

Supplemental Appendix

**Global burden of ischemic cardio-cerebrovascular disease among
women from 1990 to 2021, with projections to 2050**

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Supplementary Methods

1. Data source

The Global Burden of Disease (GBD) 2021 project estimated the global burden of 371 diseases and injuries and 88 risk factors across 204 countries and territories from 1990 to 2021, while also forecasting disease burden scenarios from 2022 to 2050. All data from 1990 to 2021 used in this study were extracted from the Global Health Data Exchange (available at <https://vizhub.healthdata.org/gbd-results>) and included the following: (1) Global age- and sex-specific incidence, prevalence, mortality, disability-adjusted life years (DALYs) numbers and age-standardized rates (per 100,000 persons) from 1990 to 2021; (2) Regional age- and sex-specific incidence, prevalence, mortality, DALYs numbers and age-standardized rates (per 100,000 persons) from 1990 to 2021 by socio-demographic index (SDI) categories; (3) National age- and sex-specific incidence, prevalence, mortality, DALYs numbers and age-standardized rates (per 100,000 persons) from 1990 to 2021; (4) Global, regional, and national age- and sex-specific population from 1990 to 2021; (5) Age- and sex-specific ischemic heart disease and ischemic stroke DALYs numbers, percentages and age-standardized rates attributable to risk factors.

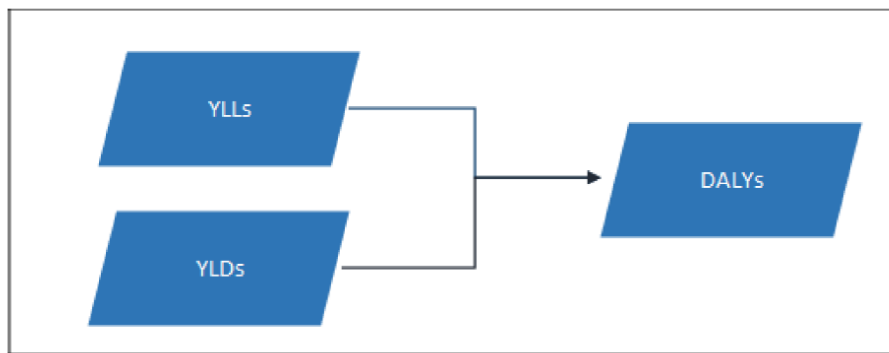
All forecasted data from 2022 to 2050 were obtained from the Global Health Data Exchange at <https://vizhub.healthdata.org/gbd-foresight>. These projections included sex-specific percentages and rates of DALYs, years of life lost (YLL), and years lived with disability (YLD) at global and SDI levels. Forecasts were based on a reference scenario (representing the most likely future) and four alternative scenarios assessing disease burden trajectories assuming the elimination of selected risk factors by 2050. The alternative future scenarios were based on different sets of risk factors, including: (1) Safer Environment scenario; (2) Improved Childhood Nutrition and Vaccination scenario; (3) Improved Behavioral and Metabolic Risks scenario; (4) The combined effects of these three scenarios.

2. Estimation of ischemic cardio-cerebrovascular disease burden in GBD 2021

To estimate DALYs, GBD 2021 started by estimating cause-specific mortality and non-fatal health loss. For each year for which YLDs have been estimated, GBD 2021 computed DALYs by adding YLLs and YLDs for each age-sex location. Uncertainty in YLLs was assumed to be independent of uncertainty in YLDs. GBD 2021 calculated 500 draws for DALYs by summing the first draw of the 500 draws for YLLs and YLDs and then repeating for each subsequent draw. 95% uncertainty intervals (UIs) were computed by using the 2.5th and 97.5th ordered draw of the DALY uncertainty distribution. GBD 2021 calculated DALYs as the sum of YLLs and YLDs for each cause, location, age group, sex, and year.

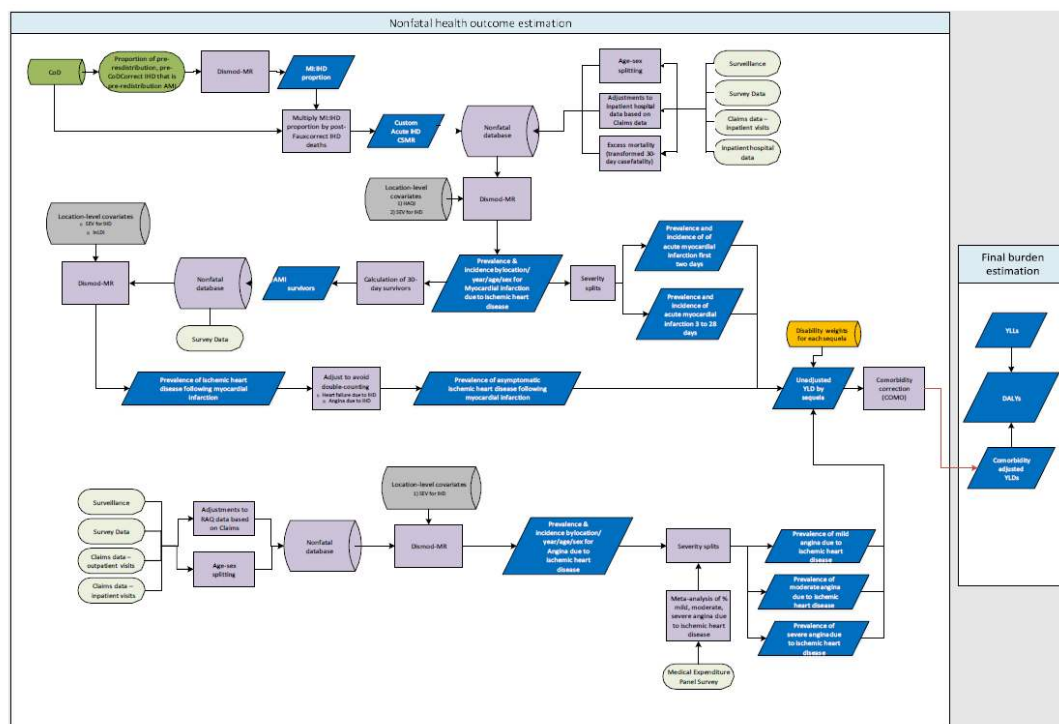
YLDs were estimated by multiplying disease prevalence by the relevant disability weight after accounting for comorbidity in a simulation process. Disability weights, which represent the magnitude of health loss associated with the outcome, were constructed based on surveys of the general population, with a statistical adjustment made to account for comorbidity. YLLs due to premature mortality were computed by multiplying the number of estimated deaths by the standard life expectancy at the age of death. The standard life expectancy was determined by using the lowest observed age-specific mortality rates by location and sex across all estimation years from locations with total populations greater than 5 million in 2016 to establish a theoretical minimum risk reference life table.

DALY burden estimation for GBD 2021



2.1. Non-fatal burdens of ischemic cardio-cerebrovascular disease

(1) Ischaemic heart disease



Ischaemic heart disease (IHD) is a disease that limits the supply of blood to the heart. GBD estimates IHD as the aggregate of discrete sequelae, consisting of myocardial infarction (heart attacks), angina (stable IHD manifesting as chest pain), or ischaemic cardiomyopathy (heart failure due to IHD). GBD 2021 modelled the prevalence and incidence of acute myocardial infarction (MI) as well as the prevalence of chronic IHD. Clinical, reference, and alternative case definitions, diagnostic criteria, and International Classification of Diseases (ICD) codes are presented in the table below.

Reference and alternate definitions for acute myocardial infarction and stable angina

Quantity of interest	Reference or Alternate	Definition
Incidence of acute myocardial infarction (MI)	Reference	Definite and possible MI according to the third universal definition of myocardial infarction; includes recurrent cases and cases who died before reaching medical care
Incidence of acute myocardial infarction (MI)	Alternate	Cases diagnosed prior to regular use of troponin as part of the standard case definition
Incidence of acute myocardial infarction (MI)	Alternate	First-ever cases only
Incidence of acute myocardial infarction (MI)	Alternate	Includes only persons who survived
Prevalence of angina due to ischemic heart disease	Reference	Stable exertional or definite angina pectoris as identified by clinician diagnosis and subsequent ICD coding in claims or outpatient data
Prevalence of angina due to ischemic heart disease	Alternate	Stable exertional angina pectoris as defined using the Rose Angina Questionnaire

ICD codes mapped to acute myocardial infarction and stable angina

ICD code	Description
410	Acute myocardial infarction
411.0	Post-myocardial infarction syndrome
412	Old myocardial infarction
I21	Acute myocardial infarction
I22	Subsequent ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction
I23	Certain current complications following ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction (within the 28-day period)
I24.1	Dressler's syndrome
413	Angina pectoris
I20	Angina pectoris

(2) Ischemic stroke

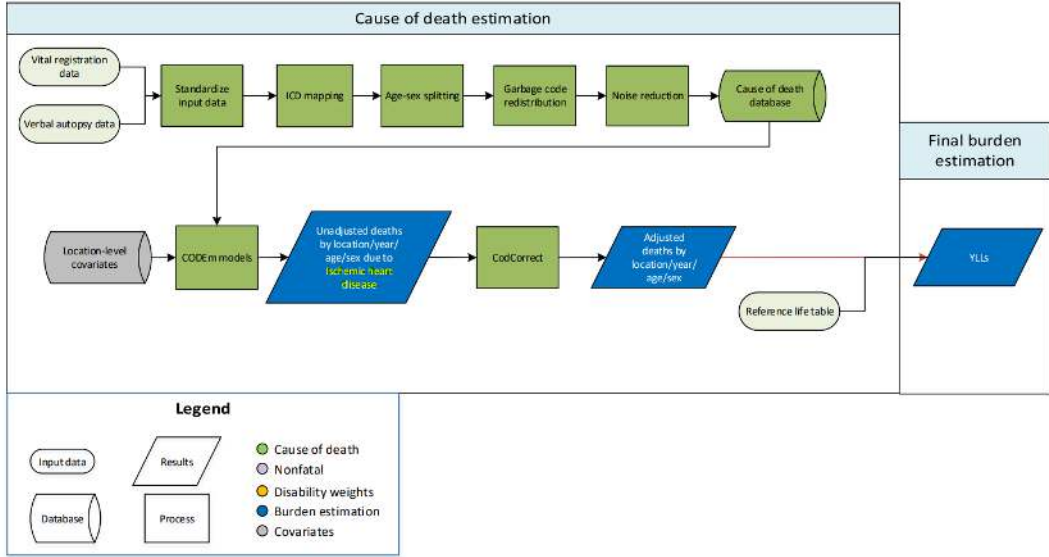
Ischemic strokes are characterized by occlusion of blood flow to part of the brain due to hypoperfusion, most commonly due to a thrombus or embolism. It is defined as an episode of neurological dysfunction caused by focal cerebral, spinal, or retinal infarction.

ICD codes used for ischemic stroke

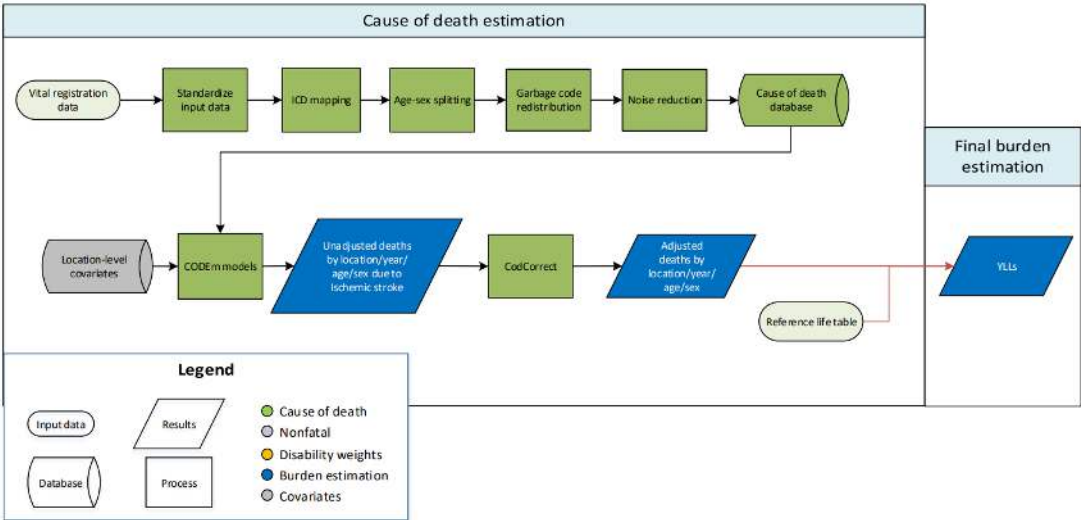
	ICD-9	ICD-10
Ischemic stroke	433-435.9, 437.0-437.1, 437.5-437.8	G45-G46.8, I63-I63.9, I65-I66.9, I67.2-I67.3, I67.5-I67.6, I69.3

2.2. Fatal burdens of ischemic cardio-cerebrovascular disease

Ischemic heart disease-Flow chart



Ischemic stroke-Flow chart



In GBD 2021, the fatal burden of both ischemic heart disease and ischemic stroke was estimated using the standard Cause of Death Ensemble model (CODEm) approach, a highly automated analytical tool that selects an ensemble of mixed-effects or spatiotemporal Gaussian regression models for mortality rates or cause fractions, incorporating varying combinations of predictive covariates. Updates were made to the redistribution of deaths attributed to hypertension by utilizing multiple cause of death datasets containing information on the full chain of events listed on death certificates. This approach allowed for more accurate identification of the true underlying cause of death when hypertension was reported as the cause. For ischemic stroke, this update led to an overall increase in the number of deaths attributed to stroke, with a slight increase specifically for ischemic stroke deaths. For instance, in the United States in 2016, the number of deaths redistributed from hypertension to ischemic stroke increased from 2,534 in GBD 2019 to 2,600 in GBD 2021. In contrast, for ischemic heart disease, the updated redistribution method resulted in a decrease in deaths reassigned to ischemic heart disease in locations that frequently use the hypertension ICD code. Additionally,

for GBD 2021, the noise reduction approach for cause of death data was updated to ensure stochastic time series data more closely reflected regional patterns. The covariates included in the ensemble modelling process are listed in the table below.

Covariates used in ischemic heart disease and ischemic stroke mortality modelling

Level	Covariate	Direction
1	Summary exposure variable, IHD & ischemic stroke	1
	LDL Cholesterol (mean per capita)	1
	Smoking prevalence	1
	Systolic blood pressure (mm Hg)	1
2	Mean BMI	1
	Elevation over 1,500m (proportion)	-1
	Fasting plasma glucose	1
	Outdoor pollution (PM2.5)	1
	Indoor air pollution	1
	Healthcare Access and Quality Index	-1
3	Log-transformed lag distributed income per capita (I\$)	-1
	Summary exposure value, omega-3	1
	Summary exposure value, fruits	1
	Summary exposure value, vegetables	1
	Summary exposure value, nuts, and seeds	1
	Pulses/legumes (kcal/capita, unadjusted)	-1
	Summary exposure value, PUFA adjusted (percent)	1
	Alcohol (liters per capita)	1
	Trans fatty acid	1

ICD codes mapped to the Global Burden of Diseases for ischemic heart disease and ischemic stroke

Cause	ICD 10	ICD 9
Ischemic heart disease	I20-I25.9	410-414.9
Ischemic stroke	G45-G46.8, I63-I63.9, I65-I66.9, I67.2-I67.3, I67.5-I67.6, I69.3	433-435.9, 437.0-437.1, 437.5-437.8

3. Estimation of ischemic cardio-cerebrovascular disease burdens attributable to risk factors in GBD study 2021

The GBD 2021 risk factor approach followed the comparative risk assessment framework predicated on a causal web of hierarchically organized, potentially combinative, modifiable risks. Relative risks (RRs) of a given outcome occurring as a function of risk factor exposure were estimated separately for each risk-outcome pair, and summary exposure values (SEVs), representing risk-weighted exposure prevalence, and theoretical minimum risk exposure levels (TMRELS) were estimated for each risk factor. These estimates were used to calculate the population attributable fraction (PAF; ie, the proportional change in health risk that would occur if exposure to a risk factor were reduced to the TMREL). The product of PAFs and disease burden associated with a given outcome, measured in DALYs, yielded measures of attributable burden (ie, the proportion of total disease burden attributable to a particular risk factor or combination of risk factors). Adjustments for mediation were applied to account for relationships involving risk factors that act indirectly on outcomes via intermediate risks. Attributable burden estimates were stratified by SDI quintile and presented as counts, age-standardized rates, and rankings. To complement estimates of RR and attributable burden, newly developed burden of proof risk function (BPRF) methods were applied to yield supplementary, conservative interpretations of risk-outcome associations based on the consistency of underlying evidence, accounting for unexplained heterogeneity between input data from different studies. Estimates reported represent the mean value across 500 draws from the estimate's distribution, with 95% UIs calculated as the 2.5th and 97.5th percentile values across the draws.

Definitions of the 26 included attributable risk factors are listed as follows:

Risk factor	Definition	Level
Particulate matter pollution		3
Ambient particulate matter pollution	Defined as the population-weighted annual average mass concentration of particles with an aerodynamic diameter less than 2.5 micrometers (PM2.5) in a cubic meter of air. This measurement is reported in $\mu\text{g}/\text{m}^3$.	4
Household air pollution from solid fuels	Estimated from both the proportion of individuals using solid cooking fuels and the level of exposure to particulate matter less than 2.5 micrometers in diameter (PM2.5) air pollution for these individuals. Solid fuels in analysis include wood, coal/charcoal, dung, and agricultural residues.	4
Non-optimal temperature		2
High temperature	Defined as exposure to temperatures warmer than the theoretical minimum-risk exposure level (TMREL).	3
Low temperature	Defined as temperatures colder than the TMREL	3
Other environmental risks		2
Lead exposure	Defined as exposure to lead, it is categorized into two pathways of attributable health loss. Acute lead exposure, measured as micrograms of lead per deciliter of blood ($\mu\text{g}/\text{dL}$), is associated with IQ loss in children. Chronic lead exposure, measured as micrograms of lead per gram of bone ($\mu\text{g}/\text{g}$), is associated with cardiovascular diseases, mediated by the impact of lead on increased systolic blood pressure	3
Dietary risks		2
Diet low in fruits	Average daily consumption (in grams per day) of fruit, including fresh, frozen,	3

			cooked, canned, or dried fruit, excluding fruit juices and salted or pickled fruits. Optimal level or range of intake: 340–350 g/day.	
Diet low in vegetables		in	Average daily consumption (in grams per day) of vegetables, including fresh, frozen, cooked, canned, or dried vegetables and excluding legumes and salted or pickled vegetables, juices, nuts and seeds, and starchy vegetables such as potatoes or corn. Optimal level or range of intake: 306–372 g/day.	3
Diet low in whole grains			Average daily consumption (in grams per day) of whole grains (bran, germ, and endosperm in their natural proportion) from breakfast cereals, bread, rice, pasta, biscuits, mucins, tortillas, pancakes, and other sources. Optimal level or range of intake: 160–210 g/day.	3
Diet high in red meat			Average daily consumption (in grams per day) of unprocessed red meat, including pork and bovine meats such as beef, pork, lamb, and goat, but excluding all processed meats, poultry, fish, and eggs. Optimal level or range of intake: 0–200 g/day.	3
Diet high in processed meat		in	Average daily consumption (in grams per day) of meat preserved by smoking, curing, salting, or addition of chemical preservatives. Optimal level or range of intake: 0 g/day.	3
Diet high in sugar-sweetened beverages			Average daily consumption (in grams per day) of beverages with ≥ 50 kcal per 226.8 gram serving, including carbonated beverages, sodas, energy drinks, and fruit drinks, but excluding 100% fruit and vegetable juices. Optimal level or range of intake: 0 g/day.	3
Diet low in fiber			Average daily consumption (in grams per day) of beverages with ≥ 50 kcal per 226.8 gram serving, including carbonated beverages, sodas, energy drinks, and fruit drinks, but excluding 100% fruit and vegetable juices. Optimal level or range of intake: 0 g/day.	3
Diet Low in Omega-6 Polyunsaturated Fatty Acids		in	Average daily consumption (in % daily energy) from omega-6 polyunsaturated fatty acids (PUFA) (specifically linoleic acid, γ -linolenic acid, eicosadienoic acid, dihomo- γ -linolenic acid, arachidonic acid). Optimal level or range of intake: 9–10% of total daily energy.	3
Diet high in sodium		in	Average 24-hour urinary sodium excretion (in grams per day). Optimal level or range of intake: 1–5 g/day	3
Diet low in legumes*		in	Average daily consumption (in grams per day) of legumes and pulses, including fresh, frozen, cooked, canned, or dried legumes. Optimal level or range of intake: 100–110 g/day	3
Diet high in trans fatty acids*			Average daily consumption (in percent daily energy) of trans fat from all sources, mainly partially hydrogenated vegetable oils and ruminant products. Optimal level or range of intake: 9–10% of total daily energy.	3
Diet low in seafood omega-3 fatty acids*		in	Average daily consumption (in milligrams per day) of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Optimal level or range of intake: 470–660 mg/day.	3
Diet low in nuts and seeds*			Average daily consumption (in grams per day) of nuts and seeds, including tree nuts and seeds and peanuts. Optimal level or range of intake: 19–24 g/day.	3
Tobacco				2
Smoking			Current smokers were defined as individuals who currently use any smoked	3

		tobacco product on a daily or occasional basis. Former smokers were defined as individuals who quit using all smoked tobacco products for at least six months, where possible, or according to the definition used by the given survey.	
Secondhand smoke		Defined as current exposure to secondhand tobacco smoke at home or at work. Only non-smokers were exposed to secondhand smoke. Non-smokers are defined as all persons who are not daily smokers. Ex-smokers and occasional smokers are considered non-smokers in the analysis. Exposure is evaluated for both children and adults.	3
Low physical activity		Defined as objectively measured, total physical activity less than 3600 to 4400 MET-minutes per week.	2
Metabolic risks			1
High fasting plasma glucose		Defined as the mean FPG in a population, where FPG is a continuous exposure in units of mmol/L. Since FPG is along a continuum, we define high FPG as any level above the TMREL, which is 4.9-5.3 mmol/L	2
High LDL cholesterol		Defined as blood concentration of LDL in units of mmol/L exceeding the TMREL (0.9-1.4 mmol/L).	2
High systolic blood pressure		Defined as brachial systolic blood pressure (SBP) in mmHg exceeding the TMREL (105-115 mmHg).	2
High body-mass index		Defined as BMI greater than 20 to 23 kg/m ² for adults (ages 20+). For children and adolescents (ages 2-19). High BMI for children and adolescents (ages 2-19) is defined as being overweight or obese based on International Obesity Task Force standards.	2
Kidney dysfunction		The kidney dysfunction risk factor exposure is divided into four categories of renal function defined by urinary albumin to creatinine ratio and estimated glomerular filtration rate.	2

* Applicable only in ischemic heart disease

The combined standard error of ischemic heart disease and ischemic stroke rates was calculated using the following formula:

For absolute numbers (counts): Total incidence, prevalence, mortality and DALY counts of ICCVD were derived by directly summing the corresponding GBD 2021-derived estimates for IHD and IS.

