Supplementary File

Trends in Aortic Stenosis mortality among older adults in the United States from 1999 to 2020

Authors:

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Content

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Abbreviations:

AAMR: Age Adjusted Mortality Rate

NH: Non-Hispanic

APC: Average Percentage Change

AAPC: Average Annual Percentage Change

Figures:

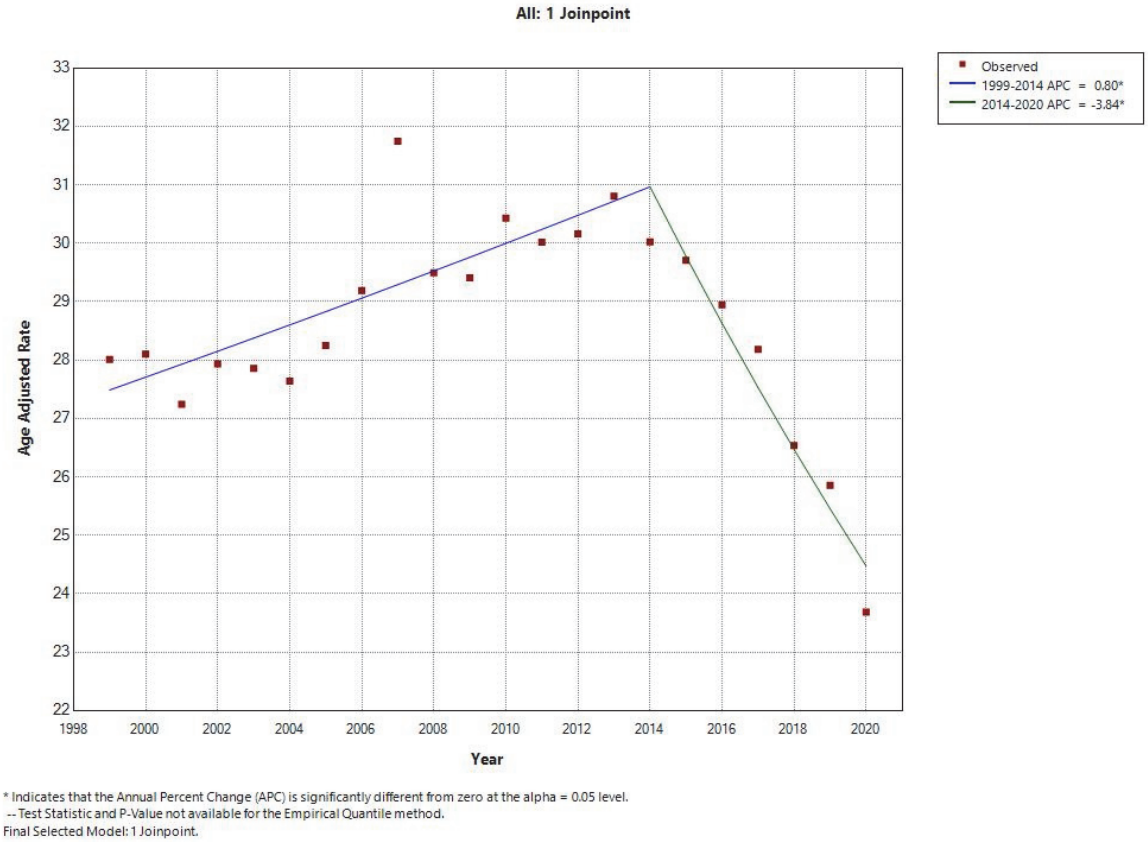


Figure S1: Trends in age-adjusted mortality rates (AAMR) due to aortic stenosis in the United States from 1999 to 2020, with Joinpoint regression identifying significant shifts in temporal trends. * indicates a statistically significant annual percent change (APC) at $\alpha = 0.05$.

