

**Supplementary Table S1.** Death number and age-adjusted mortality rates for stroke (AAMRs per 100,000) among young and middle-aged adults in China by sex, age groups and regions, 2002–2019

Year	Men				Women				Urban		Rural	
	25–44 yrs		45–64 yrs		25–44 yrs		45–64 yrs		Number	AAMRs	Number	AAMRs
	Number	AAMRs	Number	AAMRs	Number	AAMRs	Number	AAMRs				
2002	17,630	9.38	159,030	119.36	9,644	5.31	93,408	72.35	104,476	42.46	175,236	46.76
2003	22,067	11.03	191,542	139.69	12,707	6.49	130,263	98.26	130,755	47.82	225,823	61.36
2004	23,278	11.29	169,892	117.30	14,096	6.91	108,454	77.23	116,080	39.87	199,640	51.56
2005	21,767	10.74	195,120	133.28	13,932	6.74	135,431	95.16	164,593	55.56	201,658	51.94
2006	22,550	10.06	167,041	104.75	11,935	5.20	98,813	63.27	101,221	32.05	199,118	45.61
2007	26,863	11.89	187,372	111.92	13,313	5.79	99,760	60.66	99,240	29.42	228,068	50.96
2008	27,320	12.25	191,011	108.17	12,553	5.55	100,563	58.25	115,545	31.61	215,903	47.51
2009	28,362	12.74	223,113	122.99	12,147	5.39	118,999	66.69	135,021	34.60	247,601	54.71
2010	29,918	13.30	211,283	128.15	11,638	5.38	108,933	68.30	148,044	40.64	213,728	52.90
2011	26,145	11.60	200,481	117.30	10,510	4.86	98,545	59.30	139,224	35.79	196,458	48.45
2012	25,753	11.38	183,560	103.41	9,945	4.56	91,472	52.64	141,089	33.91	169,641	41.80
2013	32,989	14.89	222,515	120.33	11,188	5.22	106,480	58.55	165,339	37.67	207,833	50.64
2014	32,207	14.73	222,250	116.44	9,828	4.67	104,537	55.34	171,729	36.74	197,093	48.56
2015	29,510	13.88	226,885	115.00	9,462	4.59	106,116	54.12	175,426	36.31	196,546	47.33
2016	26,723	12.81	241,194	117.54	8,068	4.00	108,990	53.48	182,241	35.60	202,734	48.40
2017	25,246	12.38	243,014	115.68	7,297	3.67	108,637	52.03	188,100	35.15	196,093	47.19
2018	23,165	11.55	244,903	113.86	6,352	3.24	107,742	50.38	194,009	34.23	188,153	46.45
2019	22,435	11.56	208,280	99.18	6,158	3.25	83,622	40.19	166,213	29.46	154,282	40.85
Total	463,927	–	3,688,485	–	190,773	–	1,910,765	–	2,638,344	–	3,615,607	–

**Supplementary Table S2.** Age-adjusted mortality rates for stroke (AAMRs per 100,000) among young and middle-aged adults in China by sex and regions, 2002–2019

