2006	68354	44832370	15.25	16.03
Large Central Metro	2007	68827	45346191	15.18	15.78
Large Central Metro	2008	72912	45889380	15.89	16.38
Large Central Metro	2009	71558	46496601	15.39	15.69
Large Central Metro	2010	77529	46964908	16.51	16.7
Large Central Metro	2011	82534	47762510	17.28	17.18
Large Central Metro	2012	85322	48482538	17.6	17.31
Large Central Metro	2013	87604	49243537	17.79	17.38
Large Central Metro	2014	87633	50096283	17.49	17.01

Large Central Metro	2015	88192	50921922	17.32	16.75
Large Central Metro	2016	87768	51373064	17.08	16.37
Large Central Metro	2017	90265	52244327	17.28	16.39
Large Central Metro	2018	90229	52610669	17.15	16.08
Large Central Metro	2019	88462	52991830	16.69	15.5
Large Central Metro	2020	110019	53375519	20.61	19.03
Large Central Metro		1663280	1038168321	16.02	16.07
Large Fringe Metro	1999	32679	33815965	9.66	10.85
Large Fringe Metro	2000	44177	34417154	12.84	14.35
Large Fringe Metro	2001	47399	35369513	13.4	14.98
Large Fringe Metro	2002	51313	36069728	14.23	15.87
Large Fringe Metro	2003	53281	36748404	14.5	16.05
Large Fringe Metro	2004	54090	37435597	14.45	15.94
Large Fringe Metro	2005	57406	38183567	15.03	16.4
Large Fringe Metro	2006	57974	38924738	14.89	16.02
Large Fringe Metro	2007	60585	39565995	15.31	16.27
Large Fringe Metro	2008	64357	40153435	16.03	16.82
Large Fringe Metro	2009	63649	40701013	15.64	16.2
Large Fringe Metro	2010	69807	41129481	16.97	17.43
Large Fringe Metro	2011	74308	41739400	17.8	17.84
Large Fringe Metro	2012	76474	42261057	18.1	17.83
Large Fringe Metro	2013	80429	42741262	18.82	18.18
Large Fringe Metro	2014	80966	43352596	18.68	17.81
Large Fringe Metro	2015	82766	43977524	18.82	17.76
Large Fringe Metro	2016	82787	44480877	18.61	17.33
Large Fringe Metro	2017	86877	45108309	19.26	17.9

Large Fringe Metro	2018	88071	45590684	19.32	17.69
Large Fringe Metro	2019	87326	46083053	18.95	17.16
Large Fringe Metro	2020	108893	46619543	23.36	20.96
Large Fringe Metro (total)		1505614	894468895	16.83	16.98
Medium Metro	1999	33034	28614467	11.54	11.6
Medium Metro	2000	44729	28997084	15.43	15.43
Medium Metro	2001	47174	29576870	15.95	15.94
Medium Metro	2002	51334	30020135	17.1	17.07
Medium Metro	2003	53982	30458303	17.72	17.56
Medium Metro	2004	54809	30953938	17.71	17.51
Medium Metro	2005	58290	31515458	18.5	18.16
Medium Metro	2006	59162	32108044	18.43	17.89
Medium Metro	2007	61417	32592482	18.84	18.09
Medium Metro	2008	65025	33016733	19.69	18.68
Medium Metro	2009	64106	33394350	19.2	17.96
Medium Metro	2010	69710	33704906	20.68	19.15
Medium Metro	2011	73841	34099278	21.65	19.58
Medium Metro	2012	77457	34441189	22.49	20.07
Medium Metro	2013	79047	34769136	22.73	19.97
Medium Metro	2014	79693	35177580	22.65	19.73
Medium Metro	2015	81141	35635052	22.77	19.63
Medium Metro	2016	81512	36045881	22.61	19.3
Medium Metro	2017	83864	36480544	22.99	19.45
Medium Metro	2018	83963	36880792	22.77	18.99
Medium Metro	2019	84055	37248225	22.57	18.68
Medium Metro	2020	103308	37649324	27.44	22.48

