

**Supplementary appendix 1 to “Changes in cardiovascular disease burden in China after issuing 2011 Chinese guideline on prevention of cardiovascular diseases: A Bayesian causal impact analysis”**

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## Section 1. Methods

### 1.1 Definitions of cardiovascular diseases and 13 subcategories and the negative control outcome of brain and central nervous system cancer

**Supplementary table 1. List of *International Statistical Classification of Diseases and Related Health Problem, 10th Revision (ICD-10)* codes mapped to cardiovascular diseases and 13 subcategories and the negative control outcome of brain and central nervous system cancer in the Global Burden of Disease 2019**

Diseases	GBD 2019 (ICD-10)	GBD2019 (ICD-10 used in Hospital/Claims Analyses)	2011 CSC Guideline (mapping to the burden of CVD in China GBD 2016)
<b>Cardiovascular diseases</b>	B33.2-B33.24, D86.85, G45-G46.8, I01-I01.9, I02.0, I05-I09.9, I11-I11.2, I11.9, I20-I21.6, I21.9-I27.0, I27.2-I28.9, I30-I38.0, I39-I41.8, I42-I43.8, I44-I44.8, I45-I52.8, I60-I64, I64.1, I65-I83.93, I86-I89.0, I89.9, I95.0-I95.1, I98, I98.8-I99.9, K75.1, R00-R01.2, Z01.3-Z01.31, Z03.4-Z03.5, Z13.6, Z52.7, Z82.3-Z82.49, Z86.7-Z86.79, Z94.1-Z94.3, Z95-Z95.9	A32.82, B33.2-B33.24, B37.6, I01-I09.9, I20-I27.0, I27.2-I73.9	ICD-10 codes for CVD
Ischemic heart disease	I20-I21.6, I21.9-I25.9, Z82.4-Z82.49	I20-I25.9	I20-I25.9
Ischemic stroke	G45-G46.8, I63-I63.9, I65-I66.9, I67.2-I67.848, I69.3-I69.4	I63-I63.9	G45-G46.8, I63-I63.9, I65-I66.9, I67.2-I67.3, I67.5-I67.6, I69.3
Intracerebral hemorrhage	I61-I62, I62.9, I69.0-I69.298	I61-I62.9	I60-I62.9, I67.0-I67.1, I68.1-I68.2, I69.0-I69.2 for hemorrhagic and other stroke
Subarachnoid hemorrhage	I60-I60.9, I67.0-I67.1	I60-I60.9, I67.0-I67.1	
Aortic aneurysm *	Not available	Note available	I71-I71.9
Peripheral artery disease	I70.2-I70.92, I73-I73.9	I70.2-I73.9	I70.2-I70.8, I73-I73.9
Rheumatic heart disease	I01-I01.9, I02.0, I05-I09.9	I01-I09.9	I01-I01.9, I02.0, I05-I09.9
Hypertensive heart disease	I11-I11.2, I11.9	-	I11-I11.9
Non-rheumatic valvular heart disease	I34-I37.9	I34-I37.9	Not Involved
Cardiomyopathy and myocarditis	B33.2-B33.20, B33.22-B33.24, D86.85, I40-I41.8, I42-I43.8, I51.4-I51.6	B33.2-B33.20, B33.22-B33.24, I40-I41.8, I51.4-I51.6	B33.2, I40-I41.9, I42.1-I42.8, I43-I43.9, I51.4
Atrial fibrillation and flutter	I48-I48.92	I48-I48.92	I48-I48.9
Endocarditis	B33.21, I33-I33.9, I38-I38.0, I39-I39.9	A32.82, B33.21, B37.6, I33-I33.9, I38-I39.9	I33-I33.9, I02.0, I05-I09.9
Other cardiovascular and circulatory diseases	The rest of CVD codes	The rest of CVD codes	The rest of CVD codes
<b>Brain and central nervous system cancer</b>	C70-C70.1, C70.9-C72.9, Z85.841-Z85.848, Z86.011	-	-

## 1.2 Selected indicators contributed to the transition and current features of CVD epidemiology in China based on Zhao et al.<sup>1</sup> work

**Supplementary table 2.** List, definitions, data sources, and the corresponding statistics during 1990-2019 of the selected indicators that contribute to the transition and current features of CVD epidemiology in China but receive no influence from the 2011 CSC Guideline

Indicators	Definitions / Data sources	Median (Interquartile range)
<b>Availability of mediations</b>		
# of medical providers per 10K	The number of medical providers during a calendar year, including hospitals, community healthcare clinics, and public health centers (e.g., Disease Control and Prevention Center) / Chinese Health Statistics Yearbook 2021 (Table 1-1-1)	99.0 (94.0 to 100.7)
# of health workers per 10K	The number of health workers during a calendar year, including certified medical and assistant medical doctors, nurses, pharmacists, laboratory scientist, rural doctors and other practitioners / Chinese Health Statistics Yearbook 2021 (Table 2-1-1)	688 (656 to 899)
# of medical beds provided per 10K	The number of medical beds provided during a calendar year, including hospitals, community healthcare clinics, and public health centers / Chinese Health Statistics Yearbook 2011 (Table 3-1-1), 2016 (Table 3-1-4), 2021 (Table 3-1-4)	332 (314 to 558)
Bed occupancy rate for medical provides (%)	The rate between the number of beds occupied and the number of beds provided by medical providers during a calendar year / Chinese Health Statistics Yearbook 2021 (Table 5-6-1)	78 (66 to 85)
Average length of stay in medical providers (days)	The average length of stay in medical providers for all inpatients during a calendar year / Chinese Health Statistics Yearbook 2021 (Table 5-6-1)	10.9 (10.1 to 13.6)
<b>Affordability of mediations</b>		
Government health expenditure per unit in GDP (%)	The proportion of the total health expenditure per unit of gross domestic product (GDP) during a calendar year / Chinese Health Statistics Yearbook 2021 (Table 4-1-1)	4.6 (4.1 to 5.2)
Average wage of employed person in urban non-private settings (CNY)	The average wage of employed person in urban non-private settings by status of registration / Chinese Statistics Yearbook 2000 (Table 5-19), 2010 (Table 4-13), 2021 (Table 4-10)	17 060 (6 694 to 45 638)
Disposal income per capita (CNY)	China Compendium of Statistics 1949-2008 (Table 1-23); Chinese Health Statistics Yearbook 2006, 2009, 2013, 2016, 2021 (Appendix Table 1-6-1)	6 526 (3 667 to 15 779)
Registered unemployment rate in urban areas (%)	The proportion of registered unemployed population of working age among all labour force in urban areas / Chinese Statistics Yearbook 1991 (Table 4-21), 1996 (Table 4-1), 2001, 2006 (Table 5-1), 2011, 2016, 2021 (Table 4-1)	4.0 (3.1 to 4.1)
Gross dependency ratio (%)	The ratio between population of non-working age (i.e., < 15 or 65+ years) and population of working age (i.e., 15-64 years) / Chinese Statistics Yearbook 2021 (Table 2-4)	41.2 (37.5 to 48.1)
<b>Quality of care from medical providers</b>		

Average visits per person	The average number of medical visits, including outpatient, inpatient, and emergency visits, healthy examinations, and healthy consultation per person during a calendar year / Chinese Health Statistics Yearbook 2007 (Table 5-1-2), 2011 (Table 5-1-1), 2016 (Table 5-1-1), 2021 (Table 5-1-1)	3.1 (1.0 to 5.0)
Hospital admissions per 10K	The number of hospital admissions during a calendar year / Chinese Health Statistics Yearbook 2021 (Table 5-4-1)	4 890 (3 266 to 12 234)
Hospital admissions per 100 outpatients or emergency patients	The average number hospital admissions per 100 inpatients and emergency patients / Chinese Health Statistics Yearbook 2021 (Table 5-4-1)	3.8 (2.7 to 5.1)
<b>Educational attainment (%)<sup>*</sup></b>		
Illiterate	The proportion of population who are unable to read or have difficulty to read among population aged 15+ years during a calendar year / Chinese Statistics Yearbook 1997 (Table 3-18), 1998-1999 (Table 4-19), 2000 (Table 4-8), 2002 (Table 4-13), 2003 (Table 4-8), 2004-2007 (Table 4-12), 2008-2012 (Table 3-14), 2013 (Table 3-16), 2014-2020 (Table 2-15)	Both: 10 (5 to 16) Male: 5 (3 to 9) Female: 14 (8 to 23)
Primary school	The proportion of population attained primary school education among population aged 6+ years during a calendar year / Chinese Statistics Yearbook 1997 (Table 4-7), 1998-2000 (Table 4-8) 2002-2007 (Table 4-12) 2008-1012 (Table 3-12) 2014-2020 (Table 2-14)	Both: 33.2 (27.1 to 40.4) Male: 31.9 (25.1 to 39.9) Female: 34.4 (29.1 to 41.0)
Junior secondary school	The proportion of population attained middle school education among population aged 6+ years during a calendar year / Chinese Statistics Yearbook 1997 (Table 4-7), 1998-2000 (Table 4-8) 2002-2007 (Table 4-12) 2008-1012 (Table 3-12) 2014-2020 (Table 2-14)	Both: 37.9 (32.3 to 39.9) Male: 40.3 (36.4 to 42.3) Female: 35.1 (28.1 to 37.2)
Senior/technical secondary school	The proportion of population attained high or vocational school education among population aged 6+ years during a calendar year / Chinese Statistics Yearbook 1997 (Table 4-7), 1998-2000 (Table 4-8) 2002-2007 (Table 4-12) 2008-1012 (Table 3-12) 2014-2020 (Table 2-14)	Both: 13.0 (10.5 to 15.1) Male: 14.7 (11.9 to 17.6) Female: 11.5 (9.1 to 14.3)
Junior college and above	The proportion population attained more than high or vocational school education among population aged 6+ years during a calendar year / Chinese Statistics Yearbook 1997 (Table 4-7), 1998-2000 (Table 4-8) 2002-2007 (Table 4-12) 2008-1012 (Table 3-12) 2014-2020 (Table 2-14)	Both: 5.7 (to 2.8 to 10.5) Male: 6.5 (3.4 to 10.9) Female: 4.8 (2.1 to 10.0)
<b>Population growth and ageing<sup>†</sup></b>		
Population size (year-end, 10K)	Total population at the end of the year / Chinese Statistics Yearbook 2021 (Table 2-1)	130 372 (123 910 to 135 670)
Male sex (%)	The proportion of males at the end of the year / Chinese Statistics Yearbook 2021 (Table 2-1)	51.26 (51.15 to 51.47)
Urban population (%)	The proportion of urban population, including the military personnel of Chinese People's Liberation Army / Chinese Statistics Yearbook 2021 (Table 2-1)	42 (32 to 53)
Crude birth rate (‰)	The proportion of number of live births and population size given a calendar year / Chinese Statistics Yearbook 2021 (2-2)	13.3 (12.2 to 16.3)
Crude death rate (‰)	The proportion of number of deaths and population size during a calendar year / Chinese Statistics Yearbook 2021 (Table 2-2)	6.7 (6.5 to 7.1)
Population aged 65+ years (%)	The proportion of population aged 65+ years / Chinese Statistics Yearbook 2021 (Table 2-4)	7.7 (6.6 to 9.3)
Population density (person / square kilometer)	Number of population per land area in square kilometers during a calendar year / Chinese Statistics Yearbook 2021 (Table 1-12)	136 (129 to 142)

Life expectancy at birth (years)	Data for sex-specific life expectancy at birth were obtained from census conducted in 1990, 1996, 2000, 2005, 2010, 2015 / Chinese Statistics Yearbook 2021 (Table 2-3)	Both: 72.2 (70.8 to 74.8) Male: 70.2 (66.8 to 72.4) Female: 74.3 (70.5 to 77.4)
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**Note:**

\* The proportions of education attainment were estimated on the basis of the annual national sample survey.

† The total population in China includes the military personnel of the Chinese People’s Liberation Army but does not include the population of Hong Kong and Macao Special Administration Regions, and Taiwan Province. Populations counts for 1990, 2000, 2010, and 2020 were the Census year estimates, and the rest years were estimated on the basis of the annual national sample survey of the population. Population counts for 2011-2019 were revised based on the 2020 Census data.

## 1.3 Statistical analysis

### 1.3.1 Preprocessing data

We log-transformed and standardized the original time-series data for CVD burden and the selected indicators prior to the analysis since such data preprocessing was considered to help reduce the possible effects of short-term variations on the long-term trends.<sup>2</sup> We transformed back the observed data and predicted counterfactual estimates to the original scale before calculating the 2011 CSC Guideline-associated declines in the relative rate reduction (RRR) and the cumulative rates prevented.

### 1.3.2 Impact estimates of the 2011 CSC Guideline on CVD

We followed the analytical framework of “synthetic control” (i.e., Bayesian causal impact analysis by Brodersen et al<sup>3</sup>), in which Bayesian variable selection was utilized to composite the most appropriate synthetic control for generating counterfactual estimates during postintroduction period. This method fitted the pre-introduction CVD burden using the preliminary selected indicators that received no influence from the 2011 CSC Guideline. It optimally gave more weight to the indicators that jointly explain the trajectory of CVD burden best. With the synthetic control, we generated counterfactual estimates of what would have happened in the postintroduction period had the 2011 CSC Guideline not been released, whilst effectively adjusted for unmeasured bias and confounding. This is because the indicators included in the synthetic control, free from the influence of the introduction of the 2011 CSC Guideline, would contribute to the CVD burden equally during both the pre-introduction and postintroduction periods. Based on the generated counterfactual estimates, we calculated the ARR and the cumulative rates prevented during the postintroduction period.

Specifically, we used three sources of information available from the National Bureau of Statistics of China (available at: <http://www.stats.gov.cn/>) and GBD 2019 (available at: <https://vizhub.healthdata.org/gbd-results/>) to estimate the causal impact of the 2011 CSC Guideline on the burden of CVD. The first one was the trajectory of incidence, prevalence, mortality, and disability-adjusted life-years [DALY] rates of CVD prior to the introduction of the 2011 CSC Guideline (i.e., from 1990 to 2010), which was further utilized as the target. The second one was the annual information on indicators (**supplementary table 2**) that were considered to contribute to the transition of CVD epidemiology and current features but

received no influence from the 2011 CSC Guideline for composting an appropriate synthetic control. The third source of information in the Bayesian framework was the available prior knowledge about the model parameters based on previous studies.

When assessing the impact of the 2011 CSC Guideline, we generated counterfactual estimates by combining the three preceding sources of information using a Bayesian structural time-series model on the basis of a diffusion-regression state-space model, in which one component of state was a linear regression on the contemporaneous predictors.<sup>3</sup> We used the annual information of indicators to adjust for secular trends unrelated to the 2011 CSC Guideline. The annual information on indicators was incorporated into a regression model to fit the trajectory of CVD burden during the pre-introduction period, in which Bayesian variable selection was utilized to select and give more weight to the indicators that jointly explain the CVD burden trajectory best. Then, these weights were used to generate counterfactual estimates *via* the synthetic control during the postintroduction period, whilst adjusting for changes in these included indicators. With the log-transformed data, we had

$$\log(y_t) = \beta_0 + g(t) + \sum_{j=1}^K I_j \times \beta_j \times \log(x_{jt}). \quad (\text{Model 1})$$

In this Model, for  $t$ th year,  $y_t$  is the CVD burden (i.e., incidence, prevalence, mortality, and DALY rates);  $\beta_0$  captures the secular trend of CVD burden,  $g(t)$  is a smooth function for time to adjust for the short-term variations (i.e., seasonal variation), wherever appropriate;  $\sum_{j=1}^K I_j \times \beta_j \times \log(x_{jt})$  is the set of the indicators  $j = 1, 2, \dots, K$ , weighted by the corresponding inclusion indicator  $I_j$  and regression coefficient  $\beta_j$ ; and  $\log(x_{jt})$  is the annual information for  $j$ th indicator. Here, the inclusion indicator  $I_j$  are independent Bernoulli ( $\pi$ )-distributed random variables that determine whether the indicators is included in the synthetic control ( $I_j=1$ ) or not ( $I_j = 0$ ). Then, a Bayesian variable selection, with placing spike-and-slab priors over coefficient  $\beta_j$  and equal probability for inclusion of all indicators, was used to identify the appropriate set for constructing the synthetic control.<sup>3</sup> Generally, a spike-and-slab prior assigns point mass at zero (i.e., the “spike”) for the unknown subset of zero coefficients with a weakly informative distribution (e.g., a Gaussian distribution with a large variance) on the complementary set of nonzero coefficients (i.e. the “slab”).<sup>4</sup> The prior probability for inclusion of each factor was  $\pi = 0.5$  (i.e., flipping a coin).

### 1.3.3 Model fitting

We fitted Model 1 using the `bsts`<sup>5</sup> and `CausalImpact`<sup>3</sup> packages in R software. We ran 2 000 Markov chain Monte Carlo (MCMC) iterations, with 1 000 iterations for burn-in. We constrained the secular trend (i.e.,  $\beta_0$  in Model 1) constant over time, without a linear seasonality variation (i.e.,  $g(t) = 0 \times t$  in Model 1). To allow for delayed or gradual effects of the introduction of the 2011 CSC Guideline, we considered a one-year gap before the evaluation period, i.e., from 2012 to 2019. We obtained the posterior samples simulated from the posterior predictive distribution over the counterfactual estimates of the trajectory of CVD burden during the evaluation period, given the observed pre-introduction CVD burden trajectory, alongside the selected indicators and the corresponding weights selected during the pre-introduction (i.e., from 1990 to 2010). With the posterior predictive samples, we computed the posterior distribution of the pointwise impact  $y_{1t} - \tilde{y}_{0t}$  for each  $t = 2002, \dots, 2019$ , where  $y_{1t}$  is the observed CVD burden in the presence of the 2011 CSC Guideline and  $\tilde{y}_{0t}$  is the posterior predictive median of what CVD burden would have been in the absence of the 2011 CSC Guideline. We also computed the overall relative rate reduction as  $1 - Y_1/Y_0$  and the cumulative rate prevented as  $Y_0 - Y_1$ , where  $Y_1 = \sum y_{1t}$  and  $Y_0 = \sum \tilde{y}_{0t}$  are respectively the cumulative CVD burden in the presence and the absence of the 2011 CSC Guideline for  $t = 2012, \dots, 2019$ . The 2.5<sup>th</sup> and 97.5<sup>th</sup> percentiles of the MCMC samples were used to quantify the uncertainty of the 2011 Chinese Guideline-associated impact, as 95% uncertainty intervals (95% UI). We interpreted the 95% UI as the lower and upper boundaries of the true guideline-associated impact, given the evidence provided by the observed data.

### 1.3.4 Sensitivity analyses for genetic counterfactual estimates using alternative models

Beyond the main analyses, we triangulated our estimates using three alternative models for generating counterfactual estimates during the postintroduction period. In Model 2, we adjusted for the secular trend (i.e.,  $\beta_0$ ), with changes in population size in China for each year as an offset. We assumed that the trend in CVD burden from the postintroduction period would be the same observed in the pre-introduction period, i.e.,

$$\log(y_t) = \beta_0 + \text{offset}[\log(\text{Population Size}_t)]. \quad (\text{Model 2})$$

In Model 3, we adjusted for the simple linear trend of time on the basis of Model 2, i.e.,

$$\log(y_t) = \beta_0 + \beta_1 \times \text{Index}_t + \log(\text{Population Size}_t). \quad (\text{Model 3})$$

In Model 4, we adjusted for changes in population size in China as a covariate, instead of an offset, on the basis of Model 3, i.e.,

$$\log(y_t) = \beta_0 + \beta_1 \times \text{Index}_t + \beta_2 \times \log(\text{Population Size}_t). \quad (\text{Model 4})$$

Since population ageing and growth are considered the major driver for current feature of CVD epidemiology in China,<sup>1,6</sup> we did a robustness check by removing indicators (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) attributed to the population ageing and growth in Model 5, i.e.,

$$\log(y_t) = \beta_0 + \sum_{j=1}^P I_j \times \beta_j \times \log(x_{jt}). \quad (\text{Model 5})$$

Given all these models provided adequate adjustments in some but not all, of the settings, the relevant results yielded the range of the 2011 CSC Guideline-associated impacts on changes in CVD burden. Notably, the consistently qualitative conclusion would triangulate our estimates since the unexplained trend and unmeasured confounding bias were not strong enough to bias the observed estimates towards the null.



## Section 2. Results

### 2.1 Sensitivity of results to different gap years for the delayed or gradual impact

**Supplementary table 3.** Impact estimates of the 2011 CSC Guideline on changes in incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rate per 100 000 of cardiovascular diseases and the negative control outcome of brain and central nervous system cancer using the Global Burden of Disease Study 2019 \*

Burden	Gap years	Cardiovascular diseases			Negative control outcome		
		Relative rate reduction (%)	Cumulative rate prevented (Rate, per 100 000) †	PP ‡	Relative rate reduction (%)	Cumulative rate prevented (Rate, per 100 000) †	PP ‡
<b>Incidence</b>	0	-1.5 (-3.2 to 0.7)	-100 (-199 to 42)	93.7	-0.8 (-11.8 to 8.8)	-0 (-6 to 5)	55.4
	1	-1.7 (-3.5 to 0.7)	-99 (-198 to 43)	93.7	-0.7 (-13.3 to 9.8)	-0 (-6 to 5)	55.4
	2	-1.9 (-3.8 to 0.7)	-99 (-199 to 43)	93.7	-0.9 (-14.0 to 10.4)	-0 (-6 to 5)	55.4
	3	-2.0 (-4.0 to 0.8)	-100 (-198 to 43)	93.7	-1.1 (-15.5 to 10.8)	-0 (-6 to 5)	55.4
<b>Prevalence</b>	0	-0.9 (-2.9 to 0.6)	-560 (-1 686 to 309)	92.2	-0.9 (-33.6 to 31.8)	-1 (-46 to 88)	52.2
	1	-1.0 (-3.2 to 0.6)	-560 (-1 701 to 311)	92.2	-0.8 (-36.3 to 33.3)	-1 (-46 to 88)	52.2
	2	-1.1 (-3.5 to 0.6)	-558 (-1 703 to 331)	92.2	-0.8 (-39.2 to 35.1)	-1 (-46 to 88)	52.2
	3	-1.3 (-3.7 to 0.5)	-560 (-1 701 to 321)	92.2	-1.2 (-42.9 to 36.3)	-2 (-47 to 87)	52.2
<b>Mortality</b>	0	5.0 (-5.6 to 16.6)	162 (-156 to 600)	83.8	2.0 (-4.9 to 8.9)	1 (-2 to 3)	76.4
	1	5.7 (-6.0 to 18.3)	161 (-152 to 602)	83.8	2.3 (-5.4 to 9.7)	1 (-2 to 3)	76.4
	2	6.5 (-5.9 to 20.0)	161 (-158 to 603)	83.8	2.5 (-5.9 to 10.4)	1 (-2 to 3)	76.4
	3	7.3 (-5.6 to 21.3)	161 (-156 to 604)	83.8	2.7 (-6.2 to 11.1)	1 (-2 to 3)	76.4
<b>DALY</b>	0	2.5 (-10.2 to 12.4)	1 417 (-4 690 to 7 676)	70.9	0.5 (-14.7 to 16.4)	7 (-159 to 246)	53.2
	1	2.9 (-11.0 to 13.7)	1 429 (-4 707 to 7 621)	70.9	0.6 (-16.0 to 17.7)	6 (-158 to 247)	53.2
	2	3.4 (-11.2 to 14.9)	1 421 (-4 678 to 7 605)	70.9	0.7 (-17.5 to 19.0)	7 (-159 to 242)	53.2
	3	3.8 (-11.5 to 16.1)	1 403 (-4 682 to 7 523)	70.9	0.8 (-18.4 to 20.1)	7 (-158 to 247)	53.2

**Note:**

\* All impact estimates were derived based on age-standardized incidence, prevalence, mortality, and DALY rates per 100 000 in China. Moreover, a positive value represents a protective impact of the 2011 CSC Guideline on the burden of cardiovascular diseases and the negative control outcome; whilst a negative value represents a harmful impact.

† Cumulative rate was prevented by the 2011 CSC Guideline per 10 000 population during the evaluation period (instead of the postintroduction period).

‡ PP: Bayesian posterior probability that the 2011 CSC Guideline had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo samples simulated from the posterior predictive distribution.

## 2.2 The 2011 CSC Guideline-associated changes in incidence, prevalence, mortality, and disability-adjusted life years (DALY) rates per 100 000

**Supplementary table 4.** Impact estimates of the 2011 CSC Guideline on changes in incidence and prevalence rates per 100 000 of cardiovascular diseases (CVD) and 13 subcategories as well as the negative control outcome of brain and central nervous system cancer in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using the Global Burden of Disease Study 2019 \*

Subcategory / Subgroup	Incidence, rate per 100 000 (95% UIs)			Prevalence, rate per 100 000 (95% UIs)		
	Relative rate reduction (%)	Cumulative rate prevented †	PP ‡	Relative rate reduction (%)	Cumulative rate prevented †	PP ‡
<b>All CVD</b>						
Total	-1.7 (-3.5 to 0.7)	-99 (-198 to 43)	93.7	-1.0 (-3.2 to 0.6)	-560 (-1 701 to 311)	92.2
Female	-0.6 (-1.9 to 1.2)	-36 (-111 to 71)	79.7	-1.6 (-4.2 to 0.4)	-924 (-2 381 to 212)	95.6
Male	-2.8 (-6.3 to 1.4)	-159 (-347 to 81)	93.3	-0.3 (-3.1 to 1.6)	-164 (-1 504 to 790)	63.5
25-49 years	0.5 (-5.2 to 7.3)	11 (-114 to 177)	58.4	1.6 (-5.7 to 9.6)	414 (-1 380 to 2 688)	69.0
50-74 years	1.3 (-3.1 to 5.4)	205 (-468 to 880)	76.4	-0.1 (-3.6 to 3.1)	-152 (-5 581 to 5 190)	53.0
75+ years	0.7 (-9.0 to 6.8)	341 (-4 183 to 3 806)	55.6	-1.9 (-4.2 to 1.4)	-7 580 (-16 711 to 6 163)	87.8
<b>Optimal pattern</b>						
<b>Rheumatic heart disease</b>						
Total	0.9 (-12.6 to 13.9)	2 (-25 to 35)	55.5	1.7 (-9.8 to 13.4)	59 (-313 to 539)	59.1
Female	1.6 (-13.0 to 17.5)	4 (-26 to 47)	58.5	0.9 (-11.8 to 14.2)	34 (-405 to 643)	55.1
Male	1.1 (-11.5 to 13.6)	2 (-22 to 33)	57.4	1.4 (-10.3 to 12.3)	45 (-301 to 453)	58.7
25-49 years	0.3 (-16.3 to 18.7)	1 (-23 to 38)	51.1	3.9 (-4.6 to 12.8)	193 (-216 to 714)	78.8
50-74 years	10.3 (-14.0 to 30.9)	6 (-6 to 23)	78.8	5.7 (-1.0 to 10.5)	217 (-32 to 415)	95.9
75+ years	-14.9 (-69.9 to 26.1)	-9 (-27 to 23)	76.9	5.2 (-0.9 to 9.5)	135 (-21 to 258)	95.7
<b>Ischemic heart disease</b>						
Total	5.9 (-4.5 to 14.5)	113 (-82 to 308)	89.0	-0.0 (-5.6 to 3.7)	-7 (-1 093 to 802)	50.6
Female	6.9 (-4.3 to 15.0)	111 (-61 to 266)	91.8	-0.8 (-5.5 to 3.0)	-150 (-1 019 to 618)	69.1
Male	5.5 (-9.8 to 15.8)	129 (-196 to 413)	81.0	-0.9 (-6.1 to 4.6)	-196 (-1 312 to 1 075)	62.8
25-49 years	2.0 (-6.2 to 10.8)	12 (-33 to 69)	73.4	3.9 (-8.7 to 15.0)	319 (-614 to 1 388)	80.2
50-74 years	5.0 (0.5 to 8.1)	190 (20 to 316)	98.4	-1.0 (-4.3 to 2.3)	-587 (-2 412 to 1 350)	75.6
75+ years	7.4 (-11.8 to 22.2)	1 744 (-2 269 to 6 240)	82.1	0.4 (-6.1 to 5.8)	801 (-11 181 to 11 725)	57.4
<b>Non-rheumatic valvular heart disease</b>						
Total	12.3 (-12.3 to 26.3)	18 (-14 to 45)	84.4	8.2 (-12.0 to 20.6)	192 (-235 to 564)	80.5
Female	14.0 (-13.1 to 26.8)	24 (-17 to 53)	87.2	9.3 (-12.4 to 20.9)	251 (-271 to 648)	83.8
Male	7.4 (-16.3 to 24.3)	9 (-15 to 35)	75.0	4.8 (-15.4 to 19.2)	91 (-244 to 443)	69.8
25-49 years	-8.5 (-24.3 to 0.7)	-7 (-18 to 1)	96.7	-17.2 (-35.4 to 0.0)	-113 (-201 to 2)	97.4

50-74 years	26.4 (-9.0 to 43.0)	183 (-44 to 388)	93.9	10.3 (-9.6 to 22.1)	842 (-637 to 2 058)	89.9
75+ years	9.4 (-13.1 to 23.8)	13 (-14 to 38)	81.2	19.1 (-11.8 to 33.4)	3 593 (-1 619 to 7 740)	90.1
<b>Suboptimal pattern</b>						
<b>Intracerebral hemorrhage</b>						
Total	-14.0 (-53.7 to 21.9)	-57 (-162 to 130)	76.9	0.7 (-23.7 to 24.2)	13 (-375 to 635)	52.6
Female	-12.1 (-57.0 to 28.1)	-38 (-127 to 138)	71.9	0.5 (-32.2 to 32.2)	6 (-375 to 734)	51.2
Male	-16.2 (-46.9 to 17.7)	-83 (-190 to 126)	84.5	-0.7 (-19.5 to 19.0)	-16 (-386 to 555)	54.3
25-49 years	-1.5 (-15.9 to 13.0)	-4 (-31 to 35)	59.3	4.9 (-5.7 to 14.4)	86 (-89 to 276)	81.5
50-74 years	-2.3 (-35.3 to 22.7)	-24 (-286 to 318)	58.1	0.4 (-31.6 to 27.4)	32 (-1 558 to 2 482)	51.7
75+ years	-21.9 (-61.7 to 19.9)	-830 (-1 755 to 1 126)	85.7	18.0 (-4.1 to 36.5)	1 111 (-205 to 2 921)	95.6
<b>Ischemic stroke</b>						
Total	-1.0 (-10.9 to 8.7)	-13 (-122 to 117)	57.5	-5.3 (-12.7 to 2.6)	-541 (-1 209 to 283)	91.1
Female	3.2 (-12.9 to 13.9)	43 (-148 to 209)	69.4	-5.5 (-13.0 to 1.5)	-634 (-1 438 to 172)	93.9
Male	-7.1 (-15.6 to 1.9)	-80 (-162 to 22)	94.4	-5.2 (-16.4 to 4.9)	-441 (-1 268 to 470)	84.9
25-49 years	-7.8 (-21.9 to 4.9)	-20 (-49 to 14)	91.6	0.4 (-8.4 to 8.6)	17 (-280 to 339)	55.0
50-74 years	4.7 (-8.1 to 14.2)	188 (-290 to 630)	83.3	-5.9 (-13.2 to 3.3)	-1 621 (-3 369 to 973)	89.7
75+ years	0.9 (-13.0 to 15.2)	108 (-1 303 to 1 957)	54.8	-4.3 (-19.9 to 10.4)	-4 183 (-17 084 to 11 981)	71.9
<b>Cardiomyopathy and myocarditis</b>						
Total	-4.4 (-8.0 to 1.0)	-6 (-11 to 2)	93.4	-2.2 (-17.6 to 10.5)	-2 (-12 to 10)	63.5
Female	-5.4 (-9.7 to 1.5)	-6 (-11 to 2)	92.5	-9.0 (-19.9 to 7.9)	-6 (-11 to 6)	84.7
Male	-3.8 (-6.6 to 0.8)	-7 (-11 to 1)	94.4	1.5 (-10.6 to 12.8)	2 (-10 to 15)	60.0
25-49 years	-5.0 (-9.1 to 1.2)	-5 (-9 to 1)	91.7	24.5 (-41.9 to 56.6)	0 (-0 to 1)	84.1
50-74 years	-1.7 (-5.9 to 2.4)	-4 (-14 to 6)	82.6	-0.6 (-8.8 to 6.6)	-1 (-14 to 12)	57.0
75+ years	0.4 (-2.1 to 2.7)	3 (-15 to 21)	60.9	-3.3 (-27.2 to 12.9)	-36 (-242 to 168)	64.8
<b>Aortic aneurysm</b>						
Total	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Female	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Male	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
25-49 years	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
50-74 years	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
75+ years	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
<b>Poor pattern</b>						
<b>Subarachnoid hemorrhage</b>						
Total	-10.8 (-57.4 to 34.6)	-10 (-37 to 54)	67.6	-7.7 (-24.6 to 7.2)	-51 (-142 to 54)	87.1
Female	-8.3 (-47.6 to 38.5)	-8 (-34 to 67)	61.8	-7.1 (-26.8 to 9.8)	-50 (-160 to 83)	82.7
Male	-14.1 (-60.0 to 34.9)	-12 (-37 to 52)	72.6	-8.5 (-23.6 to 7.5)	-52 (-129 to 53)	90.4
25-49 years	-13.6 (-51.2 to 24.2)	-7 (-21 to 20)	77.0	-7.0 (-19.8 to 8.2)	-44 (-111 to 59)	85.1
50-74 years	7.1 (-51.9 to 44.6)	20 (-92 to 218)	59.4	-7.8 (-27.6 to 8.6)	-145 (-425 to 187)	86.1

75+ years	-13.0 (-68.8 to 35.2)	-78 (-277 to 362)	71.6	-6.6 (-23.9 to 7.2)	-152 (-472 to 188)	84.9
<b>Hypertensive heart disease</b>						
Total	N.A.	N.A.	N.A.	0.3 (-9.6 to 8.8)	8 (-334 to 367)	51.9
Female	N.A.	N.A.	N.A.	-2.3 (-9.6 to 5.4)	-87 (-329 to 213)	71.1
Male	N.A.	N.A.	N.A.	2.5 (-8.1 to 13.3)	95 (-279 to 572)	67.5
25-49 years	N.A.	N.A.	N.A.	7.3 (-17.4 to 27.1)	50 (-94 to 239)	77.4
50-74 years	N.A.	N.A.	N.A.	1.4 (-3.2 to 5.4)	124 (-271 to 504)	76.8
75+ years				-1.2 (-19.1 to 12.6)	-530 (-7 464 to 6 666)	56.8
<b>Atrial fibrillation and flutter</b>						
Total	-3.0 (-8.1 to 2.3)	-15 (-38 to 12)	86.0	-2.1 (-8.0 to 3.4)	-129 (-482 to 226)	76.0
Female	-4.0 (-10.6 to 3.6)	-21 (-53 to 21)	86.6	-3.7 (-10.3 to 4.2)	-244 (-648 to 305)	84.2
Male	-1.6 (-5.8 to 2.1)	-7 (-26 to 10)	81.1	-0.4 (-5.2 to 3.7)	-23 (-298 to 232)	58.5
25-49 years	7.3 (-10.1 to 24.4)	13 (-15 to 53)	76.8	6.2 (-14.0 to 24.6)	59 (-109 to 296)	69.7
50-74 years	-0.1 (-10.1 to 7.5)	-1 (-152 to 136)	51.3	1.3 (-7.5 to 8.3)	228 (-1 193 to 1 536)	63.2
75+ years	-5.6 (-10.1 to -0.3)	-219 (-378 to -14)	98.0	-4.9 (-10.3 to 0.8)	-3 561 (-7 023 to 676)	95.0
<b>Peripheral artery disease</b>						
Total	-2.4 (-7.3 to 3.1)	-27 (-78 to 36)	81.8	-2.6 (-8.9 to 3.7)	-319 (-1 047 to 494)	78.5
Female	-2.7 (-8.8 to 4.2)	-41 (-129 to 70)	79.7	-2.8 (-10.3 to 5.1)	-488 (-1 701 to 987)	76.0
Male	-0.1 (-5.2 to 5.3)	-1 (-32 to 37)	52.1	0.9 (-4.5 to 6.1)	60 (-292 to 448)	63.1
25-49 years	6.5 (-10.0 to 26.1)	38 (-48 to 193)	81.8	4.2 (-13.7 to 25.5)	144 (-408 to 1 134)	71.3
50-74 years	-1.9 (-6.1 to 2.0)	-72 (-229 to 79)	83.9	-0.9 (-6.0 to 3.5)	-360 (-2 322 to 1 477)	66.1
75+ years	-2.0 (-5.8 to 2.2)	-136 (-375 to 157)	84.0	-4.0 (-9.6 to 1.7)	-4 403 (-9 907 to 1 926)	91.1
<b>Endocarditis</b>						
Total	-9.5 (-14.2 to -5.1)	-11 (-16 to -6)	100.0	-3.0 (-6.0 to -0.7)	-1 (-1 to -0)	99.3
Female	-10.5 (-18.9 to -2.2)	-10 (-17 to -2)	99.1	-4.4 (-5.3 to -3.3)	-1 (-1 to -1)	100.0
Male	-9.0 (-15.1 to -4.5)	-12 (-19 to -6)	100.0	-1.9 (-8.5 to 2.6)	-1 (-2 to 1)	79.3
25-49 years	-12.2 (-25.7 to -1.0)	-8 (-15 to -1)	98.1	-10.7 (-19.6 to -1.5)	-1 (-1 to -0)	99.0
50-74 years	5.1 (-31.7 to 31.3)	14 (-62 to 118)	62.4	-0.1 (-12.4 to 11.3)	-0 (-6 to 7)	51.2
75+ years	15.7 (-41.2 to 52.0)	149 (-235 to 890)	72.7	4.2 (-8.1 to 12.2)	10 (-17 to 31)	81.4
<b>Other CVD and circulatory disease</b>						
Total	N.A.	N.A.	N.A.	2.8 (-32.9 to 27.0)	56 (-486 to 723)	57.1
Female	N.A.	N.A.	N.A.	-2.0 (-41.5 to 28.3)	-35 (-589 to 790)	54.3
Male	N.A.	N.A.	N.A.	6.9 (-19.7 to 23.2)	141 (-313 to 580)	75.5
25-49 years	N.A.	N.A.	N.A.	10.6 (-65.5 to 49.4)	262 (-880 to 2 167)	64.0
50-74 years	N.A.	N.A.	N.A.	5.2 (-13.1 to 18.7)	217 (-454 to 903)	77.9
75+ years				6.9 (-2.1 to 13.4)	307 (-86 to 639)	94.7
<b>Negative control outcome</b>						
Total	-0.7 (-13.3 to 9.8)	-0 (-6 to 5)	55.4	-0.8 (-36.3 to 33.3)	-1 (-46 to 88)	52.2

Female	0.2 (-21.2 to 15.6)	0 (-8 to 9)	51.3	0.0 (-58.1 to 40.8)	-0 (-79 to 149)	51.2
Male	-0.2 (-6.8 to 6.6)	-0 (-3 to 3)	52.2	-0.4 (-32.5 to 25.2)	-0 (-34 to 46)	51.0
25-49 years	-0.6 (-22.3 to 20.6)	-0 (-7 to 10)	52.9	2.7 (-49.5 to 49.6)	6 (-63 to 188)	53.2
50-74 years	-2.9 (-11.2 to 4.6)	-3 (-9 to 4)	75.8	0.0 (-28.9 to 22.2)	-0 (-38 to 50)	50.2
75+ years	3.1 (-17.0 to 20.3)	6 (-25 to 46)	66.6	-1.9 (-38.8 to 32.7)	-4 (-50 to 89)	55.1

**Note:**

\* Sex-specific impact estimates were derived based on age-standardized mortality and DALY rates per 100 000 population in China, whilst age group-specific impact estimates were derived based on the age-specific mortality and DAYL rates. Moreover, a positive value represents a protective impact of the 2011 CSC Guideline on the burden of CVD and negative control outcome, and a negative value represents a harmful impact. The **bold values** highlighted the estimated effect with a Bayesian posterior probability being greater or equal to 90%.

† Cumulative rate was prevented by the 2011 CSC Guideline during the evaluation period (instead of the postintroduction period).

‡ PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

**Supplementary table 5.** Impact estimates of the 2011 CSC Guideline on changes in mortality and disability-adjusted life-years (DALY) rates of cardiovascular diseases and 13 subcategories as well as the negative control outcome of brain and central nervous system cancer in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using the Global Burden of Disease Study 2019 \*

Subcategory / Subgroup	Mortality, rate per 100 000 (95% UIs)			DALY, rate per 100 000 (95% UIs)		
	Relative rate reduction (%)	Cumulative rate prevented †	PP ‡	Relative rate reduction (%)	Cumulative rate prevented †	PP ‡
<b>All CVD</b>						
Total	5.7 (-6.0 to 18.3)	161 (-152 to 602)	83.8	2.9 (-11.0 to 13.7)	1 429 (-4 707 to 7 621)	70.9
Female	4.5 (-12.7 to 22.2)	100 (-239 to 608)	72.5	3.7 (-17.1 to 19.6)	1 431 (-5 423 to 8 962)	67.4
Male	9.7 (0.2 to 15.6)	384 (10 to 663)	97.9	3.1 (-5.3 to 14.7)	1 965 (-3 053 to 10 531)	81.2
25-49 years	16.0 (-6.6 to 31.8)	63 (-21 to 156)	94.0	12.0 (-14.9 to 29.0)	2 376 (-2 270 to 7 093)	87.1
50-74 years	0.9 (-24.2 to 17.4)	38 (-773 to 825)	53.9	0.5 (-22.4 to 16.4)	243 (-10 866 to 11 670)	51.5
75+ years	4.3 (-4.3 to 12.9)	1 834 (-1 735 to 6 148)	84.0	6.2 (-4.7 to 16.5)	22 864 (-15 469 to 68 622)	88.2
<b>Optimal pattern</b>						
<b>Rheumatic heart disease</b>						
Total	8.5 (-52.2 to 37.1)	4 (-15 to 26)	67.9	8.0 (-49.6 to 39.2)	86 (-333 to 665)	65.9
Female	10.5 (-60.9 to 54.9)	5 (-17 to 55)	66.7	8.5 (-64.5 to 49.3)	98 (-419 to 1 033)	62.9
Male	5.1 (-34.6 to 32.6)	3 (-12 to 22)	65.9	5.5 (-40.5 to 36.0)	57 (-280 to 551)	64.9
25-49 years	13.3 (-49.8 to 51.6)	1 (-3 to 9)	71.0	5.8 (-50.4 to 42.7)	42 (-222 to 483)	60.8
50-74 years	10.4 (-53.6 to 40.1)	9 (-28 to 54)	67.9	9.5 (-55.5 to 41.1)	121 (-428 to 833)	66.7
75+ years	3.3 (-43.3 to 29.8)	21 (-184 to 261)	57.7	5.6 (-44.8 to 34.7)	303 (-1 531 to 2 592)	64.2
<b>Ischemic heart disease</b>						
Total	5.7 (-19.4 to 25.3)	67 (-182 to 374)	70.0	2.2 (-14.2 to 18.5)	403 (-2 224 to 4 154)	61.3
Female	4.9 (-24.7 to 28.0)	46 (-175 to 344)	65.0	1.1 (-18.2 to 18.8)	157 (-2 037 to 3 060)	55.0
Male	7.4 (-18.6 to 24.8)	119 (-231 to 485)	77.1	3.9 (-15.9 to 18.2)	971 (-3 246 to 5 342)	69.8
25-49 years	15.1 (-4.4 to 26.6)	26 (-6 to 53)	93.7	13.6 (-4.0 to 24.3)	1 133 (-280 to 2 315)	94.1
50-74 years	-3.4 (-19.2 to 10.3)	-50 (-239 to 172)	69.2	-4.1 (-18.1 to 9.6)	-829 (-3 266 to 2 272)	73.8
75+ years	5.6 (-32.8 to 31.2)	1 026 (-4 234 to 7 633)	64.9	6.2 (-26.4 to 29.9)	8 779 (-27 417 to 56 916)	68.1
<b>Non-rheumatic valvular heart disease</b>						
Total	7.0 (-14.7 to 21.6)	0 (-0 to 1)	74.6	2.8 (-11.8 to 14.4)	2 (-9 to 14)	68.0
Female	6.9 (-23.7 to 30.2)	0 (-0 to 1)	67.9	2.0 (-19.4 to 19.2)	1 (-12 to 17)	58.8
Male	7.9 (-5.6 to 18.4)	0 (-0 to 1)	89.1	3.8 (-6.1 to 12.6)	4 (-5 to 13)	80.4
25-49 years	1.4 (-18.5 to 21.8)	0 (-0 to 0)	56.4	0.4 (-20.5 to 22.6)	0 (-8 to 13)	51.4
50-74 years	0.7 (-23.9 to 17.0)	0 (-1 to 1)	52.2	-0.3 (-17.6 to 12.8)	-0 (-16 to 16)	53.1
75+ years	8.2 (-9.2 to 21.1)	3 (-3 to 9)	84.4	7.3 (-0.6 to 15.0)	38 (-2 to 84)	96.9
<b>Suboptimal pattern</b>						
<b>Intracerebral hemorrhage</b>						
Total	15.0 (-7.7 to 29.0)	112 (-46 to 260)	92.4	11.6 (-11.8 to 28.1)	1 562 (-1 239 to 4 654)	83.3