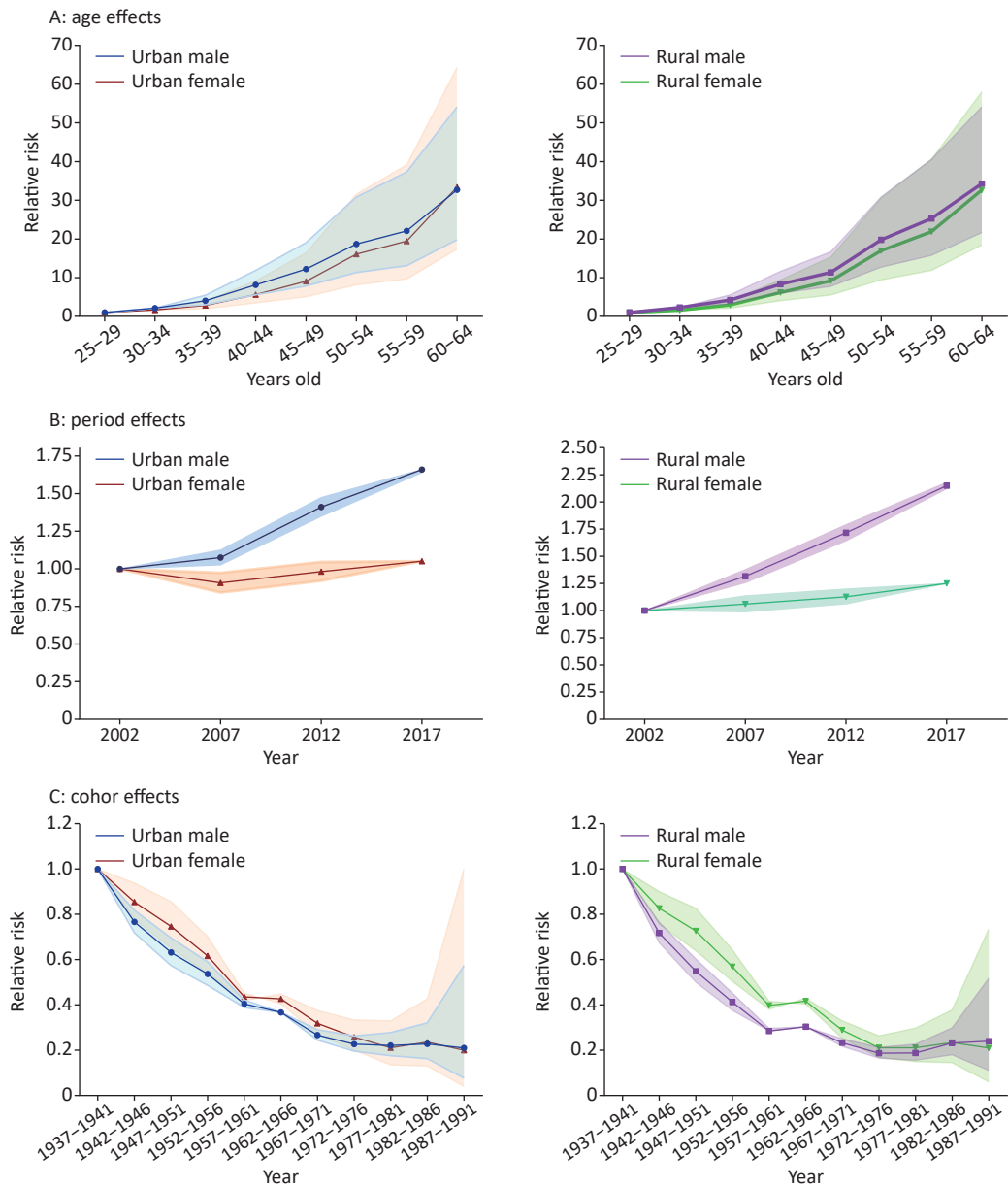
Year	Men			Women		
	Total	Urban	Rural	Total	Urban	Rural
2002	55.99	55.08	56.44	33.72	30.02	36.26
2003	65.56	58.69	70.28	45.39	36.94	51.77
2004	56.22	49.85	60.56	36.71	29.98	41.90
2005	62.68	65.68	60.13	44.22	45.48	43.18
2006	50.19	42.21	55.24	29.81	22.02	35.49
2007	54.29	40.42	64.17	29.04	18.54	37.15
2008	52.90	43.31	60.14	27.88	20.02	34.35
2009	59.46	47.78	68.94	31.37	21.66	39.93
2010	61.98	54.95	67.63	32.05	25.86	37.55
2011	56.40	50.19	61.79	27.93	21.08	34.48
2012	50.38	46.51	54.17	24.94	21.07	28.94
2013	59.58	52.55	67.16	27.82	22.49	33.56
2014	57.84	51.71	65.04	26.14	21.57	31.46
2015	56.73	51.23	63.40	25.58	21.05	30.90
2016	57.20	50.61	65.70	24.97	20.28	30.73
2017	56.16	50.29	64.17	24.16	19.74	29.87
2018	54.91	48.95	63.70	23.22	19.27	28.86
2019	48.70	43.21	57.37	18.91	15.47	24.06
APC (%)	-0.5	-0.5	0.2	-3.5*	-3.5*	-2.8*
(95% CI)	(-1.2, 0.3)	(-1.7, 0.6)	(-0.6, 0.9)	(-4.5, -2.5)	(-5.2, -1.7)	(-3.7, -1.9)