Medium Metro (total)		1490653	733379771	20.33	18.54
Small Metro	1999	16000	13010030	12.3	11.82
Small Metro	2000	21280	13158631	16.17	15.44
Small Metro	2001	22786	13371185	17.04	16.23
Small Metro	2002	24073	13546032	17.77	16.91
Small Metro	2003	25706	13718483	18.74	17.74
Small Metro	2004	25794	13921965	18.53	17.5
Small Metro	2005	27838	14144295	19.68	18.49
Small Metro	2006	28272	14407107	19.62	18.24
Small Metro	2007	29135	14605880	19.95	18.36
Small Metro	2008	30757	14779477	20.81	18.92
Small Metro	2009	30378	14923526	20.36	18.27
Small Metro	2010	32765	15038862	21.79	19.36
Small Metro	2011	34823	15156967	22.97	19.94
Small Metro	2012	35656	15272927	23.35	19.98
Small Metro	2013	36734	15384799	23.88	20.1
Small Metro	2014	37028	15527271	23.85	19.82
Small Metro	2015	37876	15679177	24.16	19.86
Small Metro	2016	38052	15813239	24.06	19.59
Small Metro	2017	39046	15951766	24.48	19.74
Small Metro	2018	39561	16115284	24.55	19.54
Small Metro	2019	39148	16238508	24.11	19.01
Small Metro	2020	48076	16377049	29.36	23
Small Metro (total)		700784	326142460	21.49	18.78
Micropolitan (Nonmetro)	1999	17233	13406164	12.85	11.69
Micropolitan (Nonmetro)	2000	22502	13535871	16.62	15.07

Micropolitan (Nonmetro)	2001	23670	13684472	17.3	15.69
Micropolitan (Nonmetro)	2002	25661	13808959	18.58	16.92
Micropolitan (Nonmetro)	2003	26754	13938590	19.19	17.45
Micropolitan (Nonmetro)	2004	26919	14080899	19.12	17.41
Micropolitan (Nonmetro)	2005	28959	14241382	20.33	18.44
Micropolitan (Nonmetro)	2006	28827	14440756	19.96	18
Micropolitan (Nonmetro)	2007	29927	14588317	20.51	18.38
Micropolitan (Nonmetro)	2008	31946	14703434	21.73	19.37
Micropolitan (Nonmetro)	2009	31161	14791701	21.07	18.64
Micropolitan (Nonmetro)	2010	33101	14870271	22.26	19.48
Micropolitan (Nonmetro)	2011	34885	14923208	23.38	20.07
Micropolitan (Nonmetro)	2012	35609	14955315	23.81	20.19
Micropolitan (Nonmetro)	2013	36573	14995476	24.39	20.39
Micropolitan (Nonmetro)	2014	36745	15043621	24.43	20.25
Micropolitan (Nonmetro)	2015	37294	15102867	24.69	20.22
Micropolitan (Nonmetro)	2016	37644	15151290	24.85	20.16
Micropolitan (Nonmetro)	2017	38935	15205307	25.61	20.49
Micropolitan (Nonmetro)	2018	38877	15278758	25.45	20.13
Micropolitan (Nonmetro)	2019	39346	15333746	25.66	20.11
Micropolitan (Nonmetro)	2020	47544	15388340	30.9	24.06
Micropolitan (Nonmetro) total		710112	321468744	22.09	18.94
NonCore (Nonmetro)	1999	13190	10293975	12.81	10.59
NonCore (Nonmetro)	2000	17190	10382446	16.56	13.66
NonCore (Nonmetro)	2001	18048	10464442	17.25	14.31
NonCore (Nonmetro)	2002	19444	10542206	18.44	15.42
NonCore (Nonmetro)	2003	20173	10623771	18.99	15.94

