

Supplementary File

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Supplementary Table S1: AAMR due to Hypertensive Heart and Renal Disease in males and females

Year	Female	Male
1999	1.1(1.1-1.2)	1.4(1.3-1.4)
2000	0.9(0.9-1)	1.19(1-1.2)
2001	1(0.9-1)	1.1(1-1.1)
2002	0.9(0.9-1)	1.1(1-1.1)
2003	1(0.9-1)	1.2(1.1-1.2)
2004	0.9(0.9-1)	1.1(1.1-1.2)
2005	1(0.9-1)	1.2(1.1-1.2)
2006	0.9(0.8-0.9)	1.1(1-1.1)
2007	0.9(0.8-0.9)	1.1(1-1.1)
2008	0.8(0.8-0.9)	1(0.9-1)
2009	0.8(0.8-0.8)	1(0.9-1)
2010	0.7(0.7-0.8)	0.9(0.9-1)
2011	1(0.9-1)	1.2(1.1-1.2)
2012	1(1-1)	1.2(1.2-1.3)
2013	1(1-1)	1.3(1.2-1.3)
2014	1.1(1-1.1)	1.4(1.3-1.4)
2015	1.2(1.2-1.2)	1.5(1.4-1.5)
2016	1.3(1.2-1.3)	1.8(1.7-1.8)
2017	1.6(1.6-1.7)	2.1(2.1-2.2)
2018	1.9(1.8-1.9)	2.4(2.4-2.5)
2019	2.2(2.2-2.3)	2.8(2.8-2.9)
2020	2.6(2.6-2.7)	3.4(3.3-3.5)
2021	3.2(3.1-3.3)	3.9(3.8-4)
2022	3.5(3.4-3.5)	4.4(4.3-4.5)
2023	3.9(3.8-4)	4.7(4.6-4.8)

Supplementary Table S2: Annual percentage change in Hypertensive Heart and Renal Disease-related mortality in males and females

Female

Year Interval	APC (95% CI)	p-values
2013-2021	24.89 (17.95 to 32.25)	0.000077
2021-2023	-44.33 (-65.80 to -9.39)	0.025868

Male

Year Interval	APC (95% CI)	p-values
2011-2021	23.36 (17.63 to 29.36)	0.000016
2021-2023	-35.72 (-51.79 to -14.29)	0.008372

Supplementary Table S3: Annual percentage change in Hypertensive Heart and Renal Disease-related mortality in different races and Hispanics

American Indian or Alaska Native

Year Interval	AAPC 95%CI	p-values
2014-2023	18.44(13.81 to 23.26)	0.000010

Asian or Pacific Islander

Year Interval	APC 95%CI	p-values
1999-2010	-3.48 (-5.51 to -1.40)	0.002378
2010-2023	6.92 (5.71 to 8.14)	0.000000

Black or African American

Year Interval	APC 95%CI	p-values
1999-2010	-3.46 (-4.78 to -2.10)	0.000053
2010-2015	3.20 (-4.11 to 11.08)	0.378487
2015-2023	10.43 (8.70 to 12.18)	0.000000

White

Year Interval	APC Interval 95%CI	p-values
1999-2009	-1.79 (-3.08 to -0.47)	0.011217
2009-2015	7.19 (3.46 to 11.04)	0.000862
2015-2021	20.52 (18.57 to 22.50)	0.000000
2021-2023	10.55(6.71 to 14.51)	0.000028

Hispanic

Year Interval	APC 95%CI	p-values
1999-2010	-2.67 (-4.75 to -0.54)	0.017017
2010-2020	9.42 (7.60 to 11.25)	0.000000

Supplementary Table S4: AAMR due to Hypertensive Heart and Renal Disease in different census-based regions

Year	census region 1: Northeast	Census region 2: Midwest	Census region 3: South	Census Region 4: West
1999	0.9(0.8-1)	1.1(1-1.1)	1.5(1.4-1.6)	1.3(1.2-1.4)
2000	0.6(0.6-0.7)	0.9(0.9-1)	1.2(1.1-1.3)	1.1(1-1.2)
2001	0.7(0.7-0.8)	0.9(0.8-1)	1.2(1.1-1.3)	1.1(1-1.2)
2002	0.7(0.6-0.8)	0.9(0.8-1)	1.2(1.2-1.3)	1.1(1-1.2)
2003	0.8(0.7-0.8)	1(0.9-1.1)	1.2(1.2-1.3)	1.2(1.1-1.3)
2004	0.8(0.7-0.9)	0.9(0.8-1)	1.2(1.1-1.2)	1.1(1.1-1.2)
2005	0.8(0.7-0.8)	1(0.9-1.1)	1.2(1.1-1.2)	1.3(1.2-1.3)
2006	0.8(0.7-0.8)	0.9(0.9-1)	1(1-1.1)	1(0.9-1.1)
2007	0.7(0.6-0.8)	0.9(0.8-1)	1(1-1.1)	1.1(1-1.2)
2008	0.7(0.6-0.7)	0.9(0.8-1)	1(0.9-1)	1(1-1.1)
2009	0.7(0.6-0.8)	0.9(0.8-0.9)	1(0.9-1)	1(0.9-1)
2010	0.7(0.6-0.7)	0.8(0.7-0.9)	1(0.9-1)	0.9(0.8-0.9)
2011	0.8(0.7-0.9)	1(1-1.1)	1.1(1.1-1.2)	1.2(1.2-1.3)
2012	0.8(0.8-0.9)	1(1-1.1)	1.2(1.2-1.3)	1.3(1.2-1.4)
2013	0.9(0.8-0.9)	1.1(1-1.2)	1.2(1.1-1.2)	1.3(1.2-1.4)
2014	0.9(0.8--1)	1.1(1.1-1.2)	1.2(1.2-1.3)	1.4(1.3-1.5)
2015	0.9(0.9-1)	1.4(1.3-1.5)	1.4(1.3-1.5)	1.5(1.4-1.6)
2016	1(1-1.1)	1.5(1.4-1.6)	1.7(1.6-1.8)	1.5(1.4-1.6)
2017	1.3(1.2-1.4)	1.9(1.8-2)	2.1(2.1-2.2)	1.9(1.8-2)
2018	1.4(1.3-1.5)	2.1(2-2.2)	2.5(2.5-2.6)	2(1.9-2.1)
2019	1.6(1.5-1.7)	2.7(2.5-2.8)	3(2.9-3.1)	2.2(2.1-2.3)
2020	1.9(1.8-2)	3.1(3-3.3)	3.7(3.6-3.8)	2.6(2.5-2.7)
2021	2.1(2-2.2)	3.6(3.5-3.8)	4.5(4.4-4.6)	3(2.9-3.1)
2022	2.3(2.2-2.4)	4(3.9-4.2)	5(4.9-5.1)	3.1(3-3.2)
2023	2.4(2.2-2.5)	4.6(4.4-4.7)	5.5(5.4-5.7)	3.4(3.2-3.5)