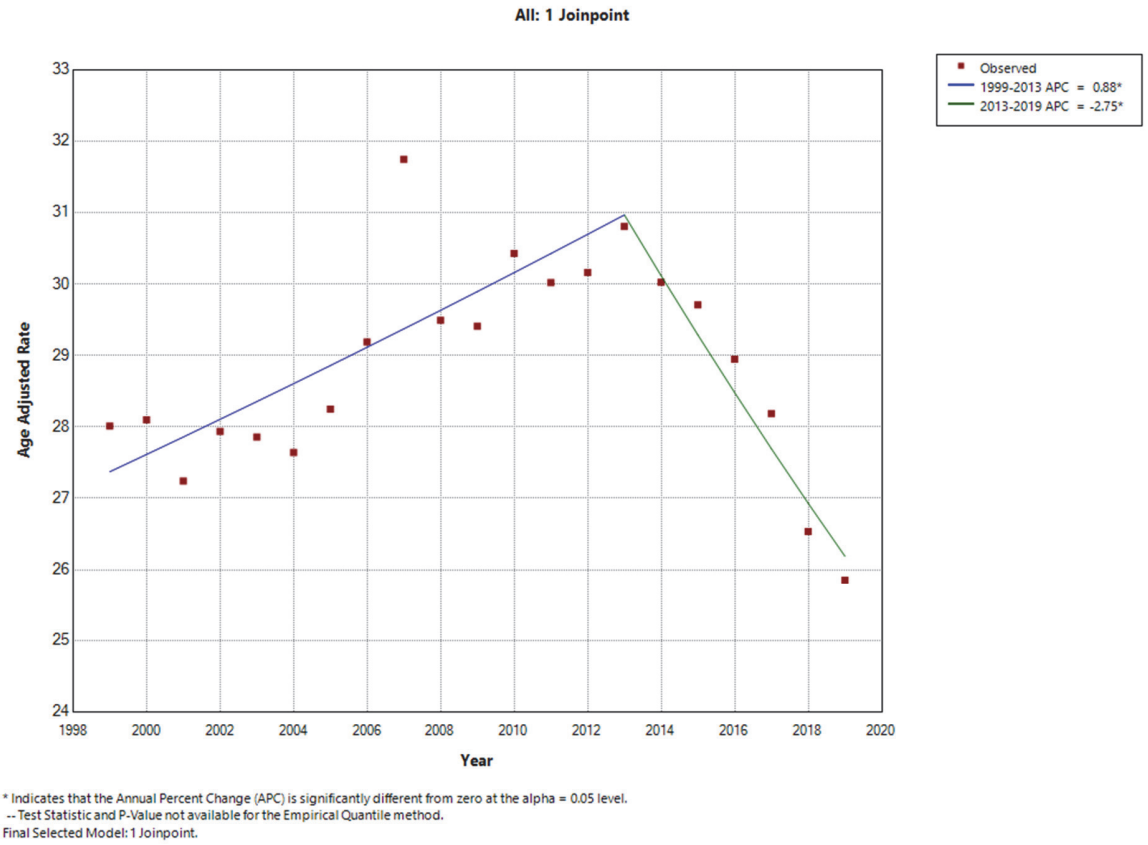


Figure S2: Sensitivity analysis of age-adjusted mortality rates (AAMR) due to aortic stenosis from 1999 to 2019, excluding the year 2020 to minimize potential confounding effects of the COVID-19 pandemic. Joinpoint regression was used to detect significant changes in trend; * indicates a statistically significant APC at $\alpha = 0.05$.

Tables

	Item No	Recommendation	Page No
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	1-2
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	2
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	3
Objectives	3	State specific objectives, including any prespecified hypotheses	3
Methods			
Study design	4	Present key elements of study design early in the paper	3-4
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	4
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up	4
		(*b*) For matched studies, give matching criteria and number of exposed and unexposed	
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	4-5
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	4-5
Bias	9	Describe any efforts to address potential sources of bias	NA
Study size	10	Explain how the study size was arrived at	NA
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	5-6
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	5-6

		(*b*) Describe any methods used to examine subgroups and interactions	NA
		(*c*) Explain how missing data were addressed	5
		(*d*) If applicable, explain how loss to follow-up was addressed	NA
		(*e*) Describe any sensitivity analyses	
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	6
		(b) Give reasons for non-participation at each stage	NA
		(c) Consider use of a flow diagram	NA
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	6
		(b) Indicate number of participants with missing data for each variable of interest	NA
		(c) Summarise follow-up time (eg, average and total amount)	NA
Outcome data	15*	Report numbers of outcome events or summary measures over time	6-10
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	6-10
		(*b*) Report category boundaries when continuous variables were categorized	NA
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	NA
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	6-10
Discussion			
Key results	18	Summarise key results with reference to study objectives	10

Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	14
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	10-14
Generalisability	21	Discuss the generalisability (external validity) of the study results	10-14
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	

Supplementary Table S1. STROBE Statement- This study adhered to the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines for rigorous reporting standards.