**Note.** \* Indicates that the annual percent change (APC) is significantly different from zero at the alpha = 0.05 level.

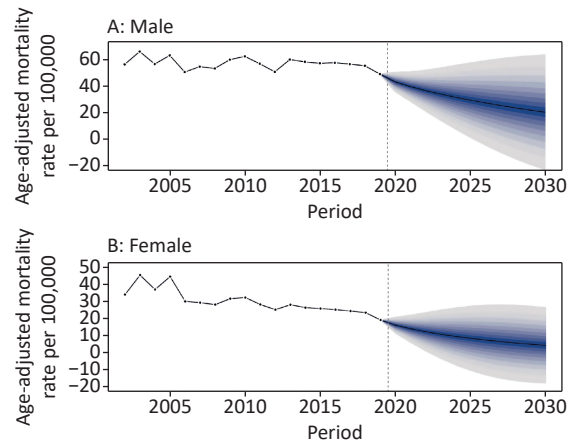
**Supplementary Table S3.** Age-specific stroke mortality variation with time (per 100,000) among young and middle-aged adults in China, 2002–2019

Age group (Year)	Urban male		Rural male		Urban female		Rural female	
	AAPC (%)	95% CI	AAPC (%)	95% CI	AAPC (%)	95% CI	AAPC (%)	95% CI
25–29	3.3*	1.2, 5.5	5.5*	0.5, 10.7	-0.7	-4.0, 2.7	0.6	-2.3, 3.6
30–34	3.7*	1.5, 5.9	3.7	-5.8, 14.2	-1.1	-3.0, 0.8	1.8*	0.3, 3.3
35–39	0.8	-0.6, 2.2	2.9*	1.8, 4.0	-4.1*	-5.1, -3.0	-3.3*	-4.9, -1.7
40–44	-0.9	-2.4, 0.6	2.2	-0.4, 5.0	-4.0*	-6.0, -1.9	-3.6*	-5.3, -1.8
45–49	-2.1	-6.2, 2.1	1.6*	0.0, 3.2	-5.0*	-6.8, -3.2	-3.4*	-5.2, -1.6
50–54	-2.5	-6.5, 1.6	2.0*	0.6, 3.4	-1.9	-11.9, 9.3	-1.7*	-3.3, -0.1
55–59	-1.3*	-2.5, -0.2	-1.6*	-2.7, -0.5	-5.3*	-7.1, -3.5	-4.2*	-5.6, -2.8
60–64	-0.2	-1.8, 1.3	-0.7	-1.5, 0.2	-2.8*	-4.6, -0.9	-2.2*	-3.3, -1.2

**Note.** \* Indicates that the average annual percent change (AAPC) is significantly different from zero at the alpha = 0.05 level.



**Supplementary Figure S1.** Age, period, and cohort effects on stroke mortality among young and middle-aged adults in China by age-period-cohort analysis. (A) Age effects on stroke mortality; (B) Period effects on stroke mortality; (C) Cohort effects on stroke mortality.



**Supplementary Figure S2.** Trends in stroke mortality among young and middle-aged adults in China by sex: observed rates (2002–2019) and predicted rates (2020–2030). Shading indicates the 95% confidence interval of the predicted rates. (A) Trends in stroke mortality for male; (B) Trends in stroke mortality for female.