For age-standardized rates (ASR): We adopted a two-step standardized pooling approach. The combined ASR was calculated using direct standardization of the summed age-specific rates:

Step 1: Extracted age-specific rates for IHD and IS across all standard GBD age groups.

Step 2: Summed the two age-specific rates within each identical age stratum, then compute the final combined age-standardized rate using the GBD world standard population as reference weights.

$$ASR_{\text{combined}} = \frac{\sum_i (R_{\text{IHD},i} + R_{\text{IS},i}) \times w_i}{\sum_i w_i}$$

where R_i represents the age-specific rate and W_i represents the standard population weight for age group i .

For standard errors (SE):

We calculated the combined standard error based on the variance additive principle for independent random variables. Since standard error equals the square root of variance, we summed the variances of IHD and IS estimates first and then took the square root to obtain the combined standard error:

$$SE_{\text{combined}} = \sqrt{SE_1^2 + SE_2^2} \quad (1)$$

Parameters:

1. SE_1 : The standard error of the ischemic heart disease rates.
2. SE_2 : The standard error of the ischemic stroke rates.

For the standard error of risk proportions: The standard error of the DALY-based attributable risk proportion (i.e., the proportion of total DALYs attributable to specific risk factors) was estimated using the Delta method for error propagation.

$$SE = \frac{1}{B} \sqrt{SE_A^2 + \left(\frac{A}{B} \cdot SE_B\right)^2} \quad (2)$$

Parameters:

1. A : The number of DALYs for ischemic heart disease and ischemic stroke attributable to a specific risk factor.
2. B : The total number of DALYs for ischemic heart disease and ischemic stroke.
3. SE_A : Standard error of A , calculated using equation (1).
4. SE_B : Standard error of B , calculated using equation (1).

The combined standard error of ischemic heart disease and ischemic stroke rates was calculated using the following formula:

$$SE_{\text{combined}} = \sqrt{SE_1^2 + SE_2^2} \quad (1)$$

This formula is based on the additive property of variances for independent random variables. Since the variance is the square of the standard error, the variances are added together when the errors are independent. Taking the square root of the sum of variances gives the combined standard error.

Parameters:

3. SE₁: The standard error of the ischemic heart disease rates.
4. SE₂: The standard error of the ischemic stroke rates.

4. Estimation of disease burdens projection to 2050 in GBD study 2021

Using GBD 2021 estimates, a multi-staged modeling framework was used to project disease burden from 2022 to 2050 across 204 countries and territories by integrating forecasts of independent drivers of health to inform cause-specific outcomes. Drivers of disease, such as age-specific fertility rates, age-specific educational attainment, and risk factor exposure (e.g., smoking), are forecasted by location to obtain estimates of cause-specific and all-cause mortality as well as YLLs. Cause-specific forecasts for mortality–incidence ratios (MIRs) and mortality–prevalence ratios (MPRs) are integrated with mortality forecasts to estimate nonfatal disease burden (YLDs) by age, sex, location, and cause. Forecasts of YLLs and YLDs are combined to generate DALY estimates, while mortality forecasts, along with fertility and migration projections, are used to forecast population. This process enables the aggregation of cause-specific burden measures to produce global estimates.

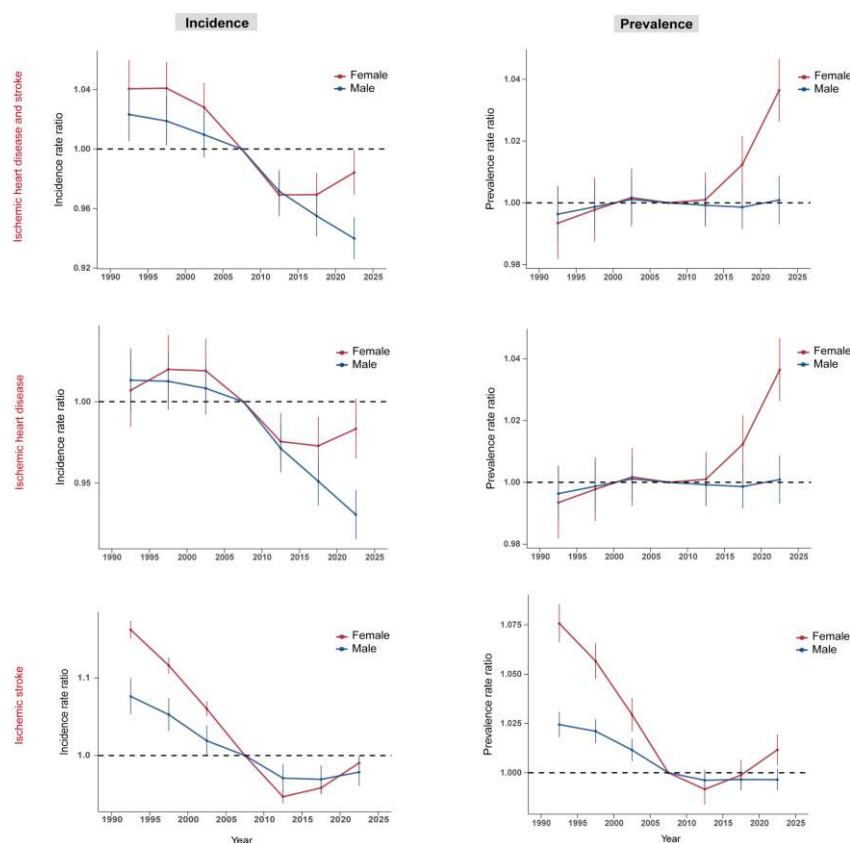
In addition to a reference forecast representing the most likely future, alternative health scenarios were developed to illustrate the potential health gains and disease burden reductions over the next several decades if exposure to key modifiable risk factors were eliminated or if policies targeting drivers of health were implemented. Four alternative scenarios given selected sets of risk factors were eliminated: (1) environmental risks (Safer Environment scenario), (2) risks associated with communicable, maternal, neonatal, and nutritional diseases (CMNNs; Improved Childhood Nutrition and Vaccination scenario), (3) risks associated with major non-communicable diseases (NCDs; Improved Behavioral and Metabolic Risks scenario), and (4) the combined effects of these three scenarios.

5. Sociodemographic index

SDI is a composite measure of socioeconomic development that influences health outcomes, calculated as the geometric mean of three indicators: lag-distributed income per capita, average years of schooling, and fertility rate in females under 25 years. SDI values range from 0 (lowest income and schooling, highest fertility) to 100 (highest income and schooling, lowest fertility). For GBD 2021, SDI values were multiplied by 100, and countries with populations below 1 million were excluded when determining quintile cut-off values. The 204 countries and territories were then grouped into five SDI categories (low, low-middle, middle, high-middle, and high), with higher values indicating greater socioeconomic development. The SDI was used to examine the relationship between the burden of ischemic heart disease and stroke and socioeconomic development. Further methodological details are available in GBD 2021 publications.

6. Age-period-cohort analyses

Our study utilized the Age-period-cohort analyses (APC) Web Tool to examine the impact of the period cohort on the incidence, prevalence, mortality, and DALYs of ICCVD and its subtypes. All data were organized into consecutive five-year intervals from 1990 to 2021, with the 2010–2014 period (median, 2012) as the reference. Period effects are shown by the relative risk of incidence and prevalence and computed as the ratio of age-specific rates from 1990 to 2021



Compared to the reference period of 2005–2009 (RR=1.00), the period RR for ICCVD prevalence declined gradually from 1.02 (95% CI: 1.013 to 1.031) in 1990–1994 to 0.997 (0.990–1.004) in 2010–2014, before sharply resurging to 1.027 (95%CI: 1.019–1.034) in 2021, across all SDI subgroups. Incidence followed a similar pattern, mirroring trends observed in IHD and IS. In contrast, the period RR for all metrics consistently showed a decline in men.

Reference

1. Diseases GBD, Injuries C. Global incidence, prevalence, years lived with disability (YLDs), disability-adjusted life-years (DALYs), and healthy life expectancy (HALE) for 371 diseases and injuries in 204 countries and territories and 811 subnational locations, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. *Lancet* 2024;403(10440):2133–61.
2. Collaborators GBDRF. Global burden and strength of evidence for 88 risk factors in 204 countries and 811 subnational locations, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. *Lancet* 2024;403(10440):2162–203.
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Additional Results in Tables and Figure

1. Tables

Supplemental Table 1. Prevalence number, age-standardized rate, and AAPC of ischemic cardio-cerebrovascular disease and two subtypes in women at global and regional level, 1990-2021

Location	Ischemic cardio-cerebrovascular disease					Ischemic heart disease					Ischemic stroke				
	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)
Global	65050.22 (59254.90 to 70845.54)	3062.87 (2786.37 to 3339.38)	145672.30 (127399.53 to 159945.09)	3127.01 (2778.09 to 3475.94)	0.03 (0.02 to 0.05)	47188.96 (41760.64 to 53056.58)	2250.59 (1998.46 to 2539.08)	108968.57 (95254.73 to 127385.89)	2357.61 (2063.31 to 2751.95)	0.13 (0.10 to 0.15)	17861.25 (16549.76 to 19146.77)	812.28 (754.34 to 870.75)	34703.73 (32096.98 to 37274.02)	769.40 (712.98 to 825.99)	-0.19 (-0.21 to -0.17)
SDI level															
High SDI	15099.95 (13768.06 to 16351.84)	2337.87 (2147.61 to 2528.12)	20308.78 (18467.45 to 22150.11)	1833.03 (1676.75 to 1989.31)	-0.79 (-0.81 to -0.78)	9962.90 (8781.51 to 11276.90)	1515.48 (1345.82 to 1710.18)	12861.85 (11293.80 to 14861.60)	1121.06 (985.48 to 1286.21)	-0.99 (-1.02 to -0.96)	5097.05 (4768.11 to 5438.13)	822.38 (769.65 to 879.33)	7446.93 (7016.08 to 7928.69)	711.97 (670.56 to 755.75)	-0.48 (-0.49 to -0.47)
High-middle SDI	19446.25 (17650.77 to 21241.73)	3500.70 (3182.53 to 3818.88)	38497.26 (34046.16 to 42948.36)	3544.69 (3143.64 to 3945.73)	0.03 (-0.01 to 0.04)	14597.46 (12939.75 to 16456.49)	2638.71 (2350.28 to 2973.75)	30007.26 (26226.86 to 35015.80)	2718.79 (2382.10 to 3173.32)	0.08 (0.05 to 0.10)	4848.79 (4465.83 to 5192.12)	861.99 (795.74 to 923.14)	8490.00 (7763.22 to 9178.70)	825.90 (758.56 to 890.17)	-0.15 (-0.18 to -0.13)
Middle SDI	16272.13 (14702.42 to 17841.84)	3129.44 (2823.99 to 3434.88)	48269.96 (42302.82 to 54237.09)	3471.39 (3054.42 to 3888.36)	0.22 (0.19 to 0.34)	11767.22 (10304.10 to 13344.92)	2358.10 (2084.11 to 2678.71)	37048.02 (32086.39 to 43850.59)	2661.23 (2313.14 to 3134.53)	0.36 (0.34 to 0.38)	4504.90 (4109.33 to 4889.96)	771.33 (702.52 to 842.64)	11221.94 (10258.35 to 12265.94)	810.16 (742.39 to 886.47)	0.14 (0.11 to 0.16)
Low-middle SDI	10496.47 (9448.80 to 11544.13)	3571.52 (3202.21 to 3940.83)	27707.22 (24278.91 to 31135.54)	3751.67 (3289.37 to 4213.97)	0.13 (0.12 to 0.15)	8220.54 (7251.82 to 9313.00)	2909.18 (2571.68 to 3301.60)	22589.97 (19629.44 to 26445.63)	3110.93 (2725.07 to 3644.58)	0.20 (0.18 to 0.21)	2275.92 (2081.81 to 2458.57)	662.34 (604.75 to 717.84)	5117.25 (4734.39 to 5478.04)	640.74 (590.97 to 687.94)	-0.11 (-0.11 to -0.10)
Low SDI	3693.83 (3377.19 to 4010.47)	3366.40 (3065.59 to 3667.22)	8762.20 (7821.78 to 9702.62)	3370.21 (2990.63 to 3749.79)	-0.01 (-0.04 to 0.00)	8762.20 (2298.43 to 2914.71)	2487.86 (2213.94 to 2803.00)	6363.34 (5500.63 to 7362.05)	2578.98 (2251.45 to 3004.94)	0.10 (0.06 to 0.12)	1114.21 (1041.40 to 1187.13)	2398.85 (818.76 to 941.13)	3379.85 (2260.11 to 2529.72)	791.23 (743.48 to 836.12)	-0.34 (-0.34 to -0.34)
Super-region															
Central Europe, Eastern Europe, and Central Asia	12932.54 (11689.32 to 14175.77)	4446.23 (4046.37 to 4846.09)	17364.73 (15413.53 to 19315.93)	4403.33 (3927.29 to 4879.38)	-0.05 (-0.08 to -0.03)	10191.72 (9025.16 to 11469.50)	3472.92 (3102.66 to 3887.02)	14352.39 (12587.64 to 16466.83)	3550.70 (3126.75 to 4072.02)	0.04 (0.01 to 0.06)	2740.82 (2497.05 to 2952.70)	973.31 (890.85 to 1046.81)	3012.34 (2798.74 to 3223.68)	852.57 (794.53 to 908.25)	-0.43 (-0.43 to -0.42)
High-income	14630.56 (13388.89 to 15872.23)	2091.05 (1925.39 to 2256.71)	17360.79 (15841.23 to 18880.34)	1486.37 (1366.21 to 1606.54)	-1.11 (-1.12 to -1.09)	9328.87 (8202.85 to 10585.91)	1301.42 (1152.23 to 1466.56)	10192.31 (8907.19 to 11836.19)	832.19 (729.56 to 957.77)	-1.44 (-1.46 to -1.42)	5301.69 (4967.42 to 5665.98)	789.63 (739.53 to 844.32)	7168.48 (6782.08 to 7592.72)	654.19 (617.44 to 692.82)	-0.61 (-0.64 to -0.60)
Latin America and Caribbean	2940.51 (2717.29 to 3163.72)	2514.48 (2314.78 to 2714.19)	7639.24 (6844.30 to 8434.17)	2273.25 (2036.92 to 2509.57)	-0.34 (-0.36 to -0.32)	1986.68 (1779.85 to 2201.72)	1769.24 (1587.80 to 1970.76)	5787.02 (5107.13 to 6677.43)	1718.43 (1516.69 to 1983.45)	-0.13 (-0.14 to -0.11)	953.82 (879.50 to 1025.52)	953.82 (889.13 to 1025.52)	1852.22 (1734.65 to 1983.32)	554.82 (519.20 to 593.62)	-0.95 (-0.96 to -0.94)
North Africa and Middle East	4821.21 (4526.11 to 5116.31)	5915.62 (5546.74 to 6284.50)	12857.85 (11727.97 to 13987.74)	5828.21 (5317.79 to 6338.64)	-0.06 (-0.08 to -0.05)	3924.30 (3655.29 to 4235.15)	5045.92 (4709.94 to 5439.09)	10818.50 (9830.55 to 12081.18)	5015.73 (4569.08 to 5586.61)	-0.03 (-0.06 to -0.02)	896.91 (842.52 to 952.53)	2039.35 (813.33 to 925.69)	812.49 (1939.21 to 2142.14)	812.49 (771.35 to 853.55)	-0.22 (-0.22 to -0.21)
South Asia	10027.52 (8727.11 to 11327.93)	3788.89 (3283.79 to 4294.00)	30071.98 (25284.64 to 34859.31)	4055.48 (3415.53 to 4695.42)	0.18 (0.16 to 0.20)	8505.95 (7308.22 to 9886.80)	3322.38 (2854.36 to 3888.83)	26455.03 (22338.13 to 31885.69)	3609.07 (3083.13 to 4359.80)	0.23 (0.21 to 0.25)	1521.57 (1344.66 to 1684.10)	466.51 (410.89 to 518.42)	3616.94 (3240.99 to 3960.98)	446.41 (400.10 to 490.78)	-0.14 (-0.15 to -0.14)
Southeast Asia, East Asia, and Oceania	16187.36 (14609.52 to 17765.19)	2880.60 (2590.40 to 3170.79)	49983.98 (43830.30 to 56137.65)	3415.55 (3010.86 to 3820.24)	0.54 (0.50 to 0.56)	11215.17 (9796.50 to 12810.50)	2082.48 (1829.16 to 2387.16)	36206.50 (31134.55 to 43137.05)	2458.64 (2116.80 to 2905.26)	0.53 (0.50 to 0.55)	4972.19 (4508.04 to 5442.93)	798.11 (719.51 to 879.16)	13777.48 (12412.77 to 15135.05)	1048.86 (866.03 to 1125.87)	0.56 (0.51 to 0.58)
Sub-Saharan Africa	3510.51 (3254.87 to 3766.15)	3236.07 (2982.18 to 3489.96)	8393.73 (7651.10 to 9136.36)	3240.55 (2931.35 to 3549.76)	0.00 (-0.02 to 0.01)	2036.26 (1819.07 to 2292.52)	2005.88 (1784.26 to 2262.26)	5156.81 (4495.08 to 5935.81)	2114.69 (1835.88 to 2439.83)	0.17 (0.13 to 0.18)	1474.25 (1378.68 to 1571.67)	1146.19 (1146.19 to 1146.19)	3236.92 (3054.85 to 3415.83)	1125.87 (1189.41)	-0.29 (-0.29 to -0.29)
Sub-region															
Central Asia	1237.97 (1161.10 to 1314.84)	4495.58 (4214.56 to 4776.60)	2042.90 (1892.28 to 2193.52)	4652.76 (4321.04 to 4984.47)	0.10 (0.10 to 0.11)	912.29 (843.18 to 993.45)	3353.91 (3103.79 to 3653.56)	1556.60 (1419.39 to 1717.70)	3615.21 (3318.70 to 3975.63)	0.23 (0.22 to 0.24)	325.68 (309.70 to 342.23)	1141.67 (1085.45 to 1202.28)	486.30 (465.34 to 507.21)	1037.54 (991.18 to 1083.80)	-0.30 (-0.30 to -0.29)
Central Europe	3160.79 (2891.63 to 3429.95)	3753.58 (3457.12 to 4050.04)	4012.74 (3603.04 to 4422.44)	3152.72 (2854.13 to 3451.32)	-0.60 (-0.66 to -0.56)	2445.36 (2186.47 to 2716.51)	2887.11 (2601.07 to 3184.03)	3194.38 (2831.08 to 3644.43)	2448.83 (2175.00 to 2767.02)	-0.58 (-0.66 to -0.53)	715.43 (667.88 to 761.89)	866.47 (813.43 to 921.65)	818.36 (772.36 to 871.67)	703.89 (665.25 to 743.66)	-0.66 (-0.67 to -0.65)
Eastern Europe	8533.78 (7598.08 to 9469.48)	4769.94 (4278.19 to 5261.69)	11309.09 (9810.41 to 12807.77)	5097.75 (4452.97 to 5742.53)	0.19 (0.18 to 0.21)	6834.07 (5962.60 to 7797.64)	3768.70 (3317.10 to 4279.13)	9601.42 (8253.20 to 11234.30)	4217.01 (3644.45 to 4925.12)	0.34 (0.32 to 0.35)	1609.71 (1503.22 to 1870.33)	1001.24 (891.86 to 1096.25)	1707.67 (1548.00 to 1859.70)	880.74 (805.22 to 956.36)	-0.42 (-0.42 to -0.41)
Australasia	313.57 (292.06 to 335.07)	2370.76 (2214.77 to 2526.75)	540.74 (483.91 to 597.57)	1884.79 (1689.65 to 2079.92)	-0.76 (-0.80 to -0.74)	233.56 (213.00 to 255.39)	1755.70 (1609.86 to 1916.99)	418.20 (369.82 to 482.93)	1427.28 (1258.34 to 1646.44)	-0.72 (-0.77 to -0.69)	80.01 (76.67 to 83.96)	615.05 (589.80 to 644.59)	122.54 (117.11 to 128.26)	457.50 (437.61 to 478.68)	-0.95 (-0.96 to -0.94)
High-income Asia Pacific	1678.28 (1544.98 to 1811.57)	1494.10 (1378.45 to 1609.74)	2873.46 (2602.71 to 3144.21)	1115.92 (1025.39 to 1206.45)	-0.95 (-0.98 to -0.93)	781.29 (678.47 to 904.36)	689.25 (599.33 to 794.65)	1520.32 (1291.96 to 1788.95)	541.82 (469.83 to 632.37)	-0.81 (-0.85 to -0.76)	896.99 (830.03 to 971.61)	804.84 (746.35 to 870.21)	1353.14 (1251.65 to 1466.64)	574.11 (536.04 to 618.11)	-1.09 (-1.09 to -1.08)
High-income North America	5833.73 (5154.74 to 6512.71)	2839.66 (2522.58 to 3156.74)	6573.39 (5922.50 to 7224.27)	1915.94 (1733.91 to 2097.96)	-1.27 (-1.29 to -1.26)	4042.41 (3420.04 to 4736.82)	1926.58 (1642.53 to 2255.72)	3728.51 (3175.38 to 4402.15)	1031.91 (880.93 to 1219.18)	-2.00 (-2.02 to -1.98)	1791.32 (1628.79 to 1960.71)	913.08 (835.14 to 996.87)	2844.88 (2633.84 to 3069.34)	884.02 (820.71 to 953.34)	-0.12 (-0.15 to -0.09)
Southern Latin America	454.45 (426.76 to 482.14)	1770.52 (1663.51 to 1877.54)	690.10 (637.41 to 742.80)	1413.56 (1310.16 to 1520.57)	-0.73 (-0.75 to -0.72)	265.02 (240.91 to 292.09)	1032.21 (938.96 to 1136.77)	426.40 (380.19 to 482.80)	855.70 (765.60 to 969.59)	-0.63 (-0.66 to -0.60)	189.44 (179.29 to 200.47)	738.31 (698.87 to 780.58)	263.71 (251.85 to 275.92)	559.67 (534.49 to 586.08)	-0.89 (-0.89 to -0.88)
Western Europe	6350.54 (5820.79 to 6880.28)	1848.77 (1709.81 to 1987.73)	6683.11 (6075.93 to 7290.28)	1328.09 (1215.27 to 1440.91)	-1.07 (-1.08 to -1.06)	4006.60 (3532.62 to 4557.71)	1135.70 (1010.11 to 1276.99)	4098.89 (3589.73 to 4786.48)	792.88 (695.09 to 916.08)	-1.17 (-1.19 to -1.15)	2343.93 (2223.23 to 2491.02)	713.07 (677.86 to 755.40)	2584.22 (2483.43 to 2689.47)	535.21 (512.25 to 557.80)	-0.91 (-0.92 to -0.90)
Andean Latin America	233.20 (217.19 to 249.22)	2169.56 (2010.81 to 2328.30)	683.31 (627.33 to 743.29)	2207.64 (2018.19 to 2397.09)	0.03 (0.02 to 0.04)	158.36 (143.94 to 174.94)	1540.51 (1396.83 to 1707.61)	520.12 (466.29 to 580.97)	1686.16 (1509.69 to 1884.71)	0.28 (0.27 to 0.30)	74.84 (70.92 to 78.96)	629.05 (597.31 to 662.22)	165.19 (156.34 to 173.49)	521.48 (493.54 to 547.62)	-0.61 (-0.61 to -0.60)