Year	Inpatient	Outpatient	Dead on Arrival	Decedent's home	Nursing home/Long term care
1999	4585	510	81	1914	2147
2000	4605	458	74	2042	2203
2001	4481	439	48	2026	2187
2002	4430	488	58	2145	2380
2003	4395	410	52	2339	2450
2004	4428	421	55	2362	2325
2005	4350	443	39	2611	2566
2006	4648	458	40	2815	2632
2007	5217	575	51	3003	2864
2008	4834	478	36	2888	2731
2009	4696	497	30	3038	2759
2010	4925	522	40	3405	2861
2011	5020	528	31	3354	2998
2012	5021	530	31	3706	2880
2013	5254	522	36	3782	3017
2014	5089	518	21	3841	2978
2015	5285	471	21	3851	3082
2016	5013	463	22	4016	2946
2017	5071	455	22	3899	2916
2018	4856	439	21	3873	2745
2019	4767	429	20	3794	2766
2020	4187	410	12	4261	2145
Total	105157	10464	841	68965	58578

Supplementary Table S2. AS related mortality stratified by place of death in the United States from 1999 to 2020.

Year Interval	APC (95% CI)
Overall	
1999-2014	0.80 (0.45 to 1.25)
2014-2020	-3.84 (-5.68 to -2.65)
Male	
1999-2004	-1.33 (-3.61 to -0.22)
2004-2007	5.28 (2.53 to 6.76)
2007-2015	-0.01 (-0.98 to 0.66)
2015-2020	-4.49 (-6.10 to -3.45)
Female	
1999-2015	0.48 (0.19 to 0.84)
2015-2020	-4.65 (-6.94 to -3.20)
Race/Ethnicity	
NH Asian or Pacific Islander	
1999-2013	0.35 (-0.82 to 15.52)
2013-2020	-3.27 (-12.35 to -0.84)
NH Black	
1999-2020	-0.50 (-0.99 to 0.03)
NH White	
1999-2015	0.97 (0.68 to 1.34)
2015-2020	-4.36 (-6.67 to -2.91)
Hispanic or Latino	
1999-2014	-0.29 (-0.97 to 12.64)
2014-2020	-2.90 (-10.92 to -0.91)
Urbanization	
Large Central Metro	
1999-2013	0.68 (0.17 to 1.43)
2013-2020	-3.84 (-6.12 to -2.55)
Small metropolitan	
1999-2015	0.68 (0.34 to 1.13)
2015-2020	-4.26 (-6.82 to -2.69)
Micropolitan (Nonmetro)	
1999-2015	1.10 (0.74 to 1.54)
2015-2020	-4.43 (-7.10 to -2.71)
Noncore (Nonmetro)	
1999-2015	1.50 (1.08 to 2.07)
2015-2020	-3.99 (-8.59 to -1.95)
Census Region	
Northeast	

1999-2004	-0.57 (-4.35 to 1.59)
2004-2011	2.36 (0.51 to 5.44)
2011-2015	-0.34 (-5.83 to 2.10)
2015-2020	-4.27 (-7.02 to -1.70)
Midwest	
1999-2015	1.39 (1.09 to 1.77)
2015-2020	-3.32 (-5.93 to -1.86)
South	
1999-2014	0.05 (-0.37 to 0.68)
2014-2020	-4.19 (-6.83 to -2.73)
West	
1999-2007	1.89 (0.89 to 5.19)
2007-2016	-0.99 (-2.13 to 0.30)
2016-2020	-5.38 (-9.63 to -3.19)

Supplementary Table S3. Annual percent change (APC) of AS associated Age-Adjusted Mortality Rates per 100,000 in the United States, 1999 to 2020