Female	12.0 (-17.5 to 33.9)	65 (-70 to 248)	79.8	8.5 (-23.0 to 35.8)	783 (-1 569 to 4 819)	69.6
Male	18.2 (0.9 to 28.2)	189 (7 to 334)	98.1	14.7 (-2.9 to 26.7)	2 722 (-472 to 5 730)	95.5
25-49 years	22.9 (3.1 to 33.7)	34 (4 to 57)	98.8	22.0 (5.9 to 31.8)	1 559 (349 to 2 587)	99.3
50-74 years	6.5 (-23.8 to 28.8)	84 (-237 to 486)	64.5	4.6 (-24.3 to 26.8)	822 (-3 310 to 6 149)	60.6
75+ years	16.8 (-3.9 to 28.6)	1 762 (-347 to 3 513)	95.3	18.4 (-4.0 to 31.5)	15 861 (-2 608 to 32 470)	95.1
<b>Ischemic stroke</b>						
Total	6.0 (-5.8 to 16.6)	37 (-32 to 115)	86.0	1.7 (-7.1 to 10.1)	183 (-704 to 1 176)	67.7
Female	7.0 (-8.2 to 17.9)	34 (-35 to 98)	84.9	2.0 (-11.6 to 12.5)	184 (-913 to 1 265)	62.8
Male	4.1 (-8.2 to 16.4)	34 (-61 to 156)	75.9	4.6 (-7.2 to 12.4)	625 (-873 to 1 800)	79.4
25-49 years	13.7 (-14.2 to 28.1)	4 (-3 to 10)	85.3	8.3 (-9.2 to 19.1)	161 (-148 to 420)	84.4
50-74 years	1.8 (-16.3 to 15.2)	14 (-107 to 137)	64.4	-0.8 (-16.0 to 11.0)	-96 (-1 748 to 1 561)	57.1
75+ years	3.0 (-19.2 to 19.6)	307 (-1 601 to 2 428)	63.8	3.1 (-14.2 to 18.1)	2 965 (-11 682 to 20 549)	64.2
<b>Cardiomyopathy and myocarditis</b>						
Total	7.4 (-7.2 to 22.2)	1 (-1 to 5)	85.2	11.2 (6.4 to 16.0)	63 (34 to 96)	99.9
Female	6.2 (-8.4 to 21.6)	1 (-1 to 4)	82.0	12.8 (0.9 to 21.8)	57 (4 to 107)	98.1
Male	11.5 (-9.1 to 23.1)	3 (-2 to 7)	88.4	10.1 (6.7 to 13.1)	71 (45 to 95)	100.0
25-49 years	7.8 (0.7 to 14.4)	0 (0 to 1)	98.2	5.8 (-1.7 to 13.2)	18 (-5 to 44)	94.8
50-74 years	2.6 (-7.9 to 12.3)	1 (-2 to 3)	71.3	1.7 (-7.9 to 11.9)	6 (-25 to 45)	65.2
75+ years	8.3 (-44.1 to 43.4)	17 (-58 to 148)	64.8	5.1 (-36.8 to 37.5)	78 (-395 to 881)	60.8
<b>Aortic aneurysm</b>						
Total	2.4 (-1.7 to 8.2)	0 (-0 to 1)	89.2	3.5 (-1.7 to 8.2)	6 (-3 to 16)	91.2
Female	0.7 (-8.6 to 11.4)	0 (-0 to 1)	57.1	1.7 (-7.1 to 12.9)	2 (-6 to 13)	69.6
Male	4.6 (-0.9 to 9.9)	1 (-0 to 1)	95.4	3.3 (-2.1 to 9.2)	9 (-6 to 28)	86.8
25-49 years	17.5 (-3.5 to 31.2)	1 (-0 to 1)	95.4	16.4 (-2.8 to 28.8)	25 (-4 to 52)	95.3
50-74 years	0.9 (-6.6 to 9.0)	0 (-1 to 2)	63.9	1.6 (-4.7 to 7.8)	4 (-11 to 20)	75.4
75+ years	3.2 (-2.6 to 7.1)	3 (-3 to 8)	84.4	5.5 (-0.5 to 10.7)	48 (-4 to 101)	96.0
<b>Poor pattern</b>						
<b>Subarachnoid hemorrhage</b>						
Total	-42.5 (-262.9 to 71.3)	-15 (-35 to 121)	75.0	-36.2 (-236.0 to 69.3)	-311 (-827 to 2 611)	73.9
Female	-45.7 (-293.3 to 70.9)	-12 (-29 to 95)	74.7	-40.2 (-230.6 to 67.3)	-274 (-668 to 2 002)	73.9
Male	-31.6 (-208.8 to 70.8)	-15 (-43 to 154)	69.7	-28.4 (-181.9 to 66.2)	-313 (-920 to 2 791)	69.5
25-49 years	-20.7 (-159.4 to 61.6)	-2 (-9 to 23)	66.7	-20.3 (-124.6 to 54.2)	-138 (-444 to 948)	67.8
50-74 years	-44.7 (-282.4 to 68.6)	-32 (-76 to 216)	75.7	-39.1 (-251.5 to 65.3)	-453 (-1 168 to 3 158)	75.2
75+ years	-44.0 (-313.9 to 75.3)	-179 (-443 to 1 794)	73.3	-43.4 (-290.0 to 70.9)	-1 539 (-3 795 to 12 452)	73.7
<b>Hypertensive heart disease</b>						
Total	-10.0 (-93.1 to 45.8)	-18 (-94 to 168)	63.1	-15.3 (-86.1 to 44.2)	-384 (-1 375 to 2 403)	67.5
Female	-11.8 (-98.0 to 45.9)	-18 (-83 to 143)	64.2	-18.3 (-92.4 to 46.8)	-395 (-1 202 to 2 218)	70.5
Male	-0.6 (-79.3 to 51.3)	-2 (-109 to 264)	51.8	-9.2 (-85.3 to 47.8)	-306 (-1 660 to 3 395)	61.7

25-49 years	4.6 (-69.8 to 52.1)	1 (-5 to 13)	54.4	3.2 (-64.0 to 50.1)	19 (-232 to 591)	52.6
50-74 years	-26.1 (-112.2 to 49.3)	-44 (-114 to 213)	72.2	-24.0 (-92.9 to 46.0)	-602 (-1 543 to 2 678)	72.8
75+ years	-9.2 (-91.7 to 43.3)	-274 (-1 585 to 2 475)	62.0	-7.9 (-82.9 to 45.6)	-1 974 (-12 216 to 22 534)	60.0
<b>Atrial fibrillation and flutter</b>						
Total	0.0 (-6.9 to 8.1)	0 (-2 to 3)	50.4	-1.2 (-6.1 to 3.7)	-10 (-50 to 33)	67.8
Female	-1.5 (-10.2 to 7.6)	-1 (-3 to 3)	68.5	-3.3 (-8.4 to 4.4)	-29 (-71 to 43)	82.7
Male	3.3 (-4.6 to 9.9)	1 (-2 to 4)	85.6	2.2 (-2.3 to 5.9)	19 (-19 to 51)	86.4
25-49 years	13.8 (-3.6 to 24.1)	0 (-0 to 0)	93.2	9.3 (-9.1 to 24.1)	10 (-8 to 29)	82.0
50-74 years	0.2 (-11.8 to 11.0)	0 (-2 to 2)	51.0	0.6 (-9.4 to 8.7)	5 (-83 to 92)	55.3
75+ years	-2.6 (-9.8 to 2.4)	-15 (-53 to 15)	79.2	-1.7 (-6.8 to 3.0)	-128 (-497 to 236)	75.6
<b>Peripheral artery disease</b>						
Total	6.3 (-5.6 to 15.4)	0 (-0 to 0)	88.7	-1.9 (-7.1 to 3.9)	-2 (-5 to 3)	73.3
Female	0.4 (-9.5 to 9.6)	0 (-0 to 0)	53.3	-3.5 (-11.7 to 5.4)	-3 (-11 to 6)	81.3
Male	13.9 (-6.2 to 26.6)	0 (-0 to 1)	94.3	5.3 (1.2 to 8.4)	3 (1 to 5)	99.0
25-49 years	19.3 (-2.4 to 33.2)	0 (-0 to 0)	96.5	19.0 (0.1 to 33.0)	1 (0 to 2)	97.5
50-74 years	8.5 (-1.4 to 17.1)	0 (-0 to 0)	95.8	-1.9 (-13.1 to 9.8)	-2 (-12 to 12)	64.6
75+ years	4.3 (-10.5 to 16.8)	1 (-2 to 4)	73.6	-1.4 (-6.8 to 4.6)	-10 (-45 to 33)	68.8
<b>Endocarditis</b>						
Total	-4.4 (-71.6 to 44.0)	-0 (-1 to 2)	57.6	-8.4 (-106.8 to 58.1)	-5 (-33 to 91)	60.8
Female	-8.0 (-77.5 to 49.2)	-0 (-1 to 2)	62.4	-7.6 (-122.8 to 58.3)	-3 (-25 to 63)	59.7
Male	2.0 (-59.5 to 43.8)	0 (-1 to 2)	52.4	-4.4 (-89.0 to 57.7)	-3 (-40 to 116)	56.0
25-49 years	7.9 (-71.6 to 50.7)	0 (-0 to 1)	60.3	5.3 (-76.3 to 50.3)	3 (-20 to 47)	56.5
50-74 years	-4.7 (-37.0 to 25.9)	-0 (-1 to 1)	63.9	-5.7 (-34.4 to 22.9)	-3 (-16 to 18)	67.2
75+ years	1.0 (-42.6 to 33.8)	0 (-7 to 11)	51.2	0.9 (-41.4 to 32.7)	2 (-56 to 93)	51.4
<b>Other CVD and circulatory disease</b>						
Total	-3.1 (-20.7 to 16.7)	-0 (-2 to 3)	66.7	0.0 (-16.6 to 20.0)	0 (-60 to 102)	50.9
Female	-3.4 (-25.6 to 21.3)	-0 (-3 to 3)	66.5	-0.9 (-24.7 to 23.8)	-3 (-76 to 119)	54.7
Male	-3.1 (-17.9 to 16.8)	-1 (-2 to 3)	66.1	1.1 (-13.2 to 20.6)	5 (-53 to 115)	56.0
25-49 years	1.5 (-28.3 to 29.4)	0 (-1 to 1)	54.6	5.3 (-1.1 to 11.6)	14 (-3 to 34)	94.8
50-74 years	-4.4 (-28.9 to 13.2)	-1 (-5 to 3)	75.0	-2.6 (-18.6 to 11.5)	-10 (-62 to 51)	70.1
75+ years	-6.6 (-18.0 to 10.7)	-11 (-28 to 22)	79.1	-3.7 (-15.8 to 13.2)	-56 (-216 to 239)	69.4
<b>Negative control outcome</b>						
Total	2.3 (-5.4 to 9.7)	1 (-2 to 3)	76.4	0.6 (-16.0 to 17.7)	6 (-158 to 247)	53.2
Female	1.4 (-9.6 to 13.3)	0 (-2 to 4)	61.8	-1.0 (-24.0 to 22.9)	-10 (-192 to 292)	54.8
Male	2.7 (-2.6 to 8.1)	1 (-1 to 3)	86.2	0.3 (-11.2 to 13.5)	4 (-129 to 204)	52.2
25-49 years	9.3 (-3.1 to 17.1)	2 (-1 to 4)	94.3	8.4 (-3.8 to 16.6)	87 (-36 to 187)	93.1
50-74 years	-1.8 (-9.8 to 5.5)	-1 (-7 to 4)	67.6	-3.6 (-11.4 to 3.7)	-38 (-113 to 43)	84.4
75+ years	4.6 (-11.9 to 15.3)	9 (-20 to 33)	76.0	7.3 (-8.5 to 17.4)	125 (-121 to 339)	85.9



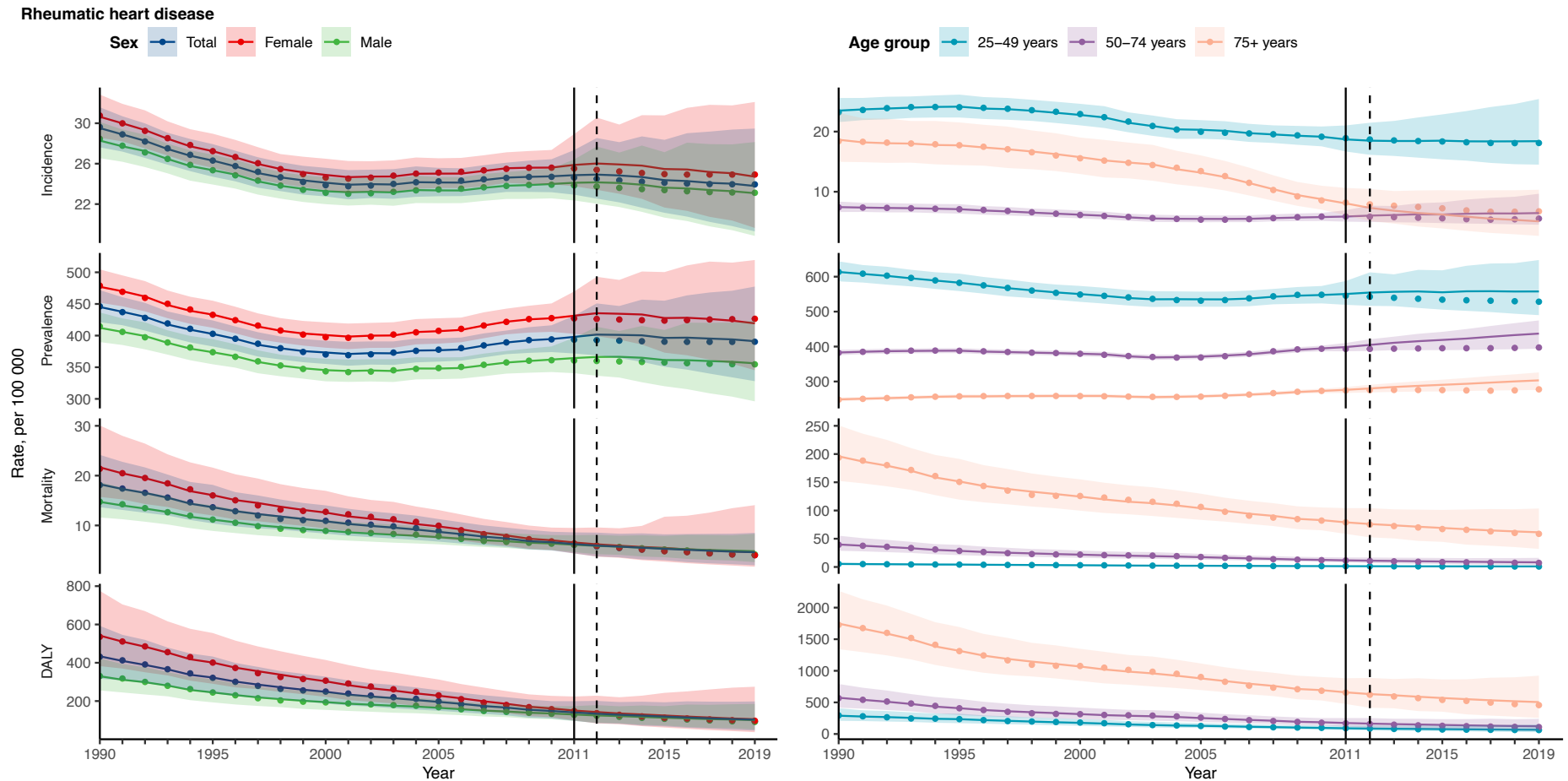
**Note:**

\* Sex-specific impact estimates were derived based on age-standardized mortality and DALY rates per 100 000 population in China, whilst age group-specific impact estimates were derived based on the age-specific mortality and DAYL rates. Moreover, a positive value represents a protective impact of the 2011 CSC Guideline on the burden of CVD and negative control outcome, and a negative value represents a harmful impact.

† Cumulative rate was prevented by the 2011 CSC Guideline during the evaluation period (instead of the post-introduction period).

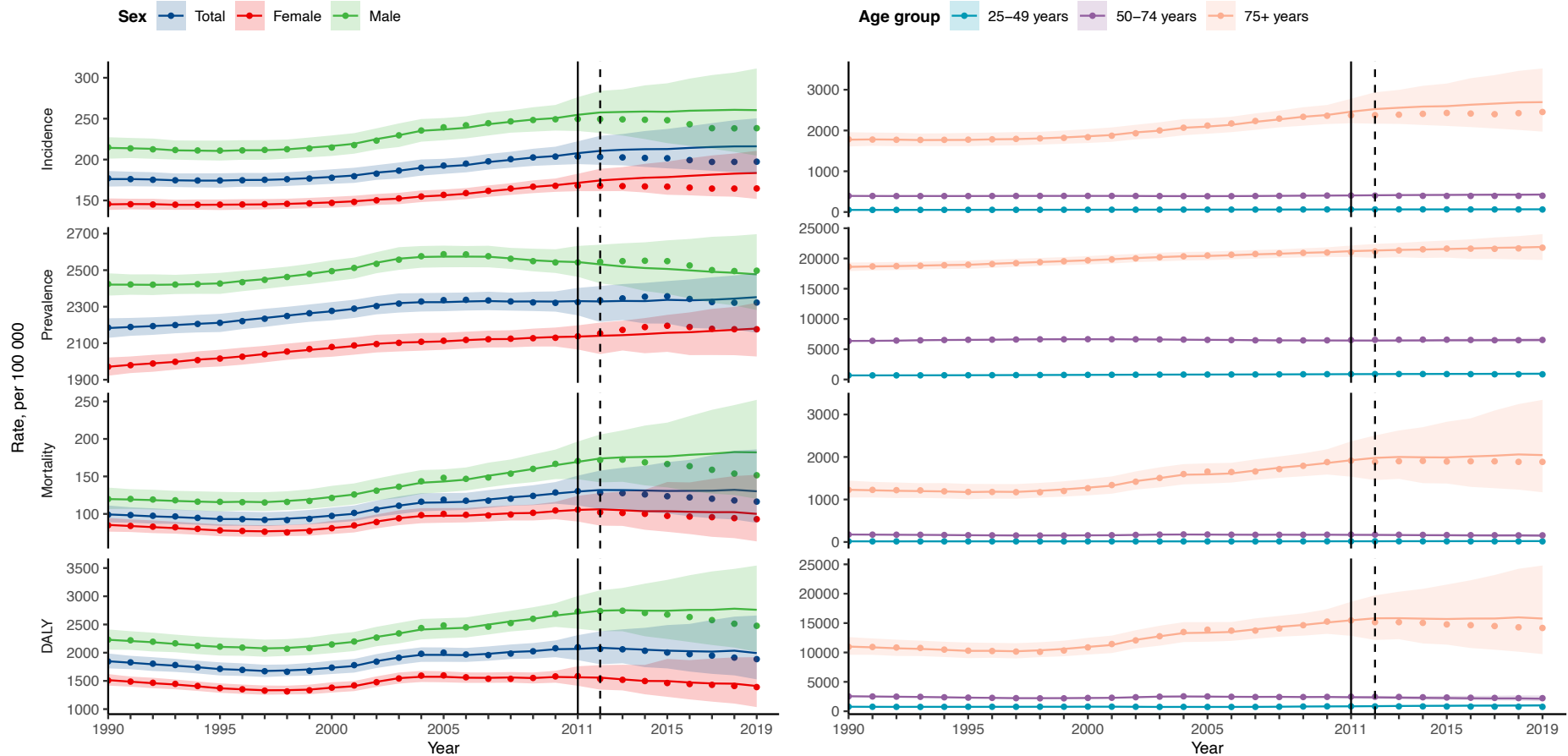
‡ PP: Bayesian posterior probability that the 2011 CSC Guideline had any (either increased or decreased) impact on the CVD burden during the post-introduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

## 2.3 Estimates of the annual cause-specific burden of CVD subcategories and negative control outcome

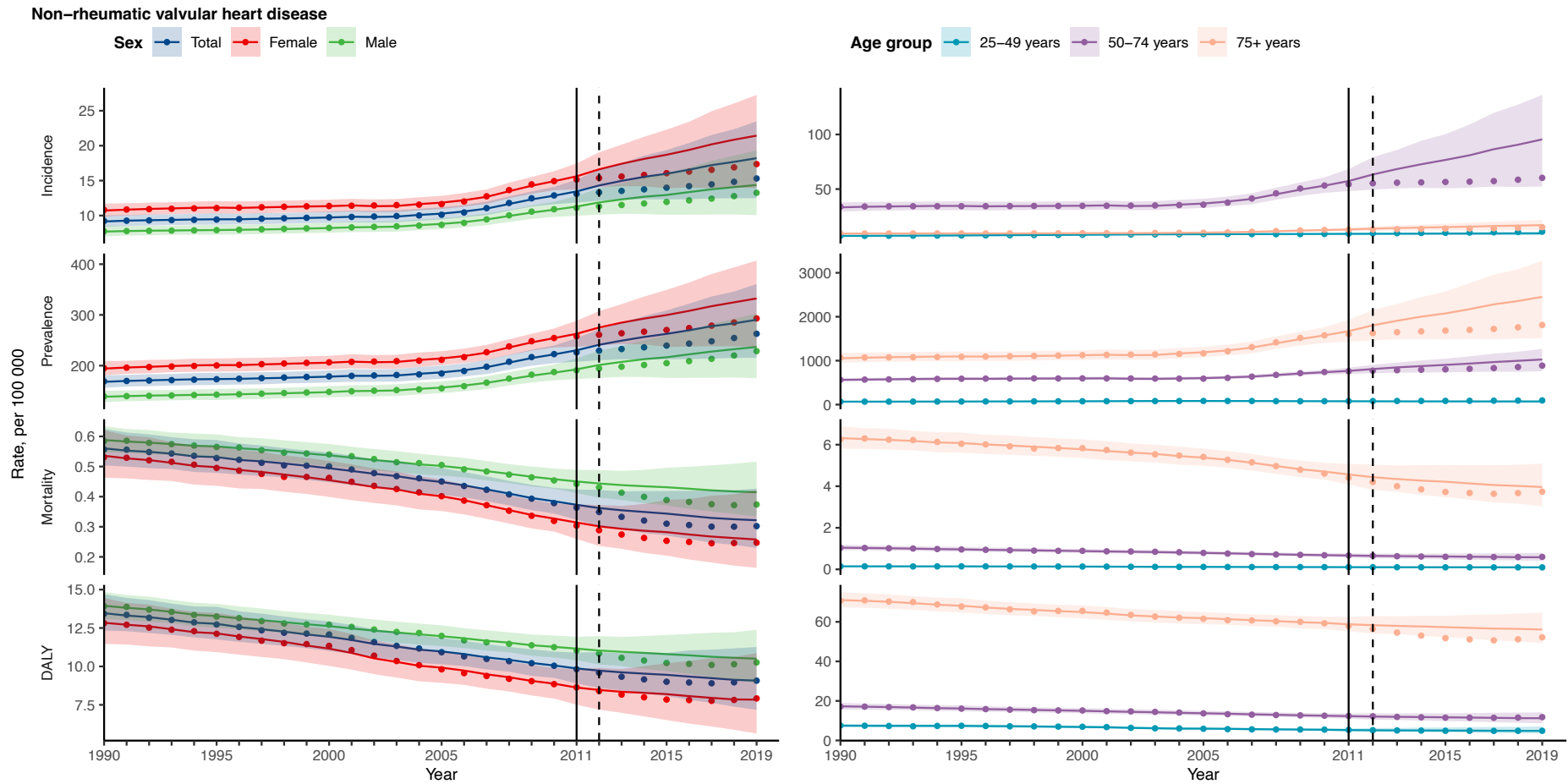


**Supplementary figure 1.** Estimates of annual rheumatic heart disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China before and after the introduction of the 2011 CSC Guideline by sex (left panel) and age groups (right panel) with the composite synthetic controls. The dots represent the observed estimates of rheumatic heart disease burden from 1990 to 2019. The solid horizontal lines and the shaped areas respectively represent the counterfactual estimates of rheumatic heart disease burden and the 95% uncertainty intervals in the absence of the 2011 CSC Guideline on the basis of 1 000 Markov chain Monte Carlo samples. The solid vertical lines indicate the introduction of the 2011 CSC Guideline and the dashed vertical lines indicate the beginning of the evaluation period (i.e., one-year delayed or gradual impact).

### Ischemic heart disease

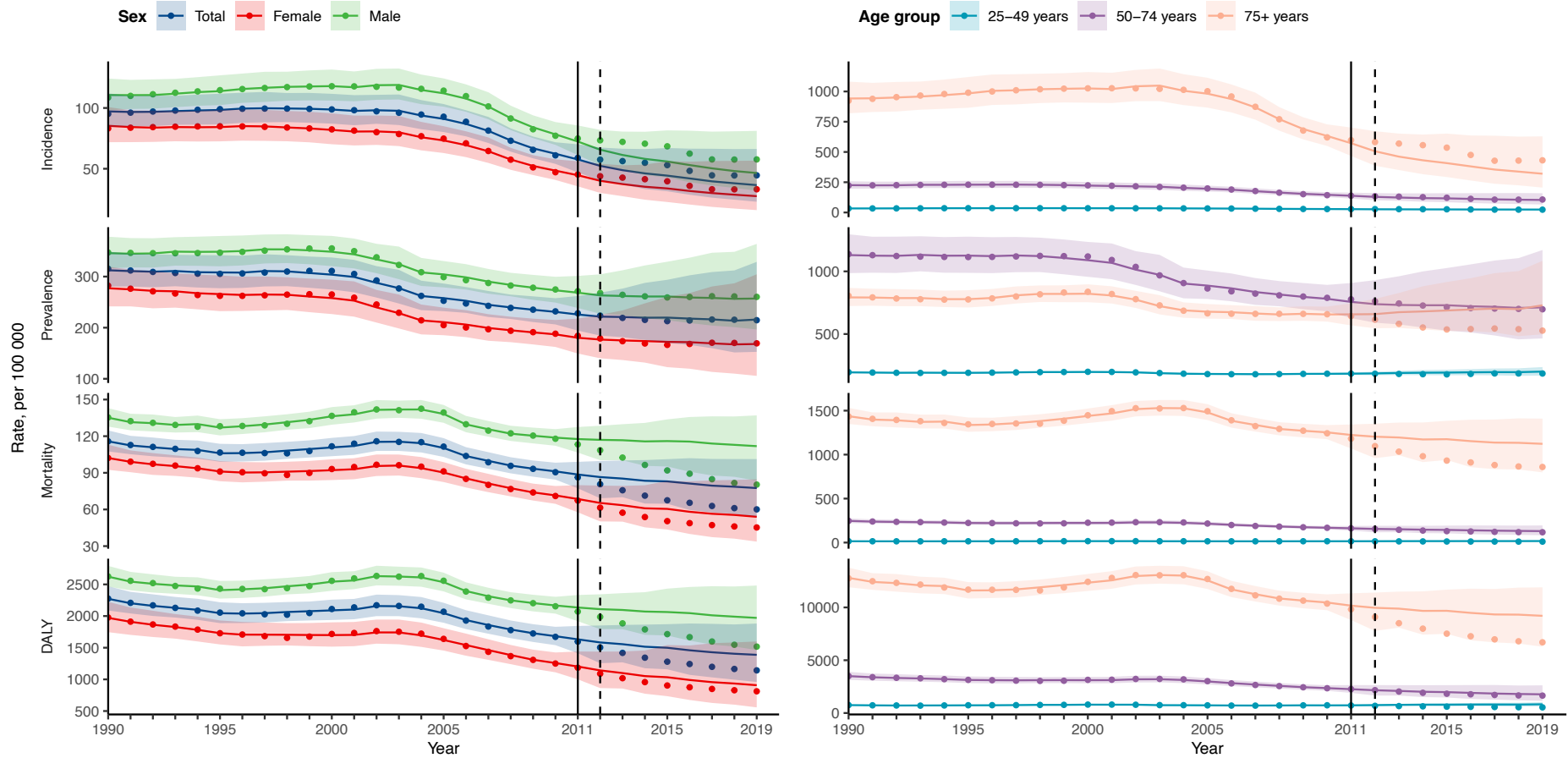


**Supplementary figure 2.** Estimates of annual ischemic heart disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China before and after the introduction of the 2011 CSC Guideline by sex (left panel) and age groups (right panel) with the composite synthetic controls. The dots represent the observed estimates of ischemic heart disease burden from 1990 to 2019. The solid horizontal lines and the shaped areas respectively represent the counterfactual estimates of ischemic heart disease burden and the 95% uncertainty intervals in the absence of the 2011 CSC Guideline on the basis of 1 000 Markov chain Monte Carlo samples. The solid vertical lines indicate the introduction of the 2011 CSC Guideline and the dashed vertical lines indicate the beginning of the evaluation period (i.e., one-year delayed or gradual impact).



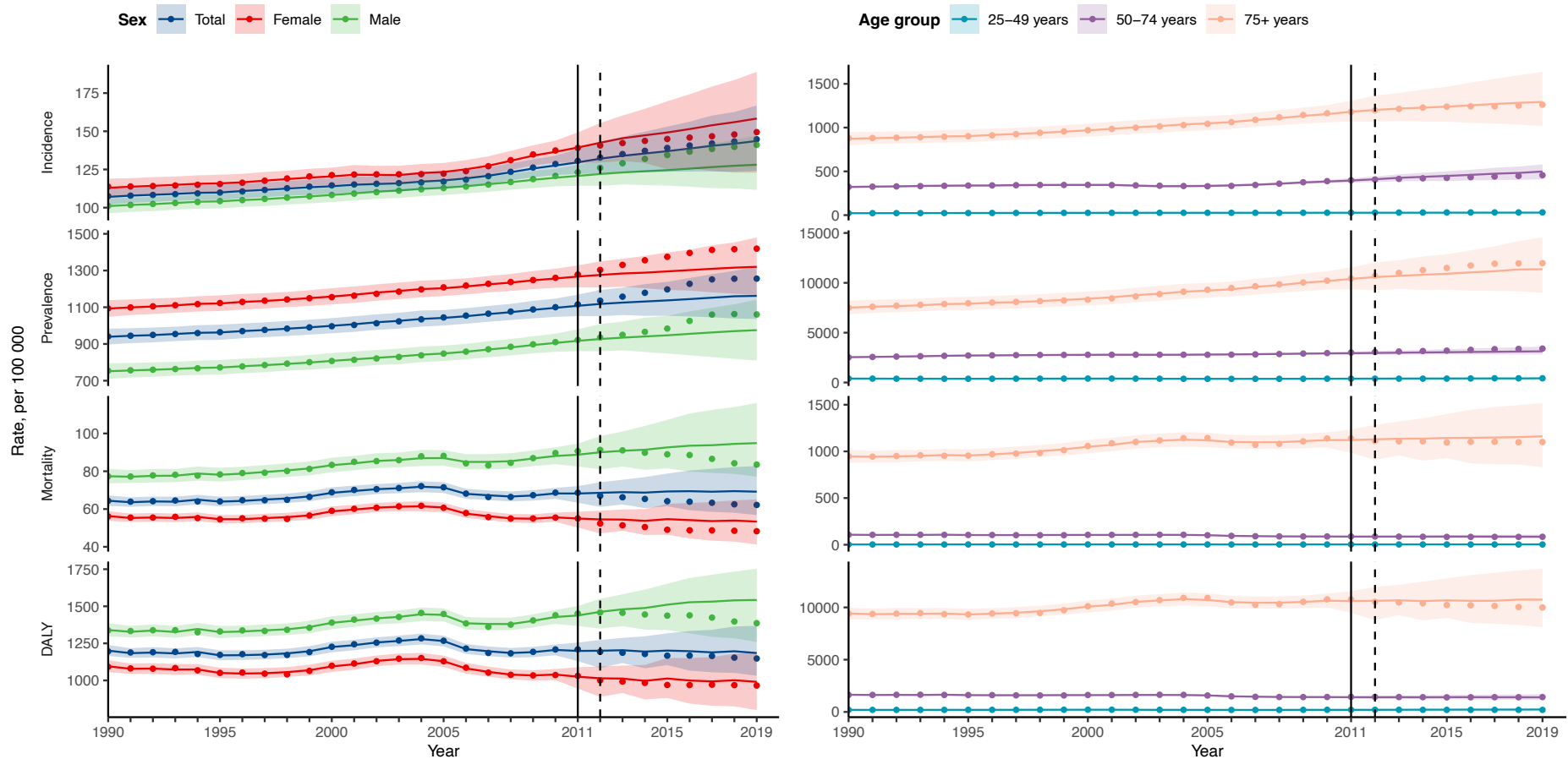
**Supplementary figure 3.** Estimates of annual non-rheumatic heart disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China before and after the introduction of the 2011 CSC Guideline by sex (left panel) and age groups (right panel) with the composite synthetic controls. The dots represent the observed estimates of non-rheumatic heart disease burden from 1990 to 2019. The solid horizontal lines and the shaped areas respectively represent the counterfactual estimates of non-rheumatic heart disease burden and the 95% uncertainty intervals in the absence of the 2011 CSC Guideline on the basis of 1 000 Markov chain Monte Carlo samples. The solid vertical lines indicate the introduction of the 2011 CSC Guideline and the dashed vertical lines indicate the beginning of the evaluation period (i.e., one-year delayed or gradual impact).

### Intracerebral hemorrhage



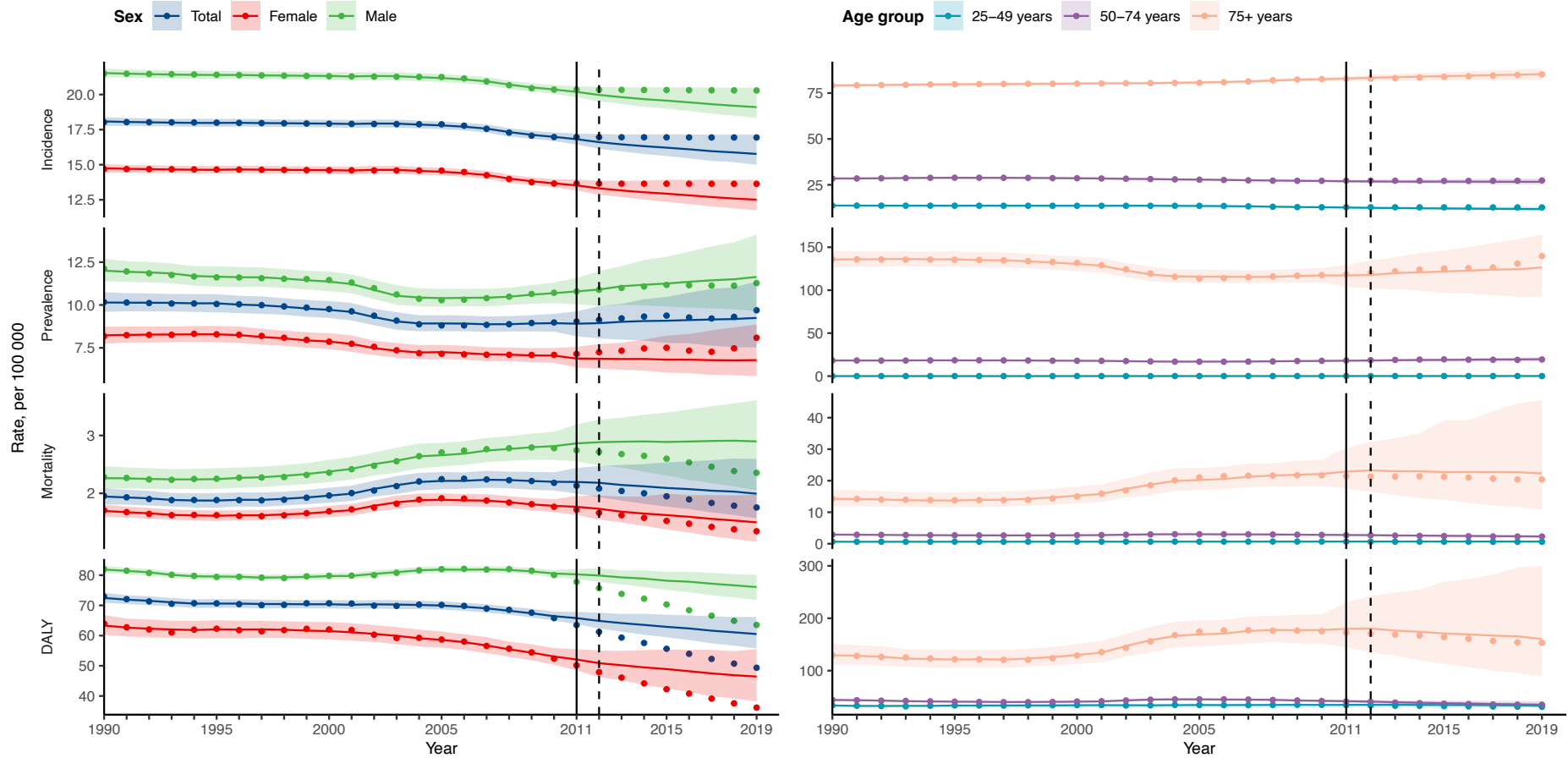
**Supplementary figure 4.** Estimates of annual intracerebral hemorrhage incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China before and after the introduction of the 2011 CSC Guideline by sex (left panel) and age groups (right panel) with the composite synthetic controls. The dots represent the observed estimates of intracerebral hemorrhage burden from 1990 to 2019. The solid horizontal lines and the shaped areas respectively represent the counterfactual estimates of intracerebral hemorrhage burden and the 95% uncertainty intervals in the absence of the 2011 CSC Guideline on the basis of 1 000 Markov chain Monte Carlo samples. The solid vertical lines indicate the introduction of the 2011 CSC Guideline and the dashed vertical lines indicate the beginning of the evaluation period (i.e., one-year delayed or gradual impact).

### Ischemic stroke



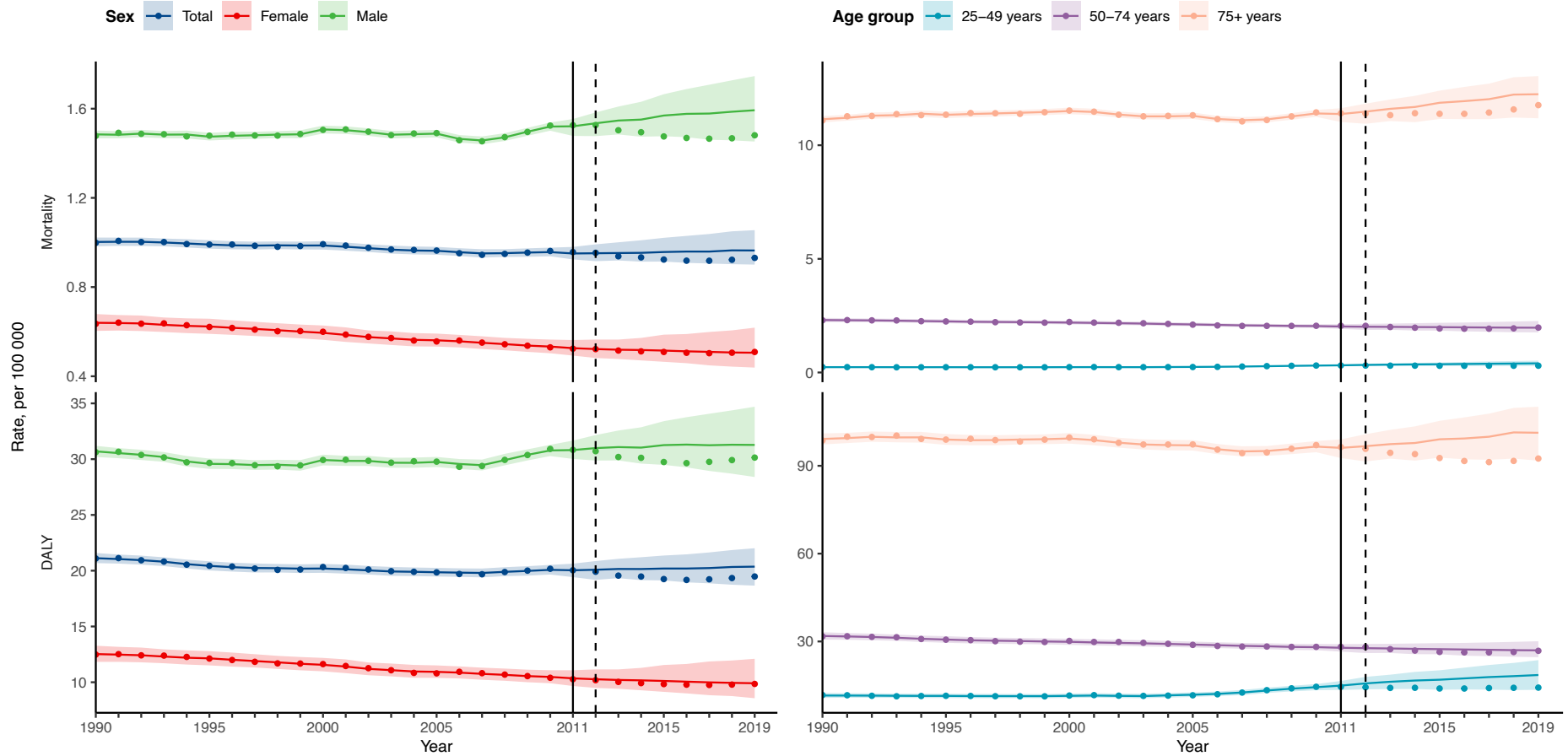
**Supplementary figure 5.** Estimates of annual ischemic stroke incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China before and after the introduction of the 2011 CSC Guideline by sex (left panel) and age groups (right panel) with the composite synthetic controls. The dots represent the observed estimates of ischemic heart disease burden from 1990 to 2019. The solid horizontal lines and the shaped areas respectively represent the counterfactual estimates of ischemic heart disease burden and the 95% uncertainty intervals in the absence of the 2011 CSC Guideline on the basis of 1 000 Markov chain Monte Carlo samples. The solid vertical lines indicate the introduction of the 2011 CSC Guideline and the dashed vertical lines indicate the beginning of the evaluation period (i.e., one-year delayed or gradual impact).

### Cardiomyopathy and myocarditis



**Supplementary figure 6.** Estimates of annual cardiomyopathy and myocarditis incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China before and after the introduction of the 2011 CSC Guideline by sex (left panel) and age groups (right panel) with the composite synthetic controls. The dots represent the observed estimates of cardiomyopathy and myocarditis burden from 1990 to 2019. The solid horizontal lines and the shaped areas respectively represent the counterfactual estimates of cardiomyopathy and myocarditis burden and the 95% uncertainty intervals in the absence of the 2011 CSC Guideline on the basis of 1 000 Markov chain Monte Carlo samples. The solid vertical lines indicate the introduction of the 2011 CSC Guideline and the dashed vertical lines indicate the beginning of the evaluation period (i.e., one-year delayed or gradual impact).

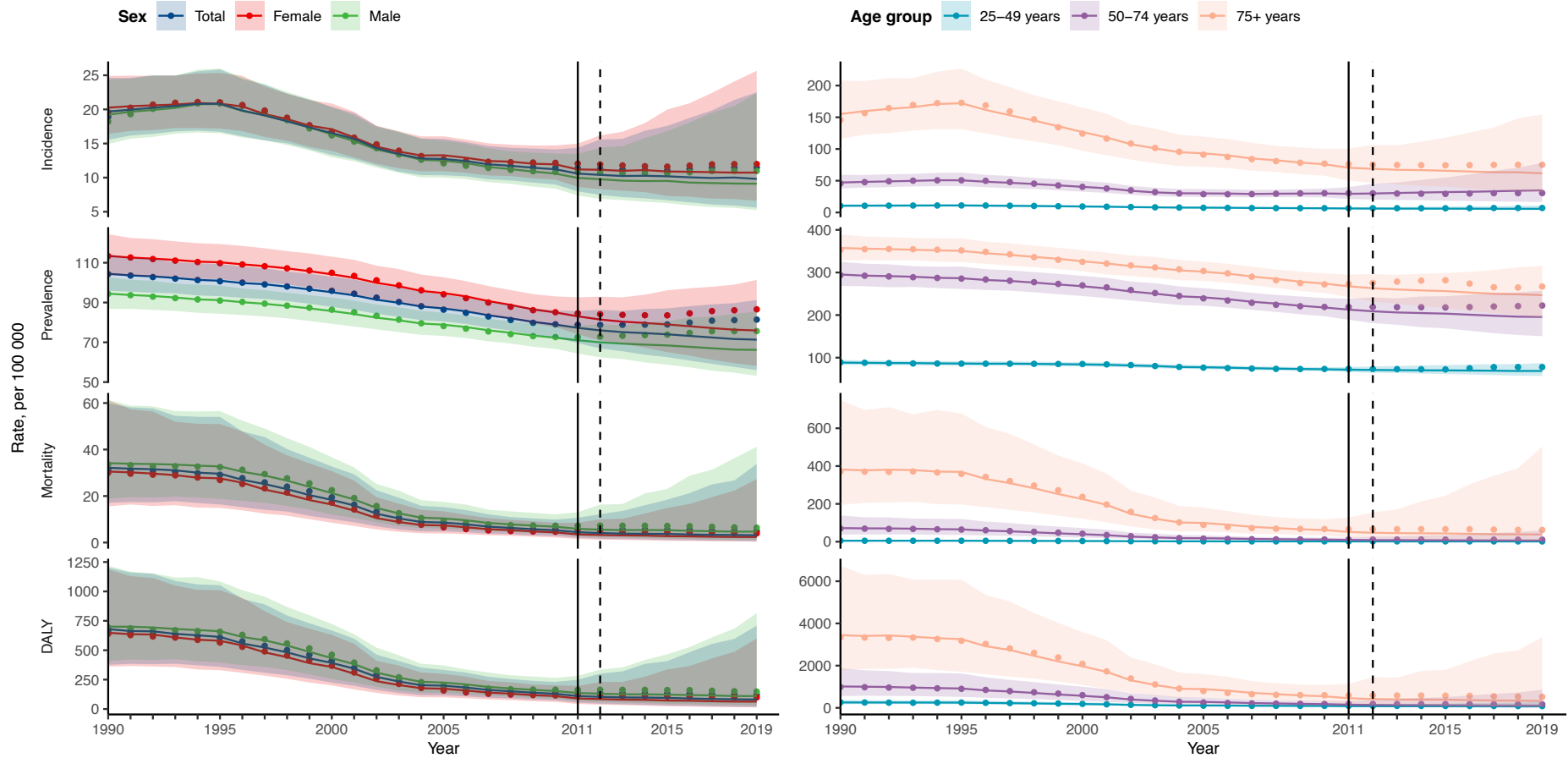
### Aortic aneurysm



**Supplementary figure 7.** Estimates of annual aortic aneurysm mortality and disability-adjusted life-years (DALY) rates per 100 000 in China before and after the introduction of the 2011 CSC Guideline by sex (left panel) and age groups (right panel) with the composite synthetic controls. The dots represent the observed estimates of aortic aneurysm burden from 1990 to 2019. The solid horizontal lines and the shaped areas respectively represent the counterfactual estimates of aortic aneurysm burden and the 95% uncertainty intervals in the absence of the 2011 CSC Guideline on the basis of 1 000 Markov chain Monte Carlo samples. The solid vertical lines indicate the introduction of the 2011 CSC Guideline and the dashed vertical lines indicate the beginning of the evaluation period (i.e., one-year delayed or gradual impact).