Location	Ischemic cardio-cerebrovascular disease					Ischemic heart disease					Ischemic stroke				
	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)
Caribbean	434.60 (404.44 to 464.77)	3216.16 (2991.67 to 3440.64)	928.02 (848.17 to 1007.87)	3229.12 (2952.40 to 3505.84)	-0.02 (-0.03 to -0.01)	339.17 (310.89 to 370.48)	2551.68 (2339.25 to 2783.27)	754.82 (682.24 to 841.16)	2605.43 (2357.72 to 2908.22)	0.03 (0.01 to 0.04)	95.44 (91.12 to 100.50)	664.48 (633.93 to 700.51)	173.20 (165.22 to 180.95)	623.69 (594.91 to 651.85)	-0.20 (-0.21 to -0.20)
Central Latin America	1302.72 (1198.48 to 1406.97)	2977.09 (2726.04 to 3228.14)	3610.28 (3227.22 to 3993.34)	2674.89 (2394.73 to 2955.04)	-0.36 (-0.39 to -0.35)	915.65 (819.34 to 1020.05)	2194.05 (1964.10 to 2453.90)	2836.88 (2500.09 to 3259.01)	2104.09 (1857.68 to 2412.52)	-0.15 (-0.19 to -0.13)	387.08 (358.41 to 414.82)	783.05 (730.71 to 841.19)	773.40 (722.93 to 827.69)	570.80 (532.83 to 610.92)	-1.02 (-1.03 to -1.01)
Tropical Latin America	969.98 (878.11 to 1061.84)	1972.97 (1782.21 to 2163.72)	2415.63 (2142.49 to 2688.78)	1712.07 (1520.34 to 1903.80)	-0.46 (-0.47 to -0.46)	573.51 (492.09 to 657.75)	1215.61 (1050.16 to 1399.36)	1675.20 (1432.58 to 1961.27)	1180.44 (1009.38 to 1380.23)	-0.10 (-0.12 to -0.09)	396.46 (356.98 to 436.45)	757.36 (679.22 to 832.88)	740.43 (673.39 to 810.94)	531.63 (483.67 to 581.17)	-1.13 (-1.14 to -1.13)
North Africa and Middle East	4821.21 (4526.11 to 5116.31)	5915.62 (5546.74 to 6284.50)	12857.85 (11727.97 to 13987.74)	5828.21 (5317.79 to 6338.64)	-0.06 (-0.08 to -0.05)	3924.30 (3655.29 to 4235.15)	5045.92 (4709.94 to 5439.09)	10818.50 (9830.55 to 12081.18)	5015.73 (4569.08 to 5586.61)	-0.03 (-0.06 to -0.02)	896.91 (842.52 to 952.53)	869.70 (813.33 to 925.69)	2039.35 (1939.21 to 2142.14)	812.49 (771.35 to 853.55)	-0.22 (-0.22 to -0.21)
South Asia	10027.52 (8727.11 to 11327.93)	3788.89 (3283.79 to 4294.00)	30071.98 (25284.64 to 34859.31)	4055.48 (3415.53 to 4695.42)	0.18 (0.16 to 0.20)	8505.95 (7308.22 to 9886.80)	3322.38 (2854.36 to 3858.83)	26455.03 (22338.13 to 31885.69)	3609.07 (3083.13 to 4359.80)	0.23 (0.21 to 0.25)	1521.57 (1344.66 to 1684.10)	466.51 (410.89 to 518.42)	3616.94 (3240.99 to 3960.98)	446.41 (400.10 to 490.78)	-0.14 (-0.15 to -0.14)
East Asia	12789.88 (11438.38 to 14141.38)	2997.37 (2670.96 to 3323.78)	41310.84 (35854.51 to 46767.16)	3675.10 (3204.26 to 4145.94)	0.64 (0.59 to 0.66)	9220.55 (7996.98 to 10599.84)	2237.53 (1948.49 to 2580.45)	30760.86 (26281.54 to 36943.86)	2709.93 (2313.81 to 3233.76)	0.61 (0.58 to 0.63)	3569.33 (3203.36 to 3932.32)	759.84 (679.23 to 842.95)	10549.98 (9387.16 to 11711.15)	864.65 to 1065.76)	0.74 (0.68 to 0.77)
Oceania	41.00 (38.32 to 43.67)	3128.27 (2913.06 to 3343.48)	104.95 (96.72 to 113.18)	3154.53 (2899.50 to 3409.55)	0.02 (0.00 to 0.03)	27.60 (25.12 to 30.26)	2310.41 (2117.03 to 2537.89)	74.89 (67.05 to 83.28)	2404.70 (2168.77 to 2674.20)	0.12 (0.10 to 0.13)	13.40 (12.71 to 14.17)	817.86 (775.79 to 865.99)	30.05 (28.70 to 31.47)	749.83 (713.60 to 782.13)	-0.28 (-0.28 to -0.28)
Southeast Asia	3356.48 (3111.90 to 3601.05)	2526.47 (2337.17 to 2715.77)	8568.20 (7811.35 to 9325.04)	2524.08 (2302.65 to 2745.52)	-0.01 (-0.01 to 0.00)	1967.02 (1761.34 to 2194.91)	1599.09 (1433.37 to 1779.71)	5370.75 (4702.99 to 6143.09)	1622.40 (1425.38 to 1848.63)	0.04 (0.04 to 0.05)	1389.46 (1275.78 to 1502.23)	927.38 (853.99 to 1006.90)	3197.45 (2963.35 to 3429.60)	901.68 (836.95 to 967.29)	-0.09 (-0.10 to -0.09)
Central Sub-Saharan Africa	369.99 (347.71 to 392.27)	3235.28 (3033.96 to 3436.61)	889.31 (822.58 to 956.05)	3015.66 (2781.13 to 3250.18)	-0.24 (-0.25 to -0.23)	212.17 (192.63 to 234.15)	1967.11 (1789.58 to 2165.05)	528.00 (468.58 to 597.11)	1890.69 (1691.26 to 2145.75)	-0.15 (-0.18 to -0.14)	157.82 (149.82 to 166.00)	1268.17 (1199.09 to 1344.49)	361.32 (343.46 to 379.41)	1124.97 (1066.97 to 1182.93)	-0.39 (-0.39 to -0.38)
Eastern Sub-Saharan Africa	1119.84 (1041.31 to 1198.38)	2968.10 (2748.58 to 3187.63)	2686.92 (2461.23 to 2912.60)	2979.46 (2706.22 to 3252.70)	0.00 (-0.02 to 0.01)	630.64 (561.98 to 704.49)	1780.20 (1585.85 to 1993.25)	1626.96 (1415.45 to 1851.60)	1903.57 (1653.42 to 2185.47)	0.21 (0.17 to 0.22)	489.20 (457.03 to 523.07)	1187.90 (1108.83 to 1272.53)	1059.96 (1003.34 to 1119.52)	1013.03 to 1137.77)	-0.32 (-0.33 to -0.32)
Southern Sub-Saharan Africa	611.04 (553.32 to 668.75)	3990.87 (3604.62 to 4377.11)	1192.84 (1053.63 to 1332.05)	3650.73 (3230.49 to 4070.97)	-0.30 (-0.31 to -0.29)	373.52 (323.17 to 429.92)	2528.43 (2190.50 to 2910.80)	776.34 (659.52 to 928.97)	2393.33 (2038.27 to 2849.47)	-0.18 (-0.22 to -0.16)	237.51 (215.69 to 259.60)	1462.44 (1323.69 to 1602.81)	416.51 (380.89 to 450.97)	1257.40 (1145.56 to 1365.46)	-0.48 (-0.49 to -0.47)
Western Sub-Saharan Africa	1409.64 (1300.79 to 1518.49)	3166.43 (2899.54 to 3433.32)	3624.66 (3298.07 to 3951.25)	3371.72 (3036.87 to 3706.57)	0.20 (0.18 to 0.21)	819.92 (723.82 to 926.62)	1989.00 (1756.54 to 2262.06)	2225.53 (1934.69 to 2566.68)	2258.29 (1956.39 to 2610.67)	0.39 (0.38 to 0.40)	589.72 (550.60 to 629.78)	1177.43 (1093.11 to 1264.45)	1399.13 (1317.95 to 1483.00)	1042.46 to 1185.33)	-0.18 (-0.19 to -0.18)

AAPC: Average annual percentage change; ASR: Age-standardized rate; SDI: Sociodemographic index. Results assuming first-order autocorrelation estimated from the data were broadly similar to those of the primary analyses, despite somewhat different estimates.

Supplemental Table 2. Temporal trend differences in age-standardized rates of ischemic cardio-cerebrovascular disease and its subtypes by sex (1990-2011 vs. 2012-2021)

	AAPC (women)		AAPC (men)	
	1990-2011	2012-2021	1990-2011	2012-2021
Age standardizes incidence rate				
Global	-0.66 (-0.66 to -0.65)	0.29 (0.22 to 0.36)	-0.51 (-0.52 to -0.5)	-0.32 (-0.40 to -0.24)
Subtypes				
Ischemic heart diseases	-0.50 (-0.51 to -0.49)	0.18 (0.13 to 0.23)	-0.49 (-0.51 to -0.48)	-0.42 (-0.48 to -0.36)
Ischemic stroke	-1.19 (-1.20 to -1.18)	0.62 (0.31 to 1.06)	-0.59 (-0.60 to -0.58)	0.17 (-0.08 to 0.41)
By SDI				
High SDI	-2.5 (-2.55 to -2.45)	-0.09 (-0.15 to -0.03)	-2.46 (-2.52 to -2.41)	-0.62 (-0.66 to -0.59)
High-middle SDI	-0.63 (-0.66 to -0.61)	-0.07 (-0.14 to 0.01)	-0.48 (-0.51 to -0.46)	-0.54 (-0.59 to -0.49)
Middle SDI	0.13 (0.12 to 0.13)	0.29 (0.21 to 0.40)	0.44 (0.43 to 0.46)	-0.25 (-0.31 to -0.19)
Low-middle SDI	-0.28 (-0.29 to -0.27)	0.23 (0.16 to 0.30)	0.13 (0.12 to 0.15)	-0.38 (-0.45 to -0.26)
Low SDI	-0.4 (-0.41 to -0.38)	0.23 (0.10 to 0.38)	-0.25 (-0.26 to -0.23)	-0.17 (-0.32 to 0.00)
Age standardizes prevalence rate				
Global	-0.14 (-0.14 to -0.13)	0.46 (0.36 to 0.57)	-0.12 (-0.12 to -0.12)	0.04 (0.03 to 0.05)
Subtypes				
Ischemic heart diseases	-0.05 (-0.06 to -0.05)	0.53 (0.42 to 0.65)	-0.13 (-0.13 to -0.12)	0.07 (0.06 to 0.08)
Ischemic stroke	-0.38 (-1.23 to -1.11)	0.24 (0.14 to 0.29)	-0.10 (-0.10 to -0.09)	-0.06 (-0.08 to -0.05)
By SDI				
High SDI	-1.19 (-1.19 to -1.18)	0.10 (-0.05 to 0.26)	-1.32 (-1.33 to -1.31)	-0.17 (-0.25 to -0.08)
High-middle SDI	-0.08 (-0.08 to -0.08)	0.26 (0.13 to 0.39)	-0.05 (-0.06 to -0.05)	-0.10 (-0.11 to -0.09)
Middle SDI	0.25 (0.24 to 0.25)	0.52 (0.37 to 0.61)	0.50 (0.49 to 0.50)	0.13 (0.12 to 0.14)
Low-middle SDI	0.00 (-0.01 to 0.00)	0.43 (0.35 to 0.50)	0.26 (0.26 to 0.27)	0.06 (0.04 to 0.08)
Low SDI	-0.15 (-0.15 to -0.15)	0.34 (0.18 to 0.42)	0.00 (-0.01 to 0.00)	-0.01 (-0.06 to 0.01)
Age standardizes mortality rate				
Global	-1.60 (-1.65 to -1.53)	-1.48 (-1.55 to -1.44)	-1.03 (-1.10 to -0.94)	-1.20 (-1.42 to -1.01)
Subtypes				
Ischemic heart diseases	-1.42 (-1.52 to -1.27)	-1.57 (-1.66 to -1.48)	-0.94 (-1.01 to -0.86)	-1.22 (-1.45 to -1.03)

Ischemic stroke	-1.99 (-2.06 to -1.91)	-1.43 (-1.47 to -1.38)	-1.28 (-1.34 to -1.18)	-1.09 (-1.19 to -1.03)
By SDI				
High SDI	-3.81 (-3.88 to -3.74)	-2.44 (-2.65 to -2.32)	-3.61 (-3.66 to -3.56)	-2.14 (-2.26 to -1.99)
High-middle SDI	-1.40 (-1.53 to -1.27)	-2.29 (-2.36 to -2.23)	-0.89 (-1.03 to -0.73)	-2.19 (-2.26 to -2.14)
Middle SDI	-0.53 (-0.58 to -0.48)	-1.18 (-1.27 to -1.10)	0.21 (0.15 to 0.28)	-0.77 (-1.11 to -0.51)
Low-middle SDI	-0.54 (-0.61 to -0.40)	-0.37 (-0.51 to -0.23)	0.45 (0.39 to 0.54)	-0.08 (-0.58 to 0.25)
Low SDI	-0.58 (-0.66 to -0.46)	-0.96 (-1.13 to -0.78)	0.07 (0.01 to 0.15)	0.04 (-0.19 to 0.27)
Age standardizes DALYs rate				
Global	-1.44 (-1.49 to -1.39)	-1.28 (-1.36 to -1.22)	-0.89 (-0.95 to -0.83)	-1.10 (-1.19 to -1.04)
Subtypes				
Ischemic heart diseases	-1.31 (-1.36 to -1.25)	-1.33 (-1.44 to -1.27)	-0.83 (-0.89 to -0.75)	-1.13 (-1.25 to -1.05)
Ischemic stroke	-1.78 (-1.85 to -1.71)	-1.18 (-1.47 to -1.38)	-1.08 (-1.15 to -0.98)	-1.00 (-1.06 to -0.96)
By SDI				
High SDI	-3.64 (-3.68 to -3.59)	-1.93 (-2.13 to -1.80)	-3.46 (-3.50 to -3.42)	-1.85 (-1.96 to -1.70)
High-middle SDI	-1.31 (-1.44 to -1.18)	-2.37 (-2.47 to -2.29)	-0.83 (-0.99 to -0.64)	-2.35 (-2.45 to -2.30)
Middle SDI	-0.74 (-0.77 to -0.71)	-0.96 (-1.03 to -0.89)	0.07 (0.01 to 0.13)	-0.73 (-0.98 to -0.53)
Low-middle SDI	-0.63 (-0.69 to -0.54)	-0.57 (-0.72 to -0.43)	0.39 (0.33 to 0.47)	-0.29 (-0.47 to -0.14)
Low SDI	-0.68 (-0.72 to -0.61)	-0.99 (-1.15 to -0.83)	-0.05 (-0.09 to 0.01)	-0.12 (-0.36 to 0.10)

AAPC: Average annual percentage change; DALYs: Disability adjusted life years; SDI: Sociodemographic index. Results assuming first-order autocorrelation estimated from the data were broadly similar to those of the primary analyses, despite somewhat different estimates.

Location	Ischemic cardio-cerebrovascular disease					Ischemic heart disease					Ischemic stroke				
	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)
North Africa and Middle East	696.21 (594.16 to 798.25)	882.20 (765.12 to 999.29)	1736.73 (1491.13 to 1982.33)	802.43 (700.75 to 904.10)	-0.31 (-0.32 to -0.30)	602.12 (513.53 to 716.17)	771.48 (671.35 to 903.84)	1523.22 (1312.71 to 1801.38)	704.02 (616.78 to 818.83)	-0.31 (-0.32 to -0.30)	94.09 (82.71 to 106.91)	110.72 (97.73 to 125.70)	213.51 (190.10 to 239.87)	98.40 (87.29 to 110.32)	-0.41 (-0.44 to -0.38)
South Asia	1400.07 (1130.18 to 1669.97)	543.65 (440.34 to 646.95)	3768.96 (3058.29 to 4479.62)	517.34 (422.00 to 612.68)	-0.18 (-0.20 to -0.17)	1221.31 (971.64 to 1507.76)	474.52 (378.33 to 583.43)	3366.48 (2684.31 to 4100.35)	460.73 (370.31 to 560.24)	-0.10 (-0.12 to -0.08)	178.76 (149.62 to 212.43)	69.13 (57.64 to 82.58)	402.48 (343.55 to 466.10)	56.61 (48.43 to 65.24)	-0.65 (-0.66 to -0.63)
East Asia	1484.29 (1243.55 to 1725.04)	374.97 (315.41 to 434.54)	4868.59 (4075.08 to 5662.10)	440.16 (371.26 to 509.06)	0.54 (0.51 to 0.56)	1103.06 (889.45 to 1346.57)	282.67 (230.11 to 344.39)	3604.80 (2887.83 to 4403.38)	326.02 (262.85 to 394.85)	0.46 (0.42 to 0.49)	381.24 (313.16 to 464.37)	92.30 (76.16 to 109.83)	1263.79 (1044.97 to 1515.86)	114.14 (94.96 to 134.53)	0.66 (0.63 to 0.69)
Oceania	4.81 (3.89 to 5.72)	399.93 (320.15 to 479.71)	12.42 (10.12 to 14.71)	394.66 (314.48 to 474.84)	-0.05 (-0.05 to -0.04)	3.71 (2.88 to 4.68)	322.45 (249.72 to 407.66)	9.94 (7.87 to 12.40)	324.96 (252.80 to 411.92)	0.02 (0.01 to 0.03)	1.10 (0.94 to 1.28)	77.48 (66.24 to 88.94)	2.48 (2.14 to 2.86)	69.70 (60.28 to 80.14)	-0.33 (-0.34 to -0.33)
Southeast Asia	378.67 (326.33 to 431.00)	303.40 (263.11 to 343.69)	933.94 (808.66 to 1059.22)	285.58 (249.83 to 321.33)	-0.20 (-0.22 to -0.18)	241.17 (196.57 to 292.12)	200.39 (166.21 to 240.20)	602.21 (495.76 to 729.20)	185.80 (155.48 to 221.72)	-0.21 (-0.25 to -0.18)	137.49 (117.36 to 160.11)	103.01 (88.22 to 120.13)	331.74 (287.78 to 378.80)	99.78 (86.72 to 113.65)	-0.12 (-0.14 to -0.10)
Central Africa	50.88 (42.37 to 59.39)	465.09 (398.27 to 531.91)	122.71 (104.00 to 141.43)	432.88 (373.64 to 492.11)	-0.26 (-0.29 to -0.23)	35.27 (28.32 to 44.51)	331.23 (270.54 to 397.38)	87.19 (71.30 to 107.25)	312.98 (260.76 to 374.01)	-0.19 (-0.22 to -0.16)	15.60 (13.13 to 18.38)	133.86 (113.56 to 155.65)	35.53 (30.73 to 41.12)	119.89 (103.68 to 138.49)	-0.37 (-0.39 to -0.34)
Eastern Africa	145.48 (121.86 to 169.10)	405.60 (337.62 to 473.59)	341.66 (286.66 to 396.67)	393.55 (328.17 to 458.93)	-0.11 (-0.14 to -0.09)	98.18 (77.25 to 122.18)	283.94 (223.39 to 353.75)	241.35 (192.01 to 298.47)	283.05 (223.94 to 350.98)	-0.02 (-0.06 to 0.01)	47.29 (40.43 to 55.01)	121.66 (104.01 to 142.68)	100.32 (86.91 to 114.65)	110.50 (95.58 to 126.55)	-0.31 (-0.33 to -0.29)
Southern Africa	75.92 (62.96 to 88.88)	502.21 (411.85 to 592.57)	152.00 (125.66 to 178.34)	473.13 (391.94 to 554.32)	-0.21 (-0.24 to -0.17)	55.05 (43.86 to 68.75)	368.77 (289.98 to 464.04)	110.70 (87.64 to 138.50)	341.53 (269.91 to 426.17)	-0.27 (-0.33 to -0.22)	20.87 (17.55 to 24.80)	133.44 (110.81 to 159.41)	41.30 (34.71 to 48.42)	131.60 (110.39 to 154.54)	-0.07 (-0.12 to -0.02)
Western Africa	188.33 (156.76 to 219.90)	445.87 (367.76 to 523.97)	462.99 (387.04 to 538.93)	453.80 (375.48 to 532.13)	0.05 (0.03 to 0.07)	136.43 (108.20 to 169.31)	337.23 (265.85 to 418.22)	348.28 (279.90 to 428.56)	354.96 (282.86 to 437.36)	0.15 (0.14 to 0.18)	51.90 (44.31 to 60.20)	108.64 (92.47 to 126.94)	114.71 (99.71 to 130.85)	98.85 (85.76 to 111.64)	-0.31 (-0.33 to -0.29)

AAPC: Average annual percentage change; ASR: Age-standardized rate; SDI: Sociodemographic index. Results assuming first-order autocorrelation estimated from the data were broadly similar to those of the primary analyses, despite somewhat different estimates.