	Age Adjusted Rate (95% CI)		
Year	**Male**	**Female**	**Overall**
1999	29.66 (28.66 to 30.67)	26.87 (26.20 to 27.55)	28.01 (27.45 to 28.57)
2000	29.27 (28.28 to 30.26)	27.38 (26.70 to 28.06)	28.10 (27.54 to 28.66)
2001	28.63 (27.66 to 29.60)	26.36 (25.70 to 27.03)	27.24 (26.70 to 27.79)
2002	29.18 (28.21 to 30.15)	26.99 (26.32 to 27.65)	27.93 (27.39 to 28.48)
2003	29.02 (28.06 to 29.97)	26.99 (26.33 to 27.65)	27.86 (27.31 to 28.40)
2004	28.02 (27.09 to 28.95)	27.33 (26.66 to 27.99)	27.64 (27.10 to 28.18)
2005	28.14 (27.23 to 29.06)	28.09 (27.42 to 28.75)	28.25 (27.71 to 28.78)
2006	30.34 (29.40 to 31.27)	28.31 (27.65 to 28.97)	29.18 (28.65 to 29.72)
2007	34.30 (33.33 to 35.28)	30.20 (29.53 to 30.88)	31.74 (31.19 to 32.30)
2008	31.60 (30.68 to 32.52)	28.16 (27.51 to 28.81)	29.49 (28.96 to 30.02)
2009	31.30 (30.40 to 32.20)	28.23 (27.58 to 28.87)	29.41 (28.88 to 29.93)
2010	32.52 (31.61 to 33.43)	29.12 (28.47 to 29.77)	30.43 (29.90 to 30.95)
2011	32.63 (31.74 to 33.52)	28.37 (27.74 to 29.00)	30.02 (29.50 to 30.53)
2012	32.86 (31.98 to 33.75)	28.52 (27.89 to 29.15)	30.16 (29.65 to 30.67)
2013	33.47 (32.60 to 34.34)	29.09 (28.46 to 29.72)	30.81 (30.29 to 31.32)
2014	32.33 (31.48 to 33.17)	28.47 (27.85 to 29.09)	30.02 (29.52 to 30.52)
2015	31.73 (30.90 to 32.55)	28.36 (27.75 to 28.97)	29.71 (29.22 to 30.20)
2016	31.19 (30.38 to 32.00)	27.43 (26.83 to 28.02)	28.94 (28.47 to 29.42)
2017	29.78 (29.00 to 30.56)	27.01 (26.42 to 27.60)	28.18 (27.71 to 28.65)
2018	28.13 (27.39 to 28.88)	25.40 (24.84 to 25.97)	26.54 (26.09 to 26.98)
2019	27.06 (26.34 to 27.78)	24.92 (24.36 to 25.47)	25.85 (25.41 to 26.29)

2020	25.79 (25.10 to 26.49)	22.11 (21.59 to 22.62)	23.69 (23.27 to 24.10)
Total	30.35 (30.17 to 30.54)	27.42 (27.29 to 27.55)	28.62 (28.51 to 28.73)

Supplementary Table S4. Overall and Sex-Stratified AS associated Age-Adjusted Mortality Rates per 100,000 in the United States, 1999 to 2020