NonCore (Nonmetro)	2004	20066	10707557	18.74	15.83
NonCore (Nonmetro)	2005	21464	10799256	19.88	16.8
NonCore (Nonmetro)	2006	21790	10911165	19.97	16.84
NonCore (Nonmetro)	2007	22356	10991449	20.34	17.09
NonCore (Nonmetro)	2008	23829	11045158	21.57	18.15
NonCore (Nonmetro)	2009	23488	11076483	21.21	17.79
NonCore (Nonmetro)	2010	24914	11119607	22.41	18.61
NonCore (Nonmetro)	2011	25738	11121075	23.14	18.92
NonCore (Nonmetro)	2012	26741	11103690	24.08	19.39
NonCore (Nonmetro)	2013	27131	11106517	24.43	19.35
NonCore (Nonmetro)	2014	27473	11095425	24.76	19.38
NonCore (Nonmetro)	2015	28136	11100073	25.35	19.57
NonCore (Nonmetro)	2016	27728	11099823	24.98	19.13
NonCore (Nonmetro)	2017	28782	11114406	25.9	19.46
NonCore (Nonmetro)	2018	28941	11137229	25.99	19.27
NonCore (Nonmetro)	2019	29245	11145484	26.24	19.18
NonCore (Nonmetro)	2020	35370	11150329	31.72	22.97
NonCore (Nonmetro)	total	531237	240131566	22.12	17.78
Overall total		6601680	3553759757	18.58	17.49

eTable 7

State	Deaths	Population	Crude Rate	Age Adjusted Rate
South Carolina	119832	53976846	22.2	23.1
Oregon	111319	45669789	24.4	21.9
North Carolina	232279	109358151	21.2	21.9
Vermont	18675	7827881	23.9	21.8

Tennessee	157549	74065164	21.3	21.7
Oklahoma	95629	42172790	22.7	21.3
Maine	41899	17181754	24.4	21.2
Minnesota	146929	61396277	23.9	21
Ohio	321880	137284797	23.4	20.9
Washington	159987	77859702	20.5	20.7
Kentucky	101770	50599348	20.1	20.4
West Virginia	52882	23171620	22.8	20.4
Colorado	97813	56648164	17.3	20
New Hampshire	33448	16455168	20.3	19.8
Wisconsin	154001	67037910	23	19.8
Rhode Island	32826	12761228	25.7	19.7
Indiana	154114	73947989	20.8	19.7
Alabama	110368	55449264	19.9	19.6
Georgia	166539	105495866	15.8	19.5
Texas	438640	264355417	16.6	19.4
Mississippi	64008	33041007	19.4	19.3
Maryland	127035	67822374	18.7	19.3
Idaho	33161	16941191	19.6	19.2
Alaska	7300	7364835	9.9	19.1
Nebraska	48464	20614447	23.5	19
Utah	40793	24966586	16.3	18.7
Montana	25221	11955737	21.1	18.6
Massachusetts	171236	79266546	21.6	18.2
North Dakota	19413	7793587	24.9	18
Virginia	153945	92414190	16.7	17.9

Iowa	85490	35761116	23.9	17.8
Missouri	139080	69527098	20	17.7
Michigan	225346	118052787	19.1	17.6
Delaware	19530	10667431	18.3	17.5
Kansas	67528	31871376	21.2	17.4
Arkansas	63014	33484220	18.8	17
New Mexico	38915	22834404	17	16.8
Louisiana	81669	51127973	16	16.6
Wyoming	10240	6342982	16.1	16.6
South Dakota	20573	9346351	22	16.6
Connecticut	87466	43513212	20.1	16.4
Illinois	257703	145511968	17.7	16.4
Pennsylvania	326050	155448292	21	16.4
California	657578	409799692	16	16.1
District of Columbia	10393	6626434	15.7	15.1
Arizona	114250	71107381	16.1	14.9
Hawaii	28338	15934947	17.8	14.2
New Jersey	165805	105879278	15.7	14.1
Nevada	32899	30164439	10.9	13.6
Florida	407562	237489802	17.2	13.1
New York	323296	228378212	14.2	12.4
Overall total	6601680	3553765020	18.6	17.5