Supplementary Table S5: AAMR due to Hypertensive Heart and Renal Disease in different urban groups

Year	Large Central Metro	Large Fringe Metro	Medium Metro	Small Metro	Micropolitan (Nonmetro)	Noncore (Nonmetro)
1999	1.4(1.3-1.5)	1(1-1.1)	1.3(1.2-1.3)	1.1(0.9-1.2)	1.2(1.1-1.4)	1.1(1-1.3)
2000	1.2(1.1-1.3)	0.8(0.8-0.9)	1(1-1.1)	0.8(0.7-0.9)	1(0.9-1.1)	1(0.9-1.1)
2001	1.2(1.2-1.3)	0.8(0.7-0.8)	1(0.9-1.1)	0.9(0.7-1)	0.9(0.8-1)	1(0.9-1.2)
2002	1.2(1.2-1.3)	0.8(0.7-0.8)	1(0.9-1.1)	0.9(0.8-1)	1.1(1-1.2)	0.9(0.8-1.1)
2003	1.3(1.3-1.4)	0.8(0.7-0.9)	1(0.9-1.1)	1(0.9-1.1)	1.2(1.1-1.3)	1(0.9-1.1)
2004	1.3(1.3-1.4)	0.7(0.6-0.8)	1(0.9-1.1)	1(0.9-1.1)	1(0.9-1.1)	1(0.9-1.1)
2005	1.3(1.2-1.4)	0.8(0.7-0.9)	1(0.9-1.1)	0.9(0.8-1)	1.1(1-1.2)	1.1(1-1.3)
2006	1.2(1.1-1.3)	0.7(0.7-0.8)	0.9(0.8-1)	0.8(0.7-0.9)	0.9(0.8-1.1)	0.9(0.8-1)
2007	1.2(1.1-1.3)	0.7(0.7-0.8)	0.9(0.8-1)	0.9(0.8-1)	0.9(0.8-1)	1(0.9-1.2)
2008	1.1(1-1.1)	0.7(0.7-0.8)	0.9(0.8-1)	0.8(0.7-0.9)	0.8(0.7-0.8)	1(0.8-1.1)
2009	1.1(1.1-1.2)	0.7(0.6-0.7)	0.8(0.8-0.9)	0.8(0.7-0.9)	0.8(0.7-0.9)	0.9(0.8-1)
2010	1(1-1.1)	0.7(0.6-0.8)	0.8(0.8-0.9)	0.7(0.6-0.8)	1(0.9-1.1)	0.7(0.6-0.8)
2011	1.3(1.3-1.4)	0.8(0.7-0.9)	1(0.9-1.1)	1.1(1-1.2)	1(0.9-1.1)	1.1(1-1.2)
2012	1.4(1.3-1.5)	0.8(0.8-0.9)	1.1(1-1.2)	1.1(1-1.2)	1.1(1-1.2)	1.1(1-1.2)
2013	1.5(1.4-1.5)	0.8(0.8-0.9)	1.1(1-1.2)	1.1(0.9-1.2)	1.1(1-1.2)	0.9(0.8-1.1)
2014	1.5(1.4-1.6)	0.9(0.8-1)	1.2(1.1-1.3)	1.1(1-1.2)	1(0.9-1.1)	1.3(1.1-1.4)
2015	1.6(1.5-1.7)	1(0.9-1)	1.4(1.3-1.5)	1.3(1.2-1.4)	1.4(1.3-1.5)	1.3(1.1-1.4)
2016	1.7(1.6-1.8)	1.2(1.1-1.2)	1.6(1.5-1.7)	1.6(1.4-1.7)	1.5(1.3-1.6)	1.6(1.5-1.8)
2017	2(1.9-2.1)	1.5(1.4-1.6)	2(1.9-2.1)	1.9(1.8-2.1)	2(1.9-2.2)	1.8(1.7-2)
2018	2.1(2-2.2)	1.8(1.7-1.8)	2.5(2.4-2.6)	2(1.9-2.2)	2.4(2.2-2.5)	2.2(2-2.4)
2019	2.4(2.3-2.5)	2(1.9-2.1)	3(2.9-3.2)	2.4(2.3-2.6)	2.7(2.6-2.9)	2.9(2.7-3.1)
2020	2.9(2.8-3)	2.4(2.3-2.5)	3.5(3.4-3.6)	3.1(2.9-3.2)	3.3(3.1-3.5)	3.1(2.9-3.3)