Year	NH Asian or Pacific Islander	NH Black or African American	NH White	Hispanic or Latino
1999	13.84 (10.95 to 17.24)	14.72 (13.24 to 16.19)	29.89 (29.27 to 30.51)	16.57 (14.34 to 18.79)
2000	10.22 (7.87 to 13.06)	13.76 (12.35 to 15.18)	30.18 (29.56 to 30.80)	17.57 (15.32 to 19.82)
2001	11.48 (9.06 to 14.35)	12.82 (11.45 to 14.19)	29.49 (28.87 to 30.10)	14.40 (12.44 to 16.36)
2002	12.72 (10.25 to 15.60)	13.45 (12.05 to 14.85)	30.12 (29.51 to 30.74)	14.51 (12.58 to 16.45)
2003	12.03 (9.72 to 14.72)	13.67 (12.26 to 15.07)	30.02 (29.41 to 30.63)	15.24 (13.32 to 17.15)
2004	11.92 (9.58 to 14.26)	14.03 (12.61 to 15.45)	29.89 (29.29 to 30.50)	14.60 (12.76 to 16.43)
2005	11.60 (9.37 to 13.83)	11.95 (10.66 to 13.25)	30.79 (30.18 to 31.40)	14.98 (13.16 to 16.79)
2006	13.70 (11.35 to 16.05)	14.28 (12.89 to 15.68)	31.64 (31.03 to 32.25)	16.03 (14.20 to 17.87)
2007	12.82 (10.60 to 15.03)	15.89 (14.44 to 17.35)	34.66 (34.02 to 35.29)	15.66 (13.93 to 17.40)
2008	10.63 (8.70 to 12.56)	12.73 (11.44 to 14.02)	32.36 (31.75 to 32.96)	14.23 (12.63 to 15.83)
2009	12.35 (10.33 to 14.37)	13.55 (12.24 to 14.86)	32.28 (31.68 to 32.88)	15.80 (14.15 to 17.44)
2010	11.31 (9.43 to 13.19)	13.22 (11.95 to 14.50)	33.56 (32.95 to 34.16)	16.17 (14.54 to 17.80)
2011	11.60 (9.79 to 13.41)	13.48 (12.21 to 14.75)	33.36 (32.76 to 33.96)	12.96 (11.57 to 14.36)
2012	12.32 (10.51 to 14.12)	12.98 (11.76 to 14.20)	33.51 (32.91 to 34.10)	15.11 (13.66 to 16.56)
2013	14.09 (12.25 to 15.93)	13.54 (12.31 to 14.76)	34.22 (33.62 to 34.82)	15.98 (14.53 to 17.43)
2014	11.61 (10.01 to 13.22)	14.35 (13.11 to 15.59)	33.57 (32.98 to 34.16)	14.89 (13.54 to 16.25)
2015	11.22 (9.70 to 12.74)	12.72 (11.57 to 13.86)	33.57 (32.98 to 34.15)	14.57 (13.28 to 15.86)
2016	11.75 (10.25 to 13.26)	13.37 (12.22 to 14.52)	32.73 (32.16 to 33.31)	13.83 (12.61 to 15.06)
2017	10.57 (9.20 to 11.95)	13.31 (12.18 to 14.44)	31.89 (31.33 to 32.45)	14.36 (13.15 to 15.58)
2018	10.85 (9.49 to 12.20)	12.78 (11.70 to 13.87)	30.12 (29.59 to 30.66)	13.32 (12.18 to 14.46)
2019	11.64 (10.27 to 13.00)	12.12 (11.08 to 13.17)	29.43 (28.90 to 29.96)	12.92 (11.82 to 14.01)
2020	8.59 (7.45 to 9.73)	11.93 (10.91 to 12.94)	27.10 (26.59 to 27.60)	12.39 (11.34 to 13.45)
Total	11.50 (11.12 to 11.89)	13.30 (13.03 to 13.57)	31.61 (31.48 to 31.73)	14.51 (14.20 to 14.83)

Supplementary Table S5. Racial trends in AS associated Age-Adjusted Mortality Rates per 100,000, in the United States, 1999 to 2020.