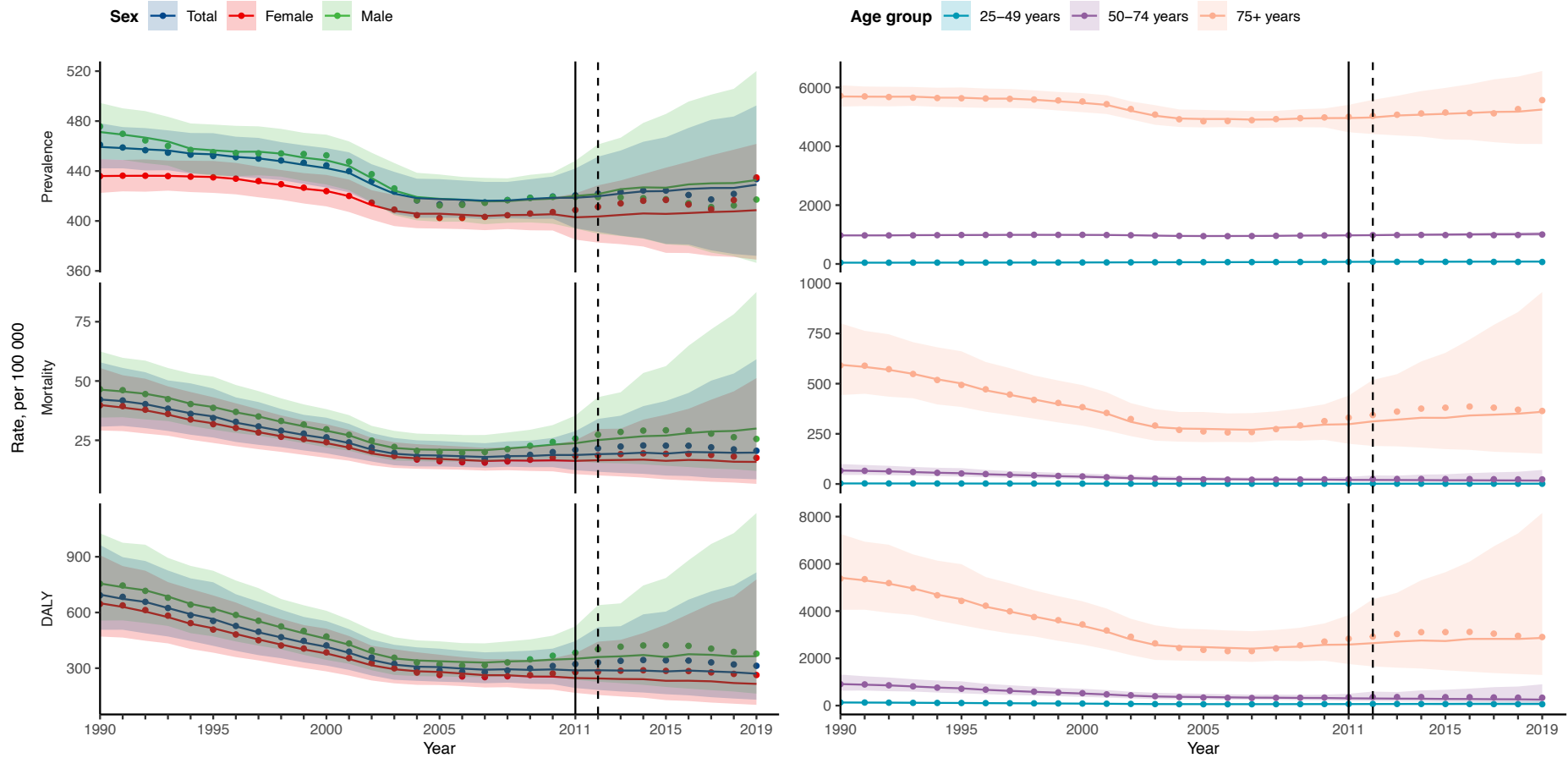


### Subarachnoid hemorrhage



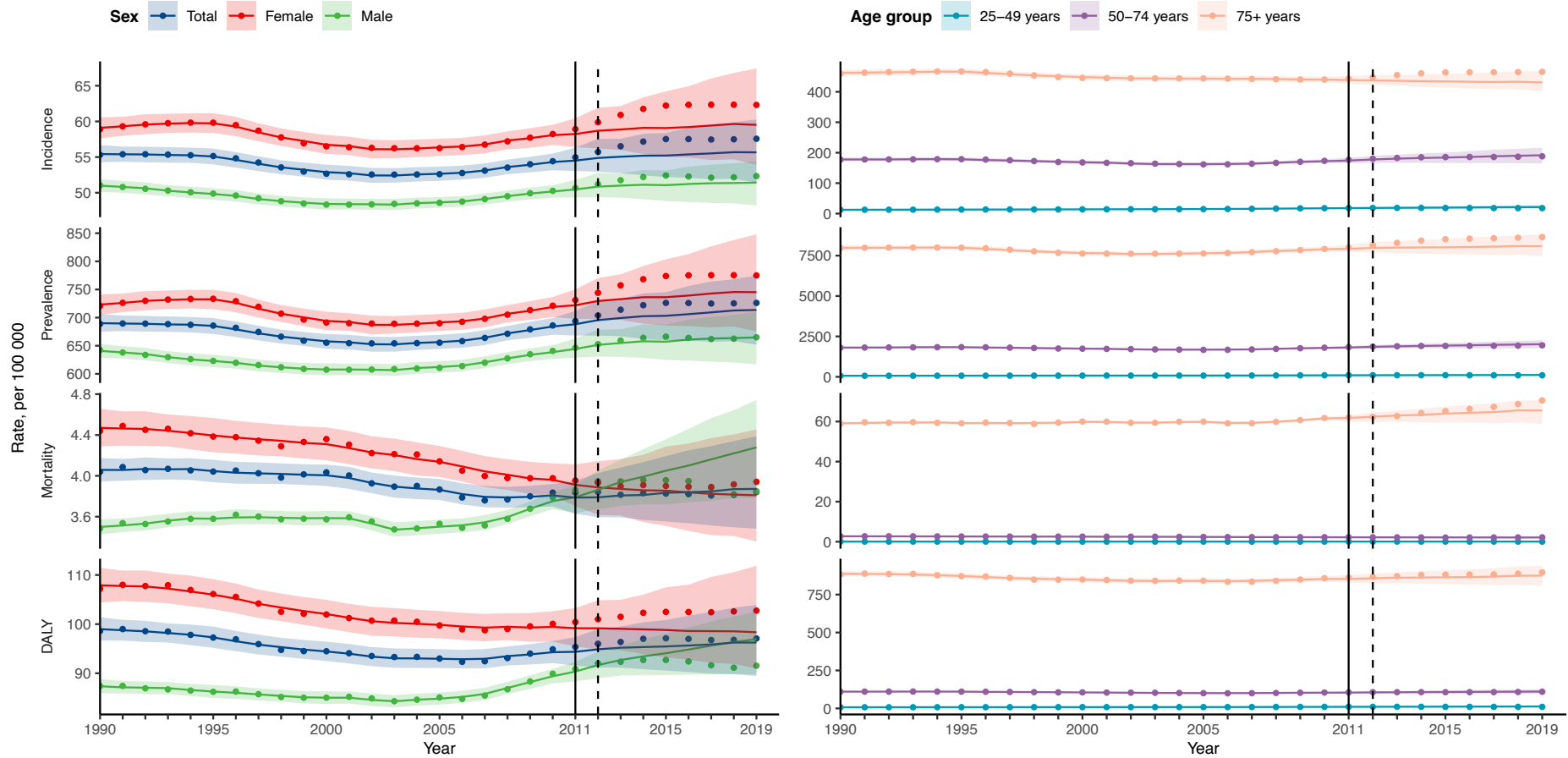
**Supplementary figure 8.** Estimates of annual subarachnoid hemorrhage incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China before and after the introduction of the 2011 CSC Guideline by sex (left panel) and age groups (right panel) with the composite synthetic controls. The dots represent the observed estimates of subarachnoid hemorrhage burden from 1990 to 2019. The solid horizontal lines and the shaped areas respectively represent the counterfactual estimates of subarachnoid hemorrhage burden and the 95% uncertainty intervals in the absence of the 2011 CSC Guideline on the basis of 1 000 Markov chain Monte Carlo samples. The solid vertical lines indicate the introduction of the 2011 CSC Guideline and the dashed vertical lines indicate the beginning of the evaluation period (i.e., one-year delayed or gradual impact).

### Hypertensive heart disease



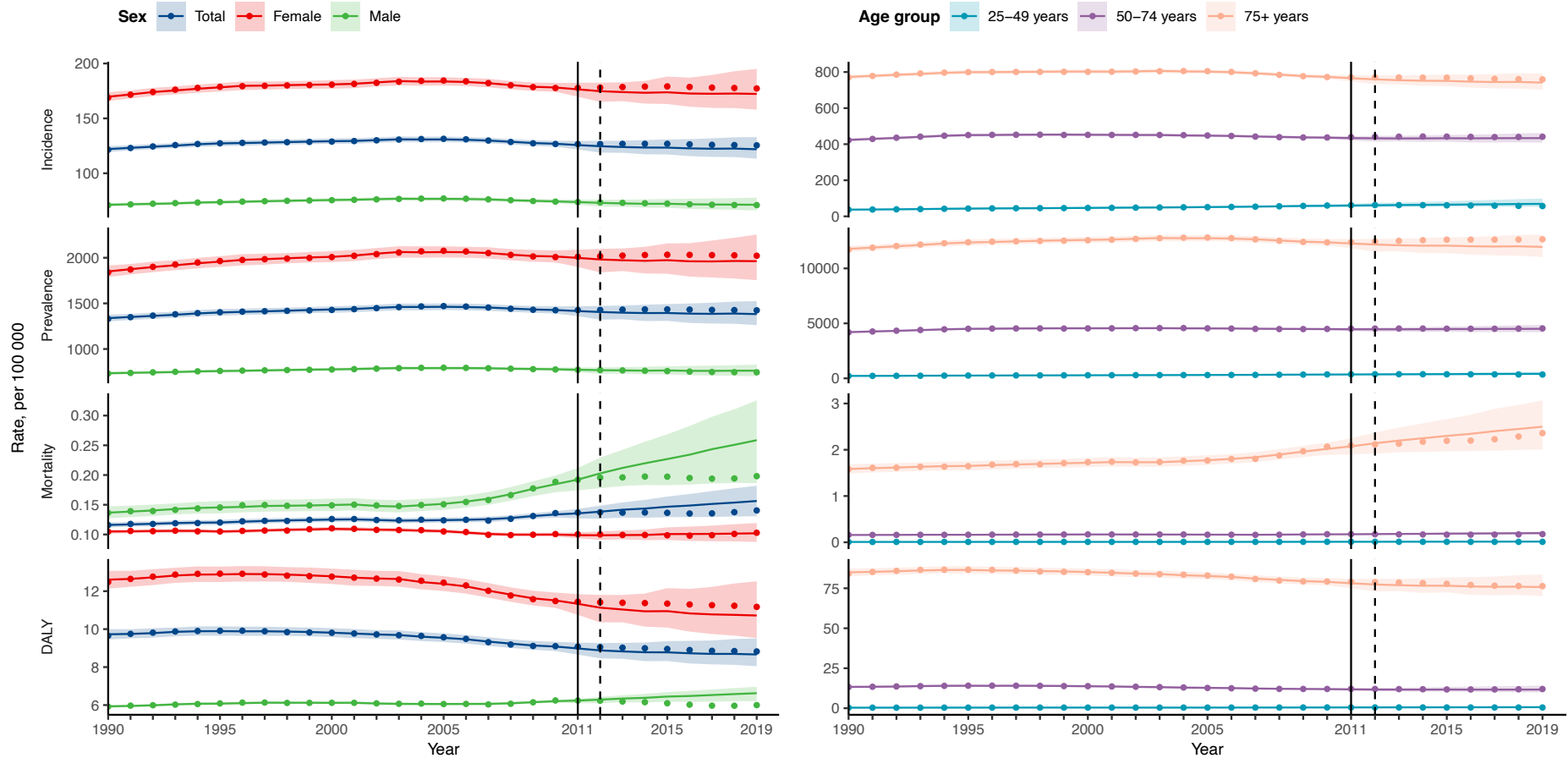
**Supplementary figure 9.** Estimates of annual hypertensive heart disease prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China before and after the introduction of the 2011 CSC Guideline by sex (left panel) and age groups (right panel) with the composite synthetic controls. The dots represent the observed estimates of hypertensive heart disease burden from 1990 to 2019. The solid horizontal lines and the shaped areas respectively represent the counterfactual estimates of hypertensive heart disease burden and the 95% uncertainty intervals in the absence of the 2011 CSC Guideline on the basis of 1 000 Markov chain Monte Carlo samples. The solid vertical lines indicate the introduction of the 2011 CSC Guideline and the dashed vertical lines indicate the beginning of the evaluation period (i.e., one-year delayed or gradual impact).

### Atrial fibrillation and flutter



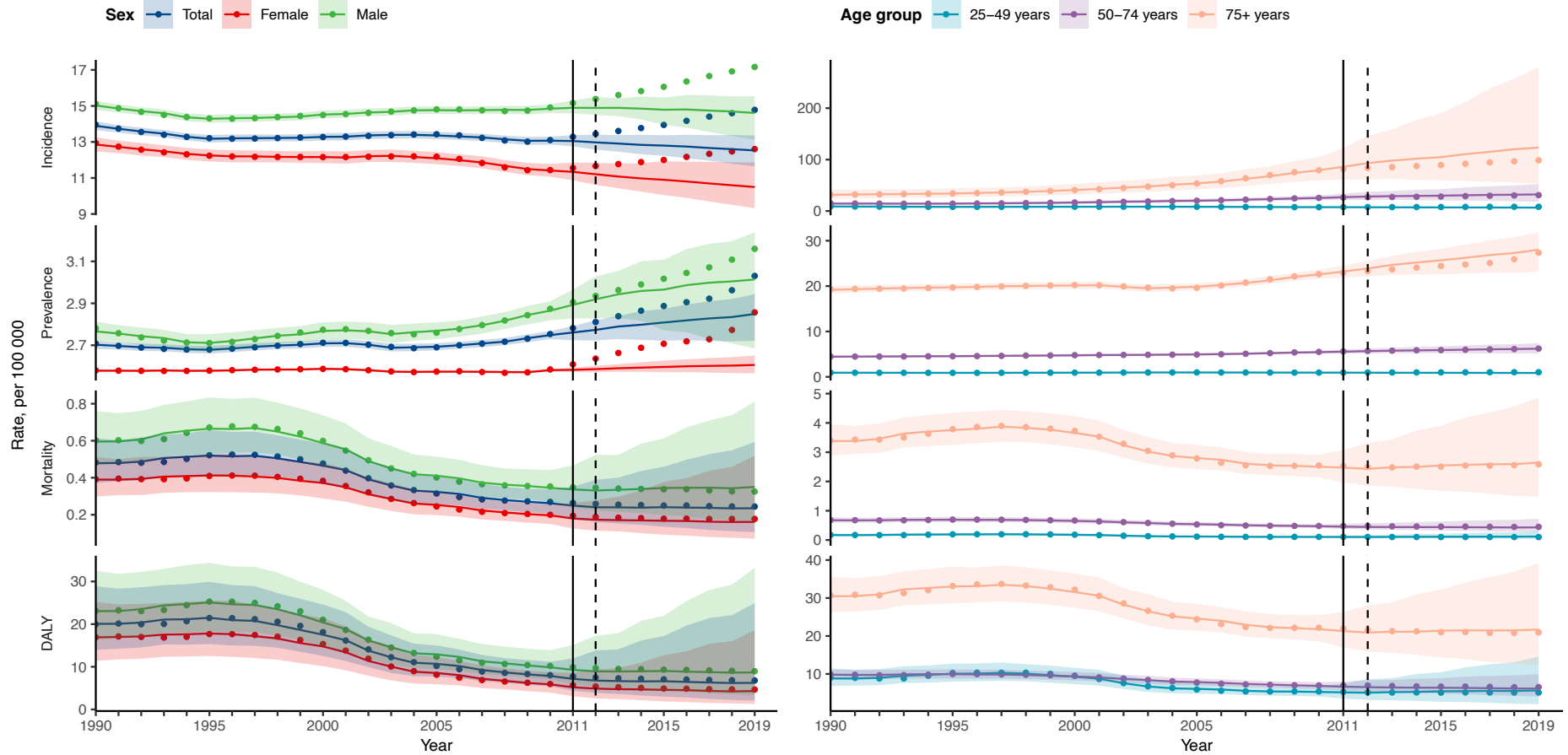
**Supplementary figure 10.** Estimates of annual atrial fibrillation and flutter incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China before and after the introduction of the 2011 CSC Guideline by sex (left panel) and age groups (right panel) with the composite synthetic controls. The dots represent the observed estimates of atrial fibrillation and flutter burden from 1990 to 2019. The solid horizontal lines and the shaped areas respectively represent the counterfactual estimates of atrial fibrillation and flutter burden and the 95% uncertainty intervals in the absence of the 2011 CSC Guideline on the basis of 1 000 Markov chain Monte Carlo samples. The solid vertical lines indicate the introduction of the 2011 CSC Guideline and the dashed vertical lines indicate the beginning of the evaluation period (i.e., one-year delayed or gradual impact).

**Peripheral artery disease**

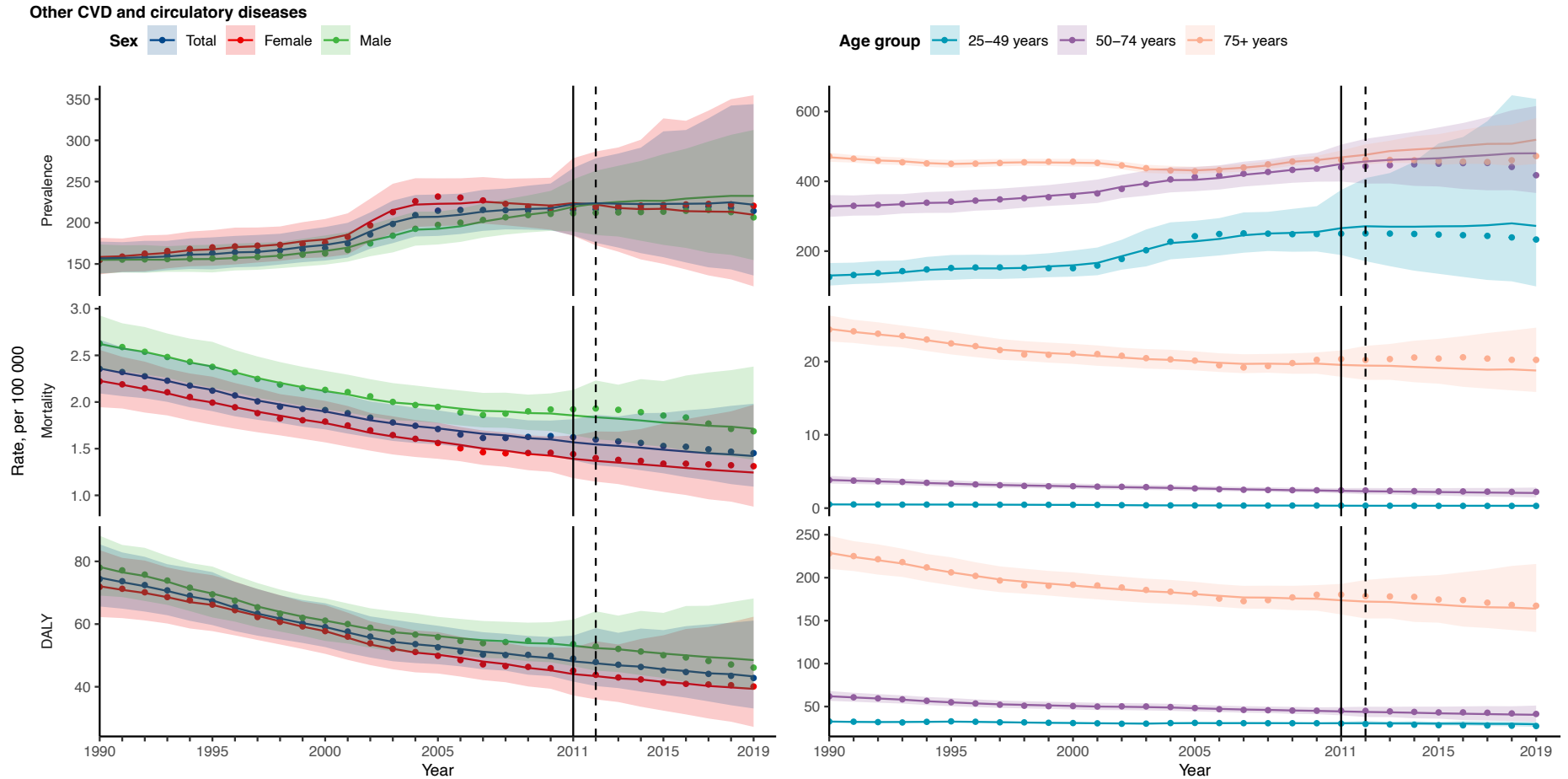


**Supplementary figure 11.** Estimates of annual peripheral artery disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China before and after the introduction of the 2011 CSC Guideline by sex (left panel) and age groups (right panel) with the composite synthetic controls. The dots represent the observed estimates of peripheral artery disease from 1990 to 2019. The solid horizontal lines and the shaped areas respectively represent the counterfactual estimates of peripheral artery disease burden and the 95% uncertainty intervals in the absence of the 2011 CSC Guideline on the basis of 1 000 Markov chain Monte Carlo samples. The solid vertical lines indicate the introduction of the 2011 CSC Guideline and the dashed vertical lines indicate the beginning of the evaluation period (i.e., one-year delayed or gradual impact).

## Endocarditis

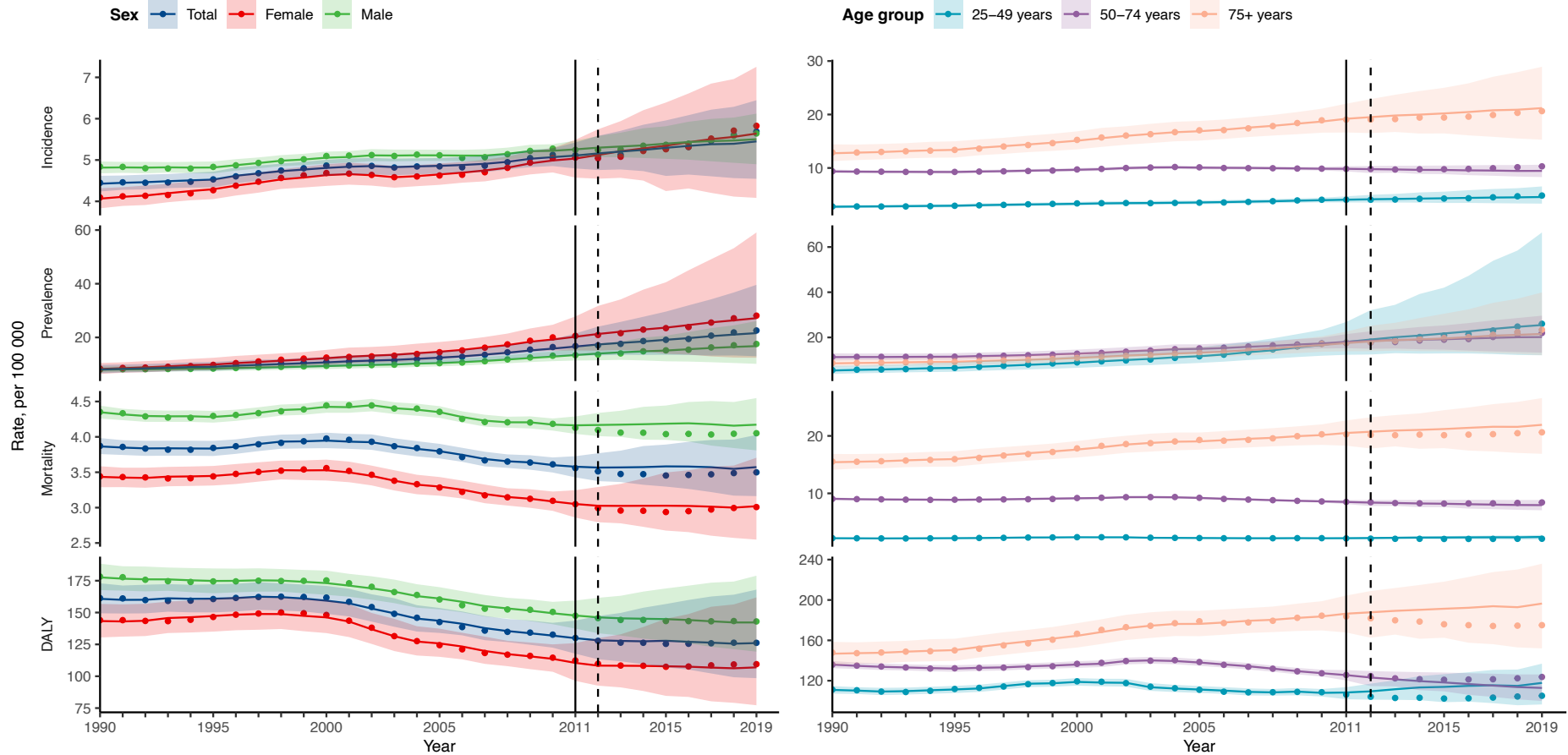


**Supplementary figure 12.** Estimates of annual endocarditis incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China before and after the introduction of the 2011 CSC Guideline by sex (left panel) and age groups (right panel) with the composite synthetic controls. The dots represent the observed estimates of endocarditis burden from 1990 to 2019. The solid horizontal lines and the shaped areas respectively represent the counterfactual estimates of endocarditis burden and the 95% uncertainty intervals in the absence of the 2011 CSC Guideline on the basis of 1 000 Markov chain Monte Carlo samples. The solid vertical lines indicate the introduction of the 2011 CSC Guideline and the dashed vertical lines indicate the beginning of the evaluation period (i.e., one-year delayed or gradual impact).



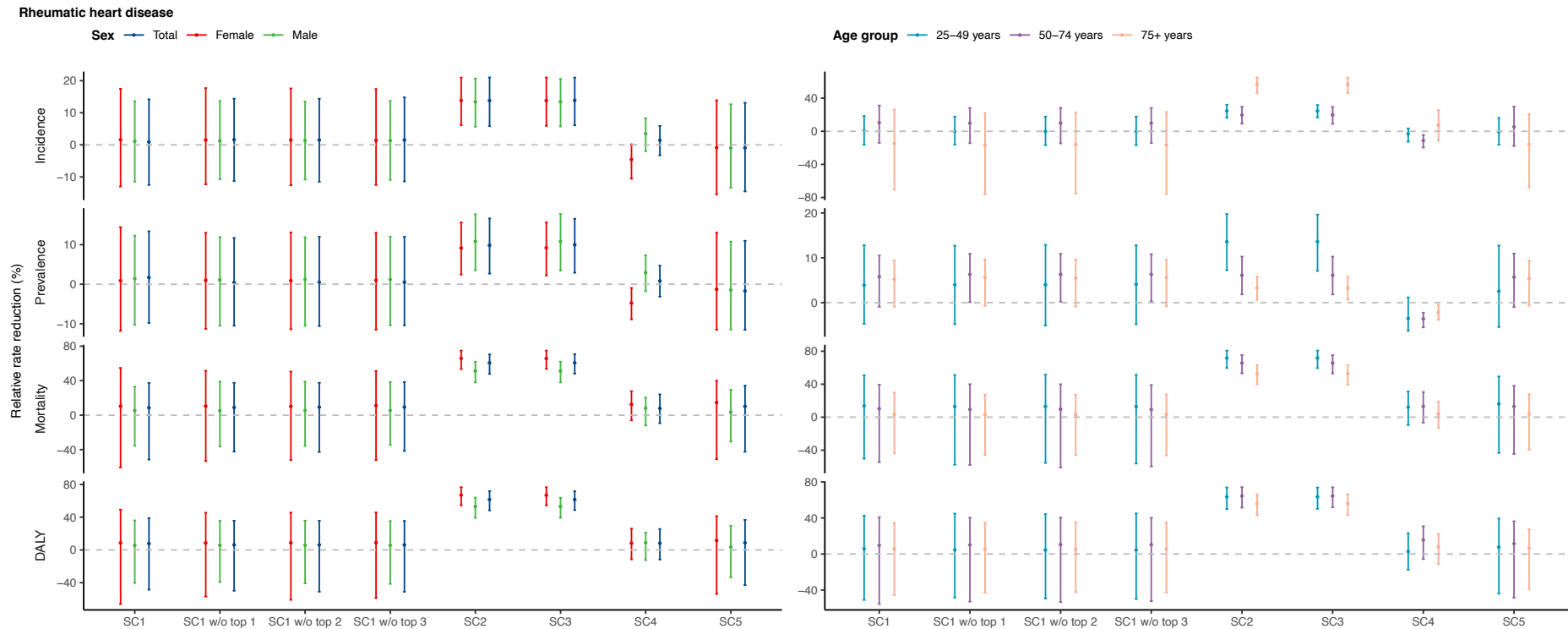
**Supplementary figure 13.** Estimates of annual other cardiovascular and circulatory diseases prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China before and after the introduction of the 2011 CSC Guideline by sex (left panel) and age groups (right panel) with the composite synthetic controls. The dots represent the observed estimates of other cardiovascular and circulatory diseases burden from 1990 to 2019. The solid horizontal lines and the shaped areas respectively represent the counterfactual estimates of other cardiovascular and circulatory diseases burden and the 95% uncertainty intervals in the absence of the 2011 CSC Guideline on the basis of 1 000 Markov chain Monte Carlo samples. The solid vertical lines indicate the introduction of the 2011 CSC Guideline and the dashed vertical lines indicate the beginning of the evaluation period (i.e., one-year delayed or gradual impact).

**Negative control outcome**



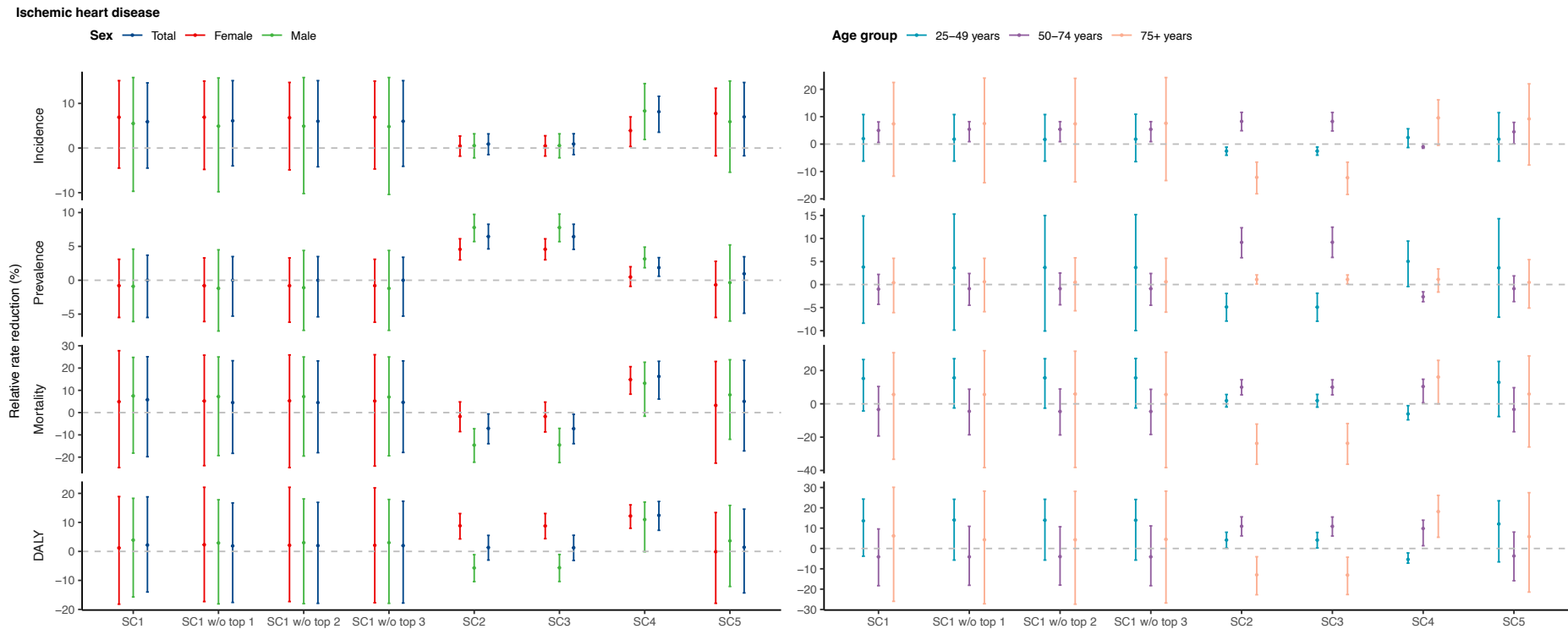
**Supplementary figure 14.** Estimates of annual negative control outcome (i.e., brain and central nervous system cancer) prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China before and after the introduction of the 2011 CSC Guideline by sex (left panel) and age groups (right panel) with the composite synthetic controls. The dots represent the observed estimates of other cardiovascular and circulatory diseases burden from 1990 to 2019. The solid horizontal lines and the shaped areas respectively represent the counterfactual estimates of other cardiovascular and circulatory diseases burden and the 95% uncertainty intervals in the absence of the 2011 CSC Guideline on the basis of 1 000 Markov chain Monte Carlo samples. The solid vertical lines indicate the introduction of the 2011 CSC Guideline and the dashed vertical lines indicate the beginning of the evaluation period (i.e., one-year delayed or gradual impact).

## 2.4 Sensitive of results to impact estimates using different models for CVD subcategories and negative control outcome

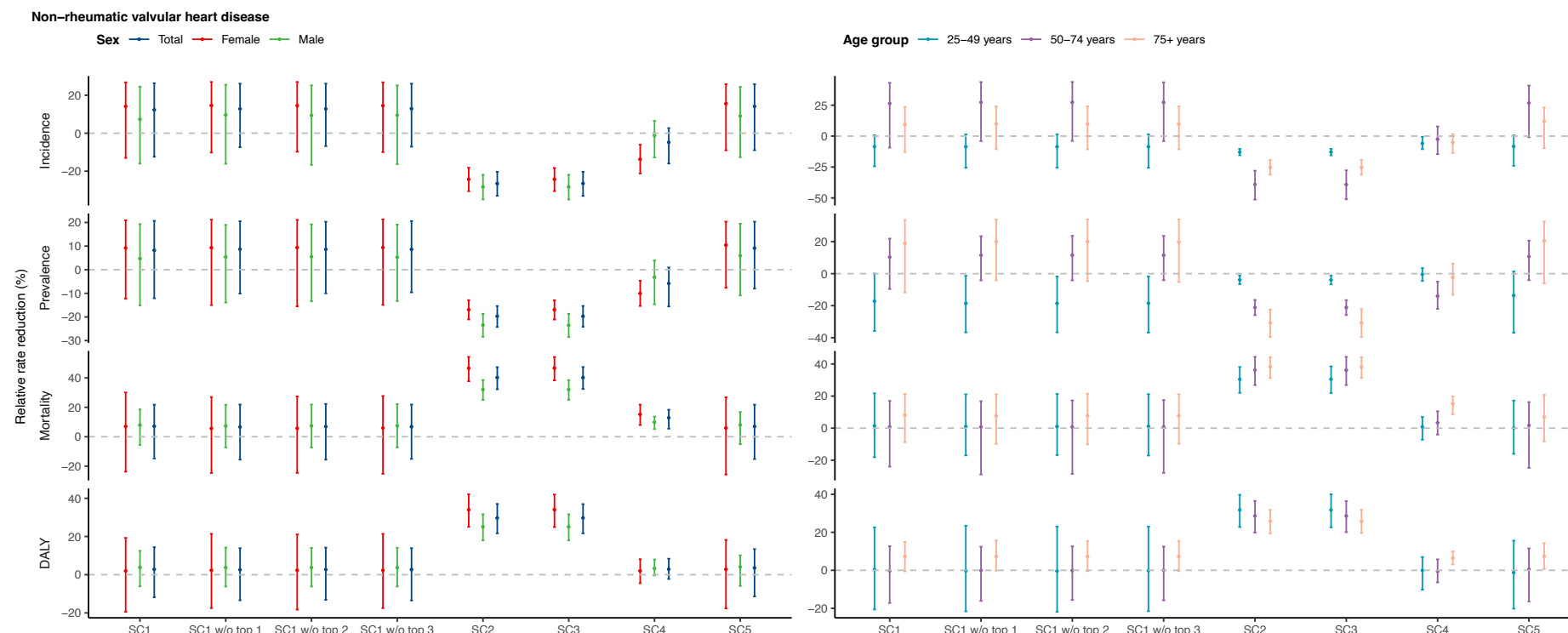


**Supplementary figure 15.** Impact estimates of the 2011 CSC Guideline on rheumatic heart disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC, [supplementary 1 pp 8-9](#)). Briefly, SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized. SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1. The dots represent the point estimate of relative rate reduction in percentage. The vertical lines represent the 95% uncertainty intervals.

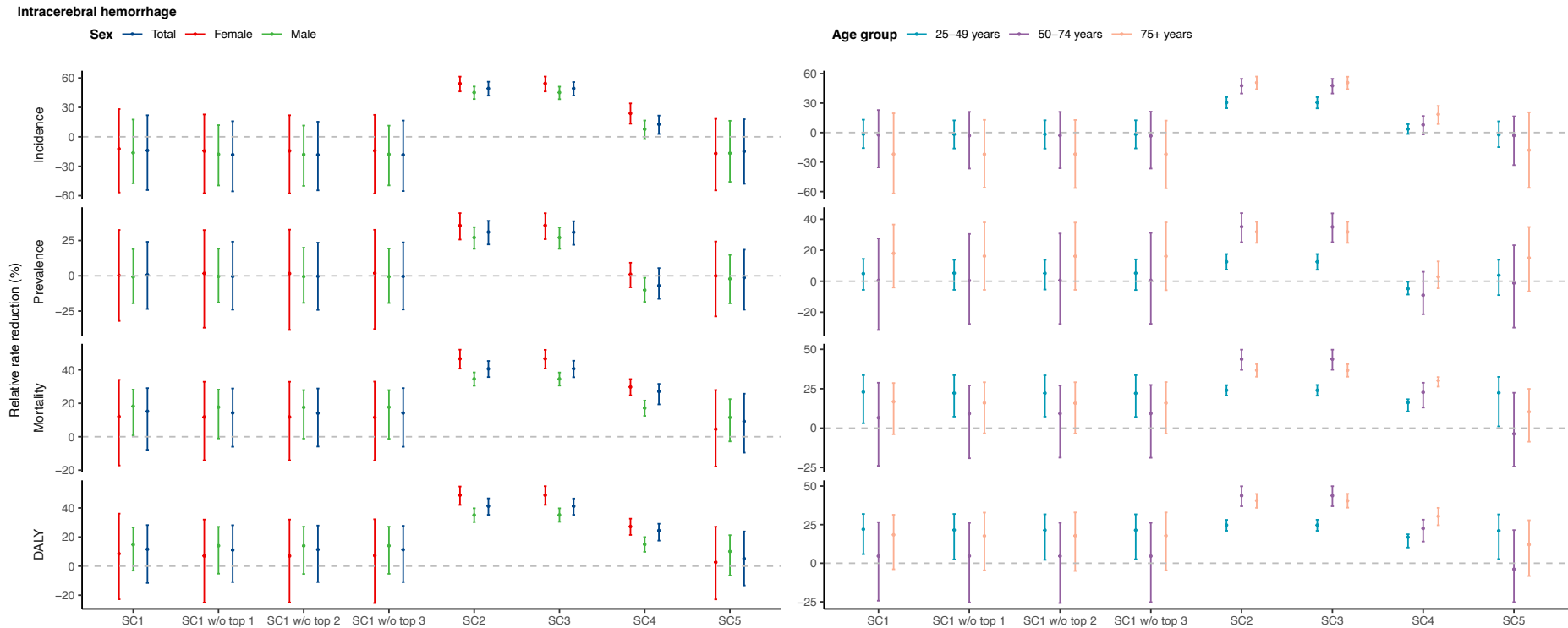




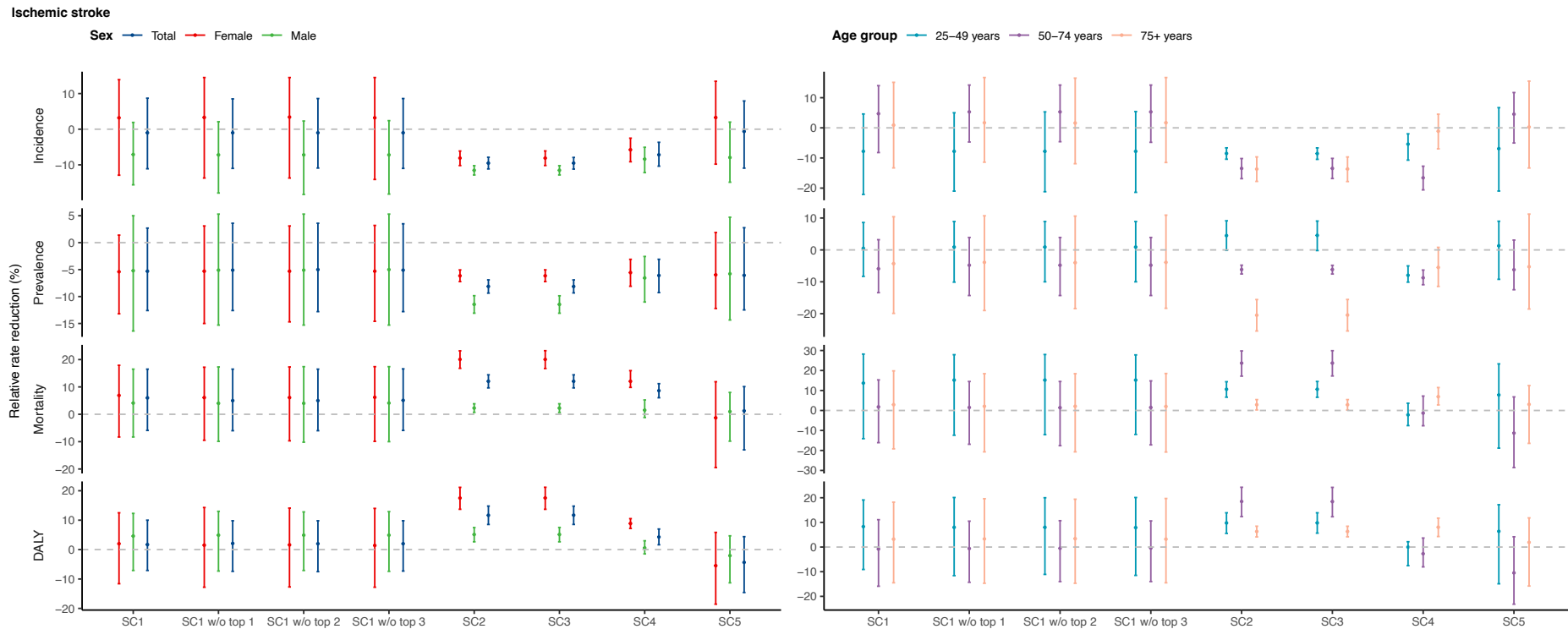
**Supplementary figure 16.** Impact estimates of the 2011 CSC Guideline on ischemic heart disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC, [supplementary 1 pp 8-9](#)). Briefly, SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized. SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1. The dots represent the point estimate of relative rate reduction in percentage. The vertical lines represent the 95% uncertainty intervals.



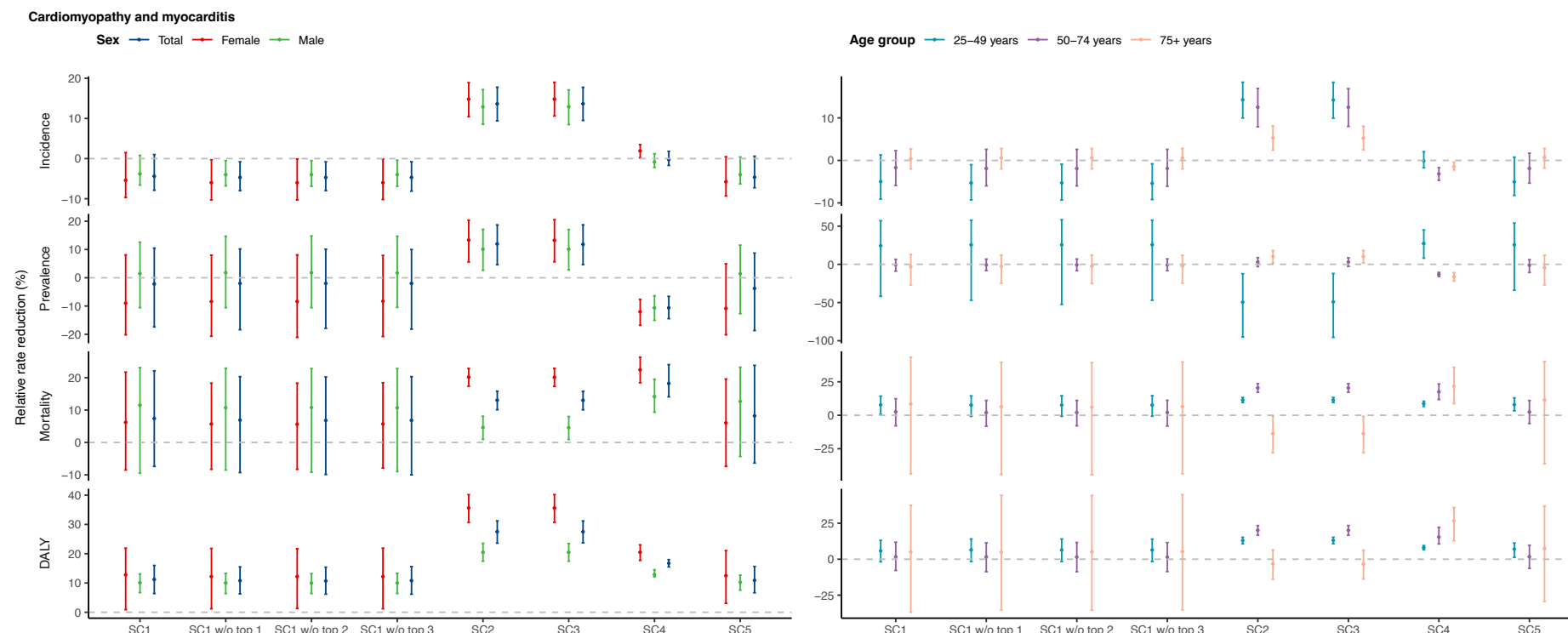
**Supplementary figure 17.** Impact estimates of the 2011 CSC Guideline on non-rheumatic valvular heart disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composting the synthetic control (SC, [supplementary 1 pp 8-9](#)). Briefly, SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized. SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1. The dots represent the point estimate of relative rate reduction in percentage. The vertical lines represent the 95% uncertainty intervals.



**Supplementary figure 18.** Impact estimates of the 2011 CSC Guideline on intracerebral hemorrhage incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC, [supplementary 1 pp 8-9](#)). Briefly, SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized. SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1. The dots represent the point estimate of relative rate reduction in percentage. The vertical lines represent the 95% uncertainty intervals.

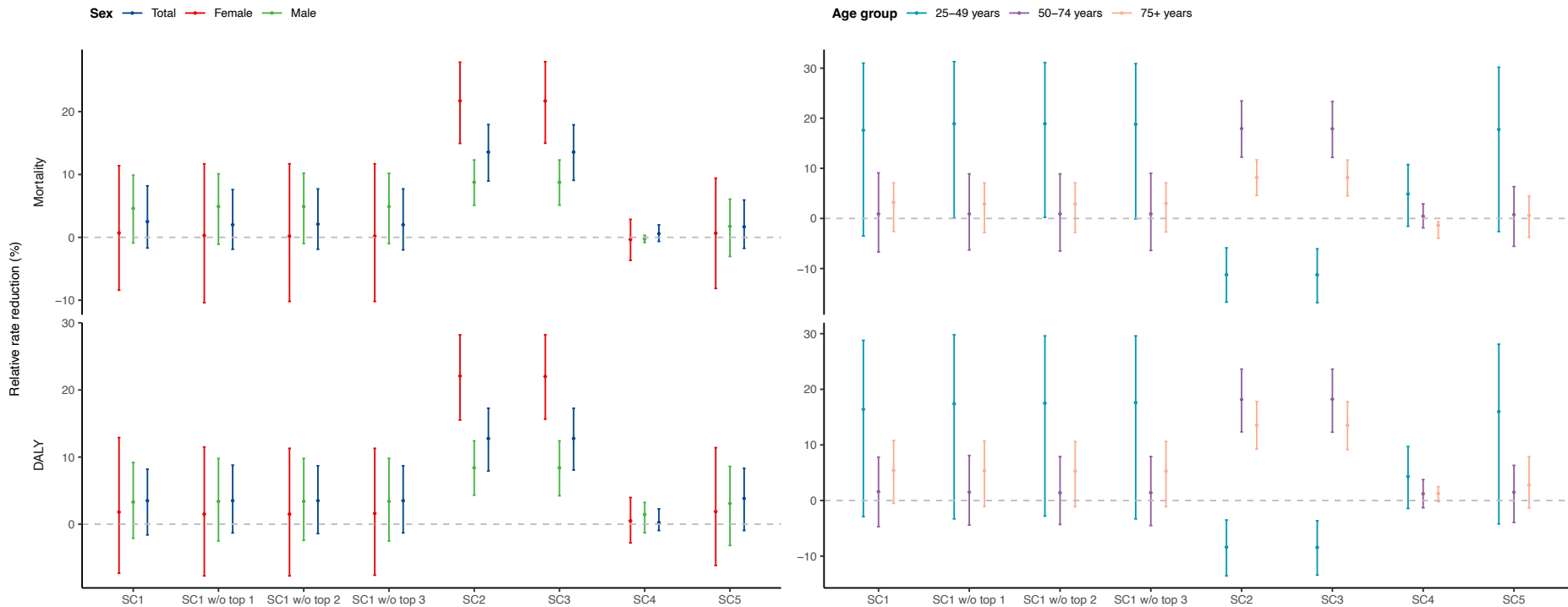


**Supplementary figure 19.** Impact estimates of the 2011 CSC Guideline on ischemic stroke incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC, [supplementary 1 pp 8-9](#)). Briefly, SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized. SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1. The dots represent the point estimate of relative rate reduction in percentage. The vertical lines represent the 95% uncertainty intervals.