Supplemental Table 4. Mortality number, age-standardized rate, and AAPC of ischemic cardio-cerebrovascular disease and two subtypes in women at global and regional level, 1990-2021

Location	Ischemic cardio-cerebrovascular disease					Ischemic heart disease					Ischemic stroke				
	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)
Global	3871.85 (3672.16 to 4071.54)	204.39 (192.96 to 215.82)	5801.72 (5357.86 to 6245.58)	123.86 (114.49 to 133.24)	-1.61 (-1.64 to -1.57)	2562.19 (2357.41 to 2702.95)	134.50 (122.46 to 142.23)	3988.96 (3540.38 to 4317.97)	85.32 (75.90 to 92.31)	-1.44 (-1.47 to -1.41)	1309.66 (1194.50 to 1394.76)	69.89 (62.93 to 74.40)	1812.76 (1573.03 to 2001.28)	38.54 (33.46 to 42.53)	-1.88 (-1.92 to -1.84)
SDI level															
High SDI	1196.78 (1114.53 to 1279.03)	167.98 (156.57 to 179.39)	911.85 (809.64 to 1014.06)	57.81 (52.15 to 63.47)	-3.43 (-3.48 to -3.39)	837.95 (735.97 to 885.81)	118.68 (104.55 to 125.36)	622.71 (507.04 to 687.23)	40.64 (34.19 to 44.21)	-3.47 (-3.51 to -3.43)	358.83 (313.30 to 381.19)	49.30 (43.02 to 52.39)	289.14 (226.68 to 323.22)	17.17 (13.78 to 19.05)	-3.38 (-3.42 to -3.35)
High-middle SDI	1366.68 (1309.16 to 1424.20)	273.68 (260.70 to 286.66)	1838.64 (1666.39 to 2010.88)	157.41 (142.84 to 171.99)	-1.74 (-1.85 to -1.64)	833.64 (775.91 to 870.05)	166.79 (153.25 to 174.63)	1226.64 (1051.75 to 1359.54)	105.32 (90.67 to 116.71)	-1.48 (-1.55 to -1.41)	533.04 (492.23 to 558.34)	106.89 (97.48 to 112.19)	611.99 (527.25 to 681.98)	52.09 (44.96 to 58.06)	-2.27 (-2.36 to -2.19)
Middle SDI	702.75 (655.39 to 750.12)	171.08 (158.87 to 183.29)	1714.91 (1558.60 to 1871.22)	134.08 (121.58 to 146.59)	-0.77 (-0.80 to -0.75)	459.13 (423.24 to 497.56)	109.12 (99.40 to 118.82)	1175.31 (1033.47 to 1302.35)	91.33 (79.72 to 101.29)	-0.56 (-0.59 to -0.52)	243.63 (215.77 to 274.51)	61.96 (54.75 to 69.55)	539.60 (461.12 to 620.62)	42.75 (36.46 to 49.10)	-1.17 (-1.20 to -1.13)
Low-middle SDI	456.82 (415.92 to 497.72)	187.26 (170.88 to 203.64)	1042.47 (961.98 to 1122.95)	159.76 (147.62 to 171.89)	-0.45 (-0.51 to -0.39)	327.14 (290.98 to 361.97)	127.69 (114.15 to 142.04)	756.77 (685.84 to 822.80)	113.10 (102.58 to 122.81)	-0.34 (-0.39 to -0.28)	129.67 (109.65 to 150.30)	59.57 (51.16 to 68.36)	283.70 (247.45 to 332.04)	46.66 (40.45 to 53.84)	-0.79 (-0.85 to -0.73)
Low SDI	142.38 (123.31 to 161.45)	164.66 (142.88 to 186.45)	286.98 (251.10 to 322.86)	141.39 (124.08 to 158.70)	-0.50 (-0.54 to -0.44)	100.18 (85.29 to 116.18)	108.99 (93.07 to 125.86)	202.94 (175.45 to 231.42)	95.23 (82.22 to 107.68)	-0.42 (-0.47 to -0.35)	42.20 (32.14 to 54.50)	55.67 (43.32 to 72.00)	84.04 (65.29 to 110.21)	46.17 (36.21 to 59.67)	-0.57 (-0.61 to -0.54)
Super-region															
Central Europe, Eastern Europe, and Central Asia	1096.27 (1059.36 to 1133.19)	390.59 (375.97 to 405.21)	1096.78 (1008.08 to 1185.48)	245.74 (225.89 to 265.59)	-1.46 (-1.62 to -1.35)	693.47 (649.52 to 712.77)	248.40 (230.94 to 256.19)	766.29 (679.09 to 844.48)	172.63 (153.22 to 190.33)	-1.22 (-1.30 to -1.13)	402.80 (377.41 to 415.49)	142.19 (132.34 to 147.10)	330.49 (292.75 to 356.91)	73.11 (64.87 to 79.00)	-2.15 (-2.27 to -2.06)
High-income	1219.71 (1131.29 to 1308.17)	156.34 (145.09 to 167.59)	867.66 (761.28 to 974.03)	49.64 (44.30 to 54.98)	-3.68 (-3.72 to -3.63)	840.51 (732.51 to 891.80)	108.88 (95.20 to 115.50)	581.79 (460.81 to 646.02)	34.61 (28.43 to 37.84)	-3.69 (-3.74 to -3.65)	379.20 (327.34 to 404.34)	47.46 (40.92 to 50.64)	285.87 (217.67 to 322.37)	15.03 (11.71 to 16.77)	-3.64 (-3.70 to -3.58)
Latin America and Caribbean	162.29 (156.14 to 168.43)	168.63 (161.24 to 176.02)	293.85 (270.83 to 316.88)	87.30 (80.53 to 94.07)	-2.07 (-2.12 to -2.02)	113.49 (106.61 to 117.08)	115.73 (107.45 to 119.98)	220.19 (195.63 to 238.69)	65.28 (58.10 to 70.77)	-1.78 (-1.83 to -1.73)	48.80 (44.58 to 51.01)	52.90 (47.71 to 55.55)	73.66 (63.79 to 80.12)	22.02 (19.13 to 23.94)	-2.77 (-2.81 to -2.72)
North Africa and Middle East	233.43 (210.35 to 256.50)	356.53 (322.17 to 390.88)	456.43 (407.98 to 504.88)	257.66 (231.48 to 283.83)	-1.02 (-1.06 to -0.97)	164.48 (147.30 to 187.10)	245.40 (220.28 to 277.72)	326.55 (283.06 to 372.08)	181.45 (157.14 to 204.40)	-0.92 (-0.98 to -0.87)	68.94 (57.24 to 80.61)	111.13 (92.15 to 129.86)	129.88 (111.10 to 149.38)	76.20 (64.63 to 87.16)	-1.18 (-1.22 to -1.14)
South Asia	358.61 (313.03 to 404.19)	158.23 (137.71 to 178.76)	979.56 (881.91 to 1077.21)	147.08 (132.47 to 161.70)	-0.18 (-0.27 to -0.07)	276.12 (235.35 to 315.65)	114.87 (96.64 to 131.76)	764.84 (675.17 to 846.49)	112.14 (99.08 to 124.35)	-0.04 (-0.13 to 0.08)	82.49 (60.89 to 104.04)	43.36 (32.52 to 53.79)	214.72 (175.08 to 268.85)	34.94 (28.59 to 43.29)	-0.59 (-0.73 to -0.46)
Southeast Asia, East Asia, and Oceania	682.93 (615.86 to 750.00)	153.34 (137.94 to 168.74)	1856.90 (1611.81 to 2101.98)	137.06 (118.79 to 155.33)	-0.34 (-0.40 to -0.25)	309.28 (352.03 to 457.48)	87.55 (76.72 to 100.50)	1170.51 (958.45 to 1375.69)	86.67 (70.90 to 102.05)	-0.05 (-0.12 to 0.00)	283.65 (245.41 to 328.33)	65.79 (56.55 to 76.12)	686.39 (564.54 to 821.79)	50.38 (41.41 to 60.51)	-0.82 (-0.87 to -0.75)
Sub-Saharan Africa	118.61 (101.43 to 135.79)	143.57 (122.84 to 164.31)	250.54 (217.76 to 283.33)	133.26 (116.43 to 150.08)	-0.25 (-0.29 to -0.20)	74.83 (64.06 to 86.98)	158.79 (73.76 to 100.32)	86.22 (138.77 to 187.63)	79.97 (70.03 to 93.66)	-0.23 (-0.29 to -0.17)	43.78 (32.64 to 58.24)	57.36 (43.00 to 74.85)	91.76 (71.82 to 115.55)	53.29 (42.11 to 66.06)	-0.22 (-0.25 to -0.18)
Sub-region															
Central Asia	87.79 (83.46 to 92.12)	336.55 (319.05 to 354.06)	109.62 (100.81 to 118.43)	280.81 (258.41 to 303.20)	-0.56 (-0.63 to -0.48)	68.14 (63.11 to 70.99)	261.75 (241.26 to 273.28)	85.42 (76.70 to 93.60)	218.05 (195.72 to 238.69)	-0.64 (-0.74 to -0.56)	19.65 (17.79 to 21.39)	74.81 (67.36 to 81.49)	24.21 (21.58 to 26.54)	62.75 (55.95 to 68.59)	-0.42 (-0.57 to -0.24)
Central Europe	274.53 (265.40 to 283.65)	340.73 (327.98 to 353.48)	266.56 (247.52 to 285.60)	169.27 (157.40 to 181.14)	-2.30 (-2.37 to -2.24)	169.18 (159.14 to 174.15)	209.78 (195.51 to 216.43)	171.65 (152.14 to 185.39)	109.80 (97.62 to 118.40)	-2.13 (-2.21 to -2.07)	105.35 (98.93 to 109.31)	130.95 (121.70 to 136.29)	94.91 (83.48 to 102.04)	59.47 (52.51 to 63.99)	-2.57 (-2.64 to -2.50)
Eastern Europe	733.96 (710.03 to 757.88)	422.17 (406.71 to 437.63)	720.60 (648.46 to 792.75)	285.49 (256.53 to 314.45)	-1.41 (-1.55 to -1.28)	456.15 (428.28 to 468.60)	264.09 (246.01 to 272.36)	509.22 (439.97 to 576.85)	202.83 (175.26 to 230.33)	-0.87 (-1.01 to -0.74)	277.80 (260.16 to 285.93)	158.08 (147.08 to 163.26)	211.38 (186.25 to 231.89)	82.66 (72.89 to 90.84)	-2.14 (-2.27 to -2.01)
Australasia	24.35 (22.63 to 26.07)	175.57 (162.97 to 188.17)	17.84 (15.56 to 20.12)	45.58 (40.07 to 51.10)	-4.27 (-4.44 to -4.16)	18.26 (16.18 to 19.34)	131.84 (116.62 to 139.82)	12.13 (9.47 to 13.55)	31.64 (25.16 to 35.07)	-4.54 (-4.70 to -4.44)	6.09 (5.27 to 6.63)	43.72 (37.82 to 47.65)	5.71 (4.39 to 6.43)	13.94 (10.80 to 15.65)	-3.63 (-3.73 to -3.50)
High-income Asia Pacific	114.01 (105.11 to 122.90)	107.75 (98.68 to 116.82)	133.18 (110.94 to 155.42)	28.44 (24.24 to 32.63)	-4.25 (-4.34 to -4.16)	56.80 (49.37 to 60.87)	53.32 (45.65 to 57.42)	72.63 (52.13 to 84.95)	16.64 (12.59 to 19.01)	-3.82 (-3.89 to -3.74)	57.21 (48.46 to 62.04)	54.43 (45.56 to 59.36)	60.55 (41.89 to 71.92)	11.80 (8.39 to 13.79)	-4.85 (-5.05 to -4.74)
High-income North America	378.67 (343.84 to 413.50)	159.67 (145.89 to 173.46)	308.59 (273.55 to 343.64)	69.89 (62.70 to 77.07)	-2.67 (-2.72 to -2.61)	310.47 (265.29 to 332.85)	132.08 (114.16 to 140.92)	229.93 (187.15 to 252.23)	53.14 (44.25 to 57.65)	-2.89 (-2.98 to -2.84)	68.21 (57.11 to 74.10)	78.66 (23.25 to 29.90)	68.21 (61.72 to 87.76)	16.75 (13.35 to 18.55)	-1.50 (-1.62 to -1.39)
Southern Latin America	40.35 (38.29 to 42.41)	166.40 (157.33 to 175.47)	32.76 (30.10 to 35.42)	57.58 (53.09 to 62.06)	-3.38 (-3.55 to -3.22)	27.61 (25.34 to 28.80)	113.84 (103.75 to 119.11)	21.90 (19.03 to 23.65)	39.08 (34.22 to 42.06)	-3.16 (-3.27 to -3.04)	12.74 (11.44 to 13.67)	52.56 (46.75 to 56.39)	10.87 (9.20 to 11.85)	18.49 (15.78 to 20.15)	-3.35 (-3.49 to -3.26)
Western Europe	662.33 (618.85 to 705.81)	166.77 (155.93 to 177.61)	375.28 (329.10 to 421.46)	47.10 (41.87 to 52.33)	-4.04 (-4.10 to -3.97)	427.37 (377.23 to 451.32)	109.10 (96.66 to 115.15)	245.20 (193.09 to 273.32)	31.67 (25.72 to 34.87)	-3.96 (-4.04 to -3.89)	234.96 (204.69 to 250.22)	57.67 (50.14 to 61.46)	130.08 (100.13 to 145.89)	15.42 (12.10 to 17.18)	-4.17 (-4.24 to -4.10)
Andean Latin America	10.53 (9.59 to 11.47)	112.93 (103.06 to 122.79)	19.59 (16.73 to 22.46)	64.34 (54.93 to 73.75)	-1.81 (-1.99 to -1.67)	7.71 (6.87 to 8.63)	81.96 (72.97 to 91.30)	14.54 (12.25 to 17.67)	47.60 (40.07 to 57.86)	-1.75 (-2.03 to -1.53)	2.82 (2.51 to 3.18)	30.96 (27.58 to 34.88)	5.06 (4.23 to 6.08)	16.73 (13.99 to 20.11)	-1.98 (-2.13 to -1.89)
Caribbean	27.45 (26.14 to 28.76)	224.47 (213.70 to 235.25)	39.36 (35.52 to 43.21)	129.32 (116.41 to 142.22)	-1.73 (-1.80 to -1.65)	20.77 (19.55 to 21.91)	168.75 (158.40 to 177.77)	93.95 (25.16 to 32.28)	93.95 (82.88 to 106.83)	-1.83 (-1.89 to -1.77)	6.68 (6.06 to 7.21)	55.72 (50.44 to 59.88)	10.90 (9.49 to 12.39)	35.37 (30.91 to 40.54)	-1.53 (-1.66 to -1.45)
Central Latin America	52.84 (51.01 to 54.68)	151.90 (145.63 to 158.17)	130.38 (117.46 to 143.29)	99.21 (89.43 to 108.98)	-1.29 (-1.35 to -1.24)	113.10 (37.60 to 40.99)	108.04 (105.28 to 116.87)	113.10 (94.65 to 119.82)	81.96 (71.79 to 90.83)	-1.05 (-1.17 to -0.94)	12.96 (12.08 to 13.48)	38.81 (35.67 to 40.45)	22.34 (19.34 to 25.13)	17.25 (14.93 to 19.40)	-2.55 (-2.63 to -2.46)
Tropical Latin America	71.47 (68.13 to 74.81)	180.08 (170.08 to 190.08)	104.52 (96.44 to 112.59)	73.03 (67.48 to 78.59)	-2.83 (-2.88 to -2.77)	45.13 (41.72 to 46.95)	109.68 (99.53 to 114.77)	69.15 (60.89 to 74.28)	48.35 (42.66 to 51.88)	-2.58 (-2.64 to -2.52)	26.34 (23.56 to 27.74)	70.40 (61.79 to 74.75)	35.36 (29.75 to 38.79)	24.68 (20.83 to 27.02)	-3.28 (-3.36 to -3.22)

Location	Ischemic cardio-cerebrovascular disease					Ischemic heart disease					Ischemic stroke				
	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)
North Africa and Middle East	233.43 (210.35 to 256.50)	356.53 (322.17 to 390.88)	456.43 (407.98 to 504.88)	257.66 (231.48 to 283.83)	-1.02 (-1.06 to -0.97)	164.48 (147.30 to 187.10)	245.40 (220.28 to 277.72)	326.55 (283.06 to 372.08)	181.45 (157.14 to 204.40)	-0.92 (-0.98 to -0.87)	68.94 (57.24 to 80.61)	111.13 (92.15 to 129.86)	129.88 (111.10 to 149.38)	76.20 (64.63 to 87.16)	-1.18 (-1.22 to -1.14)
South Asia	358.61 (313.03 to 404.19)	158.23 (137.71 to 178.76)	979.56 (881.91 to 1077.21)	147.08 (132.47 to 161.70)	-0.18 (-0.27 to -0.07)	276.12 (235.35 to 315.65)	114.87 (96.64 to 131.76)	764.84 (675.17 to 846.49)	112.14 (99.08 to 124.35)	-0.04 (-0.13 to 0.08)	82.49 (60.89 to 104.04)	43.36 (32.52 to 53.79)	214.72 (175.08 to 268.85)	34.94 (28.59 to 43.29)	-0.59 (-0.73 to -0.46)
East Asia	493.20 (431.88 to 554.51)	149.37 (131.26 to 167.48)	1409.18 (1179.30 to 1639.05)	132.55 (110.95 to 154.15)	-0.34 (-0.43 to -0.24)	278.33 (235.62 to 330.85)	84.37 (71.24 to 99.08)	893.24 (697.75 to 1099.89)	84.72 (66.43 to 104.30)	-0.02 (-0.12 to 0.06)	214.87 (180.44 to 257.69)	65.00 (54.27 to 77.44)	515.93 (408.14 to 630.98)	47.83 (37.83 to 58.60)	-0.94 (-1.03 to -0.85)
Oceania	2.08 (1.70 to 2.47)	203.60 (171.58 to 235.62)	5.07 (4.24 to 5.90)	184.39 (157.83 to 210.95)	-0.34 (-0.36 to -0.31)	1.63 (1.32 to 2.05)	148.42 (123.26 to 180.59)	4.02 (3.35 to 4.93)	137.62 (116.79 to 165.06)	-0.26 (-0.30 to -0.22)	0.46 (0.34 to 0.60)	55.18 (42.37 to 70.92)	1.05 (0.83 to 1.36)	46.77 (37.80 to 59.99)	-0.54 (-0.57 to -0.52)
Southeast Asia	187.65 (169.20 to 206.10)	170.89 (153.56 to 188.23)	442.65 (397.31 to 487.99)	149.23 (134.06 to 164.40)	-0.46 (-0.49 to -0.43)	119.32 (106.13 to 134.59)	102.46 (90.78 to 115.61)	273.25 (240.27 to 309.02)	88.92 (77.79 to 100.28)	-0.49 (-0.54 to -0.45)	68.33 (57.82 to 81.29)	68.43 (57.15 to 81.34)	169.40 (140.39 to 199.53)	60.31 (50.41 to 70.78)	-0.42 (-0.44 to -0.40)
Central Sub-Saharan Africa	13.97 (10.42 to 17.52)	180.30 (140.03 to 220.57)	32.18 (23.79 to 40.57)	156.12 (116.75 to 195.49)	-0.45 (-0.49 to -0.39)	9.46 (6.48 to 12.81)	113.50 (81.08 to 148.74)	21.11 (14.56 to 28.72)	96.48 (67.78 to 131.30)	-0.51 (-0.56 to -0.45)	4.51 (3.11 to 6.34)	66.80 (47.16 to 90.86)	11.07 (7.39 to 16.41)	59.64 (40.59 to 87.11)	-0.37 (-0.40 to -0.33)
Eastern Sub-Saharan Africa	31.95 (26.42 to 37.47)	115.06 (96.35 to 133.77)	68.31 (57.51 to 79.10)	102.64 (85.51 to 119.78)	-0.36 (-0.38 to -0.35)	18.77 (15.07 to 22.95)	61.74 (50.65 to 74.90)	40.96 (33.68 to 48.90)	57.54 (46.29 to 69.30)	-0.23 (-0.25 to -0.21)	13.17 (9.93 to 17.68)	53.31 (41.02 to 69.51)	27.34 (20.78 to 36.08)	45.10 (34.18 to 59.57)	-0.53 (-0.55 to -0.51)
Southern Sub-Saharan Africa	13.80 (12.08 to 15.52)	105.38 (91.70 to 119.05)	35.21 (32.65 to 37.78)	130.09 (120.35 to 139.83)	0.69 (0.55 to 0.82)	8.15 (6.71 to 9.40)	60.64 (49.33 to 70.46)	19.52 (17.62 to 21.46)	69.87 (62.39 to 76.58)	0.43 (0.28 to 0.58)	5.66 (4.50 to 6.65)	44.74 (35.39 to 52.76)	15.69 (13.94 to 17.34)	60.22 (53.30 to 66.64)	1.01 (0.87 to 1.15)
Western Sub-Saharan Africa	58.88 (48.04 to 69.73)	168.54 (137.50 to 199.58)	114.85 (96.29 to 133.41)	153.72 (130.23 to 177.21)	-0.28 (-0.34 to -0.22)	38.45 (31.58 to 46.37)	106.25 (86.99 to 127.96)	77.20 (64.40 to 93.26)	98.23 (82.88 to 117.95)	-0.22 (-0.31 to -0.14)	20.43 (13.35 to 29.22)	62.29 (41.37 to 88.03)	37.65 (27.21 to 50.58)	55.49 (41.39 to 72.65)	-0.36 (-0.38 to -0.34)

AAPC: Average annual percentage change; ASR: Age-standardized rate; SDI: Sociodemographic index. Results assuming first-order autocorrelation estimated from the data were broadly similar to those of the primary analyses, despite somewhat different estimates.