State	Age Adjusted Rate (95% CI)	Average Annual Percentage Change from 1999-2020

		(95% CI)
Alabama	17.39 (16.69 to 18.08)	-2.51 (-4.30 to -0.59)
Alaska	41.26 (37.11 to 45.41)	----
Arizona	22.52 (21.84 to 23.19)	-0.55 (-1.20 to 0.18)
Arkansas	20.20 (19.28 to 21.12)	0.95 (-0.15 to 2.23)
California	29.15 (28.82 to 29.48)	-1.73 (-2.13 to -1.32)
Colorado	25.59 (24.69 to 26.49)	-1.06 (-1.93 to -0.05)
Connecticut	28.73 (27.81 to 29.65)	0.64 (-0.20 to 1.58)
Delaware	30.03 (27.99 to 32.07)	-1.72 (-2.97 to -0.33)
District of Columbia	18.03 (16.02 to 20.04)	----
Florida	22.56 (22.22 to 22.89)	-1.59 (-2.38 to -0.85)
Georgia	19.56 (18.96 to 20.16)	-2.84 (-3.61 to -2.01)
Hawaii	26.20 (24.76 to 27.63)	-0.05 (-1.15 to 1.24)
Idaho	42.29 (40.34 to 44.25)	-2.13 (-3.43 to -0.77)
Illinois	25.43 (24.92 to 25.93)	-0.62 (-1.23 to -0.14)
Indiana	29.53 (28.76 to 30.30)	0.28 (-0.31 to 0.94)
Iowa	36.62 (35.52 to 37.71)	0.32 (-0.96 to 2.69)
Kansas	30.87 (29.75 to 31.98)	0.56 (-0.33 to 1.57)
Kentucky	20.07 (19.28 to 20.86)	0.07 (-1.35 to 1.99)
Louisiana	22.69 (21.84 to 23.54)	-1.58 (-2.41 to -0.75)
Maine	45.85 (43.95 to 47.75)	2.48 (1.15 to 5.16)
Maryland	28.07 (27.26 to 28.89)	-0.08 (-0.63 to 0.54)
Massachusetts	34.98 (34.22 to 35.74)	0.28 (-0.43 to 0.97)
Michigan	27.09 (26.51 to 27.66)	0.25 (-0.16 to 0.63)
Minnesota	37.46 (36.54 to 38.37)	0.17 (-0.40 to 0.77)
Mississippi	17.23 (16.33 to 18.13)	-0.37 (-1.52 to 0.87)
Missouri	29.26 (28.50 to 30.02)	-0.26 (-1.54 to 0.99)
Montana	36.11 (34.07 to 38.14)	-1.06 (-2.93 to 1.09)
Nebraska	34.37 (32.92 to 35.81)	-0.80 (-1.96 to 0.48)
Nevada	23.64 (22.40 to 24.88)	-0.54 (-1.94 to 1.22)
New Hampshire	44.03 (42.01 to 46.05)	0.07 (-0.83 to 1.14)
New Jersey	32.62 (31.96 to 33.27)	-1.41 (-2.13 to -0.84)
New Mexico	18.18 (17.08 to 19.28)	-1.07 (-3.84 to 2.69)
New York	23.89 (23.51 to 24.27)	-0.65 (-0.95 to -0.35)
North Carolina	28.84 (28.19 to 29.49)	-0.92 (-1.26 to -0.55)
North Dakota	26.21 (24.24 to 28.19)	----
Ohio	29.20 (28.66 to 29.75)	0.03 (-0.64 to 0.78)
Oklahoma	19.68 (18.85 to 20.50)	2.06 (0.37 to 5.15)
Oregon	60.55 (59.19 to 61.92)	1.53 (0.86 to 2.35)
Pennsylvania	39.04 (38.49 to 39.60)	-0.47 (-0.81 to -0.14)
Rhode Island	26.91 (25.32 to 28.51)	1.81 (0.73 to 3.07)
South Carolina	27.62 (26.71 to 28.53)	-0.58 (-1.17 to 0.16)
South Dakota	26.81 (24.97 to 28.66)	2.74 (1.75 to 3.90)
Tennessee	25.57 (24.83 to 26.31)	-0.02 (-1.06 to 1.30)

Texas	20.94 (20.56 to 21.32)	-1.80 (-2.24 to -1.40)
Utah	24.68 (23.35 to 26.00)	-2.42 (-3.35 to -1.46)
Vermont	53.97 (50.84 to 57.10)	1.04 (-1.63 to 5.20)
Virginia	28.60 (27.88 to 29.32)	-0.48 (-1.50 to 0.68)
Washington	49.38 (48.39 to 50.38)	0.16 (-0.37 to 0.79)
West Virginia	23.85 (22.66 to 25.05)	-1.67 (-3.03 to -0.29)
Wisconsin	39.97 (39.07 to 40.87)	1.31 (0.93 to 1.70)
Wyoming	30.08 (27.32 to 32.83)	----
U.S (Overall)	28.62 (28.51 to 28.73)	----

Supplementary Table S6. AS associated Age-Adjusted Mortality Rates per 100,000, stratified by State in the United States, 1999 to 2020.