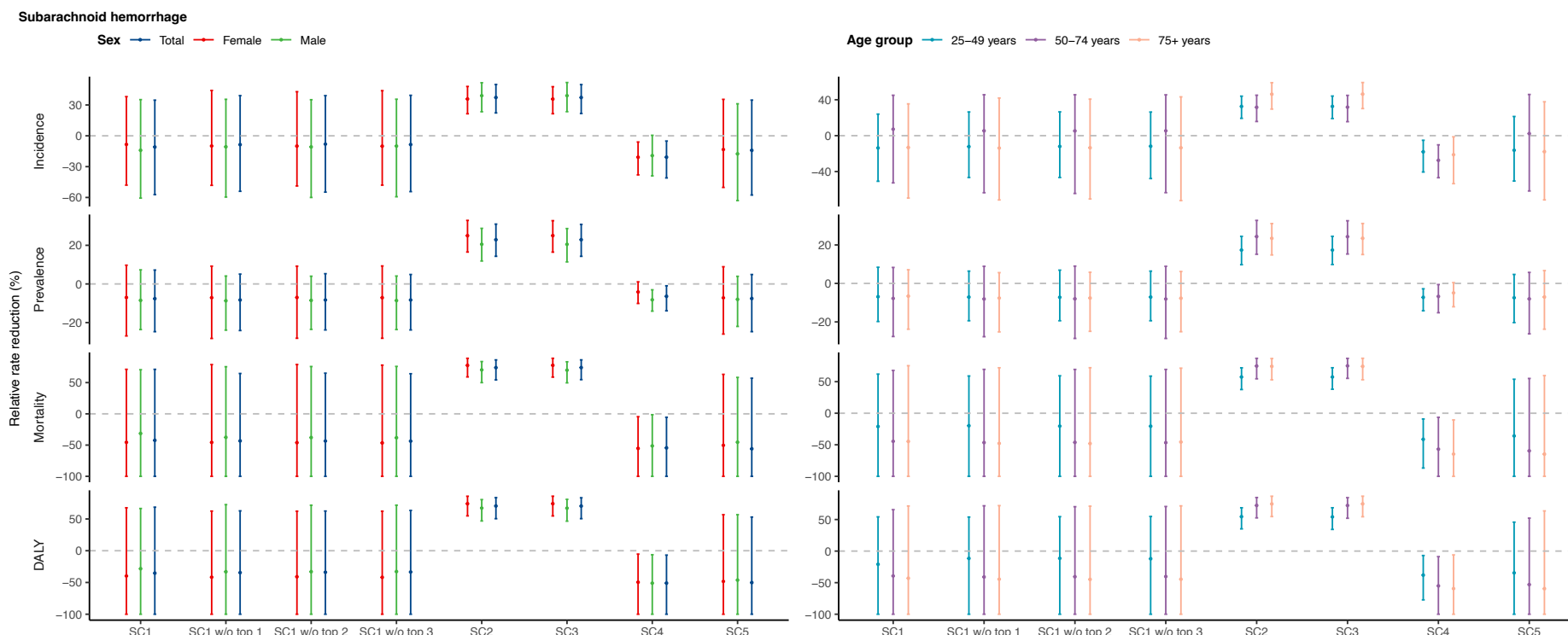


**Supplementary figure 20.** Impact estimates of the 2011 CSC Guideline on cardiomyopathy and myocarditis incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC, [supplementary 1 pp 8-9](#)). Briefly, SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized. SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1. The dots represent the point estimate of relative rate reduction in percentage. The vertical lines represent the 95% uncertainty intervals. The impact estimates were truncated at -100% or 100%.

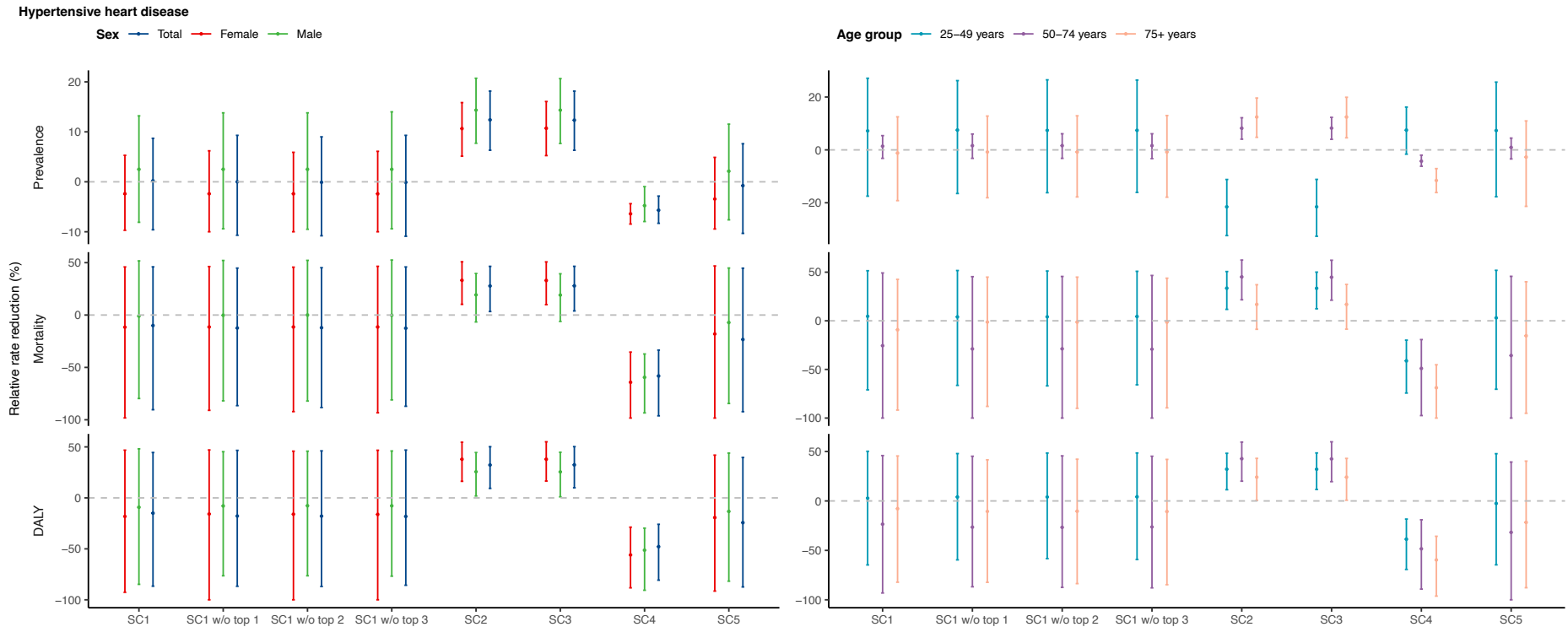
**Aortic aneurysm**



**Supplementary figure 21.** Impact estimates of the 2011 CSC Guideline on aortic aneurysm mortality and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC, **supplementary 1 pp 8-9**). Briefly, SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized. SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1. The dots represent the point estimate of relative rate reduction in percentage. The vertical lines represent the 95% uncertainty intervals.



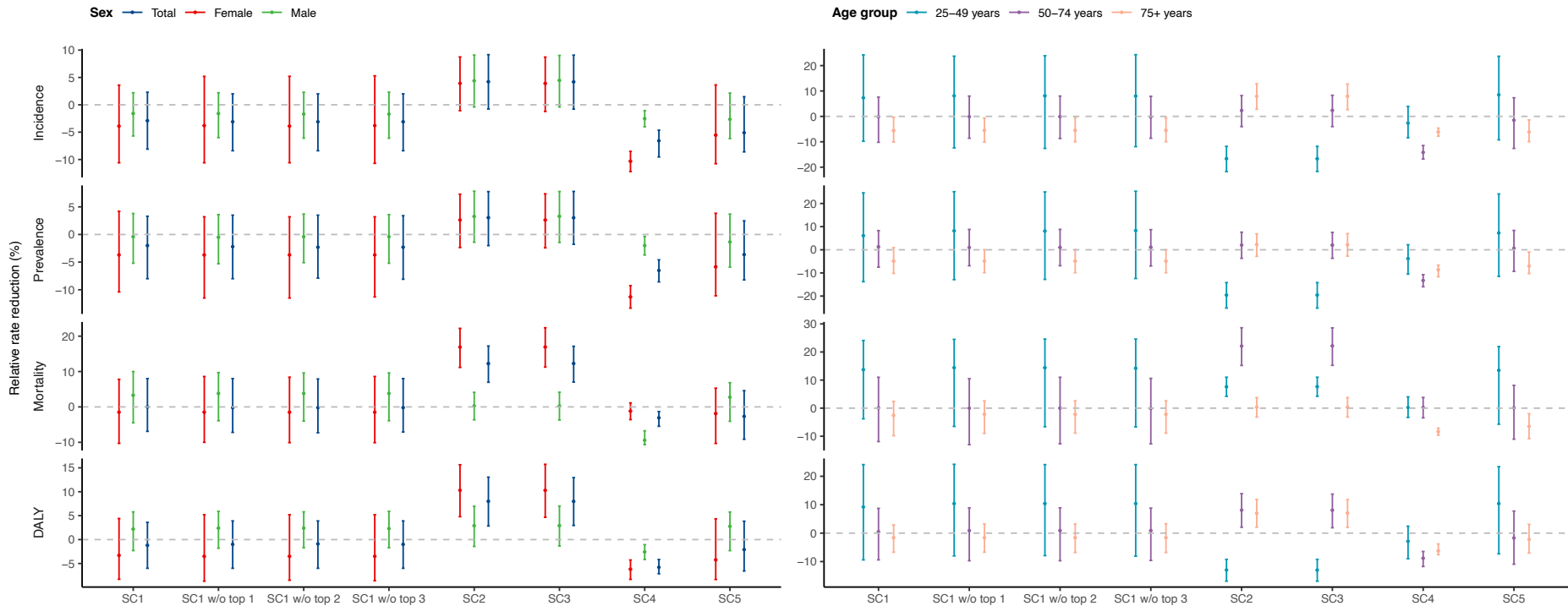
**Supplementary figure 22.** Impact estimates of the 2011 CSC Guideline on subarachnoid hemorrhage incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC, [supplementary 1 pp 8-9](#)). Briefly, SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized. SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1. The dots represent the point estimate of relative rate reduction in percentage. The vertical lines represent the 95% uncertainty intervals. The impact estimates were truncated at -100% or 100%.



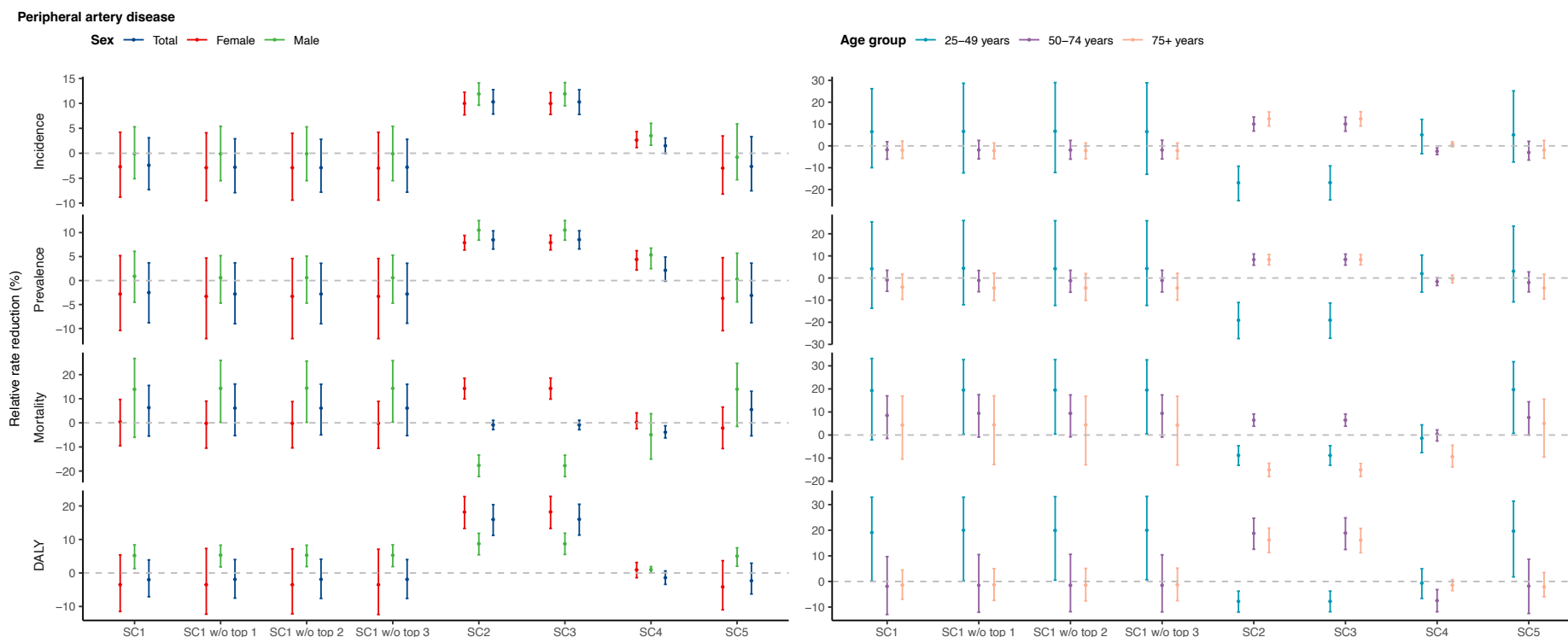
**Supplementary figure 23.** Impact estimates of the 2011 CSC Guideline on hypertensive heart disease prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC, [supplementary 1 pp 8-9](#)). Briefly, SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized. SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1. The dots represent the point estimate of relative rate reduction in percentage. The vertical lines represent the 95% uncertainty intervals. The impact estimates were truncated at -100% or 100%.



### Atrial fibrillation and flutter

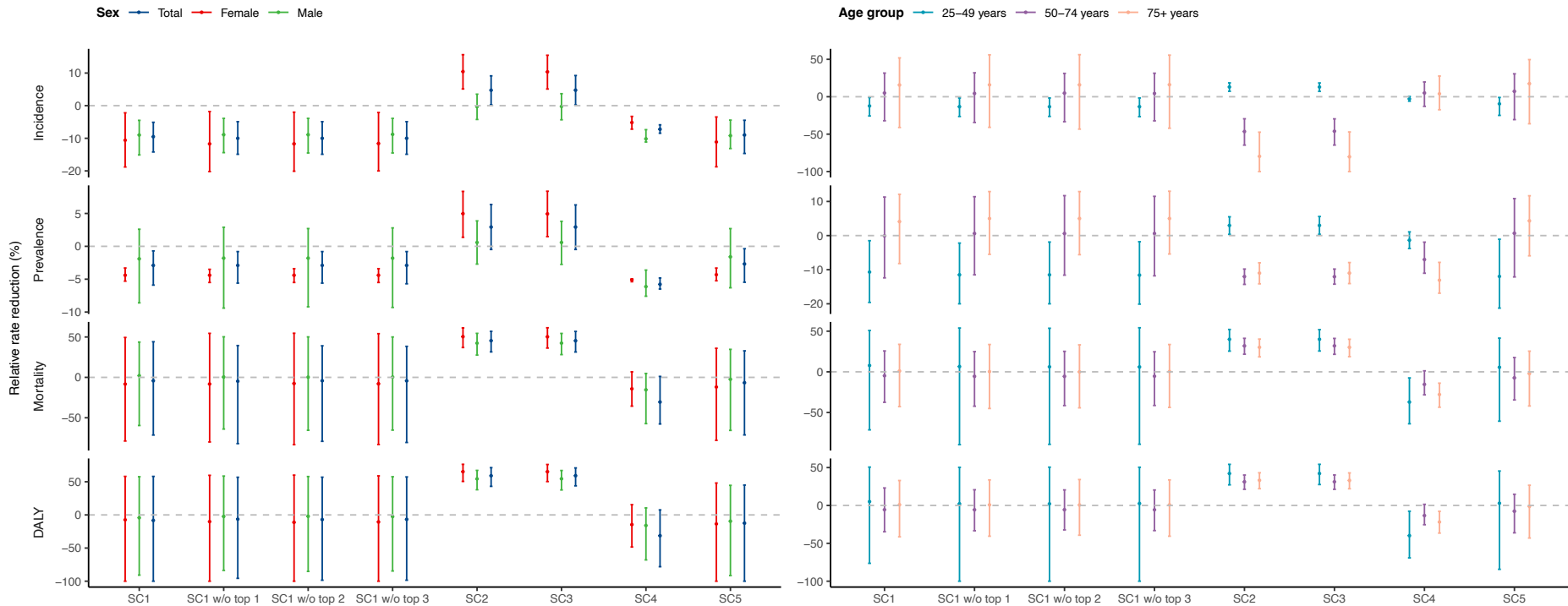


**Supplementary figure 24.** Impact estimates of the 2011 CSC Guideline on atrial fibrillation and flutter incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC, [supplementary 1 pp 8-9](#)). Briefly, SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized. SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1. The dots represent the point estimate of relative rate reduction in percentage. The vertical lines represent the 95% uncertainty intervals.

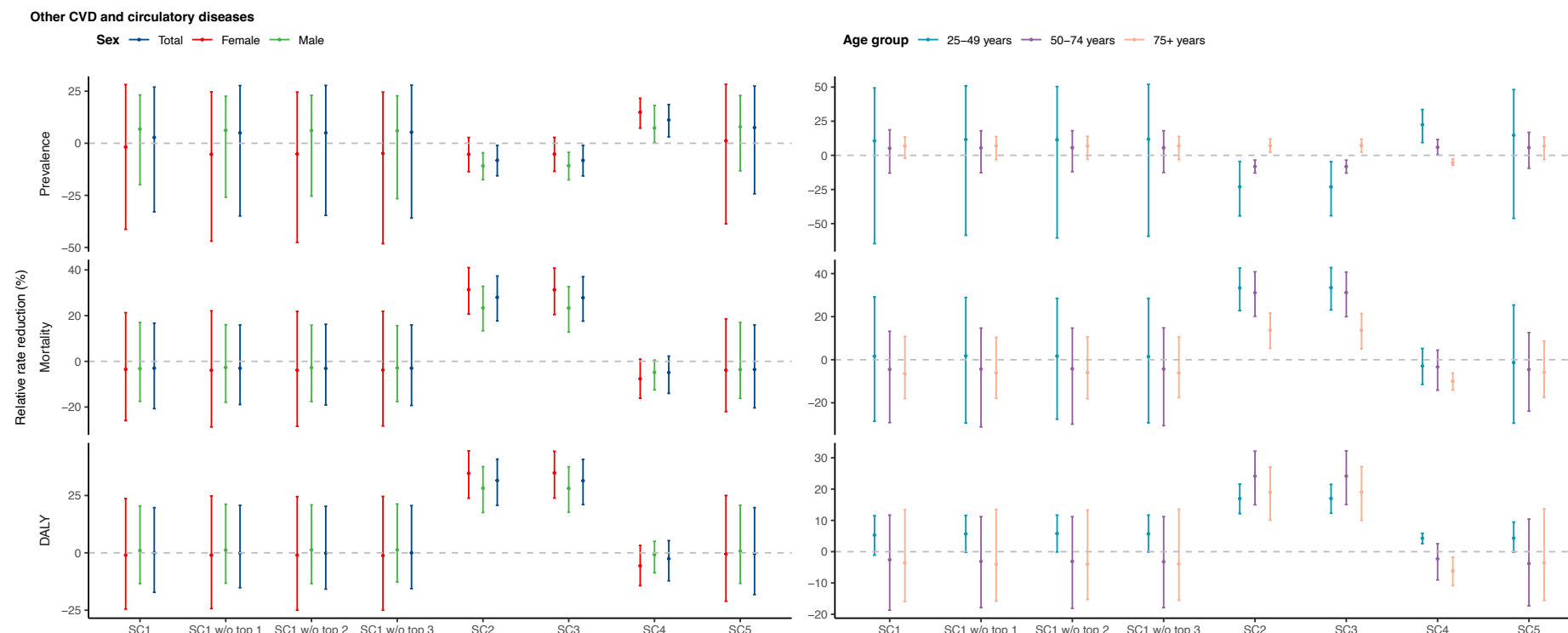


**Supplementary figure 25.** Impact estimates of the 2011 CSC Guideline on peripheral artery disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC, [supplementary 1 pp 8-9](#)). Briefly, SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized. SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1. The dots represent the point estimate of relative rate reduction in percentage. The vertical lines represent the 95% uncertainty intervals.

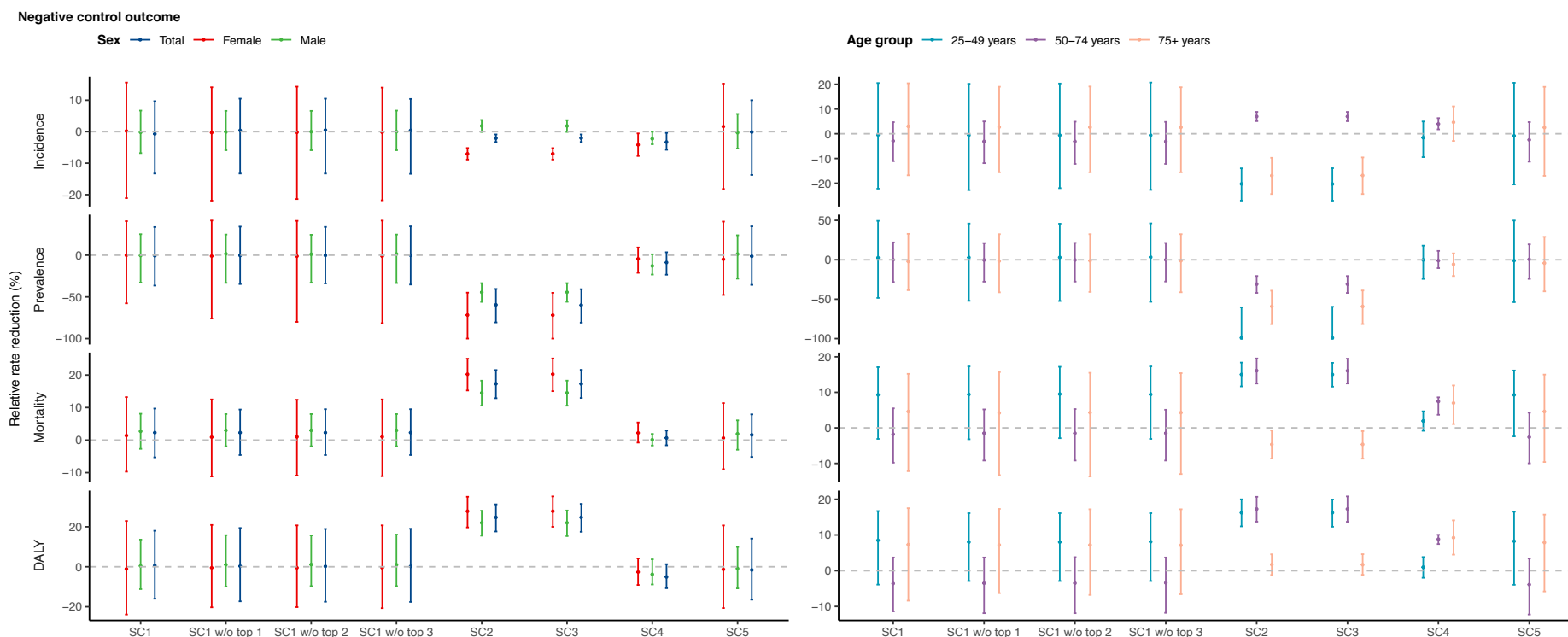
Endocarditis



**Supplementary figure 26.** Impact estimates of the 2011 CSC Guideline on endocarditis incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC, **supplementary 1 pp 8-9**). Briefly, SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized. SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1. The dots represent the point estimate of relative rate reduction in percentage. The vertical lines represent the 95% uncertainty intervals. The impact estimates were truncated at -100% or 100%.



**Supplementary figure 27.** Impact estimates of the 2011 CSC Guideline on other cardiovascular and circulatory disease prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC, [supplementary 1 pp 8-9](#)). Briefly, SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized. SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1. The dots represent the point estimate of relative rate reduction in percentage. The vertical lines represent the 95% uncertainty intervals.



**Supplementary figure 28.** Impact estimates of the 2011 CSC Guideline on negative control outcome of brain and central nervous system cancer incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC, [supplementary 1 pp 8-9](#)). Briefly, SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized. SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1. The dots represent the point estimate of relative rate reduction in percentage. The vertical lines represent the 95% uncertainty intervals. The impact estimates were truncated at -100% or 100%.

**Supplementary table 6.** Sensitivity of results to relative rate reduction (%) of cardiovascular diseases incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC)

Subgroup	Models *	Incidence (95% UIs)	PP <sup>†</sup>	Prevalence (95% UIs)	PP <sup>†</sup>	Mortality (95% UIs)	PP <sup>†</sup>	DALY (95% UIs)	PP <sup>†</sup>
Total	SC1	-1.7 (-3.5 to 0.7)	93.7	-1.0 (-3.2 to 0.6)	92.2	5.7 (-6.1 to 18.2)	83.8	2.9 (-10.7 to 13.8)	70.9
	SC1 w/o top 1	-1.7 (-3.4 to 0.1)	93.7	-1.0 (-3.1 to 0.5)	92.2	4.6 (-7.3 to 17.0)	83.8	2.4 (-11.2 to 13.1)	70.9
	SC1 w/o top 2	-1.7 (-3.4 to 0.1)	93.7	-1.0 (-3.1 to 0.5)	92.2	4.6 (-7.4 to 17.1)	83.8	2.5 (-11.3 to 13.2)	70.9
	SC1 w/o top 3	-1.7 (-3.4 to 0.1)	93.7	-1.0 (-3.1 to 0.5)	92.2	4.5 (-7.4 to 17.0)	83.8	2.5 (-11.4 to 13.1)	70.9
	SC2	9.4 (6.3 to 12.3)	100	6.2 (3.4 to 9.0)	100	21.6 (15.8 to 27.1)	100	25.6 (18.4 to 32.3)	100
	SC3	9.4 (6.3 to 12.4)	100	6.3 (3.4 to 9.0)	100	21.6 (16.0 to 27.1)	100	25.7 (18.5 to 32.3)	100
	SC4	1.3 (0.7 to 1.8)	100	-0.7 (-1.4 to -0.1)	98.9	5.9 (3.0 to 8.4)	100	5.2 (0.5 to 8.6)	98.4
	SC5	-1.6 (-3.4 to 0.9)	91.4	-1.0 (-3.0 to 0.3)	94.3	3.7 (-5.6 to 11.4)	81.8	2.8 (-8.9 to 11.0)	76.8
Female	SC1	-0.6 (-1.9 to 1.2)	79.7	-1.6 (-4.1 to 0.4)	95.6	4.4 (-12.6 to 22.1)	72.5	3.8 (-17.3 to 19.4)	67.4
	SC1 w/o top 1	-0.6 (-1.9 to 1.2)	79.7	-1.6 (-4.2 to 0.3)	95.6	4.4 (-13.5 to 20.2)	72.5	4.6 (-16.0 to 23.1)	67.4
	SC1 w/o top 2	-0.6 (-1.9 to 1.3)	79.7	-1.6 (-4.2 to 0.3)	95.6	4.4 (-13.4 to 20.1)	72.5	4.5 (-16.4 to 23.0)	67.4
	SC1 w/o top 3	-0.6 (-2.0 to 1.2)	79.7	-1.6 (-4.2 to 0.3)	95.6	4.5 (-13.4 to 20.9)	72.5	4.5 (-15.8 to 23.2)	67.4
	SC2	9.5 (6.4 to 12.5)	100	6.0 (3.4 to 8.5)	100	28.3 (21.4 to 34.7)	100	33.1 (24.7 to 40.6)	100
	SC3	9.4 (6.3 to 12.6)	100	6.0 (3.4 to 8.5)	100	28.3 (21.4 to 34.9)	100	33.1 (24.8 to 40.8)	100
	SC4	-0.0 (-0.3 to 0.3)	57.8	-1.1 (-1.7 to -0.3)	99.8	7.8 (3.9 to 11.3)	100	6.5 (0.4 to 11.8)	98
	SC5	-0.8 (-2.2 to 0.8)	84.6	-1.6 (-4.0 to 0.1)	97.3	5.2 (-9.4 to 14.4)	79.5	4.9 (-14.9 to 15.8)	77.2
Male	SC1	-2.8 (-6.3 to 1.4)	93.3	-0.3 (-3.0 to 1.6)	63.5	9.7 (0.3 to 15.6)	97.9	3.1 (-5.3 to 14.8)	81.2
	SC1 w/o top 1	-3.1 (-6.6 to 1.0)	93.3	-0.4 (-3.0 to 1.7)	63.5	10.0 (0.6 to 15.1)	97.9	3.2 (-6.4 to 15.5)	81.2
	SC1 w/o top 2	-3.0 (-6.6 to 1.0)	93.3	-0.4 (-3.0 to 1.8)	63.5	9.9 (0.6 to 15.1)	97.9	3.2 (-6.1 to 15.3)	81.2
	SC1 w/o top 3	-3.0 (-6.6 to 1.0)	93.3	-0.4 (-2.9 to 1.8)	63.5	9.9 (0.5 to 15.0)	97.9	3.2 (-6.4 to 15.4)	81.2
	SC2	9.1 (6.4 to 11.7)	100	6.5 (3.5 to 9.5)	100	13.3 (8.8 to 17.7)	100	18.5 (12.5 to 24.3)	100
	SC3	9.1 (6.4 to 11.7)	100	6.6 (3.6 to 9.5)	100	13.4 (8.9 to 17.7)	100	18.6 (12.5 to 24.4)	100
	SC4	2.7 (1.8 to 3.9)	100	-0.2 (-1.0 to 0.6)	67.8	2.6 (1.0 to 5.3)	99.9	2.8 (-0.7 to 5.3)	94.6
	SC5	-3.0 (-6.5 to 1.9)	90.6	-0.3 (-2.6 to 1.3)	62.1	3.2 (-2.0 to 9.9)	91	1.5 (-4.7 to 8.9)	74.7
25-49 years	SC1	0.5 (-5.2 to 7.2)	58.4	1.6 (-5.7 to 9.5)	69	15.9 (-6.4 to 31.8)	94	11.9 (-15.0 to 29.0)	87.1
	SC1 w/o top 1	0.3 (-5.2 to 6.8)	58.4	1.8 (-5.5 to 10.1)	69	16.2 (-14.0 to 33.4)	94	12.2 (-13.2 to 28.9)	87.1
	SC1 w/o top 2	0.3 (-5.4 to 6.9)	58.4	1.9 (-5.6 to 10.4)	69	16.3 (-14.1 to 33.6)	94	12.2 (-12.9 to 29.3)	87.1
	SC1 w/o top 3	0.4 (-5.4 to 6.9)	58.4	1.9 (-5.7 to 10.3)	69	16.2 (-13.9 to 33.2)	94	12.1 (-13.5 to 29.2)	87.1
	SC2	2.9 (1.7 to 4.0)	100	-1.4 (-2.6 to -0.1)	98.4	21.8 (14.3 to 28.9)	100	21.8 (14.4 to 28.6)	100
	SC3	2.9 (1.7 to 4.1)	100	-1.4 (-2.6 to -0.1)	98.3	21.7 (14.2 to 28.7)	100	21.8 (14.4 to 28.6)	100
	SC4	0.2 (-1.7 to 1.9)	57.5	0.9 (-2.0 to 4.0)	73.7	-0.9 (-5.7 to 4.1)	61.2	-0.6 (-5.5 to 4.5)	57.5
	SC5	1.0 (-5.1 to 6.5)	67.9	1.0 (-5.8 to 9.9)	64	13.1 (-17.4 to 29.7)	86.5	10.2 (-15.6 to 27.2)	83
50-74 years	SC1	1.3 (-3.2 to 5.4)	76.4	-0.1 (-3.6 to 3.2)	53	0.9 (-24.5 to 17.2)	53.9	0.5 (-22.8 to 16.5)	51.5

	SC1 w/o top 1	1.4 (-2.8 to 5.4)	76.4	-0.0 (-3.7 to 3.2)	53	0.6 (-24.1 to 17.8)	53.9	0.2 (-23.9 to 15.2)	51.5
	SC1 w/o top 2	1.5 (-2.8 to 5.3)	76.4	-0.0 (-3.7 to 3.2)	53	0.7 (-23.9 to 18.0)	53.9	0.3 (-23.5 to 15.4)	51.5
	SC1 w/o top 3	1.5 (-2.8 to 5.3)	76.4	-0.0 (-3.7 to 3.2)	53	0.8 (-24.6 to 18.0)	53.9	0.2 (-23.2 to 15.8)	51.5
	SC2	7.7 (3.3 to 11.8)	99.9	6.7 (3.4 to 10.0)	100	33.8 (24.5 to 41.9)	100	32.2 (23.1 to 40.1)	100
	SC3	7.6 (3.5 to 11.7)	99.9	6.7 (3.3 to 10.1)	100	33.7 (25.0 to 41.9)	100	32.1 (23.4 to 40.1)	100
	SC4	-5.5 (-7.6 to -2.9)	100	-4.6 (-5.7 to -3.5)	100	4.2 (-2.5 to 11.3)	88.6	3.0 (-3.4 to 10.1)	81.6
	SC5	1.3 (-2.0 to 4.6)	80.7	-0.1 (-2.9 to 2.7)	51.7	1.7 (-24.2 to 15.1)	57.4	1.8 (-21.7 to 12.1)	59.7
75+ years	SC1	0.7 (-8.9 to 6.8)	55.6	-1.8 (-4.2 to 1.4)	87.8	4.2 (-4.4 to 12.8)	84	6.1 (-4.6 to 16.5)	88.2
	SC1 w/o top 1	0.8 (-8.5 to 7.8)	55.6	-1.9 (-4.3 to 1.4)	87.8	4.4 (-5.9 to 13.1)	84	5.5 (-5.1 to 17.1)	88.2
	SC1 w/o top 2	0.9 (-8.5 to 7.9)	55.6	-1.9 (-4.3 to 1.4)	87.8	4.5 (-6.0 to 13.2)	84	5.5 (-5.4 to 17.0)	88.2
	SC1 w/o top 3	0.9 (-8.5 to 7.9)	55.6	-1.8 (-4.3 to 1.3)	87.8	4.4 (-6.0 to 13.1)	84	5.4 (-5.3 to 17.2)	88.2
	SC2	5.1 (3.9 to 6.4)	100	3.2 (0.9 to 5.4)	99.5	11.3 (7.3 to 15.1)	100	16.9 (12.1 to 21.7)	100
	SC3	5.1 (3.9 to 6.4)	100	3.2 (0.9 to 5.4)	99.5	11.2 (7.2 to 15.1)	100	17.0 (12.0 to 21.7)	100
	SC4	3.5 (1.2 to 5.9)	99.9	-2.0 (-3.2 to -1.0)	100	2.3 (0.8 to 7.2)	99.8	5.4 (2.6 to 9.9)	100
	SC5	1.3 (-7.3 to 6.5)	61.4	-2.2 (-4.0 to 1.2)	91.6	0.2 (-7.1 to 6.2)	52.4	2.3 (-5.8 to 9.3)	75.8

**Note:**

\* SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized (**supplementary 1 pp 8-9**). SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1.

† PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

**Supplementary table 7.** Sensitivity of results to relative rate reduction (%) of rheumatic heart disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC)

Subgroup	Models *	Incidence (95% UIs)	PP <sup>†</sup>	Prevalence (95% UIs)	PP <sup>†</sup>	Mortality (95% UIs)	PP <sup>†</sup>	DALY (95% UIs)	PP <sup>†</sup>
Total	SC1	0.9 (-12.5 to 14.2)	55.5	1.7 (-9.8 to 13.4)	59.1	8.6 (-51.6 to 37.3)	67.9	7.8 (-48.6 to 38.9)	65.9
	SC1 w/o top 1	1.6 (-11.3 to 14.4)	55.5	0.4 (-10.5 to 11.7)	59.1	8.9 (-42.3 to 37.5)	67.9	6.2 (-49.9 to 35.6)	65.9
	SC1 w/o top 2	1.5 (-11.5 to 14.4)	55.5	0.5 (-10.6 to 12.0)	59.1	9.3 (-42.7 to 37.5)	67.9	6.2 (-51.0 to 35.7)	65.9
	SC1 w/o top 3	1.5 (-11.4 to 14.8)	55.5	0.5 (-10.4 to 12.0)	59.1	9.3 (-41.6 to 38.3)	67.9	6.1 (-51.1 to 35.4)	65.9
	SC2	13.8 (5.8 to 21.0)	99.9	9.8 (2.7 to 16.6)	99.5	60.6 (47.8 to 70.4)	100	61.6 (48.2 to 71.8)	100
	SC3	13.9 (6.1 to 21.0)	99.9	10.0 (2.9 to 16.6)	99.4	60.6 (48.1 to 70.7)	100	61.6 (48.7 to 71.7)	100
	SC4	1.4 (-3.3 to 5.9)	72.5	0.8 (-3.2 to 4.7)	66.3	7.8 (-9.4 to 24.1)	80.1	8.2 (-11.7 to 25.5)	76
	SC5	-0.9 (-14.5 to 13.1)	57	-1.7 (-11.5 to 11.0)	63.8	10.2 (-42.5 to 34.2)	77.2	8.8 (-43.0 to 36.7)	73.7
Female	SC1	1.6 (-13.0 to 17.5)	58.5	0.9 (-11.8 to 14.4)	55.1	10.4 (-60.7 to 54.7)	66.7	8.6 (-66.1 to 49.2)	62.9
	SC1 w/o top 1	1.5 (-12.3 to 17.7)	58.5	1.0 (-11.3 to 13.0)	55.1	10.4 (-53.3 to 51.5)	66.7	8.5 (-57.0 to 45.5)	62.9
	SC1 w/o top 2	1.5 (-12.6 to 17.6)	58.5	0.9 (-11.4 to 13.1)	55.1	10.2 (-52.2 to 50.5)	66.7	8.7 (-61.0 to 45.6)	62.9
	SC1 w/o top 3	1.4 (-12.5 to 17.4)	58.5	1.0 (-11.5 to 13.0)	55.1	11.1 (-52.1 to 51.1)	66.7	8.9 (-58.8 to 45.7)	62.9
	SC2	13.8 (6.1 to 21.0)	100	9.1 (2.4 to 15.6)	99.2	65.8 (53.4 to 74.9)	100	66.9 (54.5 to 76.7)	100
	SC3	13.8 (5.9 to 21.0)	99.9	9.2 (2.2 to 15.6)	99.2	65.7 (53.8 to 74.9)	100	66.8 (54.5 to 76.5)	100
	SC4	-4.6 (-10.6 to 0.2)	97	-4.8 (-8.9 to -0.9)	99.3	12.3 (-6.0 to 27.8)	90.2	8.1 (-11.5 to 26.0)	76.8
	SC5	-0.9 (-15.4 to 13.9)	56.2	-1.3 (-11.5 to 13.0)	59.6	14.5 (-51.1 to 39.9)	77.8	11.6 (-53.7 to 41.2)	74
Male	SC1	1.1 (-11.5 to 13.6)	57.4	1.4 (-10.3 to 12.3)	58.7	5.3 (-35.5 to 33.0)	65.9	5.6 (-40.3 to 36.1)	64.9
	SC1 w/o top 1	1.2 (-10.7 to 13.7)	57.4	1.1 (-10.5 to 11.9)	58.7	5.2 (-36.4 to 39.0)	65.9	5.6 (-39.2 to 35.5)	64.9
	SC1 w/o top 2	1.3 (-10.8 to 13.5)	57.4	1.2 (-10.5 to 11.9)	58.7	5.4 (-35.7 to 38.8)	65.9	5.8 (-40.8 to 35.7)	64.9
	SC1 w/o top 3	1.3 (-10.9 to 13.7)	57.4	1.2 (-10.4 to 12.0)	58.7	5.5 (-34.6 to 38.5)	65.9	5.6 (-41.5 to 35.2)	64.9
	SC2	13.4 (5.7 to 20.7)	99.9	10.8 (3.5 to 17.7)	99.6	51.2 (38.0 to 61.8)	100	53.0 (39.2 to 63.8)	100
	SC3	13.4 (5.7 to 20.6)	99.9	10.8 (3.4 to 17.8)	99.5	51.1 (37.9 to 62.0)	100	53.0 (39.3 to 63.7)	100
	SC4	3.5 (-2.0 to 8.3)	90.8	2.9 (-1.8 to 7.3)	89.8	8.1 (-12.0 to 20.4)	76.9	8.8 (-12.4 to 21.2)	78.4
	SC5	-1.0 (-13.4 to 12.7)	57.7	-1.5 (-11.5 to 10.8)	62.7	3.3 (-30.7 to 29.5)	63.5	3.4 (-33.5 to 29.5)	61.7
25-49 years	SC1	0.4 (-16.4 to 18.5)	51.1	3.9 (-4.7 to 12.8)	78.8	13.7 (-50.4 to 50.9)	71	5.9 (-51.0 to 42.5)	60.8
	SC1 w/o top 1	-0.3 (-16.3 to 17.7)	51.1	4.0 (-4.8 to 12.7)	78.8	13.0 (-57.7 to 51.1)	71	4.6 (-48.3 to 44.8)	60.8
	SC1 w/o top 2	-0.2 (-16.8 to 17.7)	51.1	4.0 (-5.1 to 12.9)	78.8	13.0 (-55.5 to 51.6)	71	4.3 (-49.5 to 44.3)	60.8
	SC1 w/o top 3	-0.2 (-16.8 to 17.7)	51.1	4.1 (-4.8 to 12.8)	78.8	12.9 (-56.3 to 51.4)	71	4.5 (-49.9 to 45.0)	60.8
	SC2	24.6 (16.4 to 32.1)	100	13.6 (7.2 to 19.8)	100	71.7 (59.6 to 80.7)	100	63.5 (49.8 to 73.9)	100
	SC3	24.6 (16.6 to 31.8)	100	13.6 (7.1 to 19.6)	100	71.7 (59.5 to 80.8)	100	63.5 (50.1 to 73.8)	100
	SC4	-3.2 (-12.6 to 3.3)	81.4	-3.5 (-6.3 to 1.2)	92.7	12.2 (-9.6 to 31.1)	86.2	2.8 (-17.5 to 23.1)	57.1
	SC5	-0.7 (-16.3 to 16.1)	53.6	2.5 (-5.4 to 12.7)	69.2	16.2 (-43.3 to 49.4)	80.3	7.5 (-44.0 to 39.4)	69
50-74 years	SC1	10.4 (-14.0 to 31.1)	78.8	5.8 (-0.9 to 10.5)	95.9	10.3 (-54.6 to 39.4)	67.9	9.5 (-55.6 to 40.9)	66.7



	SC1 w/o top 1	9.8 (-14.4 to 28.2)	78.8	6.3 (0.1 to 10.9)	95.9	9.3 (-58.0 to 40.0)	67.9	10.1 (-52.9 to 40.3)	66.7
	SC1 w/o top 2	9.8 (-14.6 to 28.2)	78.8	6.3 (0.2 to 10.9)	95.9	9.6 (-61.0 to 40.0)	67.9	10.4 (-53.4 to 40.4)	66.7
	SC1 w/o top 3	9.8 (-14.3 to 28.0)	78.8	6.3 (0.3 to 10.8)	95.9	9.3 (-59.8 to 39.0)	67.9	10.4 (-52.4 to 40.1)	66.7
	SC2	19.7 (9.1 to 29.6)	99.9	6.1 (1.9 to 10.3)	99.6	65.6 (53.1 to 75.3)	100	64.3 (51.4 to 74.2)	100
	SC3	19.8 (8.9 to 29.4)	99.9	6.1 (1.8 to 10.3)	99.5	65.7 (53.0 to 75.2)	100	64.4 (51.9 to 74.1)	100
	SC4	-11.2 (-19.5 to -4.5)	99.9	-3.6 (-5.5 to -2.2)	99.9	13.1 (-6.7 to 30.5)	89.3	15.7 (-5.6 to 30.8)	91.1
	SC5	5.4 (-17.9 to 29.8)	62.4	5.7 (-1.0 to 10.9)	95.9	13.1 (-44.6 to 38.0)	78.4	11.5 (-48.5 to 36.3)	75.8
75+ years	SC1	-15.0 (-70.3 to 26.2)	76.9	5.2 (-0.9 to 9.4)	95.7	3.2 (-43.6 to 29.9)	57.7	5.6 (-45.8 to 34.5)	64.2
	SC1 w/o top 1	-16.7 (-76.2 to 21.9)	76.9	5.6 (-0.7 to 9.6)	95.7	2.9 (-45.9 to 27.2)	57.7	5.3 (-42.8 to 34.8)	64.2
	SC1 w/o top 2	-16.1 (-75.3 to 22.5)	76.9	5.5 (-0.9 to 9.6)	95.7	2.9 (-46.1 to 27.2)	57.7	5.2 (-42.4 to 35.3)	64.2
	SC1 w/o top 3	-16.6 (-75.9 to 23.3)	76.9	5.6 (-0.8 to 9.6)	95.7	3.3 (-46.5 to 27.6)	57.7	5.4 (-42.7 to 34.8)	64.2
	SC2	56.3 (46.3 to 65.1)	100	3.3 (0.6 to 5.8)	99.2	52.6 (40.1 to 63.3)	100	55.9 (43.0 to 66.2)	100
	SC3	56.3 (46.1 to 64.9)	100	3.3 (0.7 to 5.8)	99.2	52.8 (39.6 to 63.1)	100	56.0 (43.2 to 66.3)	100
	SC4	7.4 (-11.3 to 25.7)	73.7	-2.1 (-3.8 to -0.5)	99.6	3.8 (-13.0 to 18.8)	64.1	8.0 (-11.1 to 22.3)	77.7
	SC5	-15.8 (-67.8 to 20.6)	81.8	5.4 (-0.6 to 9.4)	96.5	3.9 (-39.4 to 27.9)	63.2	6.1 (-38.9 to 27.5)	69.7

**Note:**

\* SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized (**supplementary 1 pp 8-9**). SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1.

† PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

**Supplementary table 8.** Sensitivity of results to relative rate reduction (%) of ischemic heart disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for compositing the synthetic control (SC)

Subgroup	Models *	Incidence (95% UIs)	PP †	Prevalence (95% UIs)	PP †	Mortality (95% UIs)	PP †	DALY (95% UIs)	PP †
Total	SC1	5.9 (-4.5 to 14.6)	89	-0.0 (-5.5 to 3.7)	50.6	5.8 (-19.8 to 25.1)	70	2.2 (-14.0 to 18.8)	61.3
	SC1 w/o top 1	6.1 (-4.0 to 15.1)	89	-0.0 (-5.3 to 3.5)	50.6	4.5 (-18.3 to 23.3)	70	1.9 (-17.6 to 16.7)	61.3
	SC1 w/o top 2	6.0 (-4.2 to 15.1)	89	-0.0 (-5.4 to 3.5)	50.6	4.5 (-18.0 to 23.2)	70	2.0 (-17.9 to 16.9)	61.3
	SC1 w/o top 3	6.0 (-4.1 to 15.1)	89	-0.0 (-5.3 to 3.4)	50.6	4.6 (-17.9 to 23.2)	70	2.0 (-17.8 to 17.3)	61.3
	SC2	0.9 (-1.5 to 3.2)	77.3	6.5 (4.6 to 8.3)	100	-7.1 (-14.0 to -0.6)	98.7	1.3 (-3.0 to 5.5)	72.9
	SC3	0.9 (-1.5 to 3.2)	77.2	6.4 (4.6 to 8.3)	100	-7.2 (-14.0 to -0.8)	98.6	1.3 (-3.1 to 5.6)	72.5
	SC4	8.1 (3.5 to 11.6)	99.9	1.9 (0.6 to 3.3)	99.8	16.2 (6.1 to 23.1)	99.5	12.4 (7.3 to 17.2)	99.9
	SC5	7.0 (-1.7 to 14.7)	94.5	1.0 (-4.9 to 3.5)	68.1	5.0 (-17.2 to 23.4)	70.8	1.4 (-14.3 to 14.6)	58.9
Female	SC1	6.9 (-4.5 to 15.1)	91.8	-0.8 (-5.5 to 3.1)	69.1	4.9 (-24.7 to 27.8)	65	1.2 (-18.2 to 18.9)	55
	SC1 w/o top 1	6.9 (-4.8 to 15.0)	91.8	-0.8 (-6.1 to 3.3)	69.1	5.2 (-23.8 to 25.8)	65	2.3 (-17.3 to 22.1)	55
	SC1 w/o top 2	6.8 (-4.9 to 14.7)	91.8	-0.8 (-6.2 to 3.3)	69.1	5.3 (-24.7 to 25.9)	65	2.1 (-17.3 to 22.1)	55
	SC1 w/o top 3	6.9 (-4.7 to 15.0)	91.8	-0.8 (-6.2 to 3.1)	69.1	5.2 (-24.0 to 26.0)	65	2.1 (-17.7 to 21.9)	55
	SC2	0.5 (-1.8 to 2.7)	66.8	4.6 (3.0 to 6.1)	100	-1.7 (-8.5 to 4.8)	71.6	8.8 (4.3 to 13.0)	100
	SC3	0.5 (-1.8 to 2.8)	67	4.6 (3.0 to 6.1)	100	-1.8 (-8.7 to 4.7)	71.8	8.8 (4.4 to 13.1)	100
	SC4	3.9 (0.3 to 7.0)	98.2	0.5 (-0.9 to 2.0)	73.7	14.8 (8.3 to 20.6)	100	12.2 (8.0 to 16.0)	100
	SC5	7.7 (-1.8 to 13.4)	95.4	-0.7 (-5.5 to 2.8)	69.9	3.2 (-22.7 to 23.0)	62.7	-0.1 (-17.9 to 13.4)	51.4
Male	SC1	5.5 (-9.7 to 15.8)	81	-0.9 (-6.1 to 4.6)	62.8	7.5 (-18.2 to 24.8)	77.1	3.9 (-15.7 to 18.3)	69.8
	SC1 w/o top 1	4.9 (-9.8 to 15.7)	81	-1.2 (-7.5 to 4.5)	62.8	7.2 (-19.3 to 25.0)	77.1	2.9 (-18.1 to 17.8)	69.8
	SC1 w/o top 2	4.9 (-10.2 to 15.8)	81	-1.1 (-7.4 to 4.4)	62.8	7.2 (-19.5 to 25.0)	77.1	3.0 (-18.0 to 18.1)	69.8
	SC1 w/o top 3	4.8 (-10.4 to 15.8)	81	-1.2 (-7.4 to 4.4)	62.8	7.0 (-19.4 to 25.0)	77.1	3.0 (-17.9 to 17.9)	69.8
	SC2	0.5 (-2.2 to 3.2)	65.6	7.8 (5.7 to 9.7)	100	-14.6 (-22.3 to -7.2)	100	-5.7 (-10.4 to -1.1)	99.2
	SC3	0.5 (-2.2 to 3.2)	65.3	7.8 (5.7 to 9.8)	100	-14.5 (-22.4 to -7.1)	100	-5.6 (-10.4 to -1.1)	99.1
	SC4	8.3 (1.9 to 14.4)	99.6	3.2 (1.8 to 4.9)	100	13.2 (-1.6 to 22.6)	95.3	11.0 (-0.1 to 17.0)	97.3
	SC5	5.9 (-5.4 to 15.0)	87.6	-0.4 (-6.0 to 5.2)	54.4	8.0 (-12.0 to 23.7)	80.3	3.6 (-12.1 to 15.8)	69.8
25-49 years	SC1	2.0 (-6.2 to 10.8)	73.4	3.8 (-8.4 to 14.9)	80.2	15.2 (-4.3 to 26.6)	93.7	13.6 (-3.8 to 24.3)	94.1
	SC1 w/o top 1	1.8 (-6.2 to 10.8)	73.4	3.6 (-9.9 to 15.3)	80.2	15.6 (-2.5 to 27.1)	93.7	14.0 (-5.7 to 24.2)	94.1
	SC1 w/o top 2	1.7 (-6.2 to 10.8)	73.4	3.7 (-10.1 to 15.0)	80.2	15.6 (-2.6 to 27.1)	93.7	13.9 (-5.7 to 24.2)	94.1
	SC1 w/o top 3	1.8 (-6.4 to 10.9)	73.4	3.7 (-10.0 to 15.2)	80.2	15.6 (-2.5 to 27.2)	93.7	13.9 (-5.7 to 24.1)	94.1
	SC2	-2.6 (-4.1 to -1.1)	99.9	-4.9 (-7.9 to -1.9)	99.9	1.9 (-1.9 to 5.6)	84.5	4.2 (0.2 to 8.0)	98.2
	SC3	-2.6 (-4.0 to -1.1)	100	-4.9 (-8.0 to -1.9)	99.9	1.9 (-2.0 to 5.7)	85.4	4.1 (0.2 to 7.9)	98.2
	SC4	2.4 (-1.3 to 5.6)	90.8	5.0 (-0.4 to 9.4)	95.8	-6.1 (-9.6 to -1.1)	98.9	-5.4 (-7.2 to -2.2)	99.9
	SC5	1.8 (-6.2 to 11.5)	72.9	3.6 (-7.1 to 14.3)	80.1	12.9 (-7.7 to 25.5)	89	12.1 (-6.6 to 23.5)	88.7
50-74 years	SC1	5.0 (0.6 to 8.1)	98.4	-1.0 (-4.3 to 2.2)	75.6	-3.4 (-19.3 to 10.4)	69.2	-4.1 (-18.3 to 9.6)	73.8

	SC1 w/o top 1	5.4 (0.9 to 8.2)	98.4	-0.9 (-4.5 to 2.4)	75.6	-4.5 (-18.6 to 8.8)	69.2	-4.1 (-18.1 to 10.9)	73.8
	SC1 w/o top 2	5.4 (0.9 to 8.2)	98.4	-0.9 (-4.4 to 2.5)	75.6	-4.6 (-18.7 to 8.9)	69.2	-4.0 (-18.0 to 10.7)	73.8
	SC1 w/o top 3	5.4 (0.9 to 8.2)	98.4	-0.9 (-4.5 to 2.4)	75.6	-4.6 (-18.4 to 8.7)	69.2	-4.1 (-18.3 to 11.1)	73.8
	SC2	8.3 (4.9 to 11.6)	100	9.2 (5.8 to 12.3)	100	10.0 (5.4 to 14.5)	100	10.9 (6.2 to 15.6)	100
	SC3	8.3 (4.8 to 11.6)	100	9.2 (5.9 to 12.5)	100	10.0 (5.4 to 14.4)	100	10.9 (6.1 to 15.5)	100
	SC4	-1.0 (-1.5 to -0.0)	97.6	-2.7 (-3.7 to -1.6)	100	10.4 (0.6 to 14.8)	98.3	9.8 (1.4 to 13.9)	99.6
	SC5	4.5 (0.1 to 7.9)	97.7	-0.9 (-3.7 to 1.9)	75.9	-3.3 (-16.8 to 9.7)	71.8	-3.7 (-15.9 to 8.1)	75.4
75+ years	SC1	7.4 (-11.7 to 22.5)	82.1	0.4 (-6.1 to 5.7)	57.4	5.6 (-33.3 to 30.7)	64.9	6.2 (-26.0 to 30.1)	68.1
	SC1 w/o top 1	7.5 (-14.1 to 24.1)	82.1	0.6 (-5.9 to 5.7)	57.4	5.6 (-38.3 to 31.9)	64.9	4.3 (-27.2 to 28.2)	68.1
	SC1 w/o top 2	7.4 (-13.8 to 24.0)	82.1	0.5 (-5.7 to 5.8)	57.4	5.9 (-38.2 to 31.6)	64.9	4.3 (-27.4 to 28.1)	68.1
	SC1 w/o top 3	7.6 (-13.3 to 24.3)	82.1	0.6 (-6.0 to 5.7)	57.4	5.6 (-38.3 to 31.0)	64.9	4.5 (-26.8 to 28.2)	68.1
	SC2	-12.1 (-18.1 to -6.6)	100	1.1 (0.1 to 2.1)	98.5	-23.8 (-36.3 to -12.1)	100	-13.0 (-22.7 to -4.1)	99.8
	SC3	-12.3 (-18.4 to -6.6)	100	1.1 (0.1 to 2.1)	98.3	-23.7 (-36.3 to -11.9)	100	-13.1 (-22.7 to -4.3)	99.8
	SC4	9.6 (-0.4 to 16.2)	96.8	1.1 (-1.6 to 3.4)	80.3	16.1 (-0.0 to 26.1)	97	18.2 (5.5 to 26.1)	99.6
	SC5	9.2 (-7.6 to 22.0)	87.6	0.5 (-5.1 to 5.4)	59.6	5.9 (-25.9 to 28.8)	66.7	5.8 (-21.4 to 27.4)	70.1

**Note:**

\* SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized (**supplementary 1 pp 8-9**). SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1.

† PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

**Supplementary table 9.** Sensitivity of results to relative rate reduction (%) of non-rheumatic valvular heart disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for compositing the synthetic control (SC)

Subgroup	Models *	Incidence (95% UIs)	PP <sup>†</sup>	Prevalence (95% UIs)	PP <sup>†</sup>	Mortality (95% UIs)	PP <sup>†</sup>	DALY (95% UIs)	PP <sup>†</sup>
Total	SC1	12.3 (-12.4 to 26.3)	84.4	8.2 (-12.1 to 20.7)	80.5	7.1 (-14.8 to 21.8)	74.6	2.8 (-11.8 to 14.4)	68
	SC1 w/o top 1	12.8 (-7.4 to 26.1)	84.4	8.7 (-10.1 to 20.5)	80.5	6.6 (-15.6 to 21.9)	74.6	2.6 (-13.4 to 13.9)	68
	SC1 w/o top 2	12.8 (-6.8 to 26.1)	84.4	8.6 (-10.0 to 20.3)	80.5	6.9 (-15.6 to 22.3)	74.6	2.7 (-13.2 to 14.2)	68
	SC1 w/o top 3	12.9 (-7.1 to 26.1)	84.4	8.6 (-9.6 to 20.6)	80.5	6.8 (-15.1 to 21.9)	74.6	2.7 (-13.5 to 13.9)	68
	SC2	-26.5 (-33.0 to -20.3)	100	-19.7 (-24.2 to -15.4)	100	40.3 (32.3 to 47.3)	100	29.7 (21.7 to 37.1)	100
	SC3	-26.5 (-33.0 to -20.3)	100	-19.7 (-24.2 to -15.3)	100	40.3 (32.5 to 47.4)	100	29.7 (21.7 to 37.0)	100
	SC4	-4.8 (-16.0 to 2.7)	90.2	-5.8 (-15.6 to 1.0)	95.4	12.9 (5.5 to 18.3)	99.8	2.9 (-2.2 to 8.4)	86.6
	SC5	14.1 (-9.0 to 25.8)	90.4	9.2 (-8.0 to 20.3)	87.6	7.0 (-15.2 to 21.8)	74.1	3.6 (-11.4 to 13.4)	75.5
Female	SC1	14.1 (-13.0 to 26.8)	87.2	9.2 (-12.3 to 20.9)	83.8	7.0 (-23.8 to 30.1)	67.9	2.0 (-19.5 to 19.3)	58.8
	SC1 w/o top 1	14.6 (-10.2 to 27.0)	87.2	9.3 (-15.0 to 21.2)	83.8	5.6 (-24.7 to 27.0)	67.9	2.3 (-17.5 to 21.4)	58.8
	SC1 w/o top 2	14.5 (-9.8 to 27.0)	87.2	9.4 (-15.5 to 21.1)	83.8	5.7 (-24.6 to 27.4)	67.9	2.3 (-18.3 to 21.1)	58.8
	SC1 w/o top 3	14.5 (-10.0 to 26.8)	87.2	9.4 (-14.9 to 21.3)	83.8	5.9 (-25.2 to 27.7)	67.9	2.3 (-17.5 to 21.4)	58.8
	SC2	-24.3 (-30.6 to -18.2)	100	-16.9 (-21.1 to -12.9)	100	46.6 (37.8 to 54.3)	100	34.0 (25.0 to 42.1)	100
	SC3	-24.3 (-30.5 to -18.3)	100	-16.9 (-21.1 to -12.9)	100	46.7 (38.3 to 54.2)	100	34.1 (24.9 to 42.0)	100
	SC4	-13.7 (-21.2 to -6.1)	100	-10.0 (-15.4 to -4.7)	100	15.2 (8.0 to 21.8)	100	2.0 (-4.4 to 8.1)	71.8
	SC5	15.6 (-9.0 to 25.8)	92.3	10.4 (-7.7 to 20.4)	89.4	5.9 (-25.7 to 26.9)	65.4	2.8 (-17.7 to 18.2)	66
Male	SC1	7.3 (-16.0 to 24.5)	75	4.7 (-15.1 to 19.3)	69.8	7.9 (-5.6 to 18.6)	89.1	3.8 (-6.1 to 12.5)	80.4
	SC1 w/o top 1	9.6 (-16.1 to 25.5)	75	5.4 (-13.9 to 19.0)	69.8	7.3 (-7.3 to 21.7)	89.1	3.7 (-6.2 to 14.2)	80.4
	SC1 w/o top 2	9.4 (-16.7 to 25.2)	75	5.5 (-13.4 to 19.2)	69.8	7.4 (-7.3 to 21.9)	89.1	3.7 (-6.2 to 14.0)	80.4
	SC1 w/o top 3	9.5 (-16.3 to 25.2)	75	5.3 (-13.3 to 19.1)	69.8	7.4 (-7.3 to 22.2)	89.1	3.7 (-6.2 to 14.1)	80.4
	SC2	-28.3 (-34.9 to -21.9)	100	-23.5 (-28.4 to -18.7)	100	32.1 (25.1 to 38.6)	100	25.1 (18.0 to 31.7)	100
	SC3	-28.3 (-35.0 to -21.9)	100	-23.5 (-28.5 to -18.7)	100	32.1 (25.1 to 38.5)	100	25.1 (18.0 to 31.6)	100
	SC4	-1.3 (-12.8 to 6.6)	64.3	-3.2 (-14.6 to 3.9)	81.1	9.9 (5.2 to 13.7)	99.9	3.3 (-0.4 to 8.0)	96.1
	SC5	9.0 (-12.7 to 24.4)	82.7	5.9 (-10.9 to 19.5)	76.2	8.0 (-5.1 to 16.8)	88.3	4.1 (-5.9 to 10.2)	86.9
25-49 years	SC1	-8.5 (-24.4 to 0.7)	96.7	-17.2 (-35.8 to 0.1)	97.4	1.4 (-18.1 to 21.7)	56.4	0.4 (-20.6 to 22.6)	51.4
	SC1 w/o top 1	-8.6 (-25.6 to 1.5)	96.7	-18.6 (-36.7 to -1.4)	97.4	1.0 (-17.0 to 21.1)	56.4	-0.3 (-21.6 to 23.4)	51.4
	SC1 w/o top 2	-8.6 (-25.5 to 1.5)	96.7	-18.6 (-36.7 to -1.8)	97.4	1.0 (-16.8 to 21.3)	56.4	-0.4 (-21.9 to 23.0)	51.4
	SC1 w/o top 3	-8.6 (-25.6 to 1.5)	96.7	-18.5 (-36.8 to -1.7)	97.4	1.1 (-17.1 to 21.2)	56.4	-0.2 (-21.5 to 23.0)	51.4
	SC2	-12.9 (-15.5 to -10.3)	100	-3.9 (-6.6 to -1.2)	99.8	30.5 (22.0 to 38.1)	100	31.7 (22.8 to 39.7)	100
	SC3	-12.9 (-15.6 to -10.3)	100	-3.9 (-6.7 to -1.1)	99.8	30.5 (21.9 to 38.5)	100	31.8 (22.6 to 40.0)	100
	SC4	-5.9 (-10.6 to -0.6)	98.6	-0.4 (-4.6 to 3.5)	56.3	0.8 (-7.2 to 7.0)	58.2	-0.0 (-10.2 to 7.0)	51.6
	SC5	-8.4 (-24.0 to 0.6)	97	-13.7 (-36.9 to 1.4)	95.7	0.1 (-16.0 to 17.2)	50.5	-1.1 (-20.2 to 15.6)	57.2
50-74 years	SC1	26.4 (-9.3 to 43.1)	93.9	10.3 (-9.6 to 21.9)	89.9	0.8 (-24.0 to 17.0)	52.2	-0.3 (-17.2 to 12.7)	53.1

	SC1 w/o top 1	27.3 (-4.0 to 43.7)	93.9	11.5 (-4.2 to 23.4)	89.9	0.8 (-28.9 to 16.8)	52.2	-0.1 (-16.1 to 12.4)	53.1
	SC1 w/o top 2	27.3 (-3.9 to 43.8)	93.9	11.6 (-4.2 to 23.6)	89.9	0.7 (-28.5 to 17.3)	52.2	-0.1 (-15.6 to 12.6)	53.1
	SC1 w/o top 3	27.3 (-4.0 to 43.5)	93.9	11.5 (-4.1 to 23.6)	89.9	0.8 (-27.9 to 17.5)	52.2	-0.0 (-15.8 to 12.5)	53.1
	SC2	-39.1 (-51.3 to -27.9)	100	-21.2 (-25.9 to -16.4)	100	36.2 (26.8 to 44.5)	100	28.6 (19.8 to 36.5)	100
	SC3	-39.1 (-51.1 to -27.6)	100	-21.2 (-25.9 to -16.6)	100	36.1 (26.9 to 44.5)	100	28.6 (20.1 to 36.4)	100
	SC4	-2.5 (-14.6 to 7.8)	71.6	-14.0 (-22.0 to -5.0)	99.9	3.4 (-4.0 to 10.5)	81.1	-0.5 (-6.3 to 5.8)	59.3
	SC5	26.8 (-0.9 to 40.8)	97.1	10.7 (-4.1 to 20.6)	95	1.8 (-24.8 to 16.3)	57.1	0.6 (-16.4 to 11.5)	54.3
75+ years	SC1	9.4 (-12.9 to 23.6)	81.2	19.0 (-11.8 to 33.5)	90.1	8.1 (-8.8 to 21.3)	84.4	7.3 (-0.5 to 14.9)	96.9
	SC1 w/o top 1	9.9 (-10.6 to 24.0)	81.2	20.0 (-4.2 to 33.8)	90.1	7.7 (-9.8 to 21.1)	84.4	7.3 (-0.2 to 15.8)	96.9
	SC1 w/o top 2	9.8 (-10.7 to 24.1)	81.2	19.9 (-4.7 to 33.8)	90.1	7.7 (-10.1 to 21.5)	84.4	7.3 (-0.4 to 15.4)	96.9
	SC1 w/o top 3	9.8 (-10.7 to 23.9)	81.2	19.7 (-5.2 to 33.9)	90.1	7.8 (-9.7 to 21.1)	84.4	7.3 (-0.4 to 15.5)	96.9
	SC2	-25.3 (-31.1 to -19.3)	100	-30.7 (-39.5 to -22.5)	100	38.2 (31.3 to 44.3)	100	25.8 (19.4 to 31.8)	100
	SC3	-25.2 (-31.2 to -19.3)	100	-30.8 (-39.6 to -22.2)	100	38.1 (31.2 to 44.3)	100	25.8 (19.6 to 31.8)	100
	SC4	-5.1 (-13.7 to 1.7)	93.3	-2.3 (-13.3 to 6.3)	72.5	15.2 (8.6 to 19.7)	100	6.4 (3.1 to 10.0)	100
	SC5	11.8 (-9.8 to 23.2)	87.3	20.4 (-6.1 to 32.6)	94.4	7.1 (-8.3 to 20.8)	81.7	7.3 (0.7 to 14.3)	98

**Note:**

\* SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized (**supplementary 1 pp 8-9**). SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1.

† PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

**Supplementary table 10.** Sensitivity of results to relative rate reduction (%) of intracerebral hemorrhage incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC)

Subgroup	Models *	Incidence (95% UIs)	PP <sup>†</sup>	Prevalence (95% UIs)	PP <sup>†</sup>	Mortality (95% UIs)	PP <sup>†</sup>	DALY (95% UIs)	PP <sup>†</sup>
Total	SC1	-13.9 (-54.3 to 22.0)	76.9	0.7 (-23.5 to 24.1)	52.6	15.2 (-7.8 to 29.1)	92.4	11.6 (-11.6 to 28.2)	83.3
	SC1 w/o top 1	-18.2 (-55.6 to 15.9)	76.9	-0.4 (-24.0 to 24.2)	52.6	14.3 (-6.0 to 28.9)	92.4	11.1 (-11.0 to 28.1)	83.3
	SC1 w/o top 2	-18.3 (-54.6 to 15.4)	76.9	-0.3 (-24.2 to 23.5)	52.6	14.1 (-5.9 to 28.9)	92.4	11.4 (-11.0 to 27.9)	83.3
	SC1 w/o top 3	-18.3 (-55.3 to 16.6)	76.9	-0.4 (-23.9 to 23.7)	52.6	14.2 (-6.0 to 29.1)	92.4	11.3 (-11.0 to 27.7)	83.3
	SC2	49.3 (42.0 to 56.2)	100	31.0 (22.2 to 38.9)	100	40.7 (35.7 to 45.4)	100	41.2 (35.3 to 46.6)	100
	SC3	49.4 (42.0 to 55.9)	100	30.9 (22.0 to 38.7)	100	40.7 (35.6 to 45.5)	100	41.2 (35.3 to 46.5)	100
	SC4	12.8 (2.9 to 21.7)	99	-6.9 (-16.3 to 5.4)	87.7	27.1 (19.4 to 31.7)	100	24.5 (17.5 to 29.1)	100
	SC5	-14.9 (-47.9 to 17.9)	81.9	-1.3 (-24.0 to 18.5)	56.7	9.2 (-9.5 to 25.8)	83.9	5.2 (-13.3 to 23.8)	69.9
Female	SC1	-12.2 (-56.8 to 28.3)	71.9	0.3 (-32.0 to 32.5)	51.2	12.1 (-17.2 to 34.1)	79.8	8.5 (-22.8 to 36.1)	69.6
	SC1 w/o top 1	-14.4 (-57.5 to 22.8)	71.9	1.7 (-36.8 to 32.4)	51.2	11.8 (-14.1 to 32.9)	79.8	7.0 (-25.1 to 32.0)	69.6
	SC1 w/o top 2	-14.3 (-57.6 to 22.0)	71.9	1.6 (-38.4 to 32.7)	51.2	11.8 (-14.1 to 32.9)	79.8	7.0 (-25.0 to 32.0)	69.6
	SC1 w/o top 3	-14.2 (-57.7 to 22.4)	71.9	1.8 (-37.7 to 32.6)	51.2	11.6 (-14.2 to 33.0)	79.8	7.2 (-25.4 to 32.2)	69.6
	SC2	54.3 (46.3 to 61.4)	100	35.6 (25.7 to 44.4)	100	46.7 (40.8 to 52.1)	100	48.8 (42.1 to 54.7)	100
	SC3	54.4 (46.3 to 61.4)	100	35.7 (25.9 to 44.4)	100	46.7 (40.9 to 52.0)	100	48.7 (42.1 to 54.9)	100
	SC4	23.9 (13.3 to 34.1)	100	1.1 (-8.2 to 9.2)	55.9	29.8 (24.8 to 34.5)	100	27.2 (21.4 to 32.6)	100
	SC5	-17.0 (-54.6 to 18.3)	79.8	-0.0 (-28.8 to 24.3)	51	4.6 (-17.8 to 28.0)	67.9	2.7 (-22.9 to 27.1)	57.7
Male	SC1	-16.3 (-47.4 to 17.6)	84.5	-0.8 (-19.5 to 18.9)	54.3	18.3 (0.8 to 28.2)	98.1	14.7 (-3.1 to 26.6)	95.5
	SC1 w/o top 1	-17.8 (-49.6 to 11.9)	84.5	-0.4 (-18.9 to 19.2)	54.3	17.7 (-1.0 to 28.2)	98.1	14.0 (-5.2 to 27.0)	95.5
	SC1 w/o top 2	-18.0 (-50.0 to 11.5)	84.5	-0.5 (-19.2 to 19.9)	54.3	17.6 (-1.1 to 27.9)	98.1	14.0 (-5.4 to 27.1)	95.5
	SC1 w/o top 3	-17.8 (-49.5 to 11.4)	84.5	-0.6 (-19.3 to 19.3)	54.3	17.7 (-1.2 to 27.9)	98.1	14.0 (-5.3 to 27.1)	95.5
	SC2	45.2 (38.5 to 51.3)	100	27.1 (19.1 to 34.4)	100	34.6 (30.5 to 38.5)	100	35.1 (30.3 to 39.8)	100
	SC3	45.2 (38.4 to 51.2)	100	27.1 (19.1 to 34.3)	100	34.6 (30.6 to 38.5)	100	35.2 (30.5 to 39.7)	100
	SC4	7.7 (-2.3 to 16.7)	93.6	-10.1 (-18.5 to -1.4)	98.6	17.2 (12.5 to 21.7)	100	14.9 (9.8 to 20.0)	100
	SC5	-16.7 (-45.8 to 16.4)	84.3	-2.1 (-19.5 to 14.8)	61.6	11.5 (-2.8 to 22.5)	94.8	10.1 (-6.4 to 21.3)	90.2
25-49 years	SC1	-1.6 (-15.8 to 13.1)	59.3	4.9 (-5.6 to 14.4)	81.5	22.9 (3.1 to 33.6)	98.8	22.0 (5.9 to 31.9)	99.3
	SC1 w/o top 1	-1.7 (-16.2 to 12.4)	59.3	5.2 (-5.6 to 13.8)	81.5	22.2 (7.3 to 33.6)	98.8	21.5 (2.5 to 31.9)	99.3
	SC1 w/o top 2	-1.7 (-16.3 to 12.5)	59.3	5.1 (-5.4 to 13.8)	81.5	22.2 (7.3 to 33.5)	98.8	21.4 (2.2 to 31.7)	99.3
	SC1 w/o top 3	-1.7 (-16.1 to 12.5)	59.3	5.2 (-5.7 to 14.1)	81.5	22.1 (7.1 to 33.6)	98.8	21.4 (2.6 to 31.7)	99.3
	SC2	30.5 (24.8 to 36.1)	100	12.5 (7.4 to 17.5)	100	24.0 (20.6 to 27.3)	100	24.7 (21.0 to 28.1)	100
	SC3	30.5 (24.6 to 36.0)	100	12.5 (7.4 to 17.5)	100	24.0 (20.6 to 27.4)	100	24.7 (21.0 to 28.2)	100
	SC4	3.6 (-1.4 to 8.5)	92.9	-4.8 (-8.6 to -0.4)	98.6	16.2 (10.6 to 18.3)	100	16.9 (10.2 to 18.7)	100
	SC5	-2.2 (-14.8 to 11.5)	64.5	3.8 (-9.0 to 13.8)	73.6	22.4 (1.1 to 32.5)	98.1	21.1 (2.7 to 31.6)	98.7
50-74 years	SC1	-2.3 (-35.4 to 22.9)	58.1	0.5 (-31.5 to 27.6)	51.7	6.6 (-23.9 to 28.8)	64.5	4.6 (-24.3 to 26.6)	60.6

	SC1 w/o top 1	-3.1 (-36.6 to 21.1)	58.1	0.4 (-27.6 to 30.5)	51.7	9.2 (-19.1 to 27.1)	64.5	4.7 (-25.4 to 26.1)	60.6
	SC1 w/o top 2	-3.0 (-36.3 to 21.1)	58.1	0.6 (-27.6 to 30.8)	51.7	9.2 (-18.7 to 27.0)	64.5	4.6 (-25.8 to 26.2)	60.6
	SC1 w/o top 3	-3.4 (-36.6 to 21.3)	58.1	0.5 (-27.5 to 31.2)	51.7	9.3 (-18.8 to 27.4)	64.5	4.6 (-25.2 to 26.2)	60.6
	SC2	47.7 (39.7 to 54.7)	100	35.2 (25.2 to 44.0)	100	43.7 (37.0 to 49.8)	100	43.7 (36.9 to 49.8)	100
	SC3	47.7 (39.7 to 54.7)	100	35.1 (25.2 to 43.8)	100	43.8 (37.0 to 49.8)	100	43.7 (36.9 to 49.9)	100
	SC4	7.9 (-1.9 to 16.9)	94	-9.0 (-21.3 to 6.1)	87.3	22.7 (13.0 to 28.8)	100	22.5 (14.1 to 28.2)	100
	SC5	-3.0 (-33.1 to 16.5)	63	-1.2 (-30.0 to 23.2)	55.9	-3.6 (-24.4 to 22.4)	61.2	-3.9 (-25.2 to 21.5)	63.3
75+ years	SC1	-21.9 (-61.9 to 19.6)	85.7	18.0 (-4.1 to 36.6)	95.6	16.8 (-3.9 to 28.6)	95.3	18.4 (-3.9 to 31.4)	95.1
	SC1 w/o top 1	-22.0 (-56.0 to 12.9)	85.7	16.2 (-5.6 to 38.0)	95.6	16.0 (-3.3 to 29.1)	95.3	17.7 (-4.6 to 32.8)	95.1
	SC1 w/o top 2	-21.9 (-56.4 to 12.8)	85.7	16.1 (-5.6 to 37.9)	95.6	15.8 (-3.4 to 29.1)	95.3	17.8 (-5.0 to 32.9)	95.1
	SC1 w/o top 3	-21.9 (-56.7 to 12.2)	85.7	16.1 (-5.8 to 38.0)	95.6	15.9 (-3.5 to 29.2)	95.3	17.8 (-4.6 to 32.9)	95.1
	SC2	50.8 (44.2 to 57.0)	100	31.9 (24.8 to 38.3)	100	36.7 (32.6 to 40.6)	100	40.6 (35.9 to 44.9)	100
	SC3	50.8 (44.2 to 56.8)	100	31.8 (24.7 to 38.4)	100	36.7 (32.6 to 40.6)	100	40.5 (36.0 to 44.9)	100
	SC4	18.5 (8.7 to 27.2)	100	2.8 (-4.6 to 12.8)	77.1	30.2 (26.3 to 32.4)	100	30.4 (24.6 to 35.9)	100
	SC5	-17.9 (-56.2 to 20.6)	81.1	15.0 (-6.6 to 35.0)	93.6	10.3 (-8.6 to 24.9)	87.9	12.0 (-8.3 to 27.8)	88.9

**Note:**

\* SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized (**supplementary 1 pp 8-9**). SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1.

† PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

**Supplementary table 11.** Sensitivity of results to relative rate reduction (%) of ischemic stroke incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composting the synthetic control (SC)

Subgroup	Models *	Incidence (95% UIs)	PP <sup>†</sup>	Prevalence (95% UIs)	PP <sup>†</sup>	Mortality (95% UIs)	PP <sup>†</sup>	DALY (95% UIs)	PP <sup>†</sup>
Total	SC1	-1.0 (-11.1 to 8.7)	57.5	-5.3 (-12.6 to 2.7)	91.1	6.0 (-5.9 to 16.5)	86	1.7 (-7.1 to 10.0)	67.7
	SC1 w/o top 1	-1.0 (-11.0 to 8.5)	57.5	-5.1 (-12.6 to 3.6)	91.1	5.0 (-6.0 to 16.5)	86	2.1 (-7.4 to 9.8)	67.7
	SC1 w/o top 2	-1.0 (-10.9 to 8.6)	57.5	-5.0 (-12.8 to 3.6)	91.1	5.0 (-6.0 to 16.5)	86	2.0 (-7.5 to 9.8)	67.7
	SC1 w/o top 3	-1.0 (-11.0 to 8.6)	57.5	-5.1 (-12.8 to 3.5)	91.1	5.1 (-5.9 to 16.6)	86	2.0 (-7.3 to 9.8)	67.7
	SC2	-9.5 (-11.1 to -7.9)	100	-8.1 (-9.4 to -6.9)	100	12.1 (9.7 to 14.4)	100	11.7 (8.5 to 14.8)	100
	SC3	-9.5 (-11.2 to -7.9)	100	-8.1 (-9.3 to -6.9)	100	12.0 (9.7 to 14.4)	100	11.7 (8.5 to 14.8)	100
	SC4	-7.2 (-10.4 to -3.7)	99.9	-6.1 (-9.3 to -3.1)	99.9	8.6 (6.0 to 11.2)	100	4.3 (1.6 to 7.0)	100
	SC5	-0.6 (-10.9 to 7.9)	54.4	-6.1 (-12.5 to 2.8)	91.8	1.3 (-13.0 to 10.1)	57.7	-4.3 (-14.6 to 4.4)	81.1
Female	SC1	3.2 (-12.9 to 13.9)	69.4	-5.4 (-13.2 to 1.4)	93.9	6.9 (-8.3 to 17.9)	84.9	2.0 (-11.6 to 12.5)	62.8
	SC1 w/o top 1	3.3 (-13.7 to 14.5)	69.4	-5.3 (-15.0 to 3.1)	93.9	6.1 (-9.5 to 17.2)	84.9	1.5 (-12.8 to 14.3)	62.8
	SC1 w/o top 2	3.4 (-13.7 to 14.5)	69.4	-5.3 (-14.7 to 3.1)	93.9	6.1 (-9.7 to 17.3)	84.9	1.6 (-12.7 to 14.1)	62.8
	SC1 w/o top 3	3.2 (-14.1 to 14.5)	69.4	-5.3 (-14.6 to 3.2)	93.9	6.2 (-9.9 to 17.4)	84.9	1.4 (-12.8 to 14.0)	62.8
	SC2	-8.1 (-10.2 to -6.1)	100	-6.1 (-7.2 to -5.1)	100	20.1 (16.8 to 23.2)	100	17.5 (13.7 to 21.2)	100
	SC3	-8.1 (-10.2 to -6.1)	100	-6.1 (-7.2 to -5.0)	100	20.0 (16.7 to 23.2)	100	17.6 (13.7 to 21.2)	100
	SC4	-5.8 (-9.1 to -2.5)	100	-5.6 (-8.1 to -3.1)	100	12.0 (9.8 to 15.9)	100	8.9 (7.2 to 10.5)	100
	SC5	3.3 (-9.8 to 13.5)	70.9	-6.0 (-12.2 to 1.9)	94.2	-1.3 (-19.5 to 11.9)	56.5	-5.5 (-18.6 to 5.8)	83
Male	SC1	-7.1 (-15.6 to 1.9)	94.4	-5.2 (-16.4 to 5.0)	84.9	4.1 (-8.3 to 16.5)	75.9	4.6 (-7.1 to 12.3)	79.4
	SC1 w/o top 1	-7.2 (-17.9 to 2.1)	94.4	-5.1 (-15.3 to 5.3)	84.9	4.0 (-9.9 to 17.3)	75.9	4.9 (-7.3 to 13.0)	79.4
	SC1 w/o top 2	-7.2 (-18.3 to 2.3)	94.4	-5.1 (-15.3 to 5.3)	84.9	4.0 (-10.2 to 17.4)	75.9	4.9 (-7.1 to 12.8)	79.4
	SC1 w/o top 3	-7.2 (-18.2 to 2.4)	94.4	-5.0 (-15.3 to 5.3)	84.9	4.1 (-10.0 to 17.4)	75.9	4.9 (-7.4 to 12.9)	79.4
	SC2	-11.5 (-12.8 to -10.2)	100	-11.5 (-13.1 to -9.8)	100	2.3 (0.7 to 3.8)	99.7	5.1 (2.6 to 7.5)	100
	SC3	-11.5 (-12.8 to -10.2)	100	-11.5 (-13.1 to -9.9)	100	2.3 (0.7 to 3.8)	99.8	5.1 (2.6 to 7.5)	100
	SC4	-8.4 (-12.2 to -5.1)	100	-6.6 (-11.0 to -2.6)	99.7	1.5 (-1.2 to 5.2)	86	0.6 (-1.5 to 3.0)	70.1
	SC5	-7.9 (-14.9 to 2.0)	94.2	-5.8 (-14.4 to 4.7)	85.5	1.0 (-9.8 to 8.0)	63.9	-2.1 (-11.3 to 4.7)	72.7
25-49 years	SC1	-7.8 (-22.1 to 4.6)	91.6	0.5 (-8.3 to 8.6)	55	13.7 (-14.1 to 28.2)	85.3	8.3 (-9.1 to 19.1)	84.4
	SC1 w/o top 1	-7.8 (-21.0 to 5.0)	91.6	0.9 (-10.1 to 8.9)	55	15.2 (-12.4 to 27.9)	85.3	8.0 (-11.6 to 20.1)	84.4
	SC1 w/o top 2	-7.8 (-21.2 to 5.3)	91.6	0.9 (-10.0 to 8.9)	55	15.2 (-12.1 to 28.0)	85.3	8.0 (-11.1 to 20.0)	84.4
	SC1 w/o top 3	-7.8 (-21.4 to 5.4)	91.6	0.9 (-10.0 to 8.9)	55	15.2 (-12.0 to 27.8)	85.3	7.9 (-11.5 to 20.1)	84.4
	SC2	-8.5 (-10.4 to -6.6)	100	4.5 (-0.1 to 9.1)	97	10.6 (6.6 to 14.4)	100	9.8 (5.5 to 13.9)	100
	SC3	-8.5 (-10.5 to -6.7)	100	4.6 (-0.2 to 9.0)	96.5	10.6 (6.6 to 14.5)	100	9.8 (5.6 to 13.9)	100
	SC4	-5.4 (-10.7 to -2.0)	99.9	-7.9 (-10.1 to -5.0)	100	-2.2 (-7.6 to 3.6)	69.5	-0.0 (-7.5 to 2.2)	50.5
	SC5	-6.9 (-21.0 to 6.7)	83.5	1.3 (-9.2 to 9.0)	62.6	7.8 (-18.8 to 23.3)	75.5	6.4 (-14.9 to 17.2)	76.8
50-74 years	SC1	4.7 (-8.2 to 14.0)	83.3	-5.9 (-13.4 to 3.2)	89.7	1.8 (-16.1 to 15.3)	64.4	-0.8 (-15.9 to 11.1)	57.1



	SC1 w/o top 1	5.3 (-4.7 to 14.2)	83.3	-4.8 (-14.3 to 3.9)	89.7	1.5 (-16.9 to 14.5)	64.4	-0.6 (-14.3 to 10.5)	57.1
	SC1 w/o top 2	5.3 (-4.6 to 14.2)	83.3	-4.8 (-14.3 to 3.9)	89.7	1.4 (-17.6 to 14.5)	64.4	-0.5 (-14.0 to 10.7)	57.1
	SC1 w/o top 3	5.3 (-4.8 to 14.2)	83.3	-4.8 (-14.3 to 3.9)	89.7	1.5 (-17.2 to 14.8)	64.4	-0.4 (-14.0 to 10.6)	57.1
	SC2	-13.5 (-16.9 to -10.2)	100	-6.2 (-7.5 to -4.8)	100	23.7 (17.2 to 29.8)	100	18.5 (12.4 to 24.2)	100
	SC3	-13.5 (-16.8 to -10.1)	100	-6.2 (-7.6 to -4.8)	100	23.7 (17.3 to 29.9)	100	18.4 (12.3 to 24.2)	100
	SC4	-16.6 (-20.6 to -12.7)	100	-8.7 (-10.9 to -6.3)	100	-1.3 (-7.6 to 7.2)	65.7	-2.7 (-8.0 to 3.7)	75.1
	SC5	4.5 (-5.0 to 11.7)	86.9	-6.2 (-12.5 to 3.1)	90.2	-11.3 (-28.6 to 6.8)	90	-10.5 (-23.2 to 4.2)	93
75+ years	SC1	0.9 (-13.3 to 15.1)	54.8	-4.3 (-19.9 to 10.4)	71.9	2.9 (-19.2 to 19.8)	63.8	3.2 (-14.5 to 18.2)	64.2
	SC1 w/o top 1	1.7 (-11.4 to 16.7)	54.8	-3.9 (-19.0 to 10.7)	71.9	2.1 (-20.7 to 18.4)	63.8	3.3 (-14.7 to 19.6)	64.2
	SC1 w/o top 2	1.6 (-11.9 to 16.5)	54.8	-4.0 (-18.4 to 10.6)	71.9	2.1 (-20.7 to 18.4)	63.8	3.4 (-14.7 to 19.4)	64.2
	SC1 w/o top 3	1.7 (-11.5 to 16.7)	54.8	-3.9 (-18.3 to 10.9)	71.9	2.0 (-20.8 to 18.5)	63.8	3.2 (-14.5 to 19.7)	64.2
	SC2	-13.7 (-17.8 to -9.7)	100	-20.5 (-25.4 to -15.6)	100	2.9 (0.3 to 5.4)	98.1	6.3 (4.1 to 8.5)	100
	SC3	-13.7 (-17.8 to -9.7)	100	-20.4 (-25.4 to -15.5)	100	2.9 (0.2 to 5.4)	98.3	6.3 (4.2 to 8.4)	100
	SC4	-1.1 (-7.0 to 4.5)	66.9	-5.5 (-11.4 to 0.8)	96.3	6.9 (2.8 to 11.5)	99.9	8.0 (4.3 to 11.7)	100
	SC5	0.3 (-13.3 to 15.5)	51.6	-5.3 (-18.5 to 11.2)	76.2	3.0 (-16.5 to 12.5)	66.7	1.9 (-15.8 to 11.8)	58.9

**Note:**

\* SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized (**supplementary 1 pp 8-9**). SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1.

<sup>†</sup> PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

**Supplementary table 12.** Sensitivity of results to relative rate reduction (%) of cardiomyopathy and myocarditis incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composting the synthetic control (SC)

Subgroup	Models *	Incidence (95% UIs)	PP †	Prevalence (95% UIs)	PP †	Mortality (95% UIs)	PP †	DALY (95% UIs)	PP †
Total	SC1	-4.4 (-7.9 to 1.0)	93.4	-2.2 (-17.4 to 10.5)	63.5	7.4 (-7.4 to 22.1)	85.2	11.2 (6.4 to 16.0)	99.9
	SC1 w/o top 1	-4.7 (-8.0 to -0.8)	93.4	-2.0 (-18.4 to 10.2)	63.5	6.9 (-9.3 to 20.3)	85.2	10.8 (6.3 to 15.5)	99.9
	SC1 w/o top 2	-4.7 (-8.0 to -0.8)	93.4	-2.0 (-17.9 to 10.1)	63.5	6.8 (-9.9 to 20.2)	85.2	10.7 (6.2 to 15.4)	99.9
	SC1 w/o top 3	-4.7 (-8.1 to -0.8)	93.4	-2.0 (-18.2 to 10.0)	63.5	6.8 (-10.0 to 20.3)	85.2	10.8 (6.2 to 15.6)	99.9
	SC2	13.6 (9.4 to 17.8)	100	12.0 (4.6 to 18.7)	99.8	13.0 (10.1 to 15.8)	100	27.5 (23.6 to 31.2)	100
	SC3	13.7 (9.5 to 17.8)	100	11.8 (4.7 to 18.8)	99.8	13.0 (10.1 to 15.8)	100	27.5 (23.7 to 31.2)	100
	SC4	-0.3 (-1.7 to 1.8)	63.7	-10.6 (-14.5 to -6.6)	100	18.2 (14.1 to 24.0)	100	16.7 (15.5 to 18.0)	100
	SC5	-4.6 (-7.3 to 0.6)	95.8	-3.8 (-18.7 to 8.7)	68	8.2 (-6.4 to 23.8)	88	10.9 (6.7 to 15.7)	100
Female	SC1	-5.4 (-9.7 to 1.5)	92.5	-9.0 (-20.2 to 8.1)	84.7	6.2 (-8.5 to 21.7)	82	12.8 (0.9 to 21.9)	98.1
	SC1 w/o top 1	-6.0 (-10.3 to -0.3)	92.5	-8.4 (-20.7 to 8.0)	84.7	5.7 (-8.3 to 18.3)	82	12.2 (1.2 to 21.8)	98.1
	SC1 w/o top 2	-6.0 (-10.3 to -0.1)	92.5	-8.4 (-21.1 to 8.1)	84.7	5.6 (-8.3 to 18.3)	82	12.2 (1.3 to 21.7)	98.1
	SC1 w/o top 3	-6.0 (-10.2 to -0.1)	92.5	-8.3 (-20.8 to 7.9)	84.7	5.7 (-7.9 to 18.4)	82	12.2 (1.2 to 21.9)	98.1
	SC2	14.8 (10.4 to 18.9)	100	13.4 (5.6 to 20.4)	99.9	20.2 (17.4 to 22.8)	100	35.6 (30.7 to 40.2)	100
	SC3	14.8 (10.6 to 19.0)	100	13.3 (5.7 to 20.5)	99.9	20.1 (17.3 to 22.9)	100	35.6 (30.7 to 40.2)	100
	SC4	1.9 (0.2 to 3.5)	98.2	-12.0 (-16.8 to -7.6)	100	22.4 (18.4 to 26.3)	100	20.5 (17.7 to 23.0)	100
	SC5	-5.8 (-9.3 to 0.5)	96.5	-10.9 (-20.2 to 4.9)	89.3	6.0 (-7.4 to 19.6)	82	12.5 (3.1 to 21.1)	99.2
Male	SC1	-3.8 (-6.6 to 0.8)	94.4	1.5 (-10.6 to 12.6)	60	11.5 (-9.5 to 23.1)	88.4	10.1 (6.7 to 13.1)	100
	SC1 w/o top 1	-4.0 (-6.8 to -0.5)	94.4	1.8 (-10.6 to 14.7)	60	10.7 (-8.5 to 22.9)	88.4	10.0 (6.4 to 13.3)	100
	SC1 w/o top 2	-4.0 (-6.9 to -0.5)	94.4	1.8 (-10.6 to 14.8)	60	10.8 (-9.2 to 22.8)	88.4	10.0 (6.4 to 13.2)	100
	SC1 w/o top 3	-4.0 (-6.9 to -0.4)	94.4	1.7 (-10.5 to 14.7)	60	10.7 (-9.0 to 22.8)	88.4	10.0 (6.4 to 13.3)	100
	SC2	12.9 (8.5 to 17.2)	100	10.1 (2.7 to 17.1)	99.2	4.6 (1.0 to 8.1)	99.4	20.5 (17.4 to 23.5)	100
	SC3	12.9 (8.5 to 17.1)	100	10.1 (2.8 to 17.1)	99.4	4.6 (0.9 to 8.0)	99.5	20.5 (17.4 to 23.5)	100
	SC4	-0.9 (-2.2 to 1.2)	87	-10.6 (-15.1 to -6.4)	100	14.1 (9.3 to 19.5)	100	12.9 (12.1 to 14.5)	100
	SC5	-4.0 (-6.3 to 0.4)	96.1	1.4 (-12.7 to 11.6)	58.8	12.7 (-4.3 to 23.2)	93.3	10.2 (7.6 to 12.7)	100
25-49 years	SC1	-5.0 (-9.1 to 1.3)	91.7	24.4 (-41.8 to 57.1)	84.1	7.8 (0.7 to 14.3)	98.2	5.8 (-1.8 to 13.1)	94.8
	SC1 w/o top 1	-5.3 (-9.3 to -1.0)	91.7	25.5 (-47.0 to 57.7)	84.1	7.6 (-0.8 to 14.5)	98.2	6.4 (-1.6 to 14.1)	94.8
	SC1 w/o top 2	-5.3 (-9.3 to -0.9)	91.7	25.6 (-52.4 to 58.4)	84.1	7.6 (-0.8 to 14.6)	98.2	6.4 (-1.6 to 14.1)	94.8
	SC1 w/o top 3	-5.4 (-9.2 to -0.8)	91.7	25.7 (-47.0 to 57.8)	84.1	7.6 (-0.7 to 14.6)	98.2	6.4 (-1.6 to 14.0)	94.8
	SC2	14.3 (10.0 to 18.4)	100	-49.5 (-95.1 to -12.3)	99.9	11.4 (9.5 to 13.3)	100	13.0 (10.7 to 15.3)	100
	SC3	14.2 (9.9 to 18.4)	100	-49.1 (-95.6 to -12.0)	99.9	11.4 (9.5 to 13.3)	100	13.0 (10.7 to 15.3)	100
	SC4	-0.1 (-1.7 to 2.0)	54.9	27.3 (8.1 to 45.1)	99.6	8.6 (6.6 to 10.5)	100	8.0 (6.6 to 9.5)	100
	SC5	-5.1 (-8.2 to 0.8)	95.1	25.6 (-33.9 to 54.0)	87.7	7.9 (3.3 to 13.0)	99.5	7.1 (1.3 to 11.3)	98.8
50-74 years	SC1	-1.7 (-5.9 to 2.3)	82.6	-0.6 (-8.9 to 6.6)	57	2.6 (-7.9 to 12.3)	71.3	1.7 (-7.8 to 11.8)	65.2

	SC1 w/o top 1	-1.9 (-6.0 to 2.6)	82.6	-0.7 (-8.2 to 6.9)	57	2.0 (-8.2 to 11.1)	71.3	1.6 (-8.7 to 11.4)	65.2
	SC1 w/o top 2	-1.9 (-6.0 to 2.6)	82.6	-0.7 (-8.3 to 7.0)	57	2.1 (-7.9 to 11.1)	71.3	1.5 (-8.7 to 11.6)	65.2
	SC1 w/o top 3	-1.9 (-6.1 to 2.6)	82.6	-0.7 (-8.3 to 7.1)	57	2.1 (-8.1 to 11.2)	71.3	1.5 (-8.6 to 11.5)	65.2
	SC2	12.5 (7.9 to 16.9)	100	3.0 (-3.0 to 8.8)	83.6	20.5 (17.1 to 23.7)	100	20.1 (16.7 to 23.4)	100
	SC3	12.5 (8.0 to 16.9)	100	3.1 (-2.7 to 8.6)	82.7	20.5 (17.2 to 23.6)	100	20.1 (16.7 to 23.4)	100
	SC4	-3.2 (-4.7 to -1.7)	99.9	-13.2 (-16.0 to -10.5)	100	17.5 (11.8 to 23.4)	100	15.4 (10.6 to 22.2)	100
	SC5	-1.9 (-5.4 to 1.7)	86.6	-1.1 (-10.7 to 6.1)	61.7	2.4 (-6.2 to 11.0)	74.1	1.7 (-6.4 to 9.7)	68.8
75+ years	SC1	0.4 (-2.0 to 2.7)	60.9	-3.3 (-27.0 to 13.0)	64.8	8.5 (-43.7 to 43.4)	64.8	5.1 (-36.9 to 37.4)	60.8
	SC1 w/o top 1	0.6 (-2.0 to 2.8)	60.9	-2.4 (-24.9 to 12.1)	64.8	6.4 (-44.3 to 39.6)	64.8	4.9 (-35.3 to 44.4)	60.8
	SC1 w/o top 2	0.6 (-2.0 to 2.8)	60.9	-2.4 (-25.1 to 12.1)	64.8	6.1 (-44.5 to 39.3)	64.8	5.1 (-35.4 to 44.3)	60.8
	SC1 w/o top 3	0.6 (-2.0 to 2.8)	60.9	-2.4 (-24.6 to 11.9)	64.8	6.5 (-43.7 to 39.8)	64.8	5.3 (-35.2 to 44.9)	60.8
	SC2	5.3 (2.4 to 8.1)	100	10.2 (1.7 to 18.1)	98.6	-13.7 (-28.0 to -0.6)	98.8	-3.3 (-13.9 to 6.5)	78.8
	SC3	5.3 (2.5 to 8.0)	100	10.3 (1.8 to 18.1)	98.6	-13.8 (-28.0 to -0.8)	98.9	-3.4 (-13.7 to 6.2)	78.9
	SC4	-1.5 (-2.3 to -0.4)	99.7	-16.3 (-22.0 to -10.9)	100	21.6 (8.7 to 35.8)	99.9	26.6 (12.8 to 36.0)	100
	SC5	0.7 (-1.8 to 2.8)	71.4	-4.3 (-26.9 to 11.9)	68.3	11.3 (-36.2 to 40.1)	70	7.4 (-29.3 to 37.0)	67.9

**Note:**

\* SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized (**supplementary 1 pp 8-9**). SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1.

† PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

**Supplementary table 13.** Sensitivity of results to relative rate reduction (%) of atrial aortic aneurysm mortality and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for compositing the synthetic control (SC)

Subgroup	Models *	Incidence (95% UIs)	PP †	Prevalence (95% UIs)	PP †	Mortality (95% UIs)	PP †	DALY (95% UIs)	PP †
Total	SC1	N.A.	N.A.	N.A.	N.A.	2.5 (-1.7 to 8.2)	89.2	3.5 (-1.6 to 8.2)	91.2
	SC1 w/o top 1	N.A.	N.A.	N.A.	N.A.	2.0 (-1.9 to 7.6)	89.2	3.5 (-1.3 to 8.8)	91.2
	SC1 w/o top 2	N.A.	N.A.	N.A.	N.A.	2.1 (-1.9 to 7.7)	89.2	3.5 (-1.4 to 8.7)	91.2
	SC1 w/o top 3	N.A.	N.A.	N.A.	N.A.	2.0 (-2.0 to 7.7)	89.2	3.5 (-1.3 to 8.7)	91.2
	SC2	N.A.	N.A.	N.A.	N.A.	13.6 (9.0 to 17.9)	100.0	12.8 (7.9 to 17.3)	100.0
	SC3	N.A.	N.A.	N.A.	N.A.	13.6 (9.1 to 17.9)	100.0	12.8 (8.1 to 17.3)	100.0
	SC4	N.A.	N.A.	N.A.	N.A.	0.6 (-0.6 to 2.0)	82.5	0.3 (-0.9 to 2.3)	66.3
	SC5	N.A.	N.A.	N.A.	N.A.	1.7 (-1.8 to 5.9)	87.1	3.8 (-0.9 to 8.3)	94.1
Female	SC1	N.A.	N.A.	N.A.	N.A.	0.7 (-8.4 to 11.4)	57.1	1.8 (-7.3 to 12.9)	69.6
	SC1 w/o top 1	N.A.	N.A.	N.A.	N.A.	0.3 (-10.4 to 11.7)	57.1	1.5 (-7.7 to 11.5)	69.6
	SC1 w/o top 2	N.A.	N.A.	N.A.	N.A.	0.2 (-10.2 to 11.7)	57.1	1.5 (-7.7 to 11.3)	69.6
	SC1 w/o top 3	N.A.	N.A.	N.A.	N.A.	0.2 (-10.2 to 11.7)	57.1	1.6 (-7.6 to 11.3)	69.6
	SC2	N.A.	N.A.	N.A.	N.A.	21.7 (14.9 to 27.9)	100.0	22.1 (15.5 to 28.2)	100.0
	SC3	N.A.	N.A.	N.A.	N.A.	21.7 (15.0 to 28.0)	100.0	22.0 (15.7 to 28.2)	100.0
	SC4	N.A.	N.A.	N.A.	N.A.	-0.4 (-3.7 to 2.9)	59.9	0.5 (-2.8 to 4.0)	60.8
	SC5	N.A.	N.A.	N.A.	N.A.	0.6 (-8.1 to 9.4)	58.1	1.9 (-6.1 to 11.4)	73.0
Male	SC1	N.A.	N.A.	N.A.	N.A.	4.6 (-0.9 to 9.9)	95.4	3.3 (-2.1 to 9.2)	86.8
	SC1 w/o top 1	N.A.	N.A.	N.A.	N.A.	4.9 (-1.1 to 10.1)	95.4	3.4 (-2.5 to 9.8)	86.8
	SC1 w/o top 2	N.A.	N.A.	N.A.	N.A.	4.9 (-1.0 to 10.2)	95.4	3.4 (-2.4 to 9.8)	86.8
	SC1 w/o top 3	N.A.	N.A.	N.A.	N.A.	4.9 (-1.0 to 10.2)	95.4	3.4 (-2.5 to 9.8)	86.8
	SC2	N.A.	N.A.	N.A.	N.A.	8.8 (5.1 to 12.3)	100.0	8.4 (4.3 to 12.4)	100.0
	SC3	N.A.	N.A.	N.A.	N.A.	8.8 (5.1 to 12.3)	100.0	8.4 (4.2 to 12.4)	100.0
	SC4	N.A.	N.A.	N.A.	N.A.	-0.3 (-0.8 to 0.3)	81.4	1.4 (-1.3 to 3.2)	78.4
	SC5	N.A.	N.A.	N.A.	N.A.	1.8 (-3.0 to 6.1)	77.8	3.1 (-3.2 to 8.6)	79.6
25-49 years	SC1	N.A.	N.A.	N.A.	N.A.	17.6 (-3.5 to 31.0)	95.4	16.4 (-2.9 to 28.8)	95.3
	SC1 w/o top 1	N.A.	N.A.	N.A.	N.A.	18.9 (0.1 to 31.3)	95.4	17.4 (-3.3 to 29.8)	95.3
	SC1 w/o top 2	N.A.	N.A.	N.A.	N.A.	18.9 (0.2 to 31.1)	95.4	17.5 (-2.8 to 29.6)	95.3
	SC1 w/o top 3	N.A.	N.A.	N.A.	N.A.	18.8 (-0.1 to 30.9)	95.4	17.6 (-3.3 to 29.6)	95.3
	SC2	N.A.	N.A.	N.A.	N.A.	-11.2 (-16.7 to -5.9)	100.0	-8.4 (-13.6 to -3.5)	100.0
	SC3	N.A.	N.A.	N.A.	N.A.	-11.3 (-16.8 to -6.1)	100.0	-8.4 (-13.4 to -3.6)	100.0
	SC4	N.A.	N.A.	N.A.	N.A.	4.9 (-1.6 to 10.8)	92.9	4.3 (-1.4 to 9.7)	92.8
	SC5	N.A.	N.A.	N.A.	N.A.	17.8 (-2.6 to 30.2)	96.1	16.0 (-4.2 to 28.1)	94.6
50-74 years	SC1	N.A.	N.A.	N.A.	N.A.	0.9 (-6.7 to 9.1)	63.9	1.6 (-4.7 to 7.8)	75.4

	SC1 w/o top 1	N.A.	N.A.	N.A.	N.A.	0.9 (-6.3 to 8.9)	63.9	1.5 (-4.4 to 8.1)	75.4
	SC1 w/o top 2	N.A.	N.A.	N.A.	N.A.	0.9 (-6.5 to 8.9)	63.9	1.4 (-4.3 to 7.9)	75.4
	SC1 w/o top 3	N.A.	N.A.	N.A.	N.A.	0.9 (-6.4 to 9.0)	63.9	1.4 (-4.5 to 7.9)	75.4
	SC2	N.A.	N.A.	N.A.	N.A.	17.9 (12.2 to 23.5)	100.0	18.2 (12.3 to 23.6)	100.0
	SC3	N.A.	N.A.	N.A.	N.A.	17.9 (12.2 to 23.3)	100.0	18.2 (12.3 to 23.6)	100.0
	SC4	N.A.	N.A.	N.A.	N.A.	0.4 (-1.9 to 2.9)	64.6	1.2 (-1.3 to 3.8)	82.0
	SC5	N.A.	N.A.	N.A.	N.A.	0.8 (-5.6 to 6.3)	64.3	1.5 (-3.9 to 6.3)	80.7
75+ years	SC1	N.A.	N.A.	N.A.	N.A.	3.2 (-2.6 to 7.1)	84.4	5.4 (-0.5 to 10.8)	96.0
	SC1 w/o top 1	N.A.	N.A.	N.A.	N.A.	2.9 (-2.8 to 7.1)	84.4	5.3 (-1.1 to 10.7)	96.0
	SC1 w/o top 2	N.A.	N.A.	N.A.	N.A.	2.9 (-2.8 to 7.1)	84.4	5.3 (-1.1 to 10.6)	96.0
	SC1 w/o top 3	N.A.	N.A.	N.A.	N.A.	3.0 (-2.7 to 7.1)	84.4	5.3 (-1.1 to 10.6)	96.0
	SC2	N.A.	N.A.	N.A.	N.A.	8.1 (4.6 to 11.7)	100.0	13.5 (9.2 to 17.8)	100.0
	SC3	N.A.	N.A.	N.A.	N.A.	8.2 (4.5 to 11.7)	100.0	13.6 (9.2 to 17.8)	100.0
	SC4	N.A.	N.A.	N.A.	N.A.	-1.4 (-4.0 to -0.7)	100.0	1.3 (-0.2 to 2.5)	96.0
	SC5	N.A.	N.A.	N.A.	N.A.	0.6 (-3.8 to 4.4)	61.1	2.8 (-1.3 to 7.9)	92.3

**Note:**

\* SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized (**supplementary 1 pp 8-9**). SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1.

† PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

**Supplementary table 14.** Sensitivity of results to relative rate reduction (%) of subarachnoid hemorrhage incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC)

Subgroup	Models *	Incidence (95% UIs)	PP <sup>†</sup>	Prevalence (95% UIs)	PP <sup>†</sup>	Mortality (95% UIs)	PP <sup>†</sup>	DALY (95% UIs)	PP <sup>†</sup>
Total	SC1	-10.9 (-57.2 to 34.7)	67.6	-7.6 (-24.7 to 7.2)	87.1	-42.4 (-261.1 to 71.2)	75	-35.3 (-236.5 to 68.6)	73.9
	SC1 w/o top 1	-8.6 (-54.0 to 39.1)	67.6	-8.3 (-24.1 to 5.1)	87.1	-43.3 (-257.1 to 64.6)	75	-34.5 (-213.8 to 62.8)	73.9
	SC1 w/o top 2	-8.1 (-54.8 to 39.1)	67.6	-8.3 (-23.8 to 5.3)	87.1	-43.5 (-252.6 to 65.1)	75	-33.9 (-209.9 to 62.5)	73.9
	SC1 w/o top 3	-8.5 (-54.3 to 39.4)	67.6	-8.3 (-23.8 to 4.9)	87.1	-43.7 (-248.2 to 64.2)	75	-33.5 (-215.5 to 63.4)	73.9
	SC2	37.3 (22.3 to 49.9)	100	22.9 (14.3 to 31.0)	100	73.9 (54.3 to 86.3)	100	70.4 (50.4 to 83.6)	100
	SC3	37.3 (21.7 to 49.8)	100	22.9 (14.3 to 30.8)	100	74.1 (54.7 to 86.4)	100	70.3 (50.5 to 83.4)	100
	SC4	-20.8 (-41.0 to -5.1)	99.6	-6.4 (-13.9 to -0.9)	99.1	-54.4 (-136.4 to -5.5)	99.3	-51.0 (-121.0 to -6.9)	99.5
	SC5	-14.2 (-57.6 to 34.8)	69.6	-7.5 (-24.7 to 4.9)	89.9	-55.9 (-240.7 to 57.0)	81.4	-50.2 (-216.7 to 53.0)	82.4
Female	SC1	-8.4 (-48.0 to 38.1)	61.8	-7.0 (-26.9 to 9.7)	82.7	-45.6 (-301.0 to 71.2)	74.7	-39.8 (-230.9 to 67.6)	73.9
	SC1 w/o top 1	-9.9 (-48.2 to 44.1)	61.8	-7.1 (-28.2 to 9.2)	82.7	-45.7 (-289.9 to 78.8)	74.7	-41.7 (-261.9 to 62.4)	73.9
	SC1 w/o top 2	-10.0 (-48.8 to 42.9)	61.8	-7.0 (-28.1 to 9.2)	82.7	-46.1 (-287.3 to 78.9)	74.7	-41.0 (-269.8 to 62.2)	73.9
	SC1 w/o top 3	-10.1 (-48.0 to 43.9)	61.8	-7.1 (-28.1 to 9.3)	82.7	-46.5 (-285.0 to 77.9)	74.7	-41.9 (-272.1 to 62.2)	73.9
	SC2	35.8 (21.5 to 48.0)	100	25.0 (16.5 to 32.9)	100	77.5 (59.1 to 88.8)	100	74.1 (54.9 to 85.8)	100
	SC3	35.7 (21.5 to 47.8)	100	25.0 (16.5 to 32.7)	100	77.6 (58.8 to 88.9)	100	74.1 (54.8 to 85.9)	100
	SC4	-20.8 (-38.0 to -6.0)	99.8	-4.1 (-10.1 to 1.1)	94.1	-55.3 (-132.9 to -4.6)	99.4	-49.6 (-110.4 to -5.3)	99.5
	SC5	-13.3 (-50.2 to 35.4)	64.4	-7.2 (-25.9 to 8.9)	82.9	-50.4 (-266.3 to 63.2)	74.8	-48.3 (-220.1 to 56.7)	78.7
Male	SC1	-14.1 (-60.6 to 35.2)	72.6	-8.5 (-23.6 to 7.3)	90.4	-31.4 (-210.3 to 70.6)	69.7	-28.3 (-183.3 to 66.5)	69.5
	SC1 w/o top 1	-10.7 (-59.6 to 35.5)	72.6	-8.7 (-23.9 to 4.1)	90.4	-37.6 (-225.5 to 75.4)	69.7	-33.1 (-186.1 to 72.6)	69.5
	SC1 w/o top 2	-10.8 (-60.0 to 35.1)	72.6	-8.5 (-23.5 to 4.0)	90.4	-37.9 (-222.9 to 75.7)	69.7	-33.0 (-188.5 to 71.6)	69.5
	SC1 w/o top 3	-10.0 (-59.3 to 35.6)	72.6	-8.6 (-23.6 to 4.1)	90.4	-38.2 (-222.8 to 75.9)	69.7	-32.8 (-184.9 to 71.7)	69.5
	SC2	39.0 (23.4 to 51.6)	100	20.5 (11.9 to 28.8)	100	70.3 (50.0 to 83.7)	100	67.2 (46.9 to 80.5)	100
	SC3	39.1 (23.5 to 51.8)	100	20.5 (11.4 to 28.7)	100	69.9 (49.6 to 83.3)	100	67.0 (46.6 to 80.9)	100
	SC4	-19.3 (-39.0 to 0.5)	97.8	-8.2 (-14.1 to -3.0)	99.8	-51.3 (-122.4 to -1.4)	98.5	-51.1 (-111.0 to -6.4)	99.2
	SC5	-17.5 (-63.0 to 31.1)	73.6	-8.0 (-22.0 to 3.9)	91.6	-45.4 (-244.5 to 58.3)	77	-46.3 (-190.2 to 56.8)	78.8
25-49 years	SC1	-13.7 (-50.8 to 24.0)	77	-6.9 (-19.8 to 8.4)	85.1	-21.0 (-164.0 to 62.0)	66.7	-20.9 (-126.2 to 54.2)	67.8
	SC1 w/o top 1	-12.2 (-46.6 to 26.4)	77	-7.1 (-19.4 to 6.4)	85.1	-19.8 (-159.7 to 59.0)	66.7	-11.6 (-119.1 to 53.9)	67.8
	SC1 w/o top 2	-12.0 (-46.6 to 26.5)	77	-7.2 (-19.4 to 6.9)	85.1	-20.4 (-157.0 to 59.3)	66.7	-11.5 (-122.2 to 54.5)	67.8
	SC1 w/o top 3	-11.8 (-47.8 to 26.3)	77	-7.1 (-19.4 to 6.4)	85.1	-20.6 (-160.0 to 58.8)	66.7	-12.1 (-120.2 to 54.8)	67.8
	SC2	32.5 (19.3 to 44.0)	100	17.3 (9.7 to 24.5)	100	57.4 (37.5 to 71.9)	100	54.5 (35.2 to 68.6)	100
	SC3	32.6 (19.1 to 44.1)	100	17.3 (9.8 to 24.5)	100	57.4 (38.0 to 72.1)	100	54.2 (34.3 to 68.6)	100
	SC4	-18.0 (-40.5 to -5.1)	99.7	-7.2 (-14.2 to -2.8)	100	-41.3 (-86.9 to -9.2)	99.7	-38.1 (-77.3 to -7.0)	99.4
	SC5	-16.2 (-50.6 to 21.3)	79.3	-7.5 (-20.4 to 4.7)	91.5	-36.0 (-167.7 to 53.8)	76	-34.5 (-127.0 to 45.8)	78.2
50-74 years	SC1	7.2 (-52.6 to 45.0)	59.4	-7.8 (-27.6 to 8.3)	86.1	-44.5 (-279.4 to 67.8)	75.7	-39.4 (-251.8 to 65.6)	75.2

	SC1 w/o top 1	5.4 (-63.6 to 45.6)	59.4	-8.1 (-27.7 to 8.9)	86.1	-46.5 (-299.0 to 69.5)	75.7	-41.0 (-289.2 to 71.7)	75.2
	SC1 w/o top 2	5.3 (-64.4 to 45.6)	59.4	-8.0 (-28.6 to 9.0)	86.1	-46.2 (-293.2 to 69.4)	75.7	-40.6 (-284.1 to 70.3)	75.2
	SC1 w/o top 3	5.4 (-63.5 to 45.5)	59.4	-8.1 (-28.6 to 8.9)	86.1	-46.6 (-303.4 to 69.4)	75.7	-40.3 (-287.0 to 70.6)	75.2
	SC2	31.6 (15.8 to 45.1)	99.9	24.4 (15.2 to 32.8)	100	74.8 (54.6 to 86.9)	100	72.3 (52.6 to 84.8)	100
	SC3	31.8 (15.6 to 44.9)	99.9	24.3 (15.3 to 32.6)	100	75.1 (55.2 to 86.9)	100	72.3 (52.0 to 84.6)	100
	SC4	-27.5 (-46.8 to -10.2)	99.9	-6.8 (-15.2 to -0.6)	98.6	-57.0 (-139.5 to -6.5)	99.3	-55.1 (-130.1 to -8.8)	99.6
	SC5	2.3 (-61.6 to 45.9)	51.8	-8.0 (-26.2 to 5.7)	88.1	-59.6 (-285.1 to 55.1)	81.9	-53.1 (-228.4 to 52.2)	82.8
75+ years	SC1	-13.2 (-69.5 to 35.4)	71.6	-6.6 (-23.8 to 7.1)	84.9	-44.7 (-307.8 to 75.3)	73.3	-43.0 (-294.8 to 71.4)	73.7
	SC1 w/o top 1	-13.8 (-71.6 to 41.9)	71.6	-7.6 (-25.2 to 5.6)	84.9	-47.8 (-310.3 to 72.0)	73.3	-44.5 (-296.0 to 72.0)	73.7
	SC1 w/o top 2	-13.5 (-70.5 to 40.7)	71.6	-7.6 (-24.9 to 5.8)	84.9	-48.0 (-320.1 to 72.1)	73.3	-44.8 (-288.4 to 71.1)	73.7
	SC1 w/o top 3	-13.5 (-72.3 to 43.2)	71.6	-7.7 (-25.1 to 6.2)	84.9	-45.6 (-312.6 to 71.4)	73.3	-44.6 (-288.9 to 71.6)	73.7
	SC2	46.2 (29.6 to 59.0)	100	23.4 (14.8 to 31.1)	100	74.2 (53.0 to 86.7)	100	74.6 (54.7 to 86.9)	100
	SC3	46.3 (30.2 to 59.2)	100	23.5 (15.0 to 31.2)	100	74.2 (53.1 to 87.0)	100	74.8 (54.4 to 86.9)	100
	SC4	-21.2 (-53.4 to -1.3)	98.4	-4.9 (-12.1 to 0.4)	96.7	-64.7 (-165.2 to -10.6)	99.7	-59.4 (-149.2 to -6.0)	99.4
	SC5	-17.8 (-71.6 to 37.7)	72.1	-7.1 (-23.8 to 6.7)	84.3	-64.8 (-304.8 to 59.6)	81.4	-59.5 (-279.1 to 63.6)	80.9

**Note:**

\* SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized (**supplementary 1 pp 8-9**). SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1.

† PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

**Supplementary table 15.** Sensitivity of results to relative rate reduction (%) of hypertensive heart disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC)

Subgroup	Models *	Incidence (95% UIs)	PP <sup>†</sup>	Prevalence (95% UIs)	PP <sup>†</sup>	Mortality (95% UIs)	PP <sup>†</sup>	DALY (95% UIs)	PP <sup>†</sup>
Total	SC1	N.A.	N.A.	0.2 (-9.6 to 8.7)	51.9	-10.0 (-90.4 to 46.0)	63.1	-15.0 (-86.6 to 44.5)	67.5
	SC1 w/o top 1	N.A.	N.A.	-0.0 (-10.7 to 9.3)	51.9	-12.4 (-86.5 to 44.8)	63.1	-17.8 (-86.7 to 46.6)	67.5
	SC1 w/o top 2	N.A.	N.A.	-0.1 (-10.8 to 9.0)	51.9	-12.1 (-88.3 to 45.2)	63.1	-17.9 (-86.9 to 46.1)	67.5
	SC1 w/o top 3	N.A.	N.A.	-0.1 (-10.9 to 9.3)	51.9	-12.6 (-87.1 to 45.9)	63.1	-18.2 (-85.7 to 46.9)	67.5
	SC2	N.A.	N.A.	12.4 (6.3 to 18.2)	100	27.7 (3.4 to 46.5)	96.4	32.2 (9.3 to 50.2)	98.5
	SC3	N.A.	N.A.	12.3 (6.3 to 18.1)	100	27.9 (3.9 to 46.5)	96.8	32.4 (9.9 to 50.3)	98.6
	SC4	N.A.	N.A.	-5.7 (-8.3 to -2.9)	100	-58.2 (-96.2 to -33.5)	100	-47.8 (-80.7 to -25.9)	100
	SC5	N.A.	N.A.	-0.8 (-10.3 to 7.6)	55.7	-23.4 (-92.3 to 44.7)	71.3	-24.3 (-87.4 to 39.6)	73.8
Female	SC1	N.A.	N.A.	-2.4 (-9.7 to 5.3)	71.1	-11.6 (-98.2 to 45.9)	64.2	-18.2 (-92.6 to 46.8)	70.5
	SC1 w/o top 1	N.A.	N.A.	-2.4 (-10.0 to 6.2)	71.1	-11.4 (-91.0 to 46.3)	64.2	-15.8 (-106.6 to 47.0)	70.5
	SC1 w/o top 2	N.A.	N.A.	-2.4 (-10.0 to 5.9)	71.1	-11.4 (-92.2 to 45.7)	64.2	-16.0 (-110.6 to 45.8)	70.5
	SC1 w/o top 3	N.A.	N.A.	-2.4 (-10.0 to 6.1)	71.1	-11.4 (-93.3 to 46.5)	64.2	-16.2 (-107.7 to 46.7)	70.5
	SC2	N.A.	N.A.	10.6 (5.1 to 15.9)	100	33.1 (10.2 to 50.8)	98.8	37.9 (16.3 to 54.6)	99.7
	SC3	N.A.	N.A.	10.7 (5.2 to 16.1)	100	33.0 (9.9 to 50.7)	98.9	37.9 (16.5 to 55.0)	99.6
	SC4	N.A.	N.A.	-6.4 (-8.5 to -4.4)	100	-64.2 (-98.3 to -35.4)	100	-56.0 (-88.2 to -28.7)	100
	SC5	N.A.	N.A.	-3.4 (-9.4 to 4.9)	77	-18.1 (-98.3 to 46.8)	67.1	-19.3 (-91.4 to 41.9)	70.8
Male	SC1	N.A.	N.A.	2.5 (-8.1 to 13.2)	67.5	-1.0 (-79.7 to 51.7)	51.8	-9.2 (-84.8 to 48.1)	61.7
	SC1 w/o top 1	N.A.	N.A.	2.5 (-9.4 to 13.8)	67.5	-0.2 (-81.9 to 52.1)	51.8	-7.9 (-76.4 to 45.3)	61.7
	SC1 w/o top 2	N.A.	N.A.	2.5 (-9.5 to 13.8)	67.5	0.0 (-82.1 to 52.2)	51.8	-7.7 (-76.4 to 45.8)	61.7
	SC1 w/o top 3	N.A.	N.A.	2.5 (-9.4 to 14.0)	67.5	-0.2 (-81.0 to 52.5)	51.8	-7.8 (-76.8 to 46.0)	61.7
	SC2	N.A.	N.A.	14.3 (7.7 to 20.7)	100	19.2 (-6.6 to 39.7)	87.6	25.6 (1.9 to 44.5)	95.5
	SC3	N.A.	N.A.	14.3 (7.7 to 20.7)	100	19.1 (-6.1 to 39.4)	88.5	25.5 (1.1 to 44.7)	95.6
	SC4	N.A.	N.A.	-4.8 (-8.0 to -1.0)	99.4	-59.5 (-93.4 to -37.2)	100	-51.3 (-90.6 to -29.7)	100
	SC5	N.A.	N.A.	2.1 (-7.6 to 11.5)	65.5	-7.1 (-84.4 to 44.9)	57.7	-13.3 (-81.7 to 43.9)	63.6
25-49 years	SC1	N.A.	N.A.	7.2 (-17.5 to 27.1)	77.4	4.6 (-71.0 to 51.5)	54.4	2.8 (-64.7 to 50.2)	52.6
	SC1 w/o top 1	N.A.	N.A.	7.5 (-16.5 to 26.2)	77.4	4.0 (-66.4 to 51.7)	54.4	4.0 (-59.6 to 47.9)	52.6
	SC1 w/o top 2	N.A.	N.A.	7.4 (-16.2 to 26.5)	77.4	4.1 (-66.9 to 51.2)	54.4	4.0 (-58.3 to 48.4)	52.6
	SC1 w/o top 3	N.A.	N.A.	7.4 (-16.1 to 26.4)	77.4	4.4 (-65.8 to 50.9)	54.4	4.2 (-59.2 to 48.5)	52.6
	SC2	N.A.	N.A.	-21.5 (-32.4 to -11.2)	100	33.5 (11.8 to 50.7)	99.4	32.1 (11.4 to 48.2)	99.3
	SC3	N.A.	N.A.	-21.5 (-32.7 to -11.2)	100	33.4 (12.4 to 50.0)	99.3	32.0 (11.6 to 48.5)	99.4
	SC4	N.A.	N.A.	7.5 (-1.6 to 16.2)	94.4	-41.2 (-74.3 to -19.9)	100	-38.7 (-69.3 to -18.3)	100
	SC5	N.A.	N.A.	7.3 (-17.7 to 25.6)	79.3	3.0 (-70.4 to 51.9)	51.8	-2.5 (-64.6 to 47.8)	53.9
50-74 years	SC1	N.A.	N.A.	1.4 (-3.2 to 5.4)	76.8	-25.6 (-112.5 to 49.2)	72.2	-23.5 (-93.1 to 45.9)	72.8



	SC1 w/o top 1	N.A.	N.A.	1.6 (-3.2 to 6.0)	76.8	-28.9 (-116.8 to 45.4)	72.2	-26.5 (-86.8 to 45.2)	72.8
	SC1 w/o top 2	N.A.	N.A.	1.6 (-3.2 to 6.1)	76.8	-28.8 (-120.8 to 45.6)	72.2	-26.7 (-87.4 to 45.6)	72.8
	SC1 w/o top 3	N.A.	N.A.	1.6 (-3.3 to 6.1)	76.8	-29.2 (-122.4 to 46.6)	72.2	-26.3 (-87.9 to 45.2)	72.8
	SC2	N.A.	N.A.	8.2 (4.1 to 12.2)	100	45.1 (21.6 to 62.5)	99.8	42.7 (20.0 to 59.5)	99.8
	SC3	N.A.	N.A.	8.2 (4.0 to 12.3)	100	44.8 (21.2 to 62.3)	99.7	42.5 (19.5 to 59.8)	99.7
	SC4	N.A.	N.A.	-4.3 (-6.2 to -2.0)	100	-49.0 (-97.5 to -19.3)	100	-48.4 (-89.2 to -19.1)	100
	SC5	N.A.	N.A.	0.9 (-3.4 to 4.5)	73.2	-35.7 (-113.8 to 45.7)	78.8	-31.8 (-100.2 to 39.4)	80.6
75+ years	SC1	N.A.	N.A.	-1.2 (-19.2 to 12.5)	56.8	-9.2 (-91.8 to 42.6)	62	-7.8 (-82.2 to 45.5)	60
	SC1 w/o top 1	N.A.	N.A.	-0.8 (-18.1 to 12.8)	56.8	-1.3 (-88.0 to 44.9)	62	-10.6 (-82.3 to 41.6)	60
	SC1 w/o top 2	N.A.	N.A.	-0.8 (-17.8 to 12.9)	56.8	-1.3 (-90.0 to 44.9)	62	-10.4 (-83.6 to 42.2)	60
	SC1 w/o top 3	N.A.	N.A.	-0.8 (-17.9 to 13.0)	56.8	-1.4 (-89.5 to 43.8)	62	-10.7 (-84.7 to 42.0)	60
	SC2	N.A.	N.A.	12.4 (4.8 to 19.6)	99.8	16.9 (-8.7 to 37.1)	83.9	24.1 (0.6 to 43.1)	95
	SC3	N.A.	N.A.	12.4 (4.6 to 19.9)	99.7	16.8 (-8.6 to 37.4)	84.3	24.0 (0.7 to 43.0)	94.6
	SC4	N.A.	N.A.	-11.6 (-16.1 to -7.1)	100	-68.8 (-103.1 to -45.2)	100	-59.7 (-96.2 to -35.7)	100
	SC5	N.A.	N.A.	-2.7 (-21.4 to 11.0)	63.3	-15.4 (-95.1 to 40.1)	65	-21.7 (-87.8 to 40.3)	71.2

**Note:**

\* SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized (**supplementary 1 pp 8-9**). SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1.

† PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

**Supplementary table 16.** Sensitivity of results to relative rate reduction (%) of atrial fibrillation and flutter incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC)

Subgroup	Models *	Incidence (95% UIs)	PP <sup>†</sup>	Prevalence (95% UIs)	PP <sup>†</sup>	Mortality (95% UIs)	PP <sup>†</sup>	DALY (95% UIs)	PP <sup>†</sup>
Total	SC1	-2.9 (-8.1 to 2.3)	86.0	-2.0 (-8.0 to 3.3)	76.0	-0.0 (-6.9 to 8.0)	50.4	-1.2 (-6.0 to 3.6)	67.8
	SC1 w/o top 1	-3.1 (-8.4 to 2.0)	86.0	-2.2 (-8.0 to 3.5)	76.0	-0.2 (-7.2 to 8.0)	50.4	-1.0 (-6.0 to 3.9)	67.8
	SC1 w/o top 2	-3.1 (-8.4 to 2.0)	86.0	-2.3 (-7.9 to 3.5)	76.0	-0.2 (-7.3 to 7.9)	50.4	-0.9 (-6.0 to 3.9)	67.8
	SC1 w/o top 3	-3.1 (-8.4 to 2.0)	86.0	-2.3 (-8.1 to 3.4)	76.0	-0.2 (-7.1 to 8.0)	50.4	-1.0 (-6.0 to 3.9)	67.8
	SC2	4.2 (-0.8 to 9.2)	94.4	3.1 (-2.0 to 7.8)	87.9	12.3 (7.0 to 17.2)	100.0	8.0 (2.9 to 13.1)	99.8
	SC3	4.2 (-0.8 to 9.1)	94.6	3.0 (-1.8 to 7.8)	87.6	12.3 (7.0 to 17.1)	100.0	8.0 (3.0 to 12.9)	99.8
	SC4	-6.6 (-9.5 to -4.6)	100.0	-6.5 (-8.6 to -4.6)	100.0	-3.1 (-5.5 to -1.3)	99.9	-5.8 (-7.1 to -4.2)	100.0
	SC5	-5.1 (-8.6 to 1.5)	93.6	-3.6 (-8.2 to 2.5)	87.5	-2.7 (-9.1 to 4.6)	79.9	-2.1 (-6.6 to 3.8)	72.7
Female	SC1	-3.9 (-10.6 to 3.6)	86.6	-3.7 (-10.4 to 4.2)	84.2	-1.5 (-10.3 to 7.8)	68.5	-3.3 (-8.3 to 4.4)	82.7
	SC1 w/o top 1	-3.8 (-10.6 to 5.2)	86.6	-3.7 (-11.5 to 3.2)	84.2	-1.5 (-10.0 to 8.6)	68.5	-3.5 (-8.7 to 5.2)	82.7
	SC1 w/o top 2	-3.9 (-10.6 to 5.2)	86.6	-3.7 (-11.5 to 3.2)	84.2	-1.5 (-10.1 to 8.4)	68.5	-3.5 (-8.5 to 5.2)	82.7
	SC1 w/o top 3	-3.8 (-10.7 to 5.3)	86.6	-3.7 (-11.3 to 3.2)	84.2	-1.5 (-10.1 to 8.6)	68.5	-3.5 (-8.6 to 5.2)	82.7
	SC2	3.9 (-1.1 to 8.8)	92.6	2.6 (-2.4 to 7.3)	83.8	16.9 (11.2 to 22.2)	100.0	10.3 (4.8 to 15.6)	100.0
	SC3	3.9 (-1.2 to 8.7)	92.5	2.6 (-2.4 to 7.4)	83.5	16.9 (11.3 to 22.4)	100.0	10.3 (4.7 to 15.7)	99.9
	SC4	-10.3 (-12.2 to -8.5)	100.0	-11.3 (-13.3 to -9.3)	100.0	-1.2 (-3.6 to 1.1)	84.8	-6.2 (-8.3 to -4.3)	100.0
	SC5	-5.5 (-10.8 to 3.6)	89.1	-5.9 (-11.1 to 3.8)	89.7	-1.9 (-10.3 to 5.3)	75.8	-4.2 (-8.3 to 4.3)	88.0
Male	SC1	-1.6 (-5.7 to 2.2)	81.1	-0.4 (-5.2 to 3.8)	58.5	3.3 (-4.5 to 10.0)	85.6	2.2 (-2.3 to 5.8)	86.4
	SC1 w/o top 1	-1.6 (-6.0 to 2.2)	81.1	-0.5 (-5.3 to 3.6)	58.5	3.8 (-3.9 to 9.7)	85.6	2.4 (-1.8 to 5.9)	86.4
	SC1 w/o top 2	-1.7 (-6.1 to 2.3)	81.1	-0.4 (-5.1 to 3.7)	58.5	3.8 (-4.0 to 9.6)	85.6	2.4 (-1.7 to 5.8)	86.4
	SC1 w/o top 3	-1.7 (-6.1 to 2.3)	81.1	-0.4 (-5.2 to 3.6)	58.5	3.8 (-3.9 to 9.6)	85.6	2.3 (-1.7 to 5.9)	86.4
	SC2	4.4 (-0.4 to 9.1)	96.0	3.3 (-1.4 to 7.8)	90.9	0.3 (-3.7 to 4.1)	54.7	2.9 (-1.4 to 7.0)	90.2
	SC3	4.5 (-0.4 to 9.0)	96.2	3.3 (-1.4 to 7.8)	91.5	0.3 (-3.7 to 4.1)	54.4	2.9 (-1.3 to 7.0)	89.6
	SC4	-2.5 (-4.0 to -1.1)	99.9	-2.0 (-3.7 to -0.4)	99.2	-9.4 (-10.7 to -6.7)	100.0	-2.6 (-4.2 to -1.1)	99.9
	SC5	-2.7 (-6.2 to 2.1)	89.0	-1.4 (-5.9 to 3.7)	72.0	2.7 (-4.1 to 6.8)	86.1	2.8 (-2.3 to 5.8)	88.8
25-49 years	SC1	7.3 (-9.8 to 24.2)	76.8	6.1 (-13.8 to 24.6)	69.7	13.7 (-3.8 to 24.1)	93.2	9.2 (-9.4 to 24.1)	82.0
	SC1 w/o top 1	8.1 (-12.4 to 23.7)	76.8	8.2 (-12.9 to 25.1)	69.7	14.4 (-6.5 to 24.5)	93.2	10.4 (-8.0 to 24.2)	82.0
	SC1 w/o top 2	8.1 (-12.6 to 23.9)	76.8	8.1 (-12.8 to 25.0)	69.7	14.4 (-6.6 to 24.6)	93.2	10.4 (-7.9 to 24.1)	82.0
	SC1 w/o top 3	8.0 (-11.9 to 24.3)	76.8	8.3 (-12.4 to 25.3)	69.7	14.2 (-6.7 to 24.6)	93.2	10.4 (-8.1 to 24.1)	82.0
	SC2	-16.6 (-21.7 to -11.8)	100.0	-19.6 (-25.2 to -14.2)	100.0	7.6 (4.2 to 11.0)	100.0	-13.0 (-16.9 to -9.2)	100.0
	SC3	-16.7 (-21.7 to -11.8)	100.0	-19.6 (-25.2 to -14.2)	100.0	7.7 (4.2 to 11.0)	100.0	-13.0 (-16.9 to -9.2)	100.0
	SC4	-2.6 (-8.4 to 3.9)	82.2	-3.8 (-10.5 to 2.2)	90.9	0.2 (-3.3 to 4.0)	54.2	-2.9 (-9.0 to 2.4)	87.0
	SC5	8.5 (-9.2 to 23.7)	79.9	7.3 (-11.5 to 24.1)	71.3	13.5 (-5.7 to 21.9)	90.9	10.4 (-7.3 to 23.4)	84.9
50-74 years	SC1	-0.1 (-10.2 to 7.6)	51.3	1.3 (-7.5 to 8.3)	63.2	0.1 (-11.9 to 11.0)	51.0	0.5 (-9.4 to 8.7)	55.3

	SC1 w/o top 1	-0.1 (-8.6 to 8.0)	51.3	1.0 (-6.9 to 8.8)	63.2	0.0 (-13.0 to 10.5)	51.0	0.9 (-9.7 to 8.9)	55.3
	SC1 w/o top 2	-0.1 (-8.7 to 8.0)	51.3	1.0 (-6.9 to 8.8)	63.2	-0.0 (-12.7 to 11.0)	51.0	0.9 (-9.7 to 8.9)	55.3
	SC1 w/o top 3	-0.2 (-8.6 to 7.9)	51.3	1.1 (-7.0 to 8.7)	63.2	-0.1 (-12.7 to 10.6)	51.0	0.9 (-9.6 to 8.8)	55.3
	SC2	2.3 (-4.0 to 8.2)	74.9	2.0 (-3.7 to 7.6)	73.5	22.1 (15.2 to 28.6)	100.0	8.1 (2.1 to 13.9)	99.2
	SC3	2.4 (-4.0 to 8.3)	75.4	2.0 (-3.7 to 7.5)	73.5	22.2 (15.3 to 28.6)	100.0	8.1 (1.9 to 13.7)	99.1
	SC4	-14.2 (-16.8 to -11.5)	100.0	-13.2 (-16.0 to -10.7)	100.0	0.2 (-3.5 to 3.8)	54.4	-8.8 (-11.7 to -6.4)	100.0
	SC5	-1.5 (-12.6 to 7.3)	62.9	0.7 (-9.3 to 8.4)	55.3	0.1 (-11.0 to 8.1)	50.7	-1.7 (-10.9 to 7.8)	62.9
75+ years	SC1	-5.6 (-10.1 to -0.3)	98.0	-4.9 (-10.2 to 0.9)	95.0	-2.6 (-9.8 to 2.4)	79.2	-1.6 (-6.7 to 2.9)	75.6
	SC1 w/o top 1	-5.5 (-10.1 to -0.6)	98.0	-4.9 (-9.9 to -0.0)	95.0	-2.2 (-9.0 to 2.6)	79.2	-1.6 (-6.7 to 3.2)	75.6
	SC1 w/o top 2	-5.5 (-10.0 to -0.5)	98.0	-4.9 (-9.9 to -0.0)	95.0	-2.2 (-8.9 to 2.6)	79.2	-1.6 (-6.8 to 3.2)	75.6
	SC1 w/o top 3	-5.5 (-10.0 to -0.6)	98.0	-4.9 (-9.9 to -0.0)	95.0	-2.2 (-8.9 to 2.6)	79.2	-1.6 (-6.8 to 3.3)	75.6
	SC2	7.9 (2.8 to 12.8)	99.7	2.2 (-2.8 to 6.9)	80.1	0.3 (-3.2 to 3.7)	56.6	7.0 (2.1 to 11.8)	99.4
	SC3	8.0 (2.7 to 12.7)	99.8	2.2 (-2.8 to 7.0)	80.0	0.3 (-3.1 to 3.7)	56.8	7.0 (2.0 to 11.8)	99.4
	SC4	-6.1 (-7.8 to -4.6)	100.0	-8.7 (-11.7 to -6.6)	100.0	-8.4 (-9.6 to -7.1)	100.0	-6.2 (-7.6 to -3.8)	100.0
	SC5	-6.2 (-10.0 to -1.4)	99.2	-7.0 (-10.3 to -1.0)	99.0	-6.5 (-10.8 to -2.0)	99.6	-2.2 (-7.0 to 3.1)	75.9

**Note:**

\* SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized (**supplementary 1 pp 8-9**). SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1.

† PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

**Supplementary table 17.** Sensitivity of results to relative rate reduction (%) of peripheral artery disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC)

Subgroup	Models *	Incidence (95% UIs)	PP <sup>†</sup>	Prevalence (95% UIs)	PP <sup>†</sup>	Mortality (95% UIs)	PP <sup>†</sup>	DALY (95% UIs)	PP <sup>†</sup>
Total	SC1	-2.4 (-7.3 to 3.1)	81.8	-2.5 (-8.8 to 3.7)	78.5	6.3 (-5.5 to 15.5)	88.7	-2.0 (-7.1 to 3.9)	73.3
	SC1 w/o top 1	-2.8 (-7.9 to 2.9)	81.8	-2.8 (-9.0 to 3.7)	78.5	6.1 (-5.3 to 16.1)	88.7	-1.9 (-7.5 to 4.0)	73.3
	SC1 w/o top 2	-2.9 (-7.8 to 2.8)	81.8	-2.8 (-9.0 to 3.6)	78.5	6.1 (-5.0 to 16.0)	88.7	-1.9 (-7.6 to 4.1)	73.3
	SC1 w/o top 3	-2.8 (-7.8 to 2.8)	81.8	-2.8 (-8.9 to 3.6)	78.5	6.1 (-5.3 to 16.0)	88.7	-1.9 (-7.6 to 4.0)	73.3
	SC2	10.3 (7.9 to 12.7)	100.0	8.5 (6.6 to 10.4)	100.0	-0.9 (-2.8 to 1.0)	81.8	16.0 (11.2 to 20.4)	100.0
	SC3	10.3 (7.8 to 12.7)	100.0	8.5 (6.6 to 10.4)	100.0	-0.9 (-2.8 to 1.1)	81.6	16.0 (11.3 to 20.5)	100.0
	SC4	1.5 (-0.0 to 3.1)	96.9	2.1 (-0.1 to 4.9)	96.6	-3.9 (-6.3 to -1.2)	99.8	-1.4 (-3.4 to 0.6)	92.1
	SC5	-2.7 (-7.5 to 3.3)	83.1	-3.1 (-8.8 to 3.6)	81.1	5.5 (-5.4 to 13.1)	87.4	-2.3 (-6.3 to 2.9)	82.8
Female	SC1	-2.7 (-8.8 to 4.2)	79.7	-2.8 (-10.4 to 5.2)	76.0	0.4 (-9.5 to 9.7)	53.3	-3.5 (-11.5 to 5.4)	81.3
	SC1 w/o top 1	-2.9 (-9.5 to 4.1)	79.7	-3.3 (-12.1 to 4.7)	76.0	-0.2 (-10.5 to 9.0)	53.3	-3.5 (-12.3 to 7.3)	81.3
	SC1 w/o top 2	-2.9 (-9.4 to 4.0)	79.7	-3.3 (-12.1 to 4.6)	76.0	-0.2 (-10.4 to 8.8)	53.3	-3.5 (-12.2 to 7.2)	81.3
	SC1 w/o top 3	-3.0 (-9.4 to 4.2)	79.7	-3.3 (-12.1 to 4.6)	76.0	-0.2 (-10.6 to 8.9)	53.3	-3.5 (-12.4 to 7.1)	81.3
	SC2	10.0 (7.7 to 12.2)	100.0	7.9 (6.4 to 9.4)	100.0	14.2 (9.9 to 18.5)	100.0	18.2 (13.3 to 22.8)	100.0
	SC3	10.0 (7.8 to 12.2)	100.0	7.9 (6.4 to 9.4)	100.0	14.3 (9.8 to 18.6)	100.0	18.2 (13.3 to 22.8)	100.0
	SC4	2.6 (1.1 to 4.3)	100.0	4.4 (2.2 to 6.2)	100.0	0.2 (-2.4 to 4.1)	55.6	0.9 (-1.4 to 3.1)	78.1
	SC5	-3.0 (-8.2 to 3.5)	82.1	-3.7 (-10.5 to 4.8)	80.6	-2.2 (-10.7 to 6.5)	70.2	-4.2 (-11.0 to 3.7)	89.4
Male	SC1	-0.1 (-5.1 to 5.3)	52.1	0.9 (-4.5 to 6.1)	63.1	13.9 (-6.0 to 26.7)	94.3	5.2 (1.3 to 8.4)	99.0
	SC1 w/o top 1	-0.1 (-5.5 to 5.4)	52.1	0.6 (-4.7 to 5.2)	63.1	14.3 (0.2 to 25.9)	94.3	5.3 (1.8 to 8.3)	99.0
	SC1 w/o top 2	-0.1 (-5.5 to 5.3)	52.1	0.6 (-4.7 to 5.1)	63.1	14.4 (0.2 to 25.6)	94.3	5.3 (1.9 to 8.3)	99.0
	SC1 w/o top 3	-0.1 (-5.5 to 5.4)	52.1	0.6 (-4.7 to 5.3)	63.1	14.3 (0.3 to 25.8)	94.3	5.3 (1.9 to 8.4)	99.0
	SC2	11.9 (9.6 to 14.1)	100.0	10.5 (8.4 to 12.5)	100.0	-17.7 (-22.3 to -13.4)	100.0	8.7 (5.4 to 11.9)	100.0
	SC3	11.9 (9.5 to 14.2)	100.0	10.5 (8.4 to 12.5)	100.0	-17.8 (-22.3 to -13.4)	100.0	8.7 (5.5 to 11.9)	100.0
	SC4	3.5 (1.6 to 6.0)	100.0	5.3 (2.5 to 6.8)	100.0	-4.9 (-15.1 to 3.8)	85.1	1.0 (0.2 to 1.9)	99.1
	SC5	-0.8 (-5.3 to 5.9)	60.9	0.3 (-4.5 to 5.7)	54.3	14.0 (-1.5 to 24.7)	96.7	5.0 (2.0 to 7.5)	99.7
25-49 years	SC1	6.5 (-10.0 to 26.2)	81.8	4.2 (-13.7 to 25.4)	71.3	19.3 (-2.1 to 33.2)	96.5	19.1 (0.2 to 32.9)	97.6
	SC1 w/o top 1	6.6 (-12.4 to 28.7)	81.8	4.4 (-12.1 to 26.0)	71.3	19.5 (0.3 to 32.7)	96.5	20.0 (0.2 to 32.9)	97.6
	SC1 w/o top 2	6.7 (-12.2 to 29.0)	81.8	4.2 (-12.4 to 25.9)	71.3	19.5 (0.4 to 32.7)	96.5	19.9 (0.5 to 33.1)	97.6
	SC1 w/o top 3	6.5 (-13.0 to 28.9)	81.8	4.3 (-12.4 to 25.9)	71.3	19.5 (0.5 to 32.6)	96.5	20.0 (0.7 to 33.2)	97.6
	SC2	-16.9 (-25.1 to -9.3)	100.0	-19.1 (-27.4 to -11.1)	100.0	-8.8 (-13.1 to -4.7)	100.0	-7.8 (-12.0 to -3.8)	100.0
	SC3	-16.9 (-24.8 to -9.2)	100.0	-19.1 (-27.2 to -11.3)	100.0	-8.8 (-13.1 to -4.6)	100.0	-7.8 (-11.8 to -3.8)	100.0
	SC4	5.0 (-3.6 to 12.1)	86.4	2.0 (-6.4 to 10.4)	64.7	-1.4 (-7.6 to 4.4)	67.1	-0.7 (-6.6 to 4.9)	59.1
	SC5	5.0 (-7.4 to 25.2)	83.1	3.1 (-10.8 to 23.5)	71.1	19.7 (0.7 to 31.8)	97.8	19.7 (1.8 to 31.4)	98.3
50-74 years	SC1	-1.8 (-6.1 to 1.9)	83.9	-0.9 (-6.0 to 3.5)	66.1	8.5 (-1.5 to 17.0)	95.8	-1.9 (-12.9 to 9.7)	64.6

	SC1 w/o top 1	-1.9 (-6.0 to 2.5)	83.9	-1.1 (-6.2 to 3.4)	66.1	9.4 (-0.9 to 17.5)	95.8	-1.5 (-12.0 to 10.5)	64.6
	SC1 w/o top 2	-1.9 (-6.1 to 2.5)	83.9	-1.2 (-6.4 to 3.5)	66.1	9.4 (-0.8 to 17.4)	95.8	-1.5 (-11.8 to 10.6)	64.6
	SC1 w/o top 3	-1.9 (-6.0 to 2.6)	83.9	-1.1 (-6.3 to 3.5)	66.1	9.4 (-0.9 to 17.4)	95.8	-1.5 (-11.9 to 10.4)	64.6
	SC2	10.0 (6.8 to 13.2)	100.0	8.3 (5.8 to 10.9)	100.0	6.5 (3.8 to 9.1)	100.0	18.8 (12.6 to 24.7)	100.0
	SC3	10.0 (6.7 to 13.2)	100.0	8.4 (5.8 to 10.8)	100.0	6.4 (3.8 to 9.1)	100.0	18.9 (12.5 to 24.8)	100.0
	SC4	-2.5 (-4.0 to -1.0)	99.9	-1.6 (-3.4 to 0.1)	96.5	0.4 (-2.6 to 2.2)	65.0	-7.5 (-11.8 to -3.2)	99.9
	SC5	-3.0 (-6.5 to 2.1)	89.7	-2.1 (-6.3 to 2.8)	81.7	7.6 (-0.0 to 14.4)	97.4	-1.8 (-12.5 to 8.7)	65.3
75+ years	SC1	-2.0 (-5.7 to 2.2)	84.0	-4.1 (-9.6 to 1.7)	91.1	4.3 (-10.4 to 16.9)	73.6	-1.4 (-6.9 to 4.5)	68.8
	SC1 w/o top 1	-2.2 (-5.9 to 1.3)	84.0	-4.5 (-10.1 to 2.2)	91.1	4.4 (-12.8 to 17.0)	73.6	-1.3 (-7.4 to 5.0)	68.8
	SC1 w/o top 2	-2.2 (-5.9 to 1.3)	84.0	-4.5 (-10.1 to 2.0)	91.1	4.4 (-12.9 to 16.8)	73.6	-1.4 (-7.6 to 5.1)	68.8
	SC1 w/o top 3	-2.2 (-5.9 to 1.3)	84.0	-4.5 (-10.0 to 2.1)	91.1	4.3 (-13.0 to 16.8)	73.6	-1.3 (-7.5 to 5.2)	68.8
	SC2	12.4 (9.1 to 15.5)	100.0	8.3 (6.0 to 10.6)	100.0	-15.1 (-18.0 to -12.3)	100.0	16.2 (11.3 to 20.8)	100.0
	SC3	12.4 (9.1 to 15.6)	100.0	8.3 (6.0 to 10.6)	100.0	-15.1 (-18.0 to -12.3)	100.0	16.1 (11.2 to 20.7)	100.0
	SC4	0.7 (-0.4 to 1.9)	89.4	-0.5 (-2.2 to 1.3)	69.5	-9.4 (-13.8 to -4.4)	99.9	-1.4 (-3.6 to 0.7)	91.3
	SC5	-1.9 (-5.7 to 2.5)	83.4	-4.5 (-9.5 to 1.6)	92.6	5.0 (-9.6 to 15.6)	78.6	-2.1 (-6.0 to 3.5)	79.6

**Note:**

\* SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized (**supplementary 1 pp 8-9**). SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1.

† PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

**Supplementary table 18.** Sensitivity of results to relative rate reduction (%) of endocarditis incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for compositing the synthetic control (SC)

Subgroup	Models *	Incidence (95% UIs)	PP <sup>†</sup>	Prevalence (95% UIs)	PP <sup>†</sup>	Mortality (95% UIs)	PP <sup>†</sup>	DALY (95% UIs)	PP <sup>†</sup>
Total	SC1	-9.5 (-14.2 to -5.1)	100.0	-2.9 (-5.9 to -0.7)	99.3	-4.2 (-71.4 to 44.1)	57.6	-8.3 (-107.2 to 58.1)	60.8
	SC1 w/o top 1	-10.0 (-14.9 to -4.9)	100.0	-2.9 (-5.6 to -0.8)	99.3	-4.8 (-82.0 to 39.4)	57.6	-6.4 (-95.7 to 56.8)	60.8
	SC1 w/o top 2	-10.0 (-14.9 to -4.9)	100.0	-2.9 (-5.6 to -0.8)	99.3	-4.2 (-79.2 to 39.1)	57.6	-7.0 (-98.5 to 56.9)	60.8
	SC1 w/o top 3	-10.0 (-14.9 to -4.9)	100.0	-2.9 (-5.7 to -0.8)	99.3	-4.3 (-80.6 to 38.4)	57.6	-6.7 (-98.5 to 57.3)	60.8
	SC2	4.7 (0.3 to 9.1)	97.4	2.9 (-0.5 to 6.4)	94.9	45.4 (31.5 to 57.0)	100.0	59.1 (43.1 to 71.3)	100.0
	SC3	4.8 (0.2 to 9.2)	97.5	2.9 (-0.5 to 6.3)	94.4	45.4 (31.4 to 56.9)	100.0	59.2 (43.9 to 70.9)	100.0
	SC4	-7.2 (-8.4 to -5.9)	100.0	-5.8 (-6.5 to -4.8)	100.0	-30.5 (-57.7 to 1.2)	97.6	-31.3 (-78.1 to 7.5)	93.8
	SC5	-9.0 (-14.7 to -4.5)	100.0	-2.7 (-5.5 to -0.4)	98.8	-6.6 (-71.3 to 32.9)	62.5	-12.5 (-102.8 to 45.0)	66.5
Female	SC1	-10.6 (-18.8 to -2.2)	99.1	-4.4 (-5.3 to -3.3)	100.0	-8.3 (-78.8 to 49.4)	62.4	-7.4 (-123.7 to 58.1)	59.7
	SC1 w/o top 1	-11.7 (-20.2 to -1.8)	99.1	-4.4 (-5.5 to -3.5)	100.0	-8.2 (-80.0 to 54.5)	62.4	-10.1 (-119.2 to 59.7)	59.7
	SC1 w/o top 2	-11.7 (-20.1 to -2.0)	99.1	-4.4 (-5.5 to -3.4)	100.0	-7.6 (-83.3 to 54.6)	62.4	-11.2 (-122.0 to 60.0)	59.7
	SC1 w/o top 3	-11.6 (-20.0 to -2.1)	99.1	-4.4 (-5.5 to -3.4)	100.0	-7.9 (-83.1 to 54.1)	62.4	-10.6 (-121.1 to 58.9)	59.7
	SC2	10.5 (5.1 to 15.6)	99.9	5.0 (1.4 to 8.4)	99.7	50.4 (37.0 to 61.2)	100.0	65.2 (50.5 to 76.3)	100.0
	SC3	10.4 (5.1 to 15.5)	100.0	4.9 (1.5 to 8.4)	99.5	50.3 (36.3 to 61.4)	100.0	65.2 (50.3 to 76.1)	100.0
	SC4	-5.2 (-7.2 to -3.3)	100.0	-5.1 (-5.4 to -5.0)	100.0	-14.1 (-35.6 to 6.8)	92.1	-14.6 (-48.4 to 15.4)	85.8
	SC5	-11.1 (-18.7 to -3.5)	99.6	-4.3 (-5.2 to -3.3)	100.0	-12.0 (-78.0 to 36.0)	69.2	-13.6 (-122.5 to 48.1)	66.6
Male	SC1	-9.0 (-15.1 to -4.5)	100.0	-1.9 (-8.6 to 2.6)	79.3	2.1 (-59.6 to 43.7)	52.4	-4.3 (-90.8 to 57.6)	56.0
	SC1 w/o top 1	-8.9 (-14.4 to -3.9)	100.0	-1.8 (-9.4 to 2.9)	79.3	0.4 (-64.0 to 50.2)	52.4	-2.3 (-83.7 to 58.6)	56.0
	SC1 w/o top 2	-8.9 (-14.5 to -3.9)	100.0	-1.8 (-9.2 to 2.7)	79.3	0.2 (-65.5 to 50.1)	52.4	-2.1 (-85.2 to 57.9)	56.0
	SC1 w/o top 3	-8.8 (-14.5 to -3.9)	100.0	-1.8 (-9.3 to 2.8)	79.3	0.4 (-65.3 to 50.0)	52.4	-2.5 (-84.6 to 57.6)	56.0
	SC2	-0.3 (-4.2 to 3.5)	57.3	0.6 (-2.7 to 3.9)	62.2	42.4 (27.6 to 54.5)	100.0	54.4 (38.0 to 67.2)	100.0
	SC3	-0.2 (-4.3 to 3.7)	57.1	0.6 (-2.8 to 3.8)	62.4	42.4 (28.2 to 54.4)	100.0	54.5 (37.6 to 67.0)	100.0
	SC4	-10.2 (-11.1 to -7.4)	100.0	-6.1 (-7.6 to -3.6)	100.0	-15.4 (-57.3 to 4.9)	93.4	-16.0 (-67.9 to 10.5)	90.5
	SC5	-9.2 (-13.1 to -4.4)	100.0	-1.6 (-6.3 to 2.7)	76.6	-2.3 (-65.7 to 34.7)	55.2	-9.5 (-91.4 to 44.6)	62.7
25-49 years	SC1	-12.3 (-25.7 to -1.0)	98.1	-10.7 (-19.6 to -1.5)	99.0	7.8 (-71.4 to 50.9)	60.3	5.1 (-76.4 to 50.6)	56.5
	SC1 w/o top 1	-13.3 (-26.4 to -1.7)	98.1	-11.5 (-20.0 to -2.2)	99.0	6.5 (-89.6 to 53.9)	60.3	2.2 (-121.4 to 50.3)	56.5
	SC1 w/o top 2	-13.3 (-26.3 to -1.7)	98.1	-11.5 (-20.0 to -1.9)	99.0	6.2 (-89.2 to 53.6)	60.3	2.2 (-118.8 to 50.5)	56.5
	SC1 w/o top 3	-13.3 (-26.6 to -1.7)	98.1	-11.6 (-20.1 to -1.8)	99.0	6.0 (-89.1 to 54.2)	60.3	2.6 (-119.6 to 50.4)	56.5
	SC2	13.0 (7.2 to 18.5)	100.0	3.0 (0.4 to 5.5)	98.4	40.0 (25.5 to 52.1)	100.0	42.2 (27.2 to 54.2)	100.0
	SC3	13.0 (7.1 to 18.4)	100.0	3.0 (0.4 to 5.6)	98.2	40.1 (25.6 to 52.0)	100.0	42.2 (27.6 to 54.3)	100.0
	SC4	-2.9 (-6.0 to 0.3)	96.5	-1.4 (-3.8 to 1.1)	85.2	-37.2 (-63.9 to -7.5)	99.4	-39.8 (-69.2 to -7.6)	99.4
	SC5	-9.5 (-24.9 to -1.0)	98.4	-12.0 (-21.3 to -1.1)	98.5	5.6 (-60.7 to 41.5)	59.2	2.9 (-84.3 to 45.4)	53.7
50-74 years	SC1	5.0 (-32.1 to 31.6)	62.4	-0.1 (-12.4 to 11.3)	51.2	-4.8 (-37.5 to 25.7)	63.9	-5.6 (-34.7 to 23.1)	67.2

	SC1 w/o top 1	4.4 (-34.4 to 32.0)	62.4	0.6 (-11.5 to 11.4)	51.2	-5.6 (-42.3 to 24.9)	63.9	-5.7 (-33.4 to 20.7)	67.2
	SC1 w/o top 2	4.8 (-33.4 to 31.2)	62.4	0.6 (-11.6 to 11.7)	51.2	-5.6 (-41.5 to 25.2)	63.9	-5.6 (-32.3 to 20.5)	67.2
	SC1 w/o top 3	4.4 (-32.2 to 31.4)	62.4	0.6 (-11.8 to 11.5)	51.2	-5.4 (-41.4 to 24.7)	63.9	-5.7 (-33.2 to 20.4)	67.2
	SC2	-46.5 (-64.7 to -29.5)	100.0	-12.0 (-14.3 to -9.8)	100.0	31.9 (21.7 to 41.2)	100.0	31.2 (21.3 to 40.2)	100.0
	SC3	-46.1 (-64.6 to -29.6)	100.0	-12.1 (-14.2 to -9.8)	100.0	32.0 (21.5 to 41.1)	100.0	31.2 (21.3 to 40.2)	100.0
	SC4	5.0 (-12.9 to 19.7)	66.7	-7.0 (-11.0 to -1.9)	99.6	-15.4 (-28.3 to 1.2)	96.5	-13.3 (-25.4 to 1.5)	96.2
	SC5	7.2 (-30.6 to 30.6)	67.4	0.7 (-12.1 to 10.8)	53.9	-7.4 (-34.6 to 17.6)	73.6	-7.6 (-36.1 to 14.7)	77.0
75+ years	SC1	15.7 (-41.1 to 51.9)	72.7	4.1 (-8.2 to 12.1)	81.4	1.0 (-42.8 to 33.8)	51.2	0.9 (-41.4 to 32.9)	51.4
	SC1 w/o top 1	15.9 (-40.9 to 56.0)	72.7	5.0 (-5.5 to 12.9)	81.4	0.3 (-45.1 to 33.6)	51.2	0.8 (-40.6 to 33.7)	51.4
	SC1 w/o top 2	15.9 (-43.3 to 56.2)	72.7	5.0 (-5.6 to 12.9)	81.4	0.0 (-44.3 to 33.2)	51.2	0.6 (-39.3 to 34.2)	51.4
	SC1 w/o top 3	16.1 (-42.1 to 55.6)	72.7	5.0 (-5.4 to 13.0)	81.4	0.4 (-43.8 to 33.6)	51.2	0.8 (-40.6 to 33.7)	51.4
	SC2	-79.7 (-118.2 to -47.3)	100.0	-11.0 (-14.1 to -8.0)	100.0	30.2 (18.4 to 40.3)	100.0	33.2 (22.1 to 43.1)	100.0
	SC3	-80.2 (-118.9 to -47.1)	100.0	-11.0 (-14.1 to -7.9)	100.0	30.2 (18.7 to 40.1)	100.0	33.0 (22.0 to 42.9)	100.0
	SC4	4.0 (-17.4 to 27.6)	59.2	-13.1 (-16.9 to -7.9)	100.0	-27.9 (-43.6 to -14.0)	100.0	-21.8 (-36.5 to -7.8)	99.6
	SC5	17.5 (-36.1 to 49.6)	76.4	4.3 (-5.9 to 11.7)	85.8	-2.1 (-42.0 to 25.4)	56.6	-1.2 (-43.0 to 26.7)	54.2

**Note:**

\* SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized (**supplementary 1 pp 8-9**). SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1.

† PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

**Supplementary table 19.** Sensitivity of results to relative rate reduction (%) of other cardiovascular and circulatory diseases prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composting the synthetic control (SC)

Subgroup	Models *	Incidence (95% UIs)	PP <sup>†</sup>	Prevalence (95% UIs)	PP <sup>†</sup>	Mortality (95% UIs)	PP <sup>†</sup>	DALY (95% UIs)	PP <sup>†</sup>
Total	SC1	N.A.	N.A.	2.8 (-32.9 to 27.0)	57.1	-3.0 (-20.7 to 16.7)	66.7	0.0 (-17.2 to 19.7)	50.9
	SC1 w/o top 1	N.A.	N.A.	5.0 (-34.9 to 27.7)	57.1	-3.0 (-18.9 to 15.9)	66.7	-0.1 (-15.2 to 20.7)	50.9
	SC1 w/o top 2	N.A.	N.A.	5.0 (-34.6 to 27.8)	57.1	-3.1 (-19.1 to 16.2)	66.7	-0.1 (-15.8 to 20.3)	50.9
	SC1 w/o top 3	N.A.	N.A.	5.3 (-35.9 to 27.9)	57.1	-3.0 (-19.3 to 15.9)	66.7	-0.0 (-15.6 to 20.6)	50.9
	SC2	N.A.	N.A.	-8.2 (-15.6 to -1.0)	99.2	28.0 (17.7 to 37.3)	100.0	31.6 (20.7 to 40.8)	100.0
	SC3	N.A.	N.A.	-8.2 (-15.7 to -1.0)	99.0	27.8 (17.6 to 37.0)	100.0	31.4 (21.1 to 40.8)	100.0
	SC4	N.A.	N.A.	11.2 (3.1 to 18.6)	99.5	-4.9 (-14.0 to 2.3)	90.0	-2.5 (-12.2 to 5.3)	72.6
	SC5	N.A.	N.A.	7.5 (-24.3 to 27.5)	69.7	-3.6 (-20.4 to 15.9)	70.1	-0.3 (-18.2 to 19.7)	52.0
Female	SC1	N.A.	N.A.	-1.8 (-41.3 to 28.2)	54.3	-3.5 (-25.9 to 21.3)	66.5	-1.0 (-24.5 to 23.7)	54.7
	SC1 w/o top 1	N.A.	N.A.	-5.3 (-47.0 to 24.7)	54.3	-3.9 (-28.7 to 22.1)	66.5	-1.0 (-24.3 to 24.8)	54.7
	SC1 w/o top 2	N.A.	N.A.	-5.1 (-47.6 to 24.6)	54.3	-3.9 (-28.4 to 21.9)	66.5	-1.0 (-25.0 to 24.5)	54.7
	SC1 w/o top 3	N.A.	N.A.	-4.9 (-48.2 to 24.6)	54.3	-3.8 (-28.3 to 21.9)	66.5	-1.2 (-25.0 to 24.6)	54.7
	SC2	N.A.	N.A.	-5.3 (-13.6 to 2.8)	91.7	31.4 (20.7 to 41.0)	100.0	34.7 (23.8 to 44.4)	100.0
	SC3	N.A.	N.A.	-5.2 (-13.5 to 2.8)	92.0	31.3 (20.5 to 40.8)	100.0	34.8 (23.9 to 44.3)	100.0
	SC4	N.A.	N.A.	14.9 (7.3 to 21.6)	100.0	-7.6 (-16.1 to 1.0)	96.2	-5.6 (-14.3 to 3.2)	90.3
	SC5	N.A.	N.A.	1.2 (-38.7 to 28.3)	51.6	-3.9 (-22.0 to 18.6)	70.0	-0.5 (-21.1 to 25.0)	52.3
Male	SC1	N.A.	N.A.	6.8 (-19.8 to 23.2)	75.5	-3.2 (-17.5 to 17.0)	66.1	1.0 (-13.4 to 20.4)	56.0
	SC1 w/o top 1	N.A.	N.A.	6.2 (-25.9 to 22.6)	75.5	-2.7 (-17.9 to 16.0)	66.1	1.2 (-13.2 to 21.2)	56.0
	SC1 w/o top 2	N.A.	N.A.	6.1 (-25.4 to 23.0)	75.5	-2.8 (-17.6 to 15.8)	66.1	1.3 (-13.4 to 20.9)	56.0
	SC1 w/o top 3	N.A.	N.A.	6.0 (-26.6 to 22.8)	75.5	-2.9 (-17.6 to 15.6)	66.1	1.3 (-12.7 to 21.3)	56.0
	SC2	N.A.	N.A.	-10.9 (-17.5 to -4.6)	99.9	23.4 (13.4 to 32.8)	100.0	28.2 (17.6 to 37.6)	100.0
	SC3	N.A.	N.A.	-10.7 (-17.6 to -4.4)	100.0	23.3 (12.8 to 32.7)	100.0	28.1 (17.8 to 37.5)	100.0
	SC4	N.A.	N.A.	7.3 (0.4 to 18.2)	97.7	-4.8 (-12.4 to 0.5)	96.1	-0.8 (-8.7 to 5.0)	60.9
	SC5	N.A.	N.A.	7.9 (-13.2 to 22.9)	81.7	-3.6 (-16.2 to 17.0)	68.6	0.8 (-13.3 to 20.8)	54.4
25-49 years	SC1	N.A.	N.A.	10.6 (-64.7 to 49.4)	64.0	1.6 (-28.6 to 29.2)	54.6	5.3 (-1.1 to 11.5)	94.8
	SC1 w/o top 1	N.A.	N.A.	11.6 (-58.5 to 50.9)	64.0	1.8 (-29.4 to 28.9)	54.6	5.7 (-0.2 to 11.6)	94.8
	SC1 w/o top 2	N.A.	N.A.	11.4 (-60.5 to 50.4)	64.0	1.7 (-27.6 to 28.5)	54.6	5.8 (-0.1 to 11.7)	94.8
	SC1 w/o top 3	N.A.	N.A.	11.8 (-59.3 to 52.0)	64.0	1.5 (-29.3 to 28.5)	54.6	5.7 (-0.1 to 11.7)	94.8
	SC2	N.A.	N.A.	-23.0 (-44.3 to -4.5)	99.6	33.3 (22.8 to 42.5)	100.0	17.0 (12.2 to 21.6)	100.0
	SC3	N.A.	N.A.	-23.1 (-44.2 to -4.6)	99.6	33.5 (23.1 to 42.8)	100.0	17.0 (12.3 to 21.5)	100.0
	SC4	N.A.	N.A.	22.4 (9.3 to 33.6)	99.9	-3.0 (-11.5 to 5.2)	76.6	4.3 (2.6 to 5.9)	100.0
	SC5	N.A.	N.A.	14.7 (-46.1 to 48.2)	74.3	-1.4 (-29.4 to 25.4)	55.9	4.3 (-0.1 to 9.5)	97.2
50-74 years	SC1	N.A.	N.A.	5.1 (-13.0 to 18.7)	77.9	-4.5 (-29.2 to 13.2)	75.0	-2.6 (-18.7 to 11.7)	70.1



	SC1 w/o top 1	N.A.	N.A.	5.5 (-12.7 to 18.0)	77.9	-4.3 (-31.2 to 14.7)	75.0	-3.1 (-17.9 to 11.2)	70.1
	SC1 w/o top 2	N.A.	N.A.	5.6 (-12.0 to 18.0)	77.9	-4.2 (-29.9 to 14.7)	75.0	-3.1 (-18.1 to 11.2)	70.1
	SC1 w/o top 3	N.A.	N.A.	5.5 (-12.6 to 18.0)	77.9	-4.3 (-30.6 to 14.8)	75.0	-3.2 (-17.9 to 11.2)	70.1
	SC2	N.A.	N.A.	-8.2 (-12.9 to -3.5)	100.0	31.1 (20.2 to 40.8)	100.0	24.1 (15.0 to 32.1)	100.0
	SC3	N.A.	N.A.	-8.2 (-13.0 to -3.5)	99.9	31.2 (20.0 to 40.7)	100.0	24.2 (15.1 to 32.2)	100.0
	SC4	N.A.	N.A.	5.9 (0.5 to 11.6)	98.1	-3.3 (-14.1 to 4.5)	79.3	-2.3 (-9.0 to 2.6)	82.3
	SC5	N.A.	N.A.	5.6 (-9.5 to 16.9)	83.1	-4.5 (-23.9 to 12.6)	78.0	-3.8 (-17.3 to 10.4)	78.6
75+ years	SC1	N.A.	N.A.	6.9 (-2.1 to 13.4)	94.7	-6.5 (-18.0 to 10.8)	79.1	-3.6 (-15.9 to 13.4)	69.4
	SC1 w/o top 1	N.A.	N.A.	6.9 (-3.1 to 13.7)	94.7	-6.1 (-17.9 to 10.4)	79.1	-4.0 (-15.8 to 13.5)	69.4
	SC1 w/o top 2	N.A.	N.A.	6.9 (-3.0 to 13.9)	94.7	-6.0 (-18.1 to 10.6)	79.1	-4.0 (-15.3 to 13.3)	69.4
	SC1 w/o top 3	N.A.	N.A.	6.9 (-3.1 to 13.8)	94.7	-6.1 (-17.6 to 10.5)	79.1	-3.9 (-15.5 to 13.6)	69.4
	SC2	N.A.	N.A.	7.1 (2.3 to 11.9)	99.6	13.7 (5.3 to 21.7)	99.8	19.0 (10.1 to 27.0)	100.0
	SC3	N.A.	N.A.	7.2 (2.3 to 11.9)	99.8	13.7 (5.1 to 21.4)	99.8	19.0 (10.0 to 27.2)	100.0
	SC4	N.A.	N.A.	-5.3 (-7.2 to -2.6)	100.0	-10.0 (-14.0 to -6.2)	100.0	-6.2 (-10.8 to -1.8)	99.7
	SC5	N.A.	N.A.	6.8 (-3.1 to 13.3)	93.3	-5.9 (-17.5 to 8.7)	76.7	-3.5 (-15.6 to 13.7)	65.5

**Note:**

\* SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized (**supplementary 1 pp 8-9**). SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1.

† PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

**Supplementary table 20.** Sensitivity of results to relative rate reduction (%) of negative control outcome of brain and central nervous system cancer incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 in China by sex (including total, female, and male) and age groups (including 24-49, 50-74, and 75+ years) using different models for composing the synthetic control (SC)

Subgroup	Models *	Incidence (95% UIs)	PP <sup>†</sup>	Prevalence (95% UIs)	PP <sup>†</sup>	Mortality (95% UIs)	PP <sup>†</sup>	DALY (95% UIs)	PP <sup>†</sup>
Total	SC1	-0.7 (-13.3 to 9.7)	55.4	-0.7 (-36.4 to 33.8)	52.2	2.3 (-5.3 to 9.7)	76.4	0.6 (-16.0 to 18.0)	53.2
	SC1 w/o top 1	0.4 (-13.3 to 10.5)	55.4	-0.4 (-34.6 to 34.3)	52.2	2.3 (-4.6 to 9.4)	76.4	0.3 (-17.3 to 19.4)	53.2
	SC1 w/o top 2	0.5 (-13.3 to 10.5)	55.4	-0.3 (-33.9 to 33.9)	52.2	2.3 (-4.6 to 9.5)	76.4	0.2 (-17.5 to 18.9)	53.2
	SC1 w/o top 3	0.4 (-13.4 to 10.4)	55.4	-0.1 (-35.2 to 34.6)	52.2	2.3 (-4.6 to 9.5)	76.4	0.2 (-17.6 to 19.0)	53.2
	<b>SC2</b>	<b>-2.1 (-3.3 to -0.9)</b>	<b>99.9</b>	<b>-59.5 (-80.6 to -40.5)</b>	<b>100.0</b>	<b>17.3 (12.9 to 21.5)</b>	<b>100.0</b>	<b>24.7 (17.6 to 31.2)</b>	<b>100.0</b>
	<b>SC3</b>	<b>-2.1 (-3.2 to -0.9)</b>	<b>100.0</b>	<b>-59.8 (-80.9 to -40.7)</b>	<b>100.0</b>	<b>17.2 (13.0 to 21.6)</b>	<b>100.0</b>	<b>24.7 (17.5 to 31.5)</b>	<b>100.0</b>
	<b>SC4</b>	<b>-3.3 (-5.8 to -0.4)</b>	<b>98.5</b>	<b>-8.8 (-23.4 to 3.5)</b>	<b>92.8</b>	<b>0.7 (-1.6 to 2.9)</b>	<b>70.3</b>	<b>-5.1 (-10.7 to 1.3)</b>	<b>95.4</b>
	SC5	-0.1 (-13.7 to 10.0)	50.7	-1.3 (-35.6 to 34.6)	52.5	1.6 (-5.2 to 7.9)	73.2	-1.6 (-16.5 to 14.1)	59.8
Female	SC1	0.2 (-21.1 to 15.6)	51.3	-0.1 (-57.7 to 40.8)	51.2	1.4 (-9.7 to 13.2)	61.8	-1.1 (-23.9 to 22.9)	54.8
	SC1 w/o top 1	-0.3 (-21.9 to 14.1)	51.3	-1.1 (-76.0 to 41.6)	51.2	0.9 (-11.2 to 12.5)	61.8	-0.5 (-20.3 to 20.9)	54.8
	SC1 w/o top 2	-0.2 (-21.4 to 14.3)	51.3	-1.2 (-80.0 to 41.2)	51.2	1.0 (-10.9 to 12.4)	61.8	-0.5 (-20.2 to 20.7)	54.8
	SC1 w/o top 3	-0.2 (-21.8 to 14.0)	51.3	-1.3 (-81.5 to 41.5)	51.2	1.0 (-11.1 to 12.5)	61.8	-0.5 (-20.7 to 20.7)	54.8
	<b>SC2</b>	<b>-7.0 (-8.9 to -5.2)</b>	<b>100.0</b>	<b>-71.8 (-102.8 to -44.9)</b>	<b>100.0</b>	<b>20.2 (15.2 to 25.0)</b>	<b>100.0</b>	<b>27.8 (19.7 to 35.0)</b>	<b>100.0</b>
	<b>SC3</b>	<b>-7.0 (-8.9 to -5.2)</b>	<b>100.0</b>	<b>-71.9 (-103.6 to -45.1)</b>	<b>100.0</b>	<b>20.3 (15.0 to 25.1)</b>	<b>100.0</b>	<b>27.8 (20.0 to 35.2)</b>	<b>100.0</b>
	<b>SC4</b>	<b>-4.2 (-7.7 to -0.6)</b>	<b>98.6</b>	<b>-4.4 (-21.1 to 9.3)</b>	<b>75.6</b>	<b>2.2 (-0.8 to 5.4)</b>	<b>92.6</b>	<b>-2.6 (-9.1 to 4.1)</b>	<b>80.9</b>
	SC5	1.6 (-18.2 to 15.3)	57.8	-4.9 (-47.7 to 40.3)	61.9	0.7 (-8.9 to 11.4)	55.7	-1.3 (-20.7 to 20.7)	56.2
Male	SC1	-0.2 (-6.8 to 6.7)	52.2	-0.4 (-32.8 to 25.2)	51.0	2.7 (-2.7 to 8.1)	86.2	0.4 (-11.2 to 13.6)	52.2
	SC1 w/o top 1	-0.1 (-5.9 to 6.6)	52.2	1.6 (-33.2 to 24.8)	51.0	3.0 (-1.9 to 8.0)	86.2	1.0 (-9.9 to 15.8)	52.2
	SC1 w/o top 2	-0.0 (-5.9 to 6.6)	52.2	1.1 (-33.0 to 24.5)	51.0	3.0 (-1.9 to 8.0)	86.2	1.1 (-9.7 to 15.7)	52.2
	SC1 w/o top 3	-0.0 (-5.9 to 6.7)	52.2	1.4 (-33.4 to 24.8)	51.0	3.0 (-1.9 to 8.0)	86.2	1.0 (-9.7 to 16.1)	52.2
	<b>SC2</b>	<b>1.8 (-0.1 to 3.7)</b>	<b>96.6</b>	<b>-44.5 (-56.0 to -33.5)</b>	<b>100.0</b>	<b>14.5 (10.6 to 18.3)</b>	<b>100.0</b>	<b>22.0 (15.5 to 28.0)</b>	<b>100.0</b>
	<b>SC3</b>	<b>1.8 (-0.1 to 3.7)</b>	<b>96.5</b>	<b>-44.4 (-55.9 to -33.5)</b>	<b>100.0</b>	<b>14.5 (10.6 to 18.3)</b>	<b>100.0</b>	<b>22.0 (15.3 to 28.1)</b>	<b>100.0</b>
	<b>SC4</b>	<b>-2.3 (-4.0 to -0.0)</b>	<b>97.3</b>	<b>-12.8 (-23.2 to 1.1)</b>	<b>96.7</b>	<b>0.1 (-1.7 to 1.9)</b>	<b>54.6</b>	<b>-3.8 (-8.9 to 3.7)</b>	<b>85.5</b>
	SC5	-0.3 (-5.4 to 5.6)	54.6	1.3 (-28.1 to 23.9)	53.9	1.9 (-3.0 to 6.1)	80.5	-0.9 (-10.8 to 9.9)	56.7
25-49 years	SC1	-0.5 (-22.2 to 20.5)	52.9	2.7 (-48.4 to 49.4)	53.2	9.3 (-3.1 to 17.1)	94.3	8.5 (-3.9 to 16.7)	93.1
	SC1 w/o top 1	-0.6 (-22.8 to 20.2)	52.9	2.9 (-52.1 to 46.0)	53.2	9.4 (-3.2 to 17.3)	94.3	8.0 (-2.9 to 16.1)	93.1
	SC1 w/o top 2	-0.6 (-22.0 to 20.3)	52.9	3.0 (-52.3 to 45.8)	53.2	9.5 (-2.9 to 17.2)	94.3	8.0 (-2.9 to 16.1)	93.1
	SC1 w/o top 3	-0.6 (-22.7 to 20.7)	52.9	3.3 (-53.3 to 46.2)	53.2	9.4 (-3.1 to 17.3)	94.3	8.1 (-2.9 to 16.1)	93.1
	<b>SC2</b>	<b>-20.3 (-27.0 to -14.0)</b>	<b>100.0</b>	<b>-104.5 (-160.0 to -60.3)</b>	<b>100.0</b>	<b>15.0 (11.7 to 18.4)</b>	<b>100.0</b>	<b>16.2 (12.4 to 20.0)</b>	<b>100.0</b>
	<b>SC3</b>	<b>-20.3 (-27.0 to -13.9)</b>	<b>100.0</b>	<b>-104.4 (-159.7 to -59.6)</b>	<b>100.0</b>	<b>15.0 (11.6 to 18.3)</b>	<b>100.0</b>	<b>16.2 (12.3 to 19.9)</b>	<b>100.0</b>
	<b>SC4</b>	<b>-1.6 (-9.5 to 5.0)</b>	<b>67.7</b>	<b>-0.1 (-24.3 to 17.9)</b>	<b>54.2</b>	<b>1.9 (-0.8 to 4.7)</b>	<b>91.4</b>	<b>1.0 (-2.0 to 3.8)</b>	<b>74.5</b>
	SC5	-0.8 (-20.5 to 20.6)	53.8	-1.0 (-53.8 to 49.8)	52.3	9.3 (-2.4 to 16.2)	94.5	8.3 (-4.0 to 16.5)	92.4
50-74 years	SC1	-2.9 (-11.1 to 4.7)	75.8	0.0 (-28.2 to 22.1)	50.2	-1.8 (-9.8 to 5.5)	67.6	-3.6 (-11.4 to 3.7)	84.4

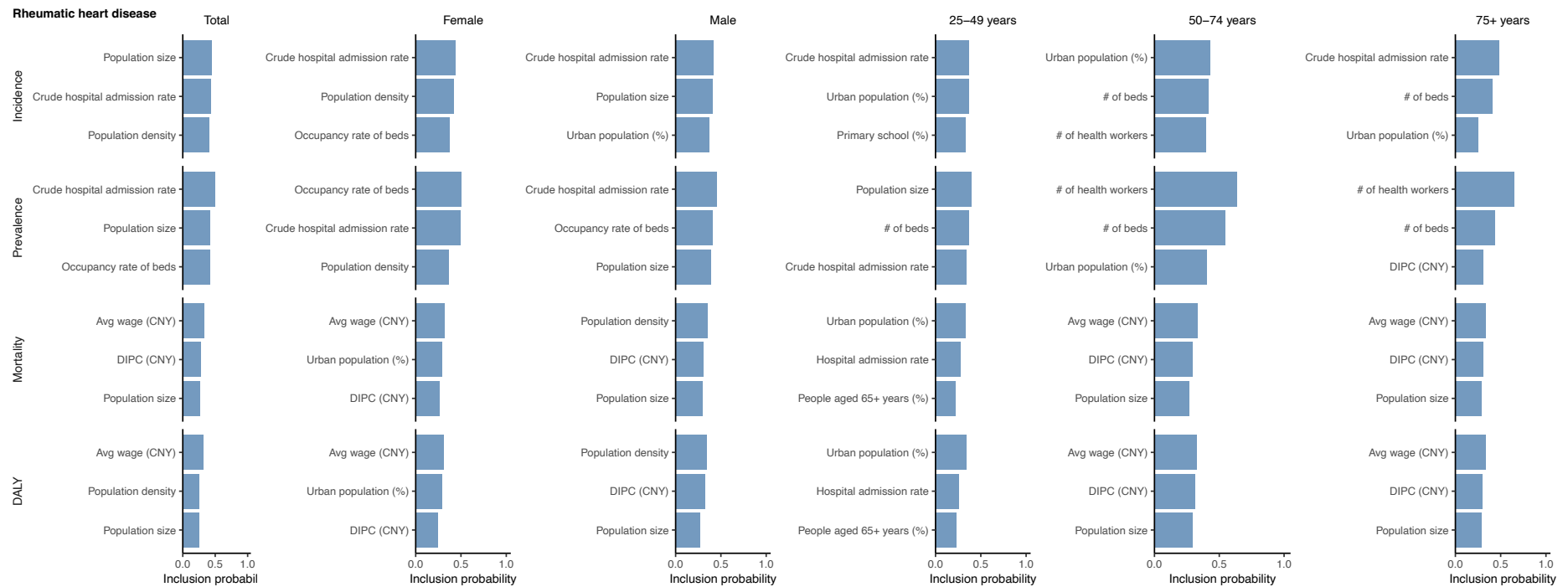
	SC1 w/o top 1	-3.1 (-11.9 to 5.0)	75.8	-0.3 (-27.8 to 21.2)	50.2	-1.5 (-9.2 to 5.2)	67.6	-3.5 (-11.9 to 3.7)	84.4
	SC1 w/o top 2	-3.1 (-12.2 to 4.9)	75.8	-0.3 (-27.7 to 21.5)	50.2	-1.5 (-9.2 to 5.3)	67.6	-3.5 (-11.9 to 3.8)	84.4
	SC1 w/o top 3	-3.1 (-12.2 to 4.8)	75.8	-0.1 (-27.6 to 21.4)	50.2	-1.5 (-9.2 to 5.1)	67.6	-3.4 (-11.8 to 3.7)	84.4
	<b>SC2</b>	<b>7.0 (5.1 to 8.8)</b>	<b>100.0</b>	<b>-30.9 (-42.0 to -20.6)</b>	<b>100.0</b>	<b>16.1 (12.5 to 19.5)</b>	<b>100.0</b>	<b>17.3 (13.7 to 20.7)</b>	<b>100.0</b>
	<b>SC3</b>	<b>7.0 (5.1 to 8.8)</b>	<b>100.0</b>	<b>-31.0 (-42.1 to -20.6)</b>	<b>100.0</b>	<b>16.1 (12.5 to 19.5)</b>	<b>100.0</b>	<b>17.3 (13.7 to 20.8)</b>	<b>100.0</b>
	<b>SC4</b>	<b>4.0 (1.8 to 6.3)</b>	<b>100.0</b>	<b>-1.0 (-10.6 to 11.3)</b>	<b>59.1</b>	<b>7.4 (3.7 to 8.6)</b>	<b>100.0</b>	<b>8.8 (7.5 to 10.0)</b>	<b>100.0</b>
	SC5	-2.5 (-11.3 to 4.7)	73.2	0.5 (-24.2 to 19.6)	52.4	-2.6 (-10.0 to 4.3)	79.2	-3.9 (-12.3 to 3.4)	86.5
75+ years	SC1	3.0 (-16.8 to 20.4)	66.6	-2.1 (-38.6 to 32.9)	55.1	4.6 (-12.2 to 15.2)	76.0	7.3 (-8.4 to 17.5)	85.9
	SC1 w/o top 1	2.7 (-15.6 to 19.0)	66.6	-1.6 (-41.3 to 32.5)	55.1	4.2 (-13.3 to 15.7)	76.0	7.2 (-6.3 to 17.3)	85.9
	SC1 w/o top 2	2.6 (-15.6 to 19.1)	66.6	-1.2 (-40.8 to 32.5)	55.1	4.3 (-13.7 to 15.5)	76.0	7.2 (-6.8 to 17.2)	85.9
	SC1 w/o top 3	2.6 (-15.6 to 18.8)	66.6	-1.2 (-41.2 to 32.5)	55.1	4.3 (-13.0 to 15.4)	76.0	7.1 (-6.6 to 17.2)	85.9
	<b>SC2</b>	<b>-16.9 (-24.4 to -9.7)</b>	<b>100.0</b>	<b>-59.2 (-81.7 to -39.2)</b>	<b>100.0</b>	<b>-4.6 (-8.6 to -0.7)</b>	<b>99.2</b>	<b>1.7 (-1.2 to 4.6)</b>	<b>87.4</b>
	<b>SC3</b>	<b>-16.9 (-24.4 to -9.6)</b>	<b>100.0</b>	<b>-59.3 (-81.6 to -39.0)</b>	<b>100.0</b>	<b>-4.7 (-8.7 to -0.9)</b>	<b>99.3</b>	<b>1.7 (-1.1 to 4.6)</b>	<b>87.7</b>
	<b>SC4</b>	<b>4.7 (-2.9 to 11.1)</b>	<b>88.9</b>	<b>-5.7 (-20.6 to 8.1)</b>	<b>81.1</b>	<b>7.0 (1.1 to 11.9)</b>	<b>98.7</b>	<b>9.2 (4.5 to 14.1)</b>	<b>100.0</b>
	SC5	2.5 (-17.0 to 19.0)	63.7	-4.2 (-40.1 to 29.2)	60.6	4.6 (-9.6 to 15.0)	78.9	7.9 (-5.8 to 15.7)	91.0

**Note:**

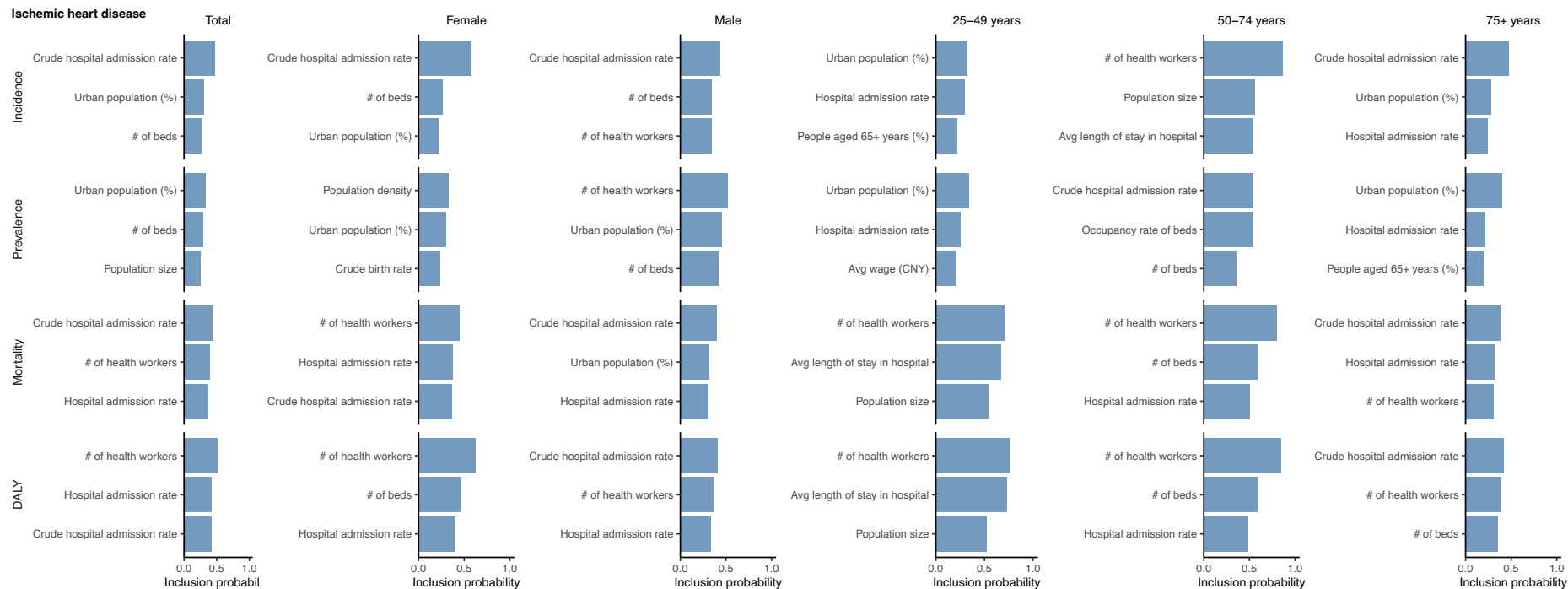
\* SC1 was derived from Model 1, in which all information on indicators attributed to the transition of CVD epidemiology and current features but received no influence from the 2011 CSC Guideline were utilized (**supplementary 1 pp 8-9**). SC1 w/o top 1-3 were derived on the basis of Model 1 by excluding the top 1-3 indicators. SC2 was derived from Model 2, in which population size was considered as an offset. SC3 was derived from Model 3, in which a simpler linear trend was also adjusted for on the basis of Model 2. SC4 was derived from Model 4, in which population size was adjusted for as a covariate, instead of an offset on the basis of Model 3. SC5 was derived from Model 5, in which indicators involved population ageing and growth (i.e., population size, urban population, population aged 65+ years, population density, birth rate, death rate, and life expectancy at birth) were removed from Model 1.