Location	Ischemic cardio-cerebrovascular disease					Ischemic heart disease					Ischemic stroke				
	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990 (000s)	ASR in 1990 (per 100 000)	Number in 2021 (000s)	ASR in 2021 (per 100 000)	AAPC (95% CI)
North Africa and Middle East	5412.44 (4852.02 to 5972.86)	6764.77 (6097.61 to 7431.93)	9641.92 (8528.36 to 10755.47)	4633.62 (4144.33 to 5122.91)	-1.18 (-1.22 to -1.14)	3858.16 (3415.05 to 4410.30)	4762.51 (4243.54 to 5409.65)	6957.51 (5954.14 to 8046.64)	3294.22 (2860.05 to 3765.17)	-1.17 (-1.21 to -1.13)	1554.28 (1308.84 to 1824.36)	2002.26 (1682.84 to 2331.35)	2684.41 (2309.54 to 3072.08)	1339.40 (1158.98 to 1530.98)	-1.25 (-1.31 to -1.21)
South Asia	9545.13 (8329.67 to 10760.60)	3430.66 (3004.28 to 3857.04)	22670.80 (20395.70 to 24945.90)	3048.33 (2748.69 to 3347.97)	-0.32 (-0.41 to -0.19)	7657.88 (6547.59 to 8782.34)	2635.54 (2252.95 to 3014.42)	18308.81 (16276.34 to 20430.59)	2416.63 (2149.82 to 2690.12)	-0.23 (-0.31 to -0.13)	1887.26 (1422.12 to 2378.83)	795.12 (601.34 to 985.19)	4361.99 (3592.60 to 5449.11)	631.70 (523.53 to 782.78)	-0.70 (-0.81 to -0.59)
East Asia	11158.95 (9835.98 to 12481.92)	2766.98 (2445.89 to 3088.06)	24732.96 (21074.81 to 28391.12)	2250.48 (1915.00 to 2585.97)	-0.65 (-0.71 to -0.57)	6310.45 (5344.28 to 7502.30)	1546.99 (1312.70 to 1830.72)	14584.73 (11655.23 to 17943.35)	1337.40 (1064.26 to 1646.15)	-0.51 (-0.58 to -0.44)	4848.50 (4207.11 to 5738.12)	1219.99 (1053.92 to 1433.44)	10148.24 (8399.81 to 12139.86)	755.45 (609.50 to 913.08)	-0.91 (-0.96 to -0.85)
Oceania	57.60 (45.48 to 69.72)	4199.32 (3455.68 to 4942.96)	135.01 (110.55 to 159.47)	3814.99 (3208.83 to 4421.15)	-0.34 (-0.37 to -0.30)	44.95 (35.17 to 58.50)	3141.18 (2559.22 to 3958.42)	108.20 (87.19 to 134.80)	2922.24 (2428.24 to 3578.40)	-0.27 (-0.30 to -0.23)	12.65 (9.66 to 16.25)	1058.13 (834.55 to 1338.77)	26.81 (22.08 to 33.34)	892.76 (738.89 to 1122.11)	-0.56 (-0.58 to -0.53)
Southeast Asia	4520.28 (4095.46 to 4945.09)	3425.31 (3102.03 to 3748.59)	9453.41 (8449.21 to 10457.61)	2860.07 (2572.12 to 3148.02)	-0.59 (-0.62 to -0.56)	3008.58 (2685.08 to 3388.13)	2163.63 (1935.12 to 2452.07)	6050.27 (5249.71 to 6928.61)	1772.77 (1551.26 to 2017.72)	-0.66 (-0.71 to -0.62)	1511.69 (1295.75 to 1772.81)	1261.69 (1083.11 to 1471.44)	3403.14 (2897.25 to 3999.51)	926.94 (764.68 to 1082.94)	-0.49 (-0.50 to -0.47)
Central Sub-Saharan Africa	351.63 (263.81 to 439.45)	3445.20 (2644.74 to 4245.65)	736.41 (547.84 to 924.97)	2890.00 (2185.24 to 3594.76)	-0.55 (-0.60 to -0.49)	231.90 (159.04 to 318.44)	2182.46 (1509.85 to 2929.55)	483.16 (331.89 to 670.34)	1807.06 (1251.62 to 2454.18)	-0.59 (-0.65 to -0.53)	119.73 (89.13 to 162.89)	1262.73 (941.93 to 1681.79)	253.24 (181.83 to 348.20)	771.79 (507.05 to 854.21)	-0.51 (-0.53 to -0.46)
Eastern Sub-Saharan Africa	819.24 (681.82 to 956.66)	2324.63 (1958.32 to 2690.94)	1640.53 (1407.72 to 1873.35)	1990.36 (1702.42 to 2278.30)	-0.50 (-0.53 to -0.48)	491.14 (395.19 to 612.18)	1295.86 (1045.33 to 1580.50)	1000.42 (836.12 to 1193.63)	1136.15 (936.02 to 1346.26)	-0.42 (-0.45 to -0.40)	328.10 (254.82 to 423.49)	1028.77 (814.18 to 1314.49)	640.12 (512.62 to 810.95)	676.53 (480.67 to 854.21)	-0.60 (-0.61 to -0.58)
Southern Sub-Saharan Africa	308.67 (277.12 to 340.22)	2069.99 (1847.75 to 2292.22)	718.34 (666.15 to 770.52)	2347.15 (2181.22 to 2513.09)	0.40 (0.24 to 0.57)	179.92 (153.96 to 204.80)	1176.83 (997.67 to 1347.11)	407.03 (367.69 to 451.57)	1285.29 (1165.01 to 1418.24)	0.21 (-0.02 to 0.49)	128.75 (108.83 to 146.20)	893.16 (744.90 to 1019.56)	311.31 (281.62 to 343.75)	1061.87 (954.42 to 1168.92)	0.56 (0.45 to 0.68)
Western Sub-Saharan Africa	1272.85 (1049.55 to 1496.15)	3148.03 (2607.25 to 3688.81)	2578.66 (2154.83 to 3002.49)	2795.33 (2365.45 to 3225.22)	-0.36 (-0.42 to -0.31)	828.60 (680.25 to 1003.18)	2019.12 (1660.29 to 2428.67)	1717.80 (1413.83 to 2121.34)	1802.85 (1501.57 to 2186.47)	-0.33 (-0.41 to -0.25)	444.25 (311.40 to 619.90)	1128.91 (797.85 to 1558.99)	860.86 (652.04 to 1118.90)	761.67 (581.40 to 941.94)	-0.42 (-0.43 to -0.40)

DALYs: Disability adjusted life years; AAPC: Average annual percentage change; ASR: Age-standardized rate; SDI: Sociodemographic index. Results assuming first-order autocorrelation estimated from the data were broadly similar to those of the primary analyses, despite somewhat different estimates.

Supplemental Table 6. Incidence number, age-standardized rate, and AAPC of ischemic cardio-cerebrovascular disease and two subtypes among women in 204 countries and territories, 1990-2021

Location	Ischemic cardio-cerebrovascular disease					Ischemic heart disease					Ischemic stroke				
	Number in 1990	ASR in 1990 (per 100 000)	Number in 2021	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990	ASR in 1990 (per 100 000)	Number in 2021	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990	ASR in 1990 (per 100 000)	Number in 2021	ASR in 2021 (per 100 000)	AAPC (95% CI)
Albania	3530.79 (2880.24 to 4181.34)	330.20 (268.14 to 392.26)	7436.73 (6113.34 to 8760.11)	331.72 (276.89 to 386.55)	0.01 (0.01 to 0.02)	2756.82 (2180.83 to 3.46)	261.09 (204.87 to 327.20)	6021.13 (4853.67 to 7.47)	265.92 (215.83 to 323.92)	0.06 (0.05 to 0.07)	773.97 (669.15 to 896.29)	69.11 (59.36 to 80.35)	1415.60 (1217.77 to 1641.29)	65.80 (57.03 to 75.52)	-0.14 (-0.17 to -0.12)
Algeria	55767.05 (46239.63 to 65294.46)	948.02 (804.38 to 1091.66)	136917.13 (117001.82 to 156832.42)	832.58 (722.25 to 942.90)	-0.47 (-0.49 to -0.44)	48215.83 (39921.34 to 58.84)	831.94 (708.35 to 993.45)	117132.99 (99585.46 to 138.86)	714.20 (616.05 to 833.10)	-0.50 (-0.52 to -0.48)	7551.22 (6529.36 to 8823.00)	116.07 (99.93 to 135.22)	19784.13 (16612.48 to 23238.39)	118.38 (98.67 to 138.40)	0.02 (-0.04 to 0.07)
American Samoa	41.21 (33.34 to 49.07)	419.22 (333.40 to 505.04)	92.17 (72.78 to 111.55)	430.80 (341.07 to 520.53)	0.09 (0.09 to 0.10)	30.74 (23.86 to 0.04)	326.25 (253.51 to 422.71)	74.08 (57.25 to 0.10)	347.93 (271.92 to 449.80)	0.21 (0.20 to 0.22)	10.47 (8.98 to 12.16)	92.98 (78.61 to 107.47)	18.08 (15.56 to 21.04)	82.87 (72.04 to 95.81)	-0.37 (-0.38 to -0.36)
Andorra	41.29 (33.93 to 48.64)	154.95 (128.33 to 181.57)	100.35 (82.55 to 118.14)	121.85 (100.74 to 142.95)	-0.77 (-0.78 to -0.76)	26.30 (20.27 to 0.03)	98.93 (76.94 to 126.31)	66.68 (52.46 to 0.09)	80.21 (63.29 to 102.89)	-0.68 (-0.70 to -0.67)	14.99 (12.50 to 18.14)	56.03 (47.01 to 66.93)	33.67 (28.42 to 39.80)	41.63 (35.28 to 49.89)	-0.95 (-0.97 to -0.93)
Antigua and Barbuda	131.64 (105.95 to 157.33)	405.97 (326.43 to 485.52)	92.17 (72.78 to 111.55)	430.80 (341.07 to 520.53)	0.09 (0.09 to 0.10)	30.74 (23.86 to 0.04)	326.25 (253.51 to 422.71)	74.08 (57.25 to 0.10)	347.93 (271.92 to 449.80)	0.21 (0.20 to 0.22)	10.47 (8.98 to 12.16)	92.98 (78.61 to 107.47)	18.08 (15.56 to 21.04)	82.87 (72.04 to 95.81)	-0.37 (-0.38 to -0.36)
Argentina Republic	53269.03 (47231.06 to 59307.00)	303.81 (270.47 to 337.15)	66851.46 (58759.50 to 74943.41)	203.68 (177.18 to 230.18)	-1.30 (-1.32 to -1.27)	38876.04 (33747.83 to 45.02)	222.41 (194.69 to 257.04)	50439.64 (43173.96 to 58.78)	152.45 (129.16 to 180.38)	-1.23 (-1.26 to -1.20)	14392.99 (12249.65 to 16573.83)	81.40 (69.71 to 93.35)	16411.82 (14329.54 to 18612.96)	51.23 (44.56 to 58.17)	-1.50 (-1.52 to -1.47)
Australia	36509.88 (32556.06 to 40483.70)	332.08 (297.07 to 367.09)	54139.13 (45061.98 to 63216.28)	217.72 (177.82 to 257.63)	-1.37 (-1.41 to -1.34)	28419.19 (24733.21 to 32.58)	259.10 (227.72 to 296.88)	43362.55 (35588.90 to 53.50)	175.07 (140.17 to 219.32)	-1.31 (-1.36 to -1.27)	8090.47 (7450.73 to 8739.23)	72.98 (67.60 to 78.49)	10776.58 (9497.64 to 12267.08)	42.66 (37.85 to 48.10)	-1.72 (-1.74 to -1.70)
Austria	18845.00 (17183.57 to 20506.43)	232.61 (213.57 to 251.64)	20951.22 (18685.59 to 23216.86)	180.56 (160.56 to 200.57)	-0.82 (-0.87 to -0.80)	12362.11 (10950.03 to 13.96)	151.84 (135.73 to 170.17)	14219.89 (12460.02 to 16.17)	117.72 (101.73 to 135.06)	-0.78 (-0.82 to -0.74)	6482.89 (5837.21 to 7238.73)	80.77 (73.26 to 89.47)	6731.33 (5584.39 to 8180.98)	62.84 (53.22 to 73.66)	-0.82 (-0.88 to -0.78)
Barbados	715.56 (571.18 to 859.95)	408.03 (330.11 to 485.95)	1172.32 (920.99 to 1423.65)	420.92 (336.22 to 505.63)	0.09 (0.08 to 0.10)	562.19 (441.47 to 0.73)	321.11 (251.98 to 406.42)	983.81 (777.49 to 1.28)	351.04 (279.07 to 447.51)	0.28 (0.26 to 0.29)	153.37 (132.98 to 174.60)	86.91 (76.98 to 97.85)	188.52 (163.39 to 212.65)	69.88 (60.98 to 79.04)	-0.71 (-0.72 to -0.69)
Belgium	25781.41 (22644.13 to 28918.69)	272.65 (240.22 to 305.07)	566.11 (451.90 to 680.33)	387.76 (306.22 to 469.29)	0.17 (0.16 to 0.18)	17647.61 (14914.31 to 20.68)	186.24 (157.93 to 217.85)	13877.79 (11696.70 to 16.69)	93.13 (75.95 to 114.19)	-2.20 (-2.26 to -2.13)	8133.80 (6918.66 to 9394.08)	86.41 (74.25 to 99.05)	6611.35 (5908.65 to 7370.41)	46.74 (42.14 to 51.90)	-1.98 (-2.00 to -1.95)
Belize	180.16 (145.56 to 214.75)	366.65 (290.99 to 442.30)	566.11 (451.90 to 680.33)	387.76 (306.22 to 469.29)	0.17 (0.16 to 0.18)	148.73 (117.35 to 0.19)	307.66 (238.36 to 388.73)	491.59 (387.36 to 0.61)	338.66 (263.71 to 426.23)	0.30 (0.29 to 0.31)	31.43 (27.13 to 35.87)	58.99 (51.12 to 67.92)	74.52 (65.06 to 85.83)	49.10 (42.70 to 56.08)	-0.61 (-0.62 to -0.59)
Bermuda	138.78 (111.59 to 165.96)	294.36 (226.92 to 361.79)	380.51 (296.88 to 464.15)	380.51 (296.88 to 464.15)	-0.15 (-0.16 to -0.14)	112.01 (87.59 to 0.14)	320.60 (250.70 to 403.39)	260.24 (200.72 to 0.34)	334.17 (258.20 to 424.91)	0.14 (0.13 to 0.15)	26.77 (23.02 to 30.46)	78.15 (67.38 to 88.33)	34.11 (29.18 to 39.66)	46.34 (39.82 to 53.50)	-1.68 (-1.70 to -1.66)
Bolivarian Republic of Venezuela	18666.29 (15755.57 to 21577.01)	373.28 (314.95 to 431.61)	50504.80 (42784.27 to 58225.34)	308.83 (263.23 to 354.44)	-0.62 (-0.65 to -0.60)	14878.19 (12128.93 to 17.83)	301.56 (248.26 to 362.58)	49197.19 (34881.53 to 50.12)	254.70 (212.47 to 302.32)	-0.59 (-0.62 to -0.56)	3788.10 (3234.78 to 4419.01)	71.72 (61.60 to 84.85)	8587.61 (7474.53 to 9949.11)	54.13 (46.91 to 62.56)	-0.91 (-0.92 to -0.89)
Bosnia and Herzegovina	9890.91 (8456.79 to 11325.02)	472.50 (409.30 to 535.70)	14321.13 (12138.18 to 16504.08)	408.53 (349.47 to 467.59)	-0.47 (-0.48 to -0.46)	6495.68 (5280.73 to 7.99)	311.20 (257.72 to 377.13)	9678.34 (7758.49 to 11.92)	273.43 (221.95 to 335.01)	-0.43 (-0.44 to -0.42)	3395.23 (2984.58 to 3927.09)	161.30 (142.73 to 184.17)	4642.79 (3990.09 to 5298.62)	135.10 (117.62 to 151.84)	-0.56 (-0.59 to -0.52)
Botswana	1381.17 (1136.34 to 1626.00)	480.65 (396.85 to 564.45)	3978.01 (3311.66 to 4644.37)	508.75 (424.16 to 593.34)	0.18 (0.16 to 0.20)	911.97 (697.49 to 1.16)	318.82 (245.64 to 403.62)	2679.63 (2092.17 to 3.36)	336.88 (262.66 to 422.45)	0.17 (0.16 to 0.18)	469.21 (397.70 to 553.19)	161.83 (135.45 to 191.45)	1298.39 (1103.89 to 1512.85)	171.87 (145.67 to 201.27)	0.18 (0.15 to 0.22)
Brunai Darussalam	108.30 (93.74 to 122.86)	225.41 (193.72 to 257.10)	240.20 (203.97 to 276.43)	156.48 (132.95 to 180.00)	-1.16 (-1.18 to -1.15)	38.48 (29.67 to 0.05)	88.58 (68.61 to 116.35)	117.70 (90.31 to 0.15)	80.60 (62.36 to 104.43)	-0.30 (-0.31 to -0.28)	69.82 (59.38 to 80.75)	136.83 (116.60 to 158.29)	122.50 (103.44 to 141.88)	75.88 (65.54 to 86.62)	-1.89 (-1.91 to -1.87)
Burkina Faso	8205.78 (6675.18 to 9736.38)	379.43 (307.83 to 451.04)	18170.42 (15014.42 to 21326.41)	375.00 (308.65 to 441.35)	-0.04 (-0.05 to -0.04)	6311.73 (4948.97 to 7.94)	304.94 (237.54 to 378.87)	14217.40 (11377.13 to 17.58)	305.68 (246.08 to 377.47)	0.00 (0.00 to 0.01)	1894.05 (1609.57 to 2246.67)	74.50 (63.76 to 86.88)	3953.02 (3391.38 to 4570.24)	69.31 (59.82 to 78.45)	-0.23 (-0.25 to -0.22)
Burundi	5387.67 (4541.20 to 6234.15)	441.82 (369.72 to 513.91)	9009.54 (7473.09 to 10545.99)	394.89 (324.46 to 465.33)	-0.38 (-0.39 to -0.36)	3379.45 (2691.53 to 4.26)	287.94 (228.15 to 363.49)	6271.43 (4926.42 to 7.88)	283.68 (221.70 to 358.19)	-0.06 (-0.07 to -0.04)	2008.23 (1732.09 to 2358.55)	153.88 (131.66 to 181.37)	2738.11 (2376.41 to 3227.32)	111.21 (95.26 to 130.13)	-1.04 (-1.06 to -1.02)
Canada	65362.40 (57478.85 to 73245.95)	345.55 (304.06 to 387.04)	77065.73 (66516.63 to 87614.83)	192.39 (165.63 to 219.15)	-1.89 (-1.90 to -1.87)	49001.95 (42275.68 to 57.22)	256.84 (221.33 to 300.06)	57770.05 (48402.01 to 69.27)	140.20 (116.24 to 169.17)	-1.95 (-1.98 to -1.92)	14360.45 (13199.23 to 18942.99)	88.71 (75.80 to 102.00)	19295.68 (17737.66 to 20871.01)	52.20 (48.10 to 56.03)	-1.68 (-1.71 to -1.65)
Central African Republic	2648.43 (2145.70 to 3151.17)	476.61 (386.77 to 566.45)	5218.22 (4236.23 to 6200.21)	470.73 (385.06 to 556.40)	-0.05 (-0.07 to -0.03)	1876.46 (1430.37 to 2.40)	346.89 (269.12 to 443.15)	3805.86 (2967.48 to 4.88)	349.93 (275.70 to 442.94)	0.02 (0.00 to 0.03)	771.97 (651.78 to 914.87)	129.72 (109.60 to 154.25)	1412.36 (1198.87 to 1651.01)	120.81 (102.68 to 139.92)	-0.25 (-0.28 to -0.22)
Chad	6350.36 (5249.29 to 7451.43)	441.50 (363.02 to 519.97)	12117.45 (10118.30 to 14116.61)	446.23 (367.41 to 525.05)	0.02 (0.01 to 0.04)	4659.75 (3681.19 to 5.83)	337.68 (268.01 to 421.89)	8728.23 (6929.87 to 10.79)	345.18 (274.08 to 429.31)	0.07 (0.05 to 0.09)	1690.60 (1466.05 to 1953.52)	103.82 (89.35 to 120.21)	3389.23 (2922.67 to 3952.35)	101.05 (87.90 to 115.38)	-0.09 (-0.10 to -0.08)
Chile	11148.52 (9704.40 to 12592.64)	212.08 (185.06 to 239.10)	18029.63 (15897.18 to 20162.08)	125.82 (111.07 to 140.56)	-1.67 (-1.70 to -1.64)	6721.27 (5520.19 to 8.09)	131.30 (108.62 to 157.41)	10952.65 (9158.02 to 12.90)	75.45 (63.12 to 88.48)	-1.76 (-1.81 to -1.71)	4427.25 (3825.86 to 5146.64)	80.78 (69.73 to 92.98)	7076.98 (6065.97 to 8119.10)	50.36 (42.82 to 57.85)	-1.52 (-1.55 to -1.50)
Commonwealth of Dominica	143.19 (114.04 to 172.33)	403.01 (323.78 to 482.24)	179.07 (142.39 to 215.76)	404.83 (323.61 to 486.05)	0.00 (0.00 to 0.01)	117.98 (92.02 to 0.15)	331.90 (260.26 to 417.36)	151.48 (117.11 to 0.19)	341.32 (265.30 to 426.77)	0.08 (0.07 to 0.09)	25.21 (21.48 to 29.36)	71.11 (61.31 to 81.98)	27.59 (23.76 to 31.38)	63.52 (54.69 to 72.40)	-0.36 (-0.37 to -0.35)
Cook Islands	21.05 (17.10 to 25.00)	383.35 (308.96 to 457.74)	53.81 (42.08 to 65.54)	404.08 (319.71 to 488.45)	0.17 (0.17 to 0.18)	16.11 (12.61 to 0.02)	300.73 (236.60 to 383.25)	44.40 (34.33 to 0.06)	330.27 (258.38 to 425.80)	0.30 (0.30 to 0.31)	4.94 (4.18 to 5.62)	82.62 (70.37 to 95.52)	9.41 (8.14 to 10.99)	73.81 (64.17 to 85.21)	-0.35 (-0.37 to -0.34)
Cote d'Ivoire	8223.64 (6866.39 to 9580.89)	455.72 (375.51 to 535.93)	23987.57 (19970.21 to 28004.92)	455.16 (378.62 to 531.70)	0.00 (-0.02 to 0.02)	5751.07 (4584.03 to 7.18)	346.44 (276.77 to 433.71)	17941.69 (14485.48 to 22.30)	355.89 (287.68 to 437.47)	0.08 (0.06 to 0.10)	2472.57 (2125.81 to 2905.21)	109.27 (93.57 to 126.84)	6045.88 (5183.15 to 7037.18)	99.27 (84.04 to 115.63)	-0.32 (-0.34 to -0.30)

AAPC: Average annual percentage change; ASR: Age-standardized rate. Results assuming first-order autocorrelation estimated from the data were broadly similar to those of the primary analyses, despite somewhat different estimates.