Year	Age Adjusted Rate (95% CI)			
	Census Region 1: Northeast	**Census Region 2: Midwest**	**Census Region 3: South**	**Census Region 4: West**
1999	29.84 (28.60 to 31.08)	28.53 (27.39 to 29.68)	24.17 (23.28 to 25.06)	32.02 (30.65 to 33.39)
2000	31.73 (30.46 to 33.00)	27.66 (26.55 to 28.78)	23.98 (23.10 to 24.86)	31.72 (30.37 to 33.07)
2001	30.45 (29.22 to 31.69)	27.47 (26.36 to 28.57)	23.22 (22.36 to 24.08)	30.43 (29.13 to 31.74)
2002	30.07 (28.85 to 31.28)	28.00 (26.89 to 29.11)	24.24 (23.36 to 25.12)	31.68 (30.36 to 32.99)
2003	29.44 (28.25 to 30.64)	27.43 (26.34 to 28.52)	24.66 (23.78 to 25.54)	31.85 (30.55 to 33.15)
2004	30.17 (28.97 to 31.38)	27.27 (26.19 to 28.35)	23.92 (23.07 to 24.78)	31.61 (30.33 to 32.89)
2005	29.43 (28.26 to 30.61)	29.29 (28.18 to 30.41)	23.16 (22.32 to 23.99)	34.05 (32.74 to 35.36)
2006	31.79 (30.58 to 33.01)	29.24 (28.14 to 30.34)	24.59 (23.74 to 25.44)	33.87 (32.59 to 35.16)
2007	32.71 (31.49 to 33.93)	32.80 (31.64 to 33.95)	26.40 (25.53 to 27.27)	38.15 (36.80 to 39.50)
2008	33.28 (32.06 to 34.50)	30.29 (29.19 to 31.39)	23.91 (23.10 to 24.73)	33.56 (32.31 to 34.80)
2009	33.04 (31.82 to 34.25)	30.23 (29.13 to 31.32)	23.61 (22.81 to 24.41)	34.26 (33.02 to 35.49)
2010	34.48 (33.25 to 35.71)	31.75 (30.63 to 32.87)	24.15 (23.35 to 24.95)	35.24 (34.00 to 36.48)
2011	35.11 (33.88 to 36.33)	31.75 (30.65 to 32.85)	23.55 (22.78 to 24.33)	33.45 (32.26 to 34.63)
2012	34.43 (33.23 to 35.63)	31.61 (30.51 to 32.70)	24.80 (24.02 to 25.59)	33.17 (32.00 to 34.33)
2013	35.60 (34.38 to 36.81)	32.95 (31.85 to 34.06)	24.15 (23.39 to 24.91)	34.72 (33.55 to 35.89)
2014	34.15 (32.97 to 35.34)	33.26 (32.16 to 34.36)	24.03 (23.28 to 24.78)	32.34 (31.22 to 33.46)
2015	34.61 (33.43 to 35.80)	33.69 (32.59 to 34.79)	22.74 (22.02 to 23.46)	32.37 (31.27 to 33.47)
2016	33.52 (32.36 to 34.68)	32.82 (31.73 to 33.90)	21.84 (21.14 to 22.53)	32.42 (31.34 to 33.51)
2017	31.62 (30.51 to 32.73)	31.91 (30.86 to 32.97)	22.51 (21.82 to 23.21)	30.07 (29.03 to 31.11)
2018	30.55 (29.47 to 31.64)	30.70 (29.68 to 31.73)	20.43 (19.77 to 21.08)	28.61 (27.62 to 29.61)
2019	29.63 (28.57 to 30.69)	29.63 (28.62 to 30.63)	20.13 (19.49 to 20.77)	27.94 (26.97 to 28.92)
2020	27.36 (26.35 to 28.38)	27.97 (27.00 to 28.94)	17.97 (17.37 to 18.57)	25.60 (24.68 to 26.53)
Total	32.09 (31.83 to 32.34)	30.44 (30.20 to 30.67)	23.06 (22.90 to 23.23)	32.09 (31.84 to 32.34)

Supplementary Table S7. AS associated Age-Adjusted Mortality Rates per 100,000, stratified by Census Region in the United States, 1999 to 2020