† PP: Bayesian posterior probability that the 2011 CSC Guideline had any on the prevention of CVDs had any (either protective or harmful) impact during the postintroduction period (instead of the evaluation period) on the basis of the Markov chain Monte Carlo (MCMC) samples simulated from the posterior predictive distribution.

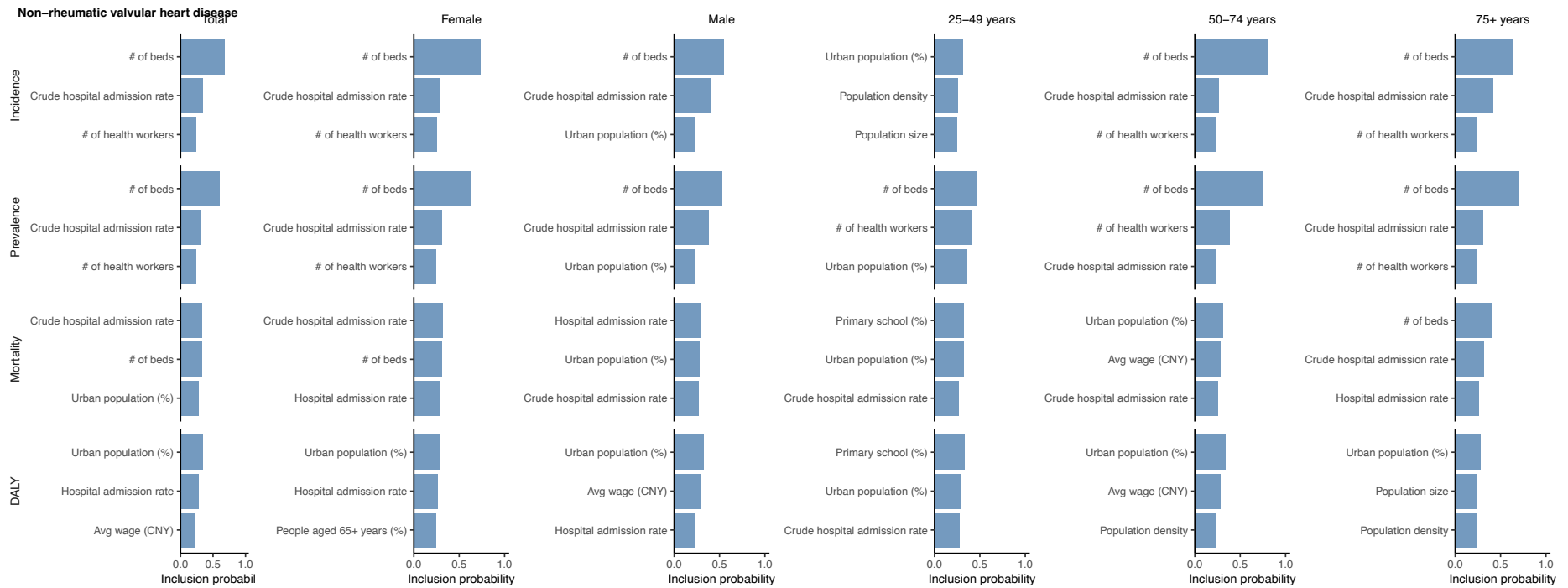
## 2.5 Top three selected indicators used for composing synthetic controls of CVD subcategories and negative control outcome



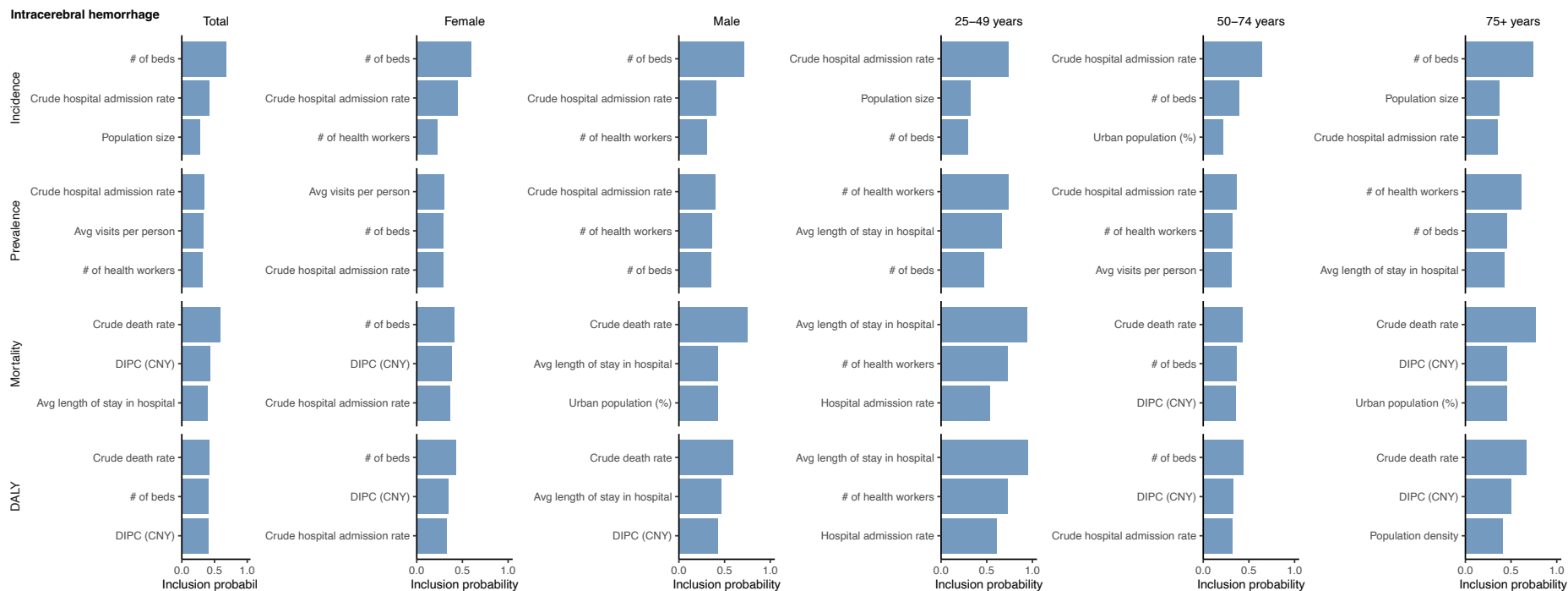
**Supplementary figure 29.** Top three selected indicators with the highest inclusion probability when composing synthetic controls for rheumatic heart disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 by sex (including total, female, and male) and age groups (including 25-49, 50-74, and 74+ years). Population size: population size (year-end, 10 000); crude hospital admission rate: number of hospital admission per 10 000; population density: population density person per square kilometer; occupancy rate of beds: occupancy rate of beds in medical provides; Avg wage (CNY): average wage of employed persons in urban non-private units in Chinese Yuan; urban population (%): proportional of urban population; DIPC (CNY): disposal income per capita in Chinse Yuan; primary school: proportional of population attained primary school education; # of beds: number of medical beds provided per 10 000; # of health workers: number of health workers per 10 000; hospital admission rate: average number of hospital admission per 100 outpatients or emergency patients; people aged 65+ years: proportion of people aged 65 years and older. Details on definitions of the included indicators are presented in **supplementary table 2**.



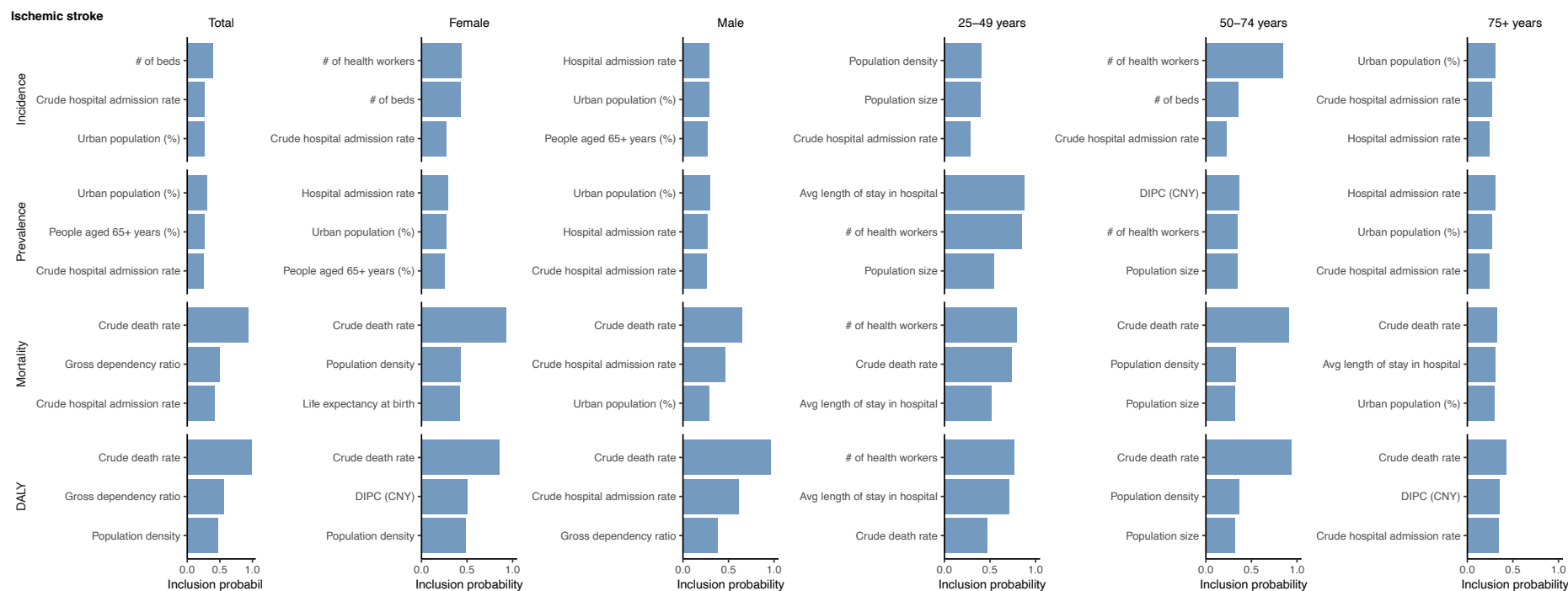
**Supplementary figure 30.** Top three selected indicators with the highest inclusion probability when composing synthetic controls for ischemic heart disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 by sex (including total, female, and male) and age groups (including 25-49, 50-74, and 74+ years). Crude hospital admission rate: number of hospital admission per 10 000; urban population (%): proportional of urban population; hospital admission rate: average number of hospital admission per 100 outpatients or emergency patients; # of beds: number of medical beds provided per 10 000; population size: population size (year-end, 10 000); # of health workers: number of health workers per 10 000; population density: population density person per square kilometer; Avg wage (CNY): average wage of employed persons in urban non-private units in Chinese Yuan; Avg length of stay in hospital: average length of stay in medical providers in days. Details on definitions of the included indicators are presented in [supplementary table 2](#).



**Supplementary figure 31.** Top three selected indicators with the highest inclusion probability when composing synthetic controls for non-rheumatic valvular heart disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 by sex (including total, female, and male) and age groups (including 25-49, 50-74, and 74+ years). # of beds: number of medical beds provided per 10 000; crude hospital admission rate: number of hospital admission per 10 000; # of health workers: number of health workers per 10 000; hospital admission rate: average number of hospital admission per 100 outpatients or emergency patients; Avg wage (CNY): average wage of employed persons in urban non-private units in Chinese Yuan; population density: population density person per square kilometer; population size: population size (year-end, 10 000). Details on definitions of the included indicators are presented in **supplementary table 2**.

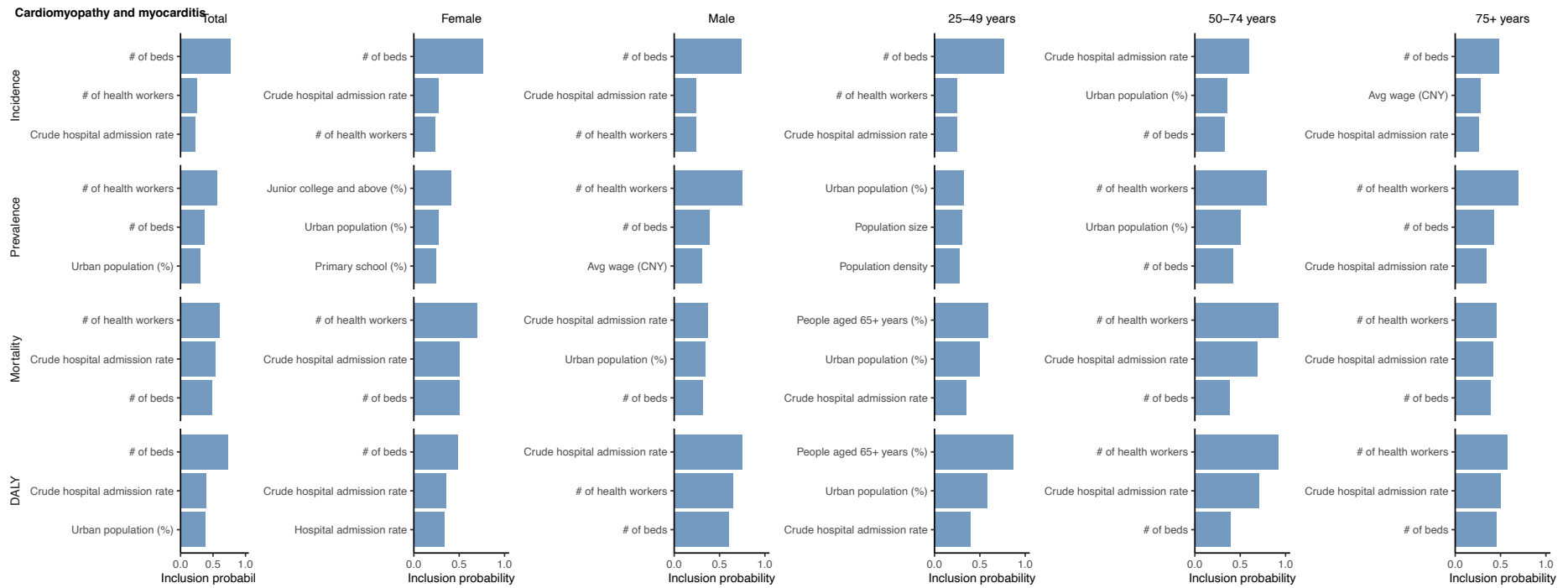


**Supplementary figure 32.** Top three selected indicators with the highest inclusion probability when composing synthetic controls for intracerebral hemorrhage incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 by sex (including total, female, and male) and age groups (including 25-49, 50-74, and 74+ years). # of beds: number of medical beds provided per 10 000; crude hospital admission rate: number of hospital admission per 10 000; hospital admission rate: average number of hospital admission per 100 outpatients or emergency patients; population size: population size (year-end, 10 000); Avg visits per person: average number of medical visits per person; # of health workers: number of health workers per 10 000; DIPC (CNY): disposal income per capita in Chinese Yuan; Avg length of stay in hospital: average length of stay in medical providers in days; population density: population density person per square kilometer. Details on definitions of the included indicators are presented in [supplementary table 2](#).

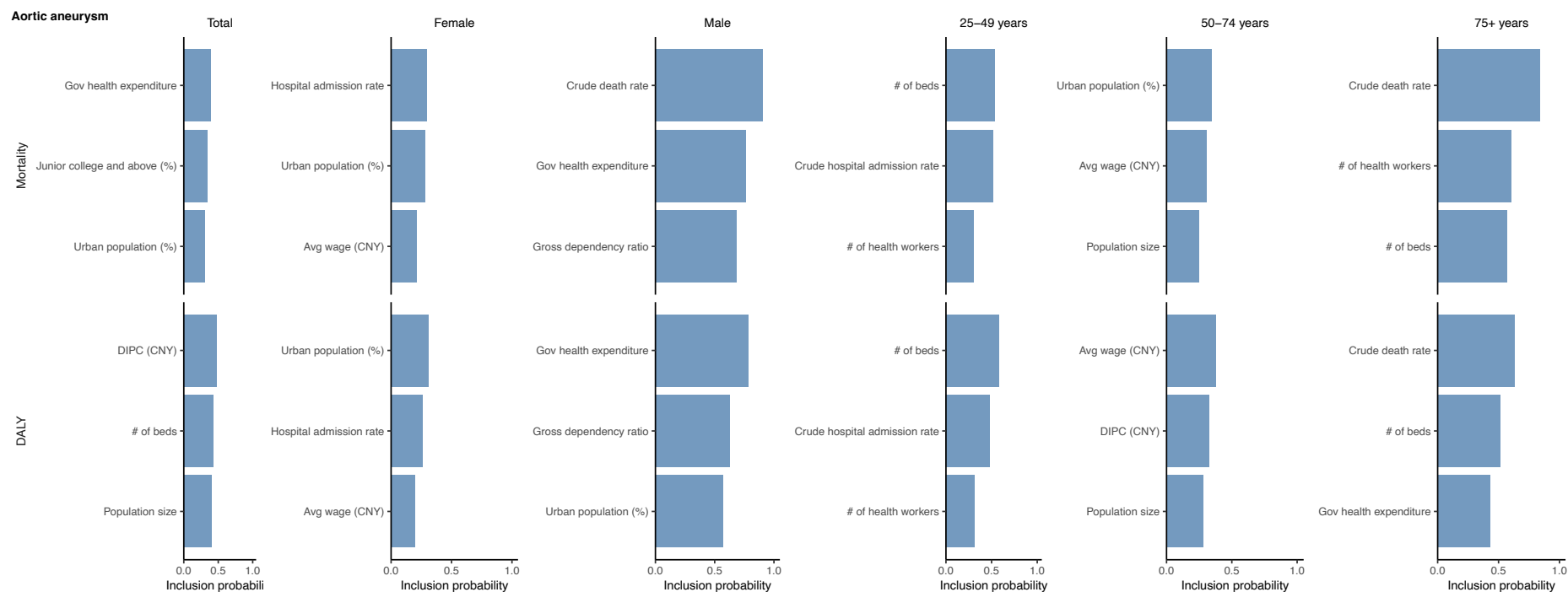


**Supplementary figure 33.** Top three selected indicators with the highest inclusion probability when composing synthetic controls for ischemic stroke incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 by sex (including total, female, and male) and age groups (including 25-49, 50-74, and 74+ years). # of beds: number of medical beds provided per 10 000; crude hospital admission rate: number of hospital admission per 10 000; urban population (%): proportion of the urban population; people aged 65+ years: proportion of the population aged 65 years and older; gross dependency ratio: proportion of population at non-working age (ie, <15 or 65+ years); population density: population density person per square kilometer; # of health workers: number of health workers per 10 000; hospital admission rate: average number of hospital admission per 100 outpatients or emergency patients; DIPC (CNY): disposal income per capita in Chinese Yuan; population size: population size (year-end, 10 000); Avg length of stay in hospital: average length of stay in medical providers in days. Details on definitions of the included indicators are presented in **supplementary table 2**.

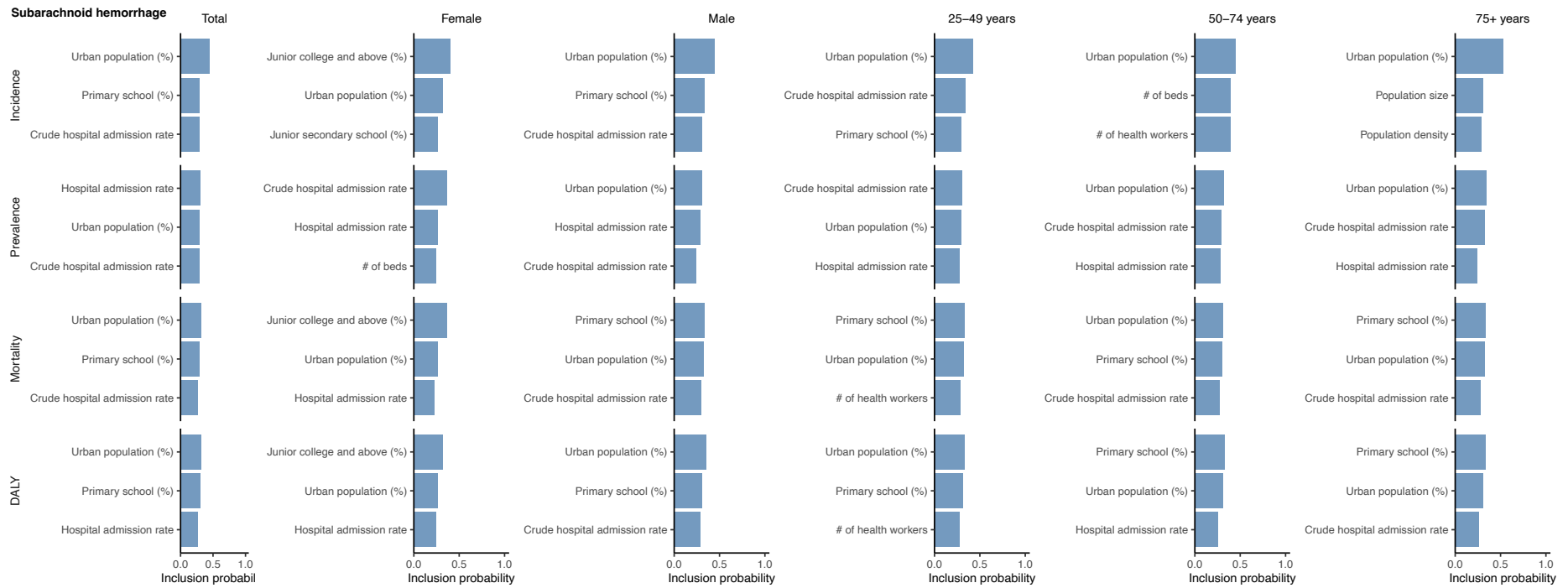




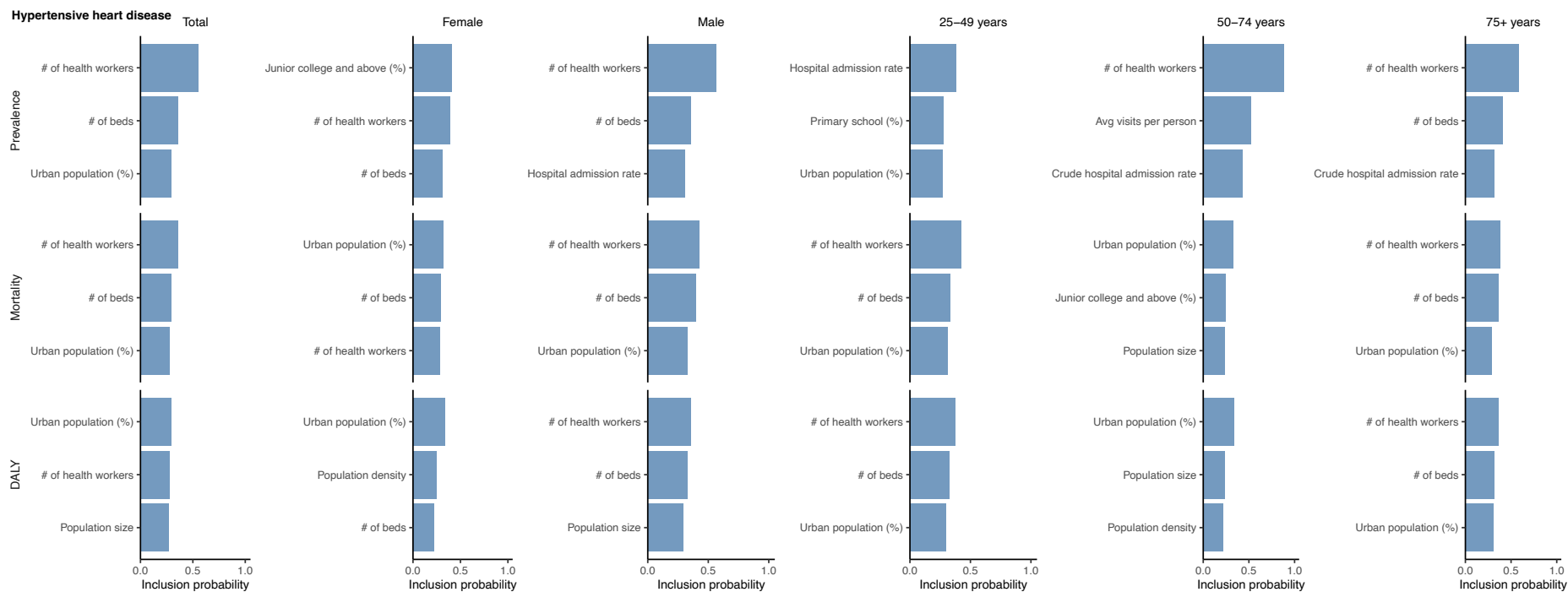
**Supplementary figure 34.** Top three selected indicators with the highest inclusion probability when composing synthetic controls for cardiomyopathy and myocarditis incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 by sex (including total, female, and male) and age groups (including 25-49, 50-74, and 74+ years). # of beds: number of medical beds provided per 10 000; # of health workers: number of health workers per 10 000; crude hospital admission rate: number of hospital admission per 10 000; Avg wage (CNY): average wage of employed persons in urban non-private units in Chinese Yuan; population size: population size (year-end, 10 000); population density: population density person per square kilometer. Details on definitions of the included indicators are presented in **supplementary table 2**.



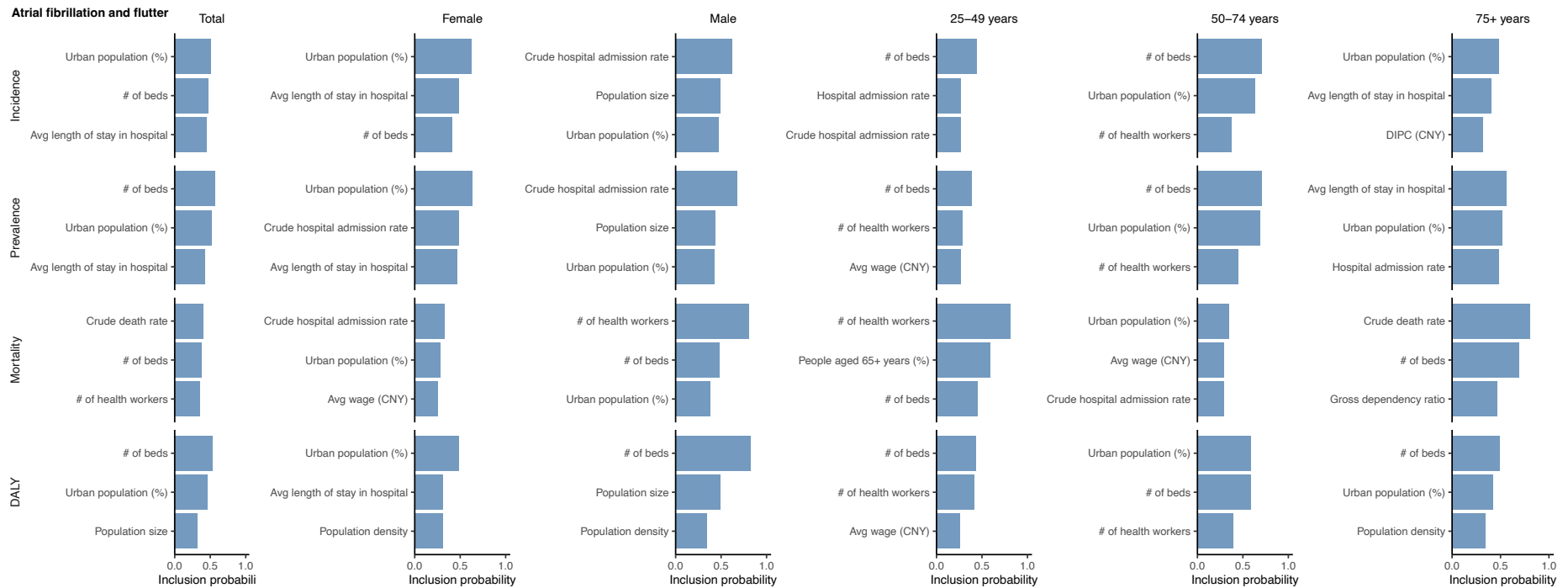
**Supplementary figure 35.** Top three selected indicators with the highest inclusion probability when composing synthetic controls for aortic aneurysm mortality and disability-adjusted life-years (DALY) rates per 100 000 by sex (including total, female, and male) and age groups (including 25-49, 50-74, and 74+ years). Gov health expenditure: proportion of the total health expenditure among gross domestic product (GDP); DIPC (CNY): disposal income per capita in Chinese Yuan; # of beds: number of medical beds provided per 10 000; population size: population size (year-end, 10 000); hospital admission rate: average number of hospital admission per 100 outpatients or emergency patients; Avg wage (CNY): average wage of employed persons in urban non-private units in Chinese Yuan; crude hospital admission rate: number of hospital admission per 10 000; # of health workers: number of health workers per 10 000. Details on definitions of the included indicators are presented in **supplementary table 2**.



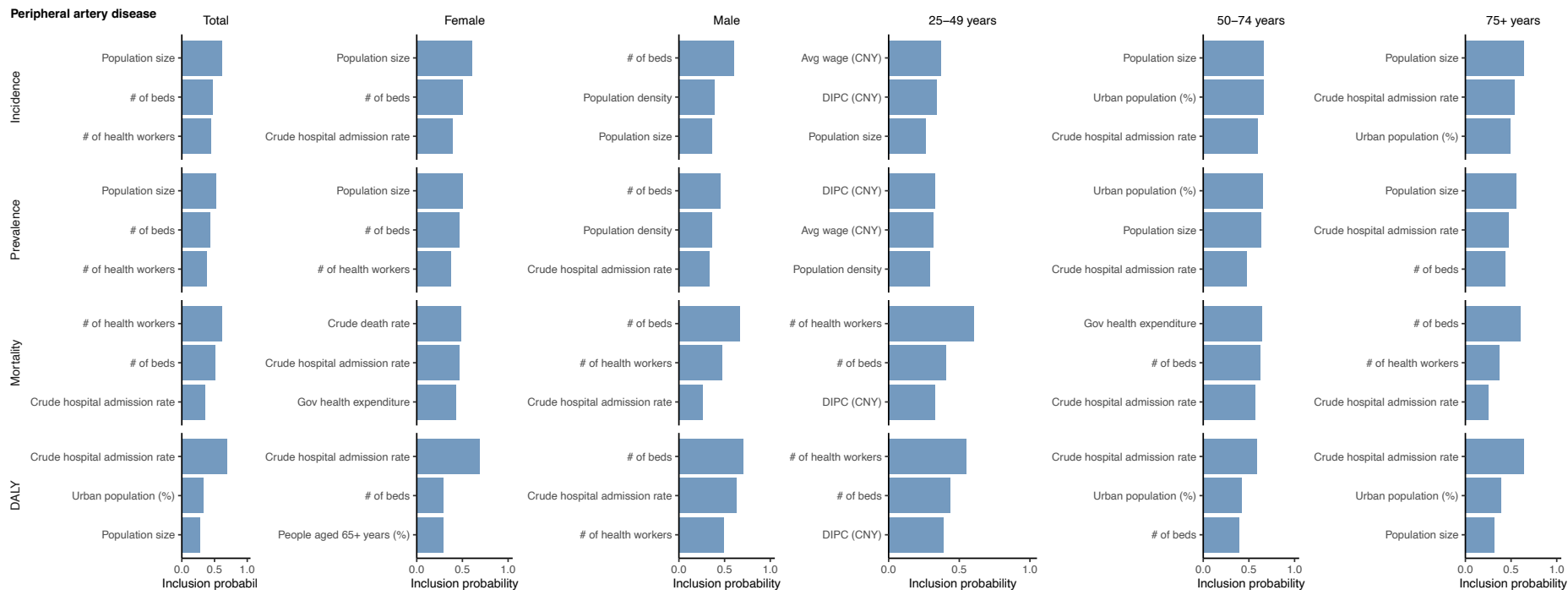
**Supplementary figure 36.** Top three selected indicators with the highest inclusion probability when composing synthetic controls for subarachnoid hemorrhage incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 by sex (including total, female, and male) and age groups (including 25-49, 50-74, and 74+ years). Urban population (%): proportion of the urban population; primary school (%): proportion of the population attained primary school education; junior college and above (%): proportion of the population attained junior college or above education; crude hospital admission rate: number of hospital admission per 10 000; hospital admission rate: average number of hospital admission per 100 outpatients or emergency patients; # of beds: number of medical beds provided per 10 000; # of health workers: number of health workers per 10 000. Details on definitions of the included indicators are presented in **supplementary table 2**.



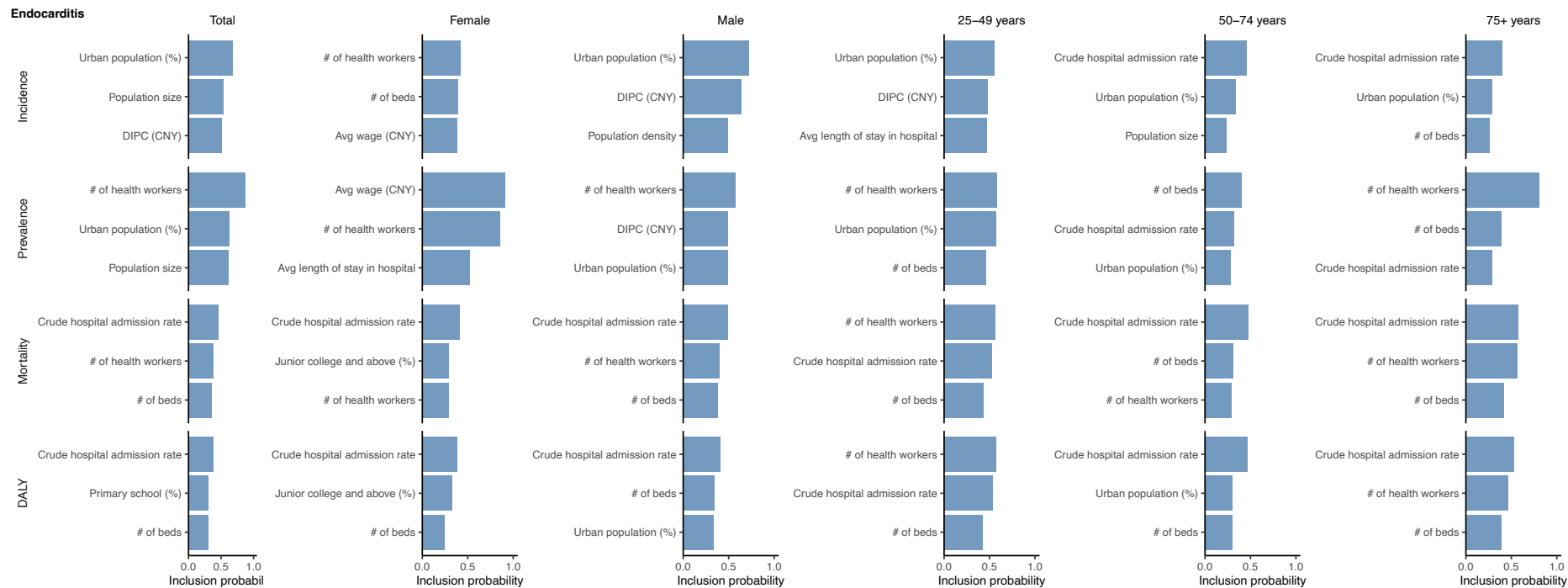
**Supplementary figure 37.** Top three selected indicators with the highest inclusion probability when composing synthetic controls for hypertensive heart disease prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 by sex (including total, female, and male) and age groups (including 25-49, 50-74, and 74+ years). # of health workers: number of health workers per 10 000; # of beds: number of medical beds provided per 10 000; urban population (%): proportion of the urban population; hospital admission rate: average number of hospital admission per 100 outpatients or emergency patients; Avg visits per person: average number of medical visits per person; crude hospital admission rate: number of hospital admission per 10 000; population size: population size (year-end, 10 000); population density: population density person per square kilometer; primary school (%): proportion of the population attained primary school education. Details on definitions of the included indicators are presented in **supplementary table 2**.



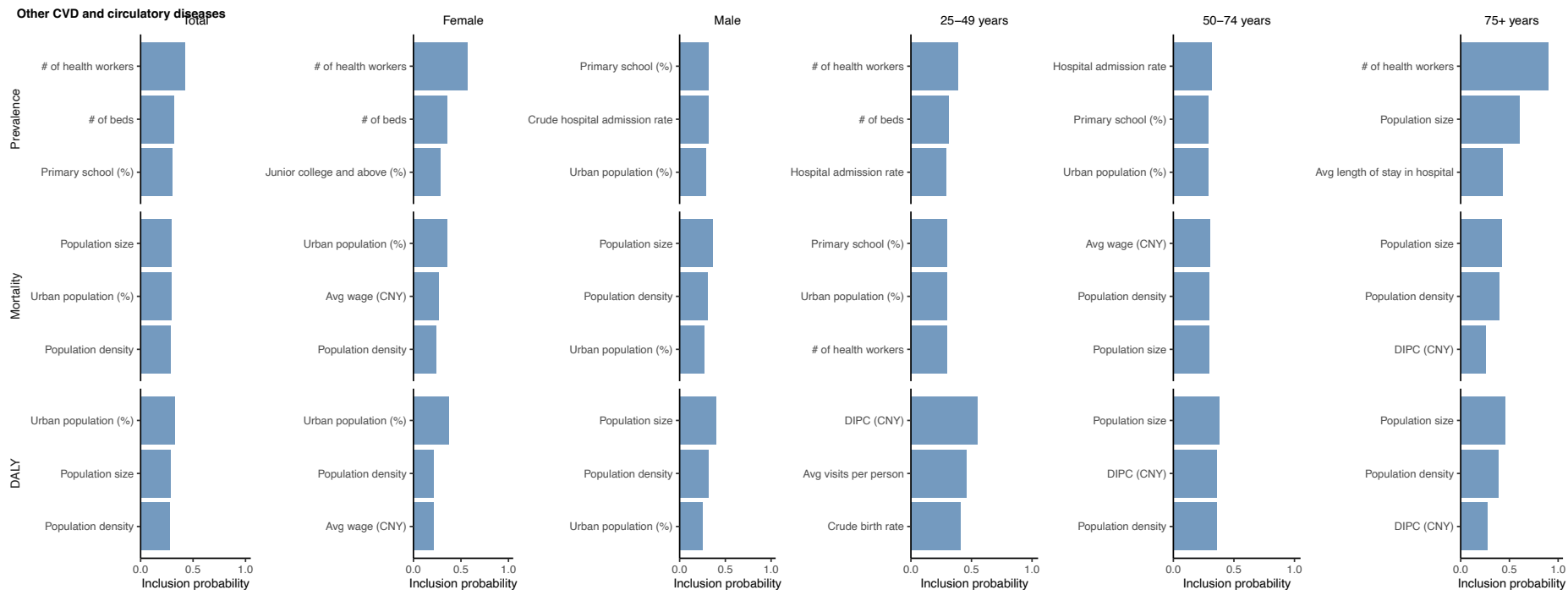
**Supplementary figure 38.** Top three selected indicators with the highest inclusion probability when composing synthetic controls for atrial fibrillation and flutter incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 by sex (including total, female, and male) and age groups (including 25-49, 50-74, and 74+ years). # of beds: number of medical beds provided per 10 000; Avg length of stay in hospital: average length of stay in medical providers in days; # of health workers: number of health workers per 10 000; population size: population size (year-end, 10 000); crude hospital admission rate: number of hospital admission per 10 000; Avg wage (CNY): average wage of employed persons in urban non-private units in Chinese Yuan; population density: population density person per square kilometer; hospital admission rate: average number of hospital admission per 100 outpatients or emergency patients; DIPC (CNY): disposal income per capita in Chinese Yuan. Details on definitions of the included indicators are presented in **supplementary table 2**.



**Supplementary figure 39.** Top three selected indicators with the highest inclusion probability when composing synthetic controls for peripheral artery disease incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 by sex (including total, female, and male) and age groups (including 25-49, 50-74, and 74+ years). Population size: population size (year-end, 10 000); # of beds: number of medical beds provided per 10 000; # of health workers: number of health workers per 10 000; crude hospital admission rate: number of hospital admission per 10 000; Gov health expenditure: proportion of the total health expenditure among gross domestic product (GDP); population density: population density person per square kilometer; Avg wage (CNY): average wage of employed persons in urban non-private units in Chinese Yuan; DIPC (CNY): disposal income per capita in Chinese Yuan. Details on definitions of the included indicators are presented in **supplementary table 2**.

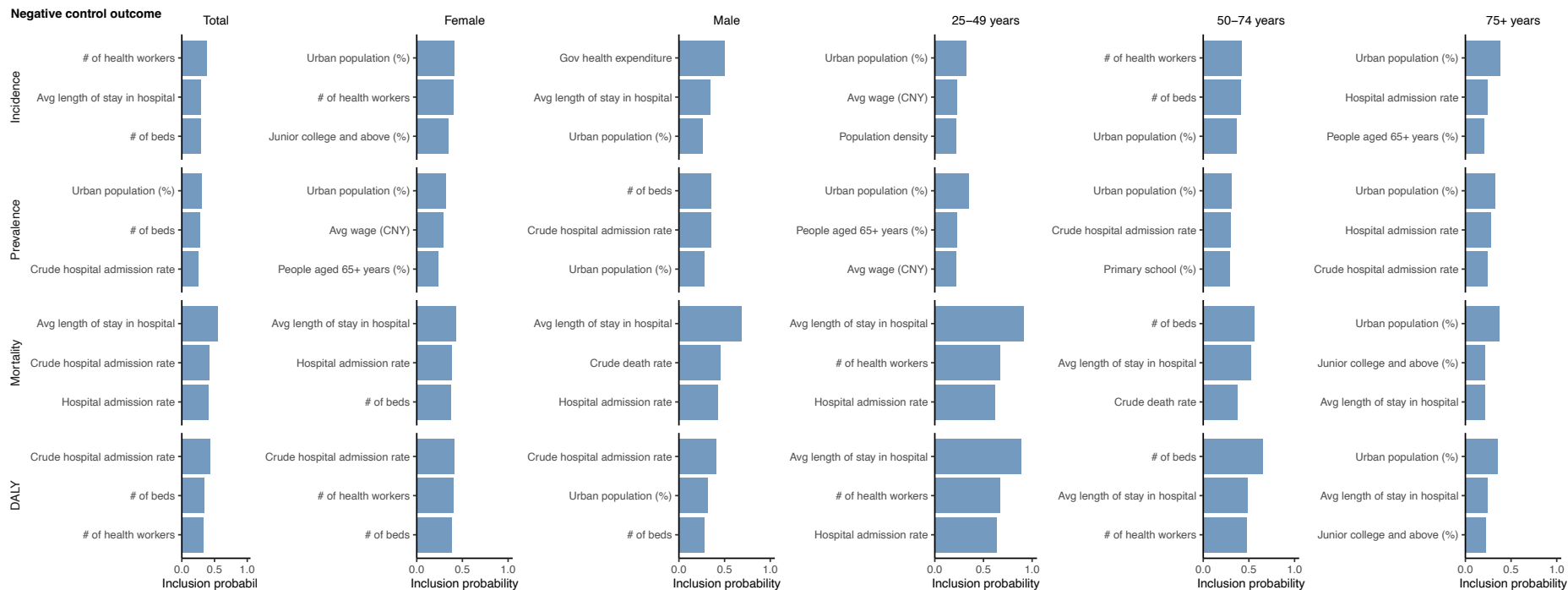


**Supplementary figure 40.** Top three selected indicators with the highest inclusion probability when composing synthetic controls for endocarditis incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 by sex (including total, female, and male) and age groups (including 25-49, 50-74, and 74+ years). Population size: population size (year-end, 10 000); DIPC (CNY): disposal income per capita in Chinese Yuan; # of health workers: number of health workers per 10 000; crude hospital admission rate: number of hospital admission per 10 000; # of beds: number of medical beds provided per 10 000; Avg wage (CNY): average wage of employed persons in urban non-private units in Chinese Yuan; Avg length of stay in hospital: average length of stay in medical providers in days. Details on definitions of the included indicators are presented in **supplementary table 2**.



**Supplementary figure 41.** Top three selected indicators with the highest inclusion probability when composing synthetic controls for other cardiovascular and circulatory disease prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 by sex (including total, female, and male) and age groups (including 25-49, 50-74, and 74+ years). # of health workers: number of health workers per 10 000; # of beds: number of medical beds provided per 10 000; population size: population size (year-end, 10 000); population density: population density person per square kilometer; Avg wage (CNY): average wage of employed persons in urban non-private units in Chinese Yuan; crude hospital admission rate: number of hospital admission per 10 000; hospital admission rate: average number of hospital admission per 100 outpatients or emergency patients; DIPC (CNY): disposal income per capita in Chinese Yuan; Avg visits per person: average number of medical visits per person; Avg length of stay in hospital: average length of stay in medical providers in days. Details on definitions of the included indicators are presented in **supplementary table 2**.





**Supplementary figure 42.** Top three selected indicators with the highest inclusion probability when composing synthetic controls for negative control outcome of brain and central nervous system cancer incidence, prevalence, mortality, and disability-adjusted life-years (DALY) rates per 100 000 by sex (including total, female, and male) and age groups (including 25-49, 50-74, and 74+ years). # of health workers: number of health workers per 10 000; Avg length of stay in hospital: average length of stay in medical providers in days; # of beds: number of medical beds provided per 10 000; crude hospital admission rate: number of hospital admission per 10 000; hospital admission rate: average number of hospital admission per 100 outpatients or emergency patients; Avg wage (CNY): average wage of employed persons in urban non-private units in Chinese Yuan; Gov health expenditure: proportion of the total health expenditure among gross domestic product (GDP); population density: population density person per square kilometer. Details on definitions of the included indicators are presented in **supplementary table 2**.

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