Location	Ischemic cardio-cerebrovascular disease					Ischemic heart disease					Ischemic stroke				
	Number in 1990	ASR in 1990 (per 100 000)	Number in 2021	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990	ASR in 1990 (per 100 000)	Number in 2021	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990	ASR in 1990 (per 100 000)	Number in 2021	ASR in 2021 (per 100 000)	AAPC (95% CI)
United Kingdom	974285.63 (872284.63 to 1076286.63)	1848.39 (1672.34 to 2024.43)	868327.25 (780732.38 to 955922.13)	1295.74 (1167.81 to 1423.67)	-1.16 (-1.19 to -1.14)	607873.06 (518379.59 to 713.36)	1120.53 (963.91 to 1297.04)	518599.53 (443400.84 to 611.30)	758.07 (647.04 to 890.60)	-1.28 (-1.34 to -1.25)	366412.59 (337960.06 to 397970.63)	727.86 (671.22 to 785.20)	349727.69 (324915.00 to 374923.84)	537.67 (499.63 to 577.98)	-0.97 (-0.98 to -0.97)
United Mexican States	723112.63 (644555.50 to 801669.75)	3218.38 (2856.43 to 3580.33)	1953621.00 (1679546.75 to 2227695.25)	2911.49 (2500.24 to 3322.75)	-0.34 (-0.38 to -0.32)	503267.19 (434162.06 to 585.23)	2361.70 (2039.18 to 2743.13)	1535443.00 (1300281.50 to 1842.14)	2296.24 (1942.15 to 2755.94)	-0.15 (-0.17 to -0.12)	219845.47 (198093.17 to 241273.41)	856.68 (777.17 to 945.98)	418177.94 (378431.91 to 461259.84)	615.26 (557.28 to 676.74)	-1.07 (-1.08 to -1.06)
United Republic of Tanzania	151767.14 (141814.94 to 161719.34)	2684.73 (2497.19 to 2872.26)	434946.81 (401778.16 to 468115.47)	2927.67 to 3439.80 (2927.67 to 3439.80)	0.53 (0.51 to 0.55)	87761.78 (79096.65 to 97.59)	1645.70 (1480.73 to 1833.44)	258476.41 (228771.22 to 292.85)	1993.14 (1762.00 to 2260.07)	0.59 (0.57 to 0.61)	60260.94 to 67621.25 (60260.94 to 67621.25)	1039.02 (977.24 to 1104.82)	176470.41 (168347.89 to 185509.89)	1130.48 to 1249.63 (1130.48 to 1249.63)	0.43 (0.38 to 0.46)
United States	1362.55 (1257.14 to 1467.96)	3049.65 (2811.73 to 3287.58)	3269.83 (2939.26 to 3600.40)	3323.14 (3015.14 to 3651.14)	0.27 (0.26 to 0.28)	1081.20 (983.39 to 1.19)	2467.13 (2246.09 to 2716.29)	2814.03 (2524.29 to 3.18)	2787.36 (2510.88 to 3123.86)	0.38 (0.37 to 0.39)	281.35 (264.58 to 300.21)	582.52 (548.11 to 621.27)	455.80 (430.58 to 481.80)	535.78 (506.58 to 567.58)	-0.27 to -0.26 (-0.27 to -0.26)
Virgin Islands	5414452.00 (4751996.00 to 6076908.00)	2898.10 (2556.58 to 3239.63)	5924947.00 (5308660.00 to 6541234.00)	3208.93 (2808.93 to 3608.93)	-1.30 (-1.32 to -1.29)	3160691.75 to 4445.31 (3160691.75 to 4445.31)	1976.29 (1671.41 to 2331.66)	2819228.75 to 3971.64 (2819228.75 to 3971.64)	1034.55 (877.06 to 1230.76)	-2.08 (-2.09 to -2.06)	1485199.75 to 1809484.50 (1485199.75 to 1809484.50)	921.82 (836.41 to 1011.41)	2382400.75 to 2819656.75 (2382400.75 to 2819656.75)	903.35 (833.00 to 982.44)	-0.13 to -0.06 (-0.13 to -0.06)
Uzbekistan	284944.75 (265709.63 to 304179.88)	4254.66 (3967.21 to 4542.11)	685664.75 (639964.13 to 731365.38)	4887.31 to 5330.55 (4887.31 to 5330.55)	0.66 (0.65 to 0.67)	207783.34 (190365.98 to 227.26)	3150.75 (2890.16 to 3443.31)	530751.25 (480089.34 to 569.84)	4116.12 (3832.47 to 4465.34)	0.87 (0.86 to 0.88)	77161.39 (71615.34 to 82508.33)	1103.91 (1032.68 to 1179.32)	164913.47 (156442.42 to 173729.97)	1092.82 (1036.86 to 1151.86)	-0.03 to 0.03 (-0.03 to 0.03)
Vanuatu	1095.50 (1033.98 to 1157.02)	3933.68 (3690.29 to 4177.07)	3468.07 (3205.55 to 3730.59)	4411.06 (3768.11 to 4454.02)	0.13 (0.10 to 0.14)	640.70 (585.33 to 0.70)	2635.97 (2421.20 to 2880.84)	2192.61 (1943.48 to 2.46)	2831.26 (2513.08 to 3187.43)	0.21 (0.17 to 0.23)	454.80 (428.30 to 480.69)	1221.95 to 1382.22 (1221.95 to 1382.22)	1275.46 (1218.02 to 1334.13)	1279.80 (1219.33 to 1344.67)	-0.05 to 0.39 (-0.05 to 0.39)
Zimbabwe	65800.76 (61429.76 to 70171.75)	3101.01 (2878.62 to 3323.40)	134325.78 (124172.47 to 144479.09)	3140.25 to 3689.85 (3140.25 to 3689.85)	0.31 (0.30 to 0.31)	39900.23 (35884.98 to 44.05)	2006.89 (1801.83 to 2226.19)	81270.47 (72169.81 to 91.74)	2176.21 (1938.75 to 2472.12)	0.26 (0.25 to 0.26)	24424.98 to 27545.94 (24424.98 to 27545.94)	1029.65 to 1162.85 (1029.65 to 1162.85)	53055.31 (50349.04 to 55752.84)	1170.52 to 1303.10 (1170.52 to 1303.10)	0.40 (0.38 to 0.40)

AAPC: Average annual percentage change; ASR: Age-standardized rate. Results assuming first-order autocorrelation estimated from the data were broadly similar to those of the primary analyses, despite somewhat different estimates.

Supplemental Table 8. Number, proportion, and relative change in the 204 Countries and Territories with increasing age-standardized incidence, prevalence, mortality, and DALYs by sex, 1990–2011 and 2012–2021

	Women, n (%)		Relative change (%)	Men, n (%)		Relative change (%)
	1990-2011	2012-2021		1990-2011	2012-2021	
Age standardizes incidence rate						
Global	53 (26.00%)	99 (48.53%)	86.79%	63 (30.88%)	49 (24.02%)	-22.22%
Subtypes						
Ischemic heart diseases	76 (37.25%)	114 (55.88%)	50.00%	71 (34.80%)	67 (32.80%)	-5.63%
Ischemic stroke	39 (19.12%)	74 (36.27%)	89.74%	48 (23.53%)	50 (24.51%)	4.17%
Age standardizes prevalence rate						
Global	73 (34.78%)	120 (58.82%)	64.38%	96 (47.06%)	80 (39.22%)	-16.67%
Subtypes						
Ischemic heart diseases	106 (51.96%)	161 (78.92%)	51.89%	116 (56.86%)	111 (54.41%)	-4.31%
Ischemic stroke	39 (19.12%)	43 (21.08%)	10.26%	47 (23.04%)	29 (14.22%)	-38.30%
Age standardizes mortality rate						
Global	47 (23.04%)	21 (10.29%)	-55.32%	58 (28.43%)	35 (17.16)	-39.66%
Subtypes						
Ischemic heart diseases	52 (25.49%)	23 (11.27%)	-55.77 %	62 (30.39%)	35 (17.16%)	-43.54%
Ischemic stroke	39 (19.12%)	22 (10.78%)	-43.59 %	44 (21.57%)	32 (15.69%)	-27.27%
Age standardizes DALYs rate						
Global	42 (20.59%)	15 (7.35%)	-64.28%	54 (26.47%)	37 (18.14%)	-31.48%
Subtypes						
Ischemic heart diseases	46 (22.55%)	13 (6.37%)	-71.74 %	61 (29.90%)	34 (16.67%)	-44.26%
Ischemic stroke	32 (15.69%)	18 (8.82%)	-43.75 %	38 (18.63%)	30 (14.71%)	-21.05%

DALYs: Disability adjusted life years. Results assuming first-order autocorrelation estimated from the data were broadly similar to those of the primary analyses, despite somewhat different estimates.

Supplemental Table 9. Mortality number, age-standardized rate, and AAPC of ischemic cardio-cerebrovascular disease and two subtypes among women in 204 countries and territories, 1990-2021

Location	Ischemic cardio-cerebrovascular disease					Ischemic heart disease					Ischemic stroke				
	Number in 1990	ASR in 1990 (per 100 000)	Number in 2021	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990	ASR in 1990 (per 100 000)	Number in 2021	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990	ASR in 1990 (per 100 000)	Number in 2021	ASR in 2021 (per 100 000)	AAPC (95% CI)
Albania	1654.74 (1442.05 to 1867.42)	169.90 (148.23 to 191.57)	3984.42 (3293.30 to 4675.53)	175.91 (145.92 to 205.91)	-0.01 (-0.20 to 0.14)	1224.07 (1022.57 to 1.42)	124.87 (104.91 to 144.60)	2995.33 (2388.76 to 3.62)	132.39 (106.50 to 159.97)	0.07 (-0.10 to 0.22)	430.67 (353.83 to 515.48)	45.03 (36.82 to 54.23)	989.09 (715.11 to 1347.84)	43.52 (31.67 to 58.86)	-0.20 (-0.34 to -0.09)
Algeria	14578.48 (11745.62 to 17411.35)	468.95 (386.41 to 551.49)	34891.72 (27860.05 to 41923.38)	340.08 (278.94 to 401.22)	-0.94 (-1.02 to -0.85)	10466.46 (8107.11 to 13.15)	323.14 (251.67 to 397.44)	24525.83 (18159.92 to 30.69)	235.89 (179.90 to 288.03)	-0.93 (-1.00 to -0.83)	4112.02 (2995.19 to 5569.42)	145.81 (108.47 to 185.96)	10365.89 (7472.70 to 13854.46)	104.19 (77.50 to 134.58)	-1.00 (-1.10 to -0.87)
American Samoa	12.97 (11.42 to 14.52)	169.95 (150.13 to 189.76)	36.05 (30.59 to 41.51)	186.43 (158.82 to 214.04)	0.39 (0.31 to 0.46)	9.76 (8.48 to 0.01)	122.00 (105.86 to 142.50)	29.14 (24.15 to 0.03)	147.08 (122.22 to 174.70)	0.65 (0.59 to 0.71)	3.21 (2.73 to 3.72)	47.95 (40.62 to 55.73)	6.91 (5.48 to 8.58)	39.34 (31.13 to 48.32)	-0.53 (-0.60 to -0.45)
Andorra	23.24 (17.67 to 28.80)	99.33 (75.73 to 122.93)	53.32 (41.17 to 65.46)	51.54 (39.94 to 63.14)	-2.29 (-2.47 to -2.14)	16.45 (11.88 to 0.02)	69.10 (50.04 to 93.04)	36.91 (26.42 to 0.05)	36.41 (26.39 to 47.58)	-2.24 (-2.42 to -2.10)	6.79 (4.78 to 9.13)	30.23 (21.12 to 40.58)	16.41 (11.42 to 21.69)	15.13 (10.60 to 20.02)	-2.40 (-2.58 to -2.26)
Antigua and Barbuda	55.57 (51.81 to 59.33)	151.62 (141.36 to 161.88)	47.66 (45.19 to 50.12)	95.85 (90.78 to 100.93)	-1.42 (-1.53 to -1.29)	35.07 (31.76 to 0.04)	97.94 (88.99 to 106.42)	29.88 (27.72 to 0.03)	59.32 (54.98 to 63.10)	-1.58 (-1.69 to -1.45)	20.50 (18.30 to 22.39)	53.68 (47.99 to 58.83)	17.77 (16.29 to 19.13)	36.53 (33.39 to 39.49)	-1.17 (-1.35 to -1.00)
Argentine Republic	28667.67 (27126.00 to 30209.34)	167.85 (158.15 to 177.56)	22242.06 (20326.69 to 24157.44)	60.82 (55.83 to 65.81)	-3.21 (-3.41 to -3.03)	20177.03 (18548.16 to 21.16)	118.19 (107.68 to 124.28)	15973.58 (13891.00 to 17.38)	44.16 (38.71 to 47.84)	-2.81 (-2.94 to -2.67)	8490.65 (7564.41 to 9207.85)	49.66 (43.83 to 53.89)	6268.48 (5355.76 to 6933.65)	16.66 (14.35 to 18.35)	-3.45 (-3.58 to -3.34)
Australia	20177.51 (18737.57 to 21617.45)	175.19 (162.54 to 187.84)	14387.73 (12510.34 to 16265.11)	42.87 (37.55 to 48.19)	-4.44 (-4.57 to -4.35)	15134.03 (13408.93 to 16.05)	131.46 (116.36 to 139.54)	9793.75 (7605.32 to 10.97)	29.81 (23.56 to 33.15)	-4.69 (-4.82 to -4.61)	5043.48 (4382.45 to 5523.05)	43.73 (37.83 to 47.95)	4593.97 (3522.61 to 4185.32)	13.06 (10.09 to 14.69)	-3.86 (-4.00 to -3.75)
Austria	15923.60 (14911.15 to 16936.04)	184.70 (173.09 to 196.31)	9379.94 (8160.29 to 10599.58)	61.19 (53.92 to 68.45)	-3.54 (-3.62 to -3.46)	10450.61 (9272.65 to 11.04)	122.80 (109.38 to 129.51)	7487.66 (5951.24 to 8.30)	49.30 (40.15 to 54.18)	-2.95 (-3.03 to -2.87)	5472.98 (4866.45 to 5858.75)	61.91 (54.79 to 66.35)	1892.28 (1496.40 to 2141.17)	11.89 (9.58 to 13.35)	-5.06 (-5.26 to -4.90)
Barbados	341.19 (322.98 to 359.39)	177.40 (167.82 to 186.98)	299.43 (261.72 to 337.13)	100.28 (87.64 to 112.92)	-1.71 (-1.83 to -1.61)	193.00 (179.06 to 0.21)	160.57 (94.88 to 108.91)	102.44 (132.84 to 0.19)	53.97 (44.61 to 63.48)	-1.81 (-1.98 to -1.67)	148.19 (134.40 to 159.27)	138.86 (67.64 to 80.68)	46.31 (114.75 to 165.17)	46.31 (38.27 to 55.09)	-1.42 (-1.61 to -1.29)
Belgium	16030.07 (14773.07 to 17287.07)	152.52 (140.74 to 164.30)	7614.29 (6600.13 to 8628.44)	38.84 (34.32 to 43.36)	-4.16 (-4.26 to -4.05)	10238.76 (8832.83 to 10.95)	98.87 (85.85 to 105.70)	4758.61 (3722.38 to 5.41)	25.11 (20.48 to 28.04)	-4.20 (-4.32 to -4.09)	5791.30 (4959.31 to 6311.28)	53.65 (45.64 to 58.32)	2855.67 (2138.67 to 3268.18)	13.73 (10.58 to 15.54)	-4.12 (-4.21 to -4.05)
Belize	66.58 (62.13 to 71.03)	138.08 (129.15 to 147.01)	110.42 (100.03 to 120.81)	86.13 (78.26 to 93.99)	-1.49 (-1.74 to -1.21)	52.07 (47.46 to 0.06)	108.43 (99.21 to 115.90)	77.69 (68.38 to 0.09)	59.15 (52.32 to 66.38)	-1.82 (-2.05 to -1.61)	14.51 (12.84 to 16.00)	29.65 (26.36 to 32.68)	32.73 (28.21 to 36.73)	26.97 (23.18 to 30.25)	-0.16 (-0.60 to 0.23)
Bermuda	72.07 (67.46 to 76.69)	212.52 (198.69 to 226.35)	56.49 (47.08 to 65.90)	55.49 (46.28 to 64.70)	-4.44 (-4.60 to -4.32)	56.66 (51.94 to 0.06)	166.70 (152.38 to 178.38)	39.55 (31.82 to 0.05)	39.06 (31.77 to 48.64)	-4.76 (-5.02 to -4.57)	15.42 (13.71 to 16.93)	45.82 (40.77 to 50.24)	16.43 (13.55 to 21.13)	16.43 (13.22 to 20.62)	-3.44 (-3.59 to -3.30)
Bolivarian Republic of Venezuela	7609.73 (7215.27 to 8004.20)	171.29 (161.41 to 181.16)	20371.64 (16501.14 to 24242.14)	127.19 (103.32 to 151.06)	-0.92 (-1.15 to -0.69)	6225.02 (5744.88 to 6.48)	138.36 (126.26 to 144.61)	16498.03 (13086.24 to 20.52)	102.43 (81.45 to 127.24)	-0.93 (-1.16 to -0.71)	1384.72 (1227.31 to 1520.41)	32.92 (28.81 to 36.20)	3873.61 (2851.88 to 5004.93)	24.76 (18.34 to 31.83)	-0.94 (-1.35 to -0.67)
Bosnia and Herzegovina	5459.28 (4992.22 to 5926.34)	295.08 (269.21 to 320.95)	8021.76 (6877.17 to 9166.35)	206.62 (177.00 to 236.25)	-0.99 (-1.08 to -0.89)	3173.80 (2787.47 to 3.52)	168.63 (147.55 to 187.63)	4557.75 (3686.85 to 5.50)	118.29 (96.02 to 142.96)	-0.96 (-1.05 to -0.85)	2285.48 (1990.18 to 2574.28)	126.45 (110.00 to 142.72)	3464.00 (2753.70 to 4153.03)	88.33 (70.09 to 106.23)	-1.06 (-1.16 to -0.93)
Botswana	334.22 (257.81 to 410.63)	160.40 (125.08 to 195.72)	678.43 (537.51 to 819.35)	110.56 (88.82 to 132.31)	-1.45 (-1.70 to -1.21)	179.39 (121.95 to 0.24)	80.67 (55.61 to 108.46)	372.70 (263.97 to 0.50)	58.00 (41.43 to 75.97)	-1.33 (-1.60 to -1.08)	154.83 (110.68 to 205.12)	79.74 (57.34 to 104.20)	305.73 (239.28 to 396.94)	52.56 (41.38 to 67.80)	-1.42 (-1.57 to -1.23)
Bruni Darussalam	71.23 (62.95 to 79.51)	187.70 (166.52 to 208.88)	108.21 (93.64 to 122.79)	96.59 (84.08 to 109.09)	-2.27 (-2.41 to -2.14)	46.19 (39.71 to 0.05)	116.12 (99.81 to 133.96)	72.59 (61.12 to 0.09)	60.26 (50.76 to 71.75)	-2.21 (-2.37 to -2.07)	25.05 (20.94 to 30.01)	71.58 (60.16 to 85.24)	35.63 (29.03 to 42.89)	36.33 (29.48 to 43.07)	-2.31 (-2.49 to -2.14)
Burkina Faso	1660.39 (1232.15 to 2088.63)	97.34 (73.03 to 121.64)	4532.33 (3302.50 to 5762.16)	119.74 (88.76 to 150.72)	0.76 (0.67 to 0.83)	1229.06 (879.82 to 1.65)	67.87 (48.69 to 90.68)	3397.04 (2380.72 to 4.68)	86.34 (60.62 to 117.99)	0.88 (0.77 to 0.98)	431.32 (271.07 to 645.27)	29.47 (19.21 to 43.70)	1135.29 (772.63 to 1635.56)	33.40 (23.43 to 46.85)	0.45 (0.40 to 0.51)
Burundi	1955.02 (1456.52 to 2453.53)	189.99 (142.50 to 237.47)	2275.48 (1766.84 to 2784.13)	132.58 (102.54 to 162.62)	-1.17 (-1.20 to -1.13)	1069.97 (710.10 to 1.46)	98.80 (66.50 to 134.81)	1442.51 (1073.11 to 1.87)	77.10 (56.28 to 100.81)	-0.81 (-0.85 to -0.77)	885.05 (571.11 to 1231.92)	91.18 (59.36 to 125.35)	832.97 (586.27 to 1215.46)	55.48 (38.98 to 79.32)	-1.61 (-1.65 to -1.57)
Canada	28770.95 (26679.20 to 30862.70)	145.01 (134.65 to 155.37)	24761.65 (21938.99 to 27584.30)	47.45 (42.46 to 52.44)	-3.48 (-3.55 to -3.43)	22482.51 (19920.84 to 23.79)	113.79 (101.15 to 120.32)	18142.47 (14770.74 to 19.95)	35.54 (29.54 to 38.76)	-3.63 (-3.69 to -3.58)	6388.44 (5297.44 to 6880.70)	31.22 (26.30 to 34.16)	6619.18 (5195.05 to 7432.83)	11.92 (9.52 to 13.33)	-2.99 (-3.06 to -2.92)
Central African Republic	879.48 (606.78 to 1152.18)	217.73 (155.45 to 280.02)	1481.97 (935.59 to 2028.36)	195.06 (129.27 to 260.85)	-0.36 (-0.40 to -0.33)	598.50 (370.60 to 0.87)	137.40 (87.63 to 196.52)	1020.41 (563.69 to 1.57)	122.96 (69.50 to 184.43)	-0.30 (-0.36 to -0.24)	280.98 (181.66 to 405.37)	461.56 (52.65 to 113.15)	80.33 (280.13 to 703.72)	72.10 (44.54 to 108.61)	-0.34 (-0.37 to -0.32)
Chad	1721.36 (1255.62 to 2187.10)	139.94 (102.92 to 176.96)	3062.44 (2186.36 to 3938.52)	156.54 (114.93 to 198.14)	0.39 (0.34 to 0.45)	1065.03 (759.83 to 1.45)	83.70 (60.76 to 113.38)	1967.77 (1333.53 to 2.80)	94.32 (66.39 to 131.09)	0.41 (0.33 to 0.49)	656.33 (416.23 to 1045.04)	56.24 (36.05 to 88.13)	1094.67 (680.17 to 1640.15)	62.22 (39.79 to 92.13)	0.35 (0.32 to 0.38)
Chile	7389.44 (7027.75 to 7751.13)	156.94 (148.54 to 165.35)	7337.53 (6694.95 to 7980.10)	47.10 (43.12 to 51.08)	-3.89 (-4.01 to -3.81)	4799.17 (4441.94 to 5.06)	102.21 (93.33 to 107.81)	4173.40 (3573.37 to 4.53)	27.26 (23.50 to 29.50)	-4.17 (-4.28 to -4.08)	2590.27 (2387.36 to 2761.05)	54.74 (49.93 to 58.47)	3164.13 (2631.92 to 3493.25)	19.84 (16.61 to 21.84)	-3.29 (-3.38 to -3.21)
Commonwealth of Dominica	69.91 (63.89 to 75.93)	192.97 (176.43 to 209.51)	133.14 (55.53 to 69.28)	133.14 (118.38 to 147.91)	-1.20 (-1.23 to -1.18)	133.14 (41.09 to 0.05)	45.85 (113.95 to 141.56)	127.08 (30.97 to 0.04)	78.02 (66.43 to 90.70)	-1.58 (-1.61 to -1.55)	24.06 (20.88 to 27.71)	26.10 (57.44 to 75.66)	55.13 (22.05 to 29.94)	55.13 (46.54 to 63.36)	-0.57 (-0.61 to -0.54)
Cook Islands	7.59 (6.16 to 9.02)	156.12 (128.37 to 183.87)	13.00 (10.41 to 15.59)	96.54 (77.05 to 116.03)	-1.55 (-1.57 to -1.53)	5.69 (4.56 to 0.01)	114.38 (91.37 to 143.12)	9.93 (7.64 to 0.01)	74.06 (56.78 to 93.02)	-1.41 (-1.44 to -1.37)	1.91 (1.50 to 2.46)	41.74 (33.21 to 53.25)	3.06 (2.17 to 4.13)	22.48 (16.02 to 30.38)	-1.98 (-2.01 to -1.95)
Cote d'Ivoire	1729.68 (1341.80 to 2117.57)	148.51 (118.63 to 178.39)	5915.03 (4587.28 to 7242.79)	156.62 (125.41 to 187.83)	0.17 (0.08 to 0.25)	1119.27 (810.56 to 1.47)	88.81 (66.42 to 113.83)	3913.00 (2972.03 to 5.30)	97.58 (77.40 to 129.37)	0.43 (0.30 to 0.54)	610.41 (432.15 to 846.72)	59.70 (43.61 to 79.99)	2002.03 (1438.45 to 2717.49)	59.04 (43.38 to 77.95)	-0.04 (-0.08 to 0.01)

different estimates.

Supplemental Table 10. DALYs number, age-standardized rate, and AAPC of ischemic cardio-cerebrovascular disease and two subtypes among women in 204 countries and territories, 1990-2021

Location	Ischemic cardio-cerebrovascular disease					Ischemic heart disease					Ischemic stroke				
	Number in 1990	ASR in 1990 (per 100 000)	Number in 2021	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990	ASR in 1990 (per 100 000)	Number in 2021	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990	ASR in 1990 (per 100 000)	Number in 2021	ASR in 2021 (per 100 000)	AAPC (95% CI)
Albania	29407.45 (25912.86 to 32902.04)	2892.54 (2548.56 to 3236.53)	59.22 (49.60 to 68.84)	2580.50 (2163.83 to 2997.17)	-0.50 (-0.67 to -0.37)	21623.74 (18274.29 to 24.81)	2119.93 (1791.65 to 2429.13)	44058.76 (35522.31 to 52.91)	1918.01 (1548.72 to 2304.64)	-0.46 (-0.63 to -0.32)	7783.71 (6618.25 to 9101.15)	772.61 (652.72 to 911.45)	15161.32 (11591.35 to 19830.31)	662.49 (510.14 to 860.93)	-0.59 (-0.70 to -0.50)
Algeria	335269.94 (267629.06 to 402910.81)	7272.28 (5941.72 to 8602.84)	661.83 (522.44 to 801.22)	4902.88 (3957.83 to 5847.94)	-1.24 (-1.31 to -1.16)	243129.95 (185355.06 to 310.25)	5116.43 (3943.47 to 6346.36)	466401.31 (344254.50 to 597.44)	3407.74 (2558.16 to 4248.55)	-1.27 (-1.32 to -1.19)	92139.99 (69110.80 to 121089.80)	2155.85 (1633.34 to 2776.90)	195427.23 (144050.50 to 260730.19)	1495.14 (1109.29 to 1954.91)	-1.14 (-1.20 to -1.05)
American Samoa	312.29 (275.14 to 349.44)	3172.58 (2810.83 to 3534.33)	0.81 (0.68 to 0.93)	3617.95 (3089.54 to 4146.37)	0.50 (0.41 to 0.57)	228.50 (197.35 to 0.27)	2263.96 (1962.97 to 2640.31)	649.92 (534.86 to 0.78)	2857.47 (2372.30 to 3396.00)	0.80 (0.73 to 0.87)	83.80 (72.63 to 95.47)	908.62 (784.95 to 1039.23)	156.00 (129.79 to 184.74)	760.49 (635.02 to 897.58)	-0.50 (-0.54 to -0.45)
Andorra	415.25 (315.76 to 514.73)	1607.97 (1234.74 to 1981.20)	0.73 (0.58 to 0.88)	816.46 (647.37 to 985.54)	-2.21 (-2.40 to -2.01)	297.47 (213.66 to 0.40)	1136.07 (824.81 to 1524.72)	502.79 (369.96 to 0.65)	568.92 (424.19 to 740.25)	-2.25 (-2.46 to -2.04)	117.78 (88.76 to 153.67)	471.91 (354.68 to 614.13)	227.39 (172.07 to 291.20)	247.54 (191.36 to 311.63)	-2.11 (-2.26 to -1.94)
Antigua and Barbuda	875.00 (817.39 to 932.62)	2626.34 (2448.51 to 2804.17)	0.82 (0.78 to 0.86)	1556.09 (1482.78 to 1629.39)	-1.66 (-1.76 to -1.54)	573.04 (521.35 to 0.62)	1774.51 (1615.82 to 1936.45)	530.64 (495.22 to 0.56)	989.38 (925.10 to 1046.82)	-1.85 (-2.00 to -1.66)	301.96 (272.25 to 328.32)	851.83 (771.88 to 925.79)	291.63 (269.16 to 311.67)	566.71 (522.63 to 604.35)	-1.30 (-1.45 to -1.16)
Argentine Republic	484093.50 (462175.31 to 506011.69)	2748.30 (2620.98 to 2875.62)	355.48 (331.40 to 379.56)	1053.98 (986.75 to 1121.20)	-3.02 (-3.18 to -2.87)	341575.22 (320193.28 to 355.05)	1944.69 (1816.66 to 2021.09)	247479.92 (221749.58 to 264.96)	742.46 (673.65 to 792.41)	-2.77 (-2.90 to -2.66)	142518.27 (128562.20 to 155149.73)	803.60 (723.52 to 875.34)	107999.83 (97348.88 to 118605.52)	311.52 (281.00 to 344.03)	-2.99 (-3.09 to -2.92)
Australia	309674.94 (291683.88 to 327666.00)	2719.70 (2561.76 to 2877.65)	188.40 (168.66 to 208.15)	651.23 (589.88 to 712.59)	-4.52 (-4.63 to -4.43)	235751.23 (214077.48 to 247.61)	2079.34 (1890.73 to 2184.25)	124748.09 (102588.25 to 137.33)	437.19 (369.48 to 475.02)	-4.93 (-5.06 to -4.82)	73923.31 (66349.34 to 79388.67)	640.36 (572.45 to 689.23)	63656.73 (52794.53 to 71582.88)	214.05 (178.78 to 241.39)	-3.50 (-3.58 to -3.41)
Austria	232938.28 (220722.33 to 245154.23)	2831.53 (2688.23 to 2974.83)	123.27 (110.09 to 136.44)	943.74 (855.60 to 1031.88)	-3.52 (-3.59 to -3.45)	156393.22 (142759.53 to 163.71)	1942.31 (1785.48 to 2029.62)	90761.23 (74761.52 to 99.35)	689.75 (586.30 to 745.69)	-3.27 (-3.34 to -3.20)	76454.05 (68945.63 to 81512.67)	889.22 (801.22 to 951.35)	32507.02 (27693.65 to 37155.57)	253.99 (217.72 to 293.04)	-3.92 (-4.04 to -3.81)
Barbados	5123.80 (4849.70 to 5397.91)	1523.80 (2637.44 to 2934.03)	4.65 (4.05 to 5.25)	1598.31 (1391.60 to 1805.01)	-1.63 (-1.78 to -1.51)	3011.91 (2790.77 to 3.21)	1692.69 (1569.61 to 1805.37)	902.16 (2160.27 to 3.09)	2111.89 (742.39 to 1067.90)	-1.83 (-2.00 to -1.68)	2111.89 (1921.28 to 2271.13)	1093.04 (997.31 to 1177.27)	2040.35 (1678.36 to 2430.84)	696.15 (573.46 to 828.33)	-1.26 (-1.36 to -1.16)
Belgium	234682.28 (219952.73 to 249411.83)	2362.94 (2225.67 to 2500.20)	102.79 (92.28 to 113.30)	642.24 (587.71 to 696.78)	-4.02 (-4.10 to -3.95)	153815.31 (138138.00 to 163.02)	1582.45 (1439.48 to 1670.65)	62550.68 (5259.10 to 69.47)	402.50 (350.07 to 439.13)	-4.27 (-4.37 to -4.17)	80866.98 (71400.91 to 87174.64)	780.49 (690.39 to 838.46)	40237.27 (33212.68 to 45272.97)	239.74 (205.82 to 268.78)	-3.64 (-3.74 to -3.55)
Belize	1242.42 (1165.75 to 1319.10)	2599.34 (2440.46 to 2758.22)	2.18 (1.98 to 2.38)	1545.60 (1406.08 to 1685.11)	-1.59 (-1.82 to -1.36)	995.43 (918.14 to 1.06)	2096.51 (1935.98 to 2237.67)	1610.88 (1426.32 to 1.81)	1114.84 (988.56 to 1249.17)	-1.97 (-2.19 to -1.76)	246.99 (223.14 to 272.62)	502.83 (455.03 to 554.83)	567.34 (502.16 to 632.34)	430.75 (380.19 to 479.90)	-0.41 (-0.75 to -0.04)
Bermuda	1208.35 (1131.59 to 1285.12)	3471.12 (3250.36 to 3691.88)	0.79 (0.67 to 0.90)	891.92 (760.57 to 1023.27)	-4.49 (-4.62 to -4.39)	959.33 (885.22 to 1.03)	543.95 (2537.60 to 2954.53)	620.49 (454.28 to 0.67)	620.49 (521.42 to 764.40)	-4.90 (-5.11 to -4.74)	249.02 (222.24 to 273.69)	717.89 (642.59 to 787.89)	271.43 (200.32 to 292.87)	271.43 (229.11 to 328.95)	-3.12 (-3.28 to -2.99)
Bolivarian Republic of Venezuela	157970.25 (151958.69 to 163981.81)	3175.55 (3042.27 to 3308.83)	378.44 (303.82 to 453.05)	2355.27 (1895.09 to 2815.45)	-1.01 (-1.42 to -0.71)	131725.41 (125540.74 to 136.31)	2624.23 (2476.08 to 2718.40)	315115.00 (249937.89 to 395.99)	1950.03 (1549.55 to 2449.21)	-1.01 (-1.35 to -0.71)	26244.85 (23423.29 to 28765.61)	551.32 (491.84 to 602.92)	63320.22 (49339.66 to 79997.29)	405.24 (316.45 to 510.57)	-0.96 (-1.22 to -0.71)
Bosnia and Herzegovina	106472.30 (98230.43 to 114714.16)	5165.72 (4751.53 to 5579.90)	122.94 (106.14 to 139.75)	3288.49 (2845.85 to 3731.13)	-1.39 (-1.50 to -1.24)	62391.57 (55998.84 to 68.68)	67962.67 (2652.56 to 3290.61)	1823.48 (55482.86 to 81.56)	1823.48 (1493.85 to 2186.28)	-1.47 (-1.58 to -1.33)	44080.73 (38729.23 to 49407.13)	2190.82 (1927.68 to 2455.97)	54980.46 (44370.17 to 65569.73)	1465.01 (1192.01 to 1743.63)	-1.26 (-1.35 to -1.12)
Botswana	7590.98 (5877.53 to 9304.42)	2903.88 (2270.21 to 3537.55)	14.56 (11.52 to 17.61)	2033.90 (1642.88 to 2424.92)	-1.40 (-1.65 to -1.16)	4122.30 (2781.57 to 5.60)	1488.17 (5433.49 to 10.79)	7863.86 (4433.49 to 10.79)	1043.55 (740.36 to 1392.70)	-1.43 (-1.72 to -1.16)	3468.68 (2583.41 to 4532.06)	6699.88 (5509.63 to 8399.87)	990.35 (818.06 to 1249.38)	990.35 (818.06 to 1249.38)	-1.25 (-1.38 to -1.08)
Bruni Darussalam	1574.60 (1380.09 to 1769.10)	3395.83 (3002.53 to 3789.13)	2.39 (2.08 to 2.71)	1646.07 (1442.71 to 1849.43)	-2.41 (-2.50 to -2.32)	1033.20 (878.53 to 1.22)	2126.71 (1815.08 to 2492.10)	1581.71 (1324.08 to 1.90)	1026.82 (866.18 to 1220.67)	-2.38 (-2.51 to -2.28)	541.40 (456.21 to 635.57)	812.68 (693.98 to 947.56)	619.25 (525.16 to 724.58)	619.25 (525.16 to 724.58)	-2.40 (-2.52 to -2.28)
Burkina Faso	39622.60 (29772.83 to 49472.37)	1902.76 (1445.91 to 2359.60)	97.60 (71.73 to 123.46)	2188.51 (1624.05 to 2752.97)	0.44 (0.37 to 0.50)	28161.89 (19951.80 to 38.26)	1325.18 (947.64 to 1781.48)	71429.98 (49664.07 to 98.85)	1584.30 (1116.32 to 2180.41)	0.56 (0.48 to 0.64)	11460.71 (8354.16 to 15636.58)	577.58 (423.17 to 796.74)	26165.29 (19281.37 to 35290.41)	604.21 (445.57 to 822.64)	0.20 (0.16 to 0.25)
Burundi	46549.68 (34675.00 to 58424.36)	3808.98 (2861.60 to 4756.37)	57.77 (45.49 to 70.06)	2598.28 (2054.63 to 3141.93)	-1.24 (-1.28 to -1.21)	26267.73 (16977.51 to 36.12)	2067.05 (1344.23 to 2822.52)	37964.45 (28279.60 to 49.14)	1570.63 (1173.36 to 2030.93)	-0.90 (-0.94 to -0.86)	20281.95 (13566.83 to 27629.18)	1181.07 (2366.31)	19806.34 (14672.62 to 27646.02)	1027.65 (757.01 to 1425.44)	-1.71 (-1.74 to -1.68)
Canada	449797.44 (424763.03 to 474831.84)	2347.70 (2221.66 to 2473.74)	357.42 (326.55 to 388.28)	805.61 (742.26 to 868.97)	-3.34 (-3.38 to -3.30)	348704.72 (319331.00 to 364.78)	1826.75 (1680.98 to 1908.81)	247201.31 (212332.52 to 266.66)	556.60 (488.46 to 595.19)	-3.75 (-3.78 to -3.70)	101092.72 (88825.12 to 109826.62)	520.95 (459.22 to 567.10)	10214.77 (94185.93 to 123517.98)	249.01 (214.67 to 282.96)	-2.31 (-2.35 to -2.27)
Central African Republic	22018.99 (15080.23 to 28957.75)	4186.09 (2980.22 to 5391.96)	36.94 (23.08 to 50.80)	3660.89 (2409.30 to 4912.49)	-0.40 (-0.45 to -0.34)	14918.34 (9208.90 to 22.02)	2702.97 (1704.04 to 3889.10)	5686.70 (4187.21 to 40.40)	2377.14 (1330.87 to 3617.66)	-0.38 (-0.44 to -0.32)	7100.65 (4738.44 to 10077.89)	11250.11 (10255.70 to 2046.39)	1283.76 (7329.50 to 16367.54)	1283.76 (849.06 to 1867.18)	-0.46 (-0.48 to -0.42)
Chad	37352.16 (27802.71 to 46901.61)	2694.94 (2005.97 to 3383.91)	73.57 (52.47 to 94.68)	2992.36 (2189.49 to 3795.23)	0.35 (0.30 to 0.41)	22980.75 (16237.13 to 31.06)	1641.45 (1166.16 to 2220.59)	41729.79 (30865.29 to 68.34)	1855.70 (1256.72 to 2627.28)	0.41 (0.33 to 0.49)	14371.42 (9932.45 to 21975.04)	1053.49 (718.34 to 1605.42)	26443.26 (17759.20 to 37184.22)	1136.66 (777.76 to 1614.40)	0.26 (0.23 to 0.30)
Chile	127378.90 (122071.70 to 132686.09)	2484.15 (2376.58 to 2591.73)	118.33 (110.10 to 126.56)	803.81 (749.59 to 858.03)	-3.65 (-3.76 to -3.57)	82187.79 (77629.64 to 86.40)	1605.62 (6092.88 to 73.26)	68334.07 (423.07 to 502.89)	470.89 (423.07 to 502.89)	-3.87 (-3.95 to -3.79)	45191.11 (42047.90 to 48032.36)	878.53 (818.20 to 932.84)	49997.52 (43988.67 to 54845.13)	332.92 (293.32 to 366.73)	-3.17 (-3.26 to -3.09)
Commonwealth of Dominica	1153.39 (1057.29 to 1249.49)	3164.58 (2899.42 to 3429.74)	0.98 (0.87 to 1.09)	2157.97 (1902.75 to 2413.19)	-1.25 (-1.29 to -1.22)	780.23 (704.73 to 0.87)	597.63 (1949.15 to 2408.83)	1324.75 (507.39 to 0.70)	1324.75 (1123.17 to 1568.28)	-1.60 (-1.65 to -1.57)	373.16 (326.85 to 429.34)	1001.17 (880.86 to 1145.29)	833.22 (328.74 to 442.19)	833.22 (714.42 to 964.28)	-0.59 (-0.63 to -0.55)
Cook Islands	169.81 (136.93 to 202.69)	3023.77 (2468.93 to 3578.60)	0.24 (0.20 to 0.29)	1837.90 (1484.15 to 2191.64)	-1.61 (-1.64 to -1.58)	125.02 (96.97 to 0.16)	2199.85 (1737.13 to 2792.78)	176.77 (135.01 to 0.22)	1339.50 (1024.18 to 1691.16)	-1.60 (-1.64 to -1.56)	44.79 (37.36 to 55.67)	823.91 (682.61 to 1024.65)	65.75 (51.68 to 82.79)	498.40 (391.25 to 627.24)	-1.61 (-1.64 to -1.59)
Cote d'Ivoire	43495.40 (33827.98 to 53162.83)	2747.45 (2181.39 to 3313.50)	137.60 (105.50 to 169.70)	2890.81 (2278.35 to 3503.28)	0.15 (0.09 to 0.23)	27022.43 (19320.19 to 36.14)	1656.93 (1205.25 to 2161.97)	90751.63 (66459.20 to 124.50)	1834.62 (1397.35 to 2477.52)	0.36 (0.22 to 0.48)	16472.97 (12327.82 to 21869.83)	1090.52 (826.17 to 1431.45)	46850.78 (34700.09 to 62128.58)	1056.20 (799.67 to 1377.30)	-0.12 (-0.15 to -0.09)

Location	Ischemic cardio-cerebrovascular disease					Ischemic heart disease					Ischemic stroke				
	Number in 1990	ASR in 1990 (per 100 000)	Number in 2021	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990	ASR in 1990 (per 100 000)	Number in 2021	ASR in 2021 (per 100 000)	AAPC (95% CI)	Number in 1990	ASR in 1990 (per 100 000)	Number in 2021	ASR in 2021 (per 100 000)	AAPC (95% CI)
United States of America	5469355.00 (5082930.00 to 5855780.00)	2747.27 (2575.09 to 2919.44)	4456.98 (4094.04 to 4819.93)	1316.22 (1224.49 to 1407.95)	-2.38 (-2.43 to -2.33)	4422567.50 (3930878.50 to 4669.16)	2239.93 (2023.36 to 2349.64)	3228930.25 (2813849.50 to 3461.79)	964.09 (862.85 to 1022.67)	-2.73 (-2.78 to -2.68)	1046787.44 (920446.25 to 1149009.13)	507.33 (447.99 to 558.05)	1228053.88 (1044360.00 to 1371619.63)	352.13 (304.94 to 395.04)	-1.09 (-1.15 to -1.02)
Uzbekistan	392402.47 (373717.41 to 411087.53)	5929.77 (5647.57 to 6211.96)	764.03 (674.38 to 853.68)	6041.81 (5364.17 to 6719.45)	-0.02 (-0.11 to 0.05)	312115.47 (292588.53 to 324.76)	4730.57 (4429.36 to 4920.32)	626397.88 (543604.38 to 719.59)	4969.01 (4342.20 to 5673.10)	0.06 (-0.04 to 0.15)	80287.00 (71805.07 to 90823.30)	1199.19 (1074.50 to 1352.87)	137634.42 (121635.20 to 155939.83)	1072.79 (953.65 to 1209.53)	-0.39 (-0.50 to -0.27)
Vanuatu	1575.25 (1200.05 to 1950.44)	5932.20 (4664.41 to 7200.00)	4.67 (3.74 to 5.60)	5616.73 (4621.77 to 6611.69)	-0.25 (-0.29 to -0.21)	1276.53 (937.28 to 1.67)	4702.30 (3575.99 to 6037.78)	3903.96 (3018.44 to 4.84)	4584.91 (3642.50 to 5561.96)	-0.12 (-0.18 to -0.06)	298.71 (232.55 to 380.00)	1229.91 (955.66 to 1562.99)	767.28 (608.86 to 991.55)	1031.83 (809.03 to 1333.91)	-0.58 (-0.61 to -0.56)
Zimbabwe	41426.10 (35442.82 to 47409.38)	2275.52 (1945.59 to 2605.46)	120.47 (92.68 to 148.25)	3498.90 (2802.07 to 4195.72)	1.46 (1.41 to 1.51)	25142.74 (20338.82 to 30.77)	1359.97 (1096.38 to 1662.14)	78982.24 (57780.61 to 109.69)	2185.22 (1657.59 to 2919.22)	1.60 (1.54 to 1.66)	16283.36 (13554.49 to 19422.04)	915.56 (752.74 to 1092.38)	41484.54 (32599.14 to 52442.65)	1313.68 (1048.23 to 1640.30)	1.24 (1.19 to 1.30)

DALY: Disability adjusted life years; AAPC: Average annual percentage change; ASR: Age-standardized rate. Results assuming first-order autocorrelation estimated from the data were broadly similar to those of the primary analyses, despite somewhat different estimates.

Supplemental Table 11. Forecasted all-age counts of DALYs and YLL, along with the proportion of DALYs attributed to YLL, for ischemic cardio-cerebrovascular disease and its subtypes among women at global and SDI levels, from 2020 to 2050.

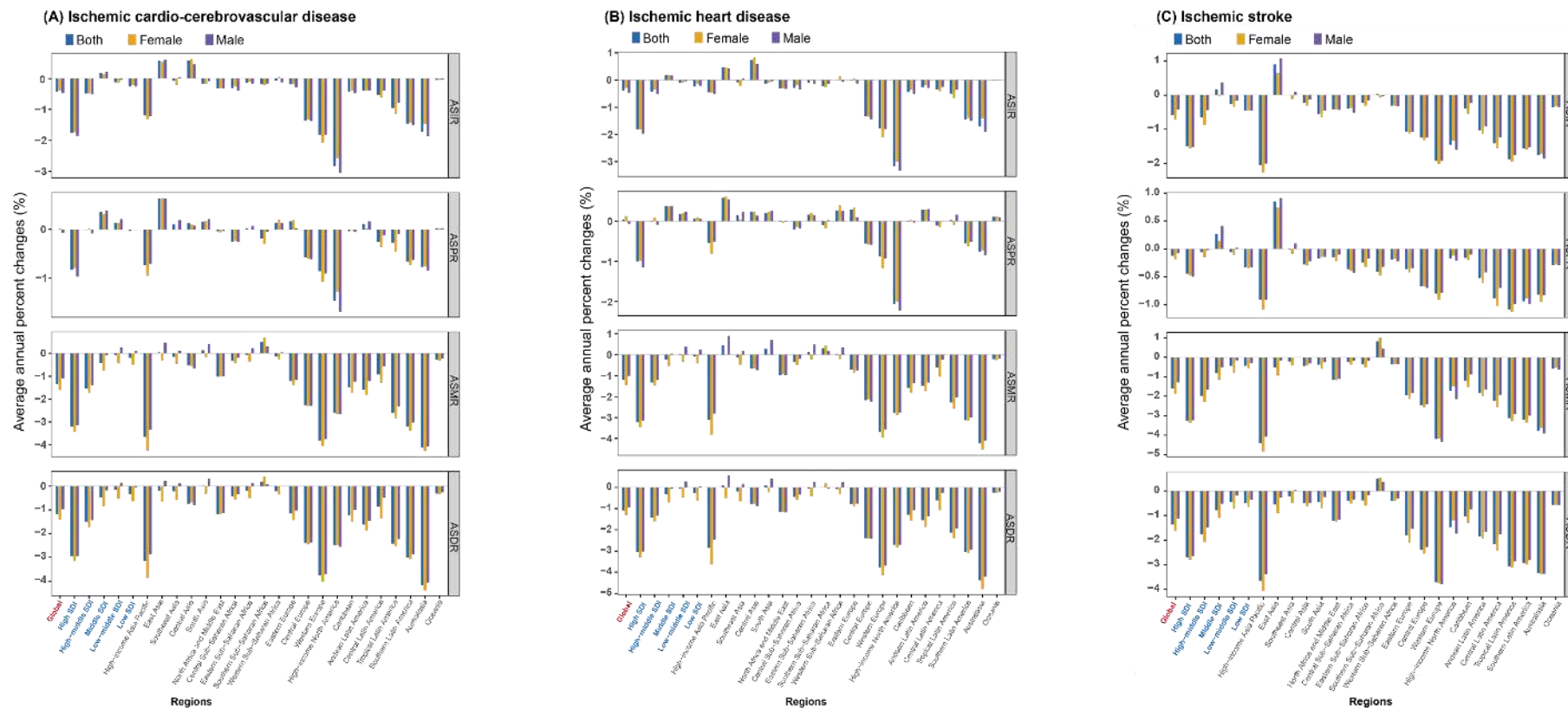
	All-age counts (000s) in 2022			All-age counts (000s) in 2050			Relative change in DALYs
	DALYs	YLL	YLL proportion of DALYs, %	DALYs	YLL	YLL proportion of DALYs, %	proportion due to YLL (2022–2050, %)
Ischemic cardio-cerebrovascular disease							
Global	105414.54 (98313.25 to 112515.82)	97596.56 (90731.33 to 104461.79)	92.58	112831.60 (84509.68 to 141153.52)	98603.54 (70170.34 to 127036.73)	87.39	-5.61
High SDI	20526.40 (18611.52 to 22441.27)	18834.27 (16956.64 to 20711.90)	91.76	17582.82 (14178.26 to 20987.38)	15202.94 (11838.35 to 18567.53)	86.46	-5.77
High-middle SDI	20755.66 (18674.64 to 22836.67)	18756.20 (16691.00 to 20821.40)	90.37	19283.94 (15262.17 to 23305.70)	16022.68 (12096.45 to 19948.92)	83.09	-8.05
Middle SDI	34819.89 (31832.50 to 37807.27)	32154.26 (29257.53 to 35050.98)	92.34	37277.60 (28074.94 to 46480.26)	32225.08 (23069.26 to 41380.90)	86.45	-6.39
Low-middle SDI	23906.18 (21741.96 to 26070.40)	22797.19 (20631.76 to 24962.62)	95.36	29970.18 (19447.24 to 40493.12)	27447.97 (16909.91 to 37986.04)	91.58	-3.96
Low SDI	5347.23 (4631.62 to 6062.85)	4998.89 (4279.94 to 5717.83)	93.48	8640.38 (5826.10 to 11454.65)	7634.90 (4814.06 to 10455.74)	88.36	-5.48
Ischemic heart disease							
Global	72383.98 (65786.09 to 78186.38)	70628.74 (64093.15 to 76339.90)	97.57	75195.22 (50869.74 to 105814.25)	71808.07 (48130.90 to 103442.73)	95.49	-2.13
High SDI	14027.19 (12112.98 to 15607.38)	13604.55 (11705.97 to 15185.19)	96.99	11887.18 (8931.22 to 15431.46)	11265.43 (8297.70 to 14780.32)	94.77	-2.29
High-middle SDI	12833.77 (11179.77 to 14680.15)	12413.05 (10725.27 to 14314.17)	96.72	11627.85 (8304.80 to 15716.00)	10914.30 (7615.10 to 14990.73)	93.86	-2.95
Middle SDI	23751.78 (21153.47 to 26344.77)	23193.26 (20632.60 to 25769.24)	97.65	24353.53 (16813.23 to 34555.74)	23197.29 (15664.40 to 33410.80)	95.25	-2.45
Low-middle SDI	17978.29 (16133.45 to 20041.19)	17686.35 (15867.15 to 19777.29)	98.38	21593.44 (13069.63 to 33708.02)	20882.26 (12428.00 to 33092.92)	96.71	-1.70

Low SDI	3750.66 (3151.41 to 4395.90)	3690.15 (3101.95 to 4337.35)	98.39	5679.32 (3515.59 to 8907.12)	5496.72 (3335.84 to 8746.92)	96.78	-1.62
Ischemic stroke							
Global	33030.56 (29353.85 to 36278.16)	26967.83 (23797.65 to 30005.91)	81.64	37636.38 (30872.16 to 44642.63)	26795.47 (20525.16 to 33730.75)	71.20	-12.80
High SDI	6499.21 (5612.80 to 7180.01)	5229.72 (4409.63 to 5822.80)	80.47	5695.64 (4663.19 to 6690.76)	3937.51 (3007.32 to 4812.19)	69.13	-14.09
High-middle SDI	7921.88 (6857.00 to 9108.62)	6343.15 (5360.41 to 7404.91)	80.07	7656.08 (6175.98 to 9302.08)	5108.38 (3803.28 to 6497.96)	66.72	-16.67
Middle SDI	11068.11 (9625.28 to 12583.02)	8961.00 (7647.91 to 10327.28)	80.96	12924.07 (10618.73 to 15513.54)	9027.79 (6896.35 to 11410.92)	69.85	-13.72
Low-middle SDI	5927.89 (5093.93 to 6955.38)	5110.84 (4306.61 to 6168.63)	86.25	8376.74 (6573.38 to 10694.81)	6565.71 (4784.87 to 8927.85)	78.38	-9.09
Low SDI	1596.57 (1291.91 to 1998.79)	1308.73 (1002.37 to 1738.11)	81.97	2961.06 (2231.54 to 3847.68)	2138.18 (1466.06 to 3062.57)	72.21	-11.91

Note: The data is derived from the reference scenario. DALYs: Disability adjusted life years; YLL: Years of life lost; SDI: Sociodemographic index.

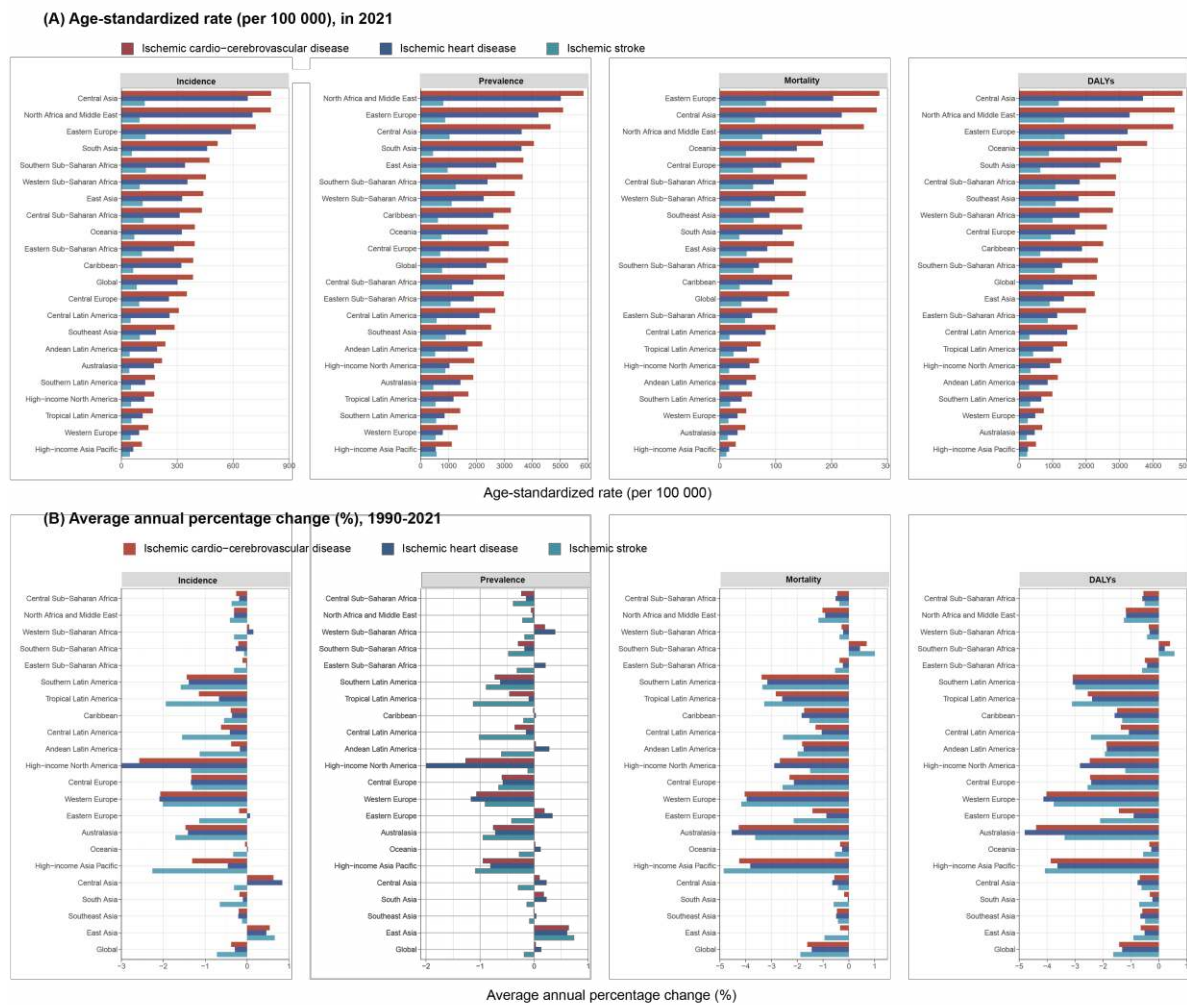
3. Figures

Supplemental Figure 1. Temporal trend in age-standardized rates of incidence, prevalence, mortality, and DALYs for ischemic cardio-cerebrovascular disease and its subtypes by sex, at the global level, SDI region, and across 21 regions, 1990-2021



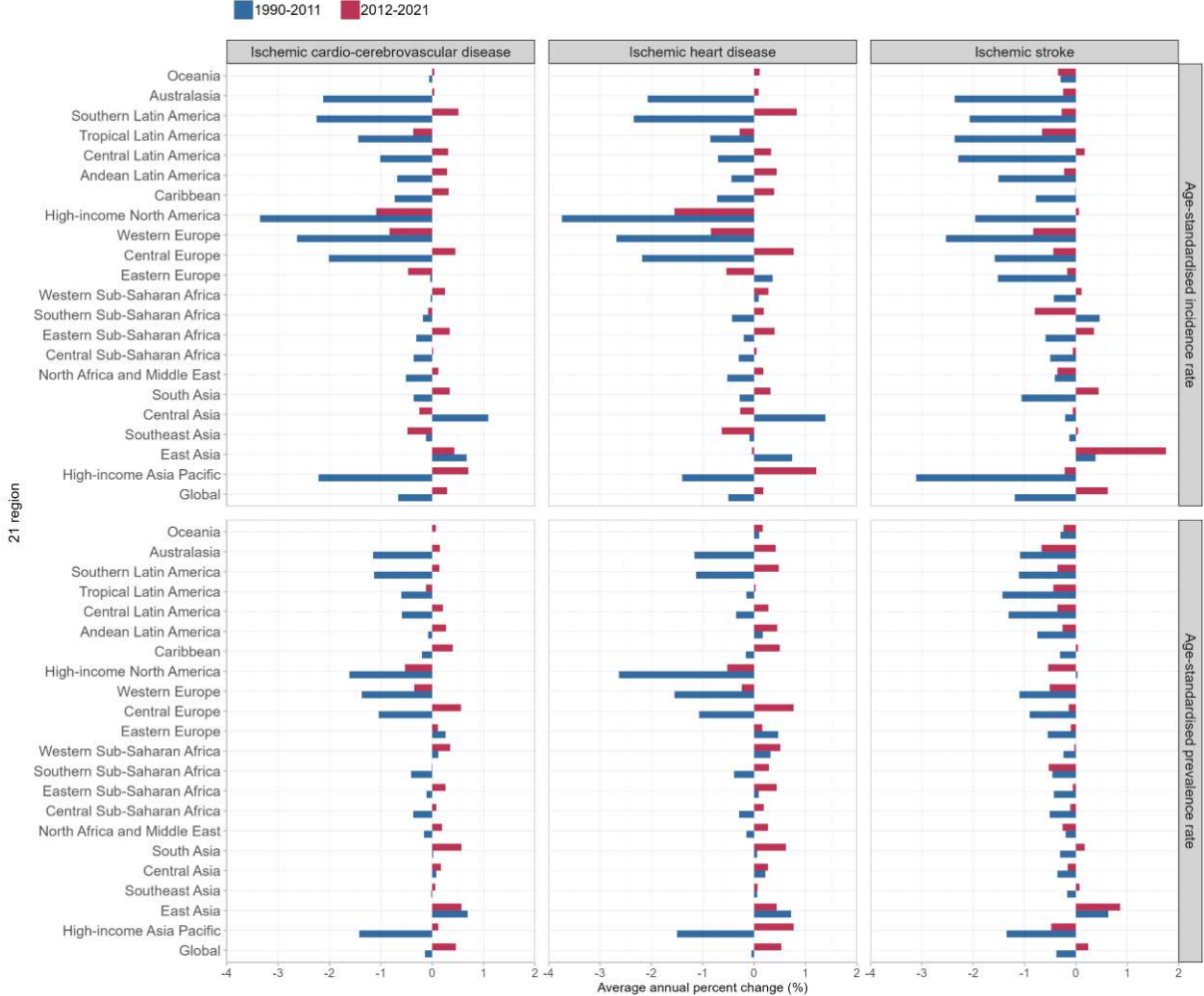
DALYs: Disability adjusted life years; SDI: Sociodemographic index; ASIR: Age-standardized incidence rate; ASPR: Age-standardized prevalence rate; ASMR: Age-standardized mortality rate; ASDR: Age-standardized DALYs rate.

Supplemental Figure 2. Age-standardized rates and average annual percentage change (%) of incidence, prevalence, mortality, and DALYs among women in ischemic cardio-cerebrovascular disease and its subtypes, globally and across 21 regions

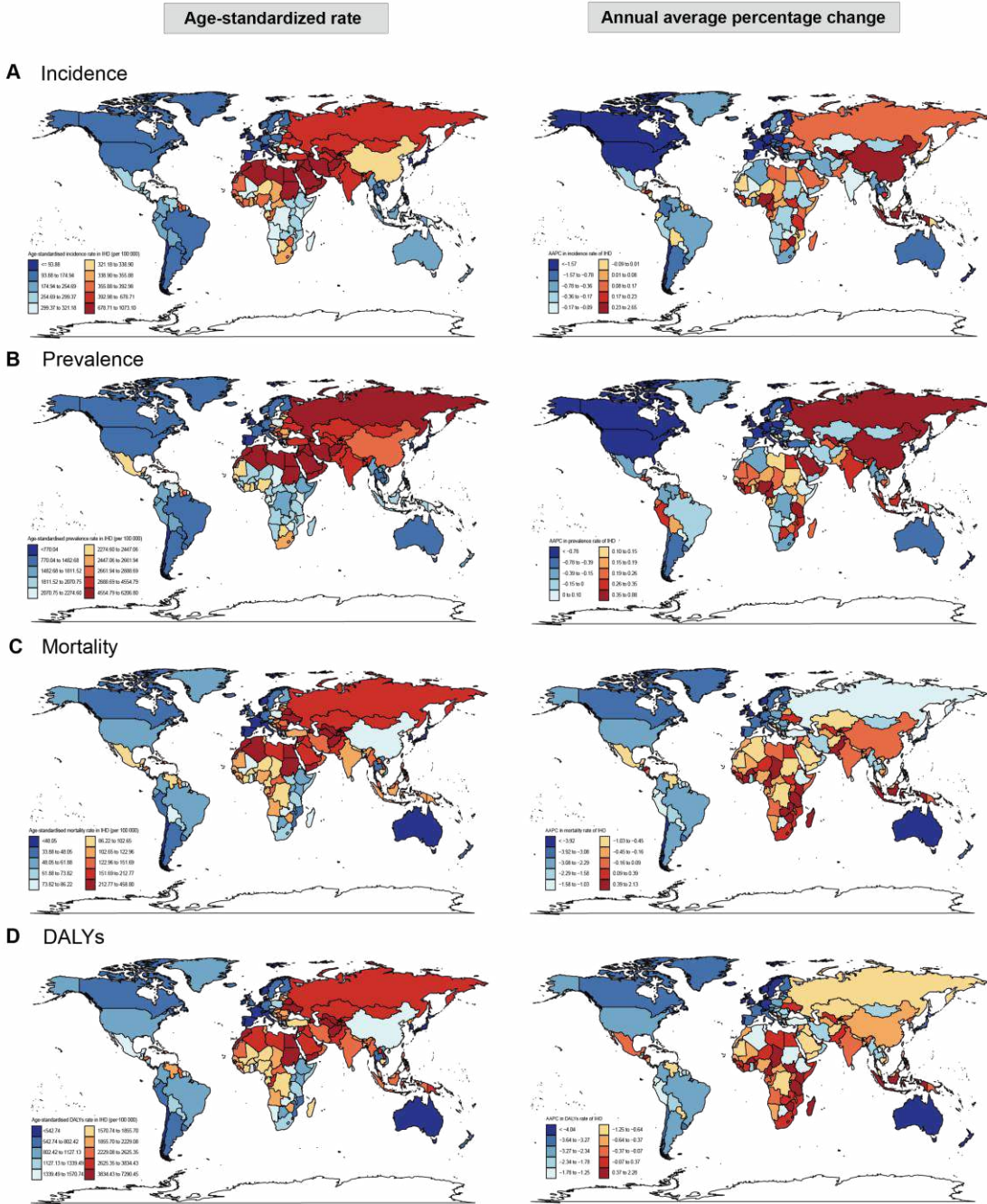


DALYs: Disability adjusted life years.

Supplemental Figure 3. Temporal trends in age-standardized incidence and prevalence in ischemic cardio-cerebrovascular disease and its subtypes across 21 regions, compared to 1990-2011 and 2012-2021.

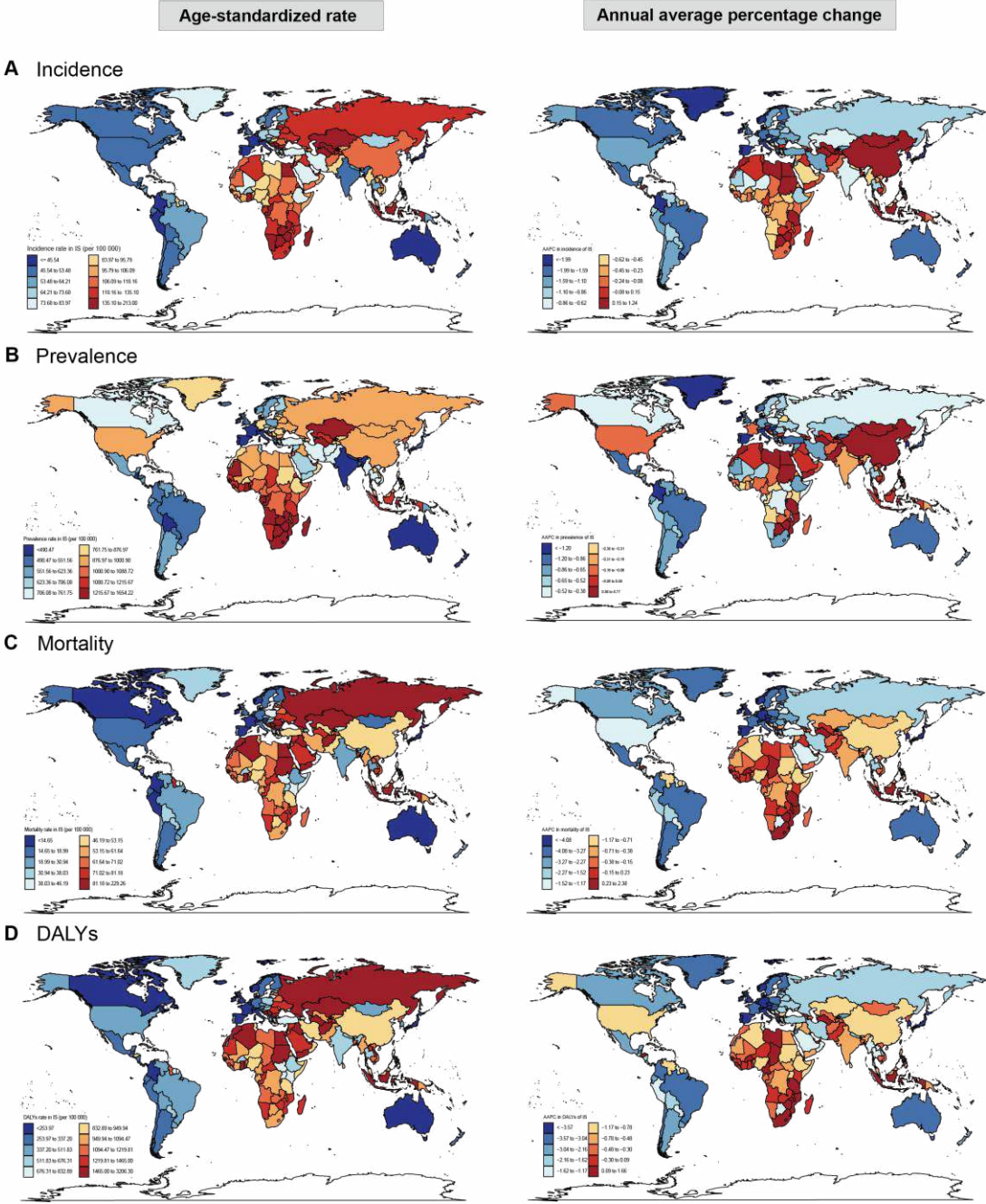


Supplemental Figure 4. Map showing global age-standardized incidence (A), prevalence (B), mortality (C), and DALYs (D) in 2021 (per 100, 000), as well as AAPC (%) from 1990 to 2021, of **ischemic heart disease** among overall women