Year	Age Adjusted Rate (95% CI)			
	Large Central Metro	Small Metro	Micropolitan (Nonmetro)	NonCore (Nonmetro)
1999	25.19 (24.18 to 26.20)	32.09 (30.17 to 34.01)	31.94 (30.11 to 33.78)	23.63 (21.91 to 25.35)
2000	23.95 (22.98 to 24.93)	31.46 (29.58 to 33.34)	30.87 (29.08 to 32.66)	25.81 (24.02 to 27.59)
2001	24.46 (23.48 to 25.44)	30.01 (28.19 to 31.84)	28.49 (26.78 to 30.20)	26.02 (24.22 to 27.81)
2002	23.80 (22.84 to 24.77)	30.30 (28.48 to 32.12)	31.13 (29.34 to 32.92)	27.92 (26.06 to 29.78)
2003	24.23 (23.26 to 25.19)	31.70 (29.85 to 33.54)	29.95 (28.20 to 31.69)	26.29 (24.49 to 28.09)
2004	23.74 (22.79 to 24.69)	30.86 (29.06 to 32.66)	30.07 (28.34 to 31.81)	25.72 (23.95 to 27.50)
2005	23.89 (22.95 to 24.84)	33.75 (31.89 to 35.62)	30.03 (28.30 to 31.76)	26.76 (24.95 to 28.56)
2006	25.27 (24.31 to 26.23)	32.30 (30.50 to 34.10)	32.26 (30.49 to 34.02)	28.37 (26.52 to 30.22)
2007	28.25 (27.24 to 29.25)	33.36 (31.55 to 35.17)	35.44 (33.60 to 37.28)	31.90 (29.95 to 33.85)
2008	24.93 (23.99 to 25.86)	32.22 (30.46 to 33.97)	32.84 (31.09 to 34.60)	27.09 (25.30 to 28.88)
2009	24.98 (24.05 to 25.91)	33.13 (31.37 to 34.89)	32.74 (31.00 to 34.49)	29.17 (27.31 to 31.02)
2010	26.52 (25.58 to 27.47)	34.01 (32.24 to 35.78)	33.52 (31.77 to 35.27)	29.63 (27.77 to 31.49)
2011	25.71 (24.79 to 26.63)	32.13 (30.44 to 33.82)	34.01 (32.27 to 35.76)	30.49 (28.62 to 32.36)
2012	25.88 (24.97 to 26.79)	34.32 (32.59 to 36.05)	34.99 (33.23 to 36.75)	30.46 (28.61 to 32.31)
2013	26.29 (25.38 to 27.19)	34.04 (32.34 to 35.75)	35.29 (33.54 to 37.04)	31.52 (29.66 to 33.39)
2014	24.86 (23.98 to 25.73)	34.46 (32.76 to 36.16)	34.66 (32.93 to 36.38)	30.66 (28.82 to 32.49)
2015	24.52 (23.67 to 25.37)	34.27 (32.60 to 35.94)	35.53 (33.80 to 37.26)	31.64 (29.79 to 33.49)
2016	24.26 (23.41 to 25.10)	31.97 (30.38 to 33.57)	33.81 (32.13 to 35.49)	30.99 (29.17 to 32.81)
2017	22.65 (21.84 to 23.45)	32.28 (30.69 to 33.86)	32.48 (30.85 to 34.11)	28.67 (26.94 to 30.40)
2018	22.10 (21.31 to 22.88)	29.78 (28.27 to 31.29)	30.60 (29.03 to 32.16)	27.91 (26.22 to 29.61)
2019	21.23 (20.47 to 21.99)	29.56 (28.07 to 31.05)	29.56 (28.03 to 31.08)	27.63 (25.96 to 29.30)
2020	19.15 (18.43 to 19.87)	27.25 (25.83 to 28.66)	28.62 (27.12 to 30.11	26.08 (24.46 to 27.70)
Total	24.32 (24.13 to 24.51)	32.09 (31.73 to 32.46)	32.28 (31.92 to 32.65)	28.43 (28.04 to 28.81)

Supplementary Table S8. AS associated Age-Adjusted Mortality Rates per 100,000, stratified by Urban-Rural status in the United States, 1999 to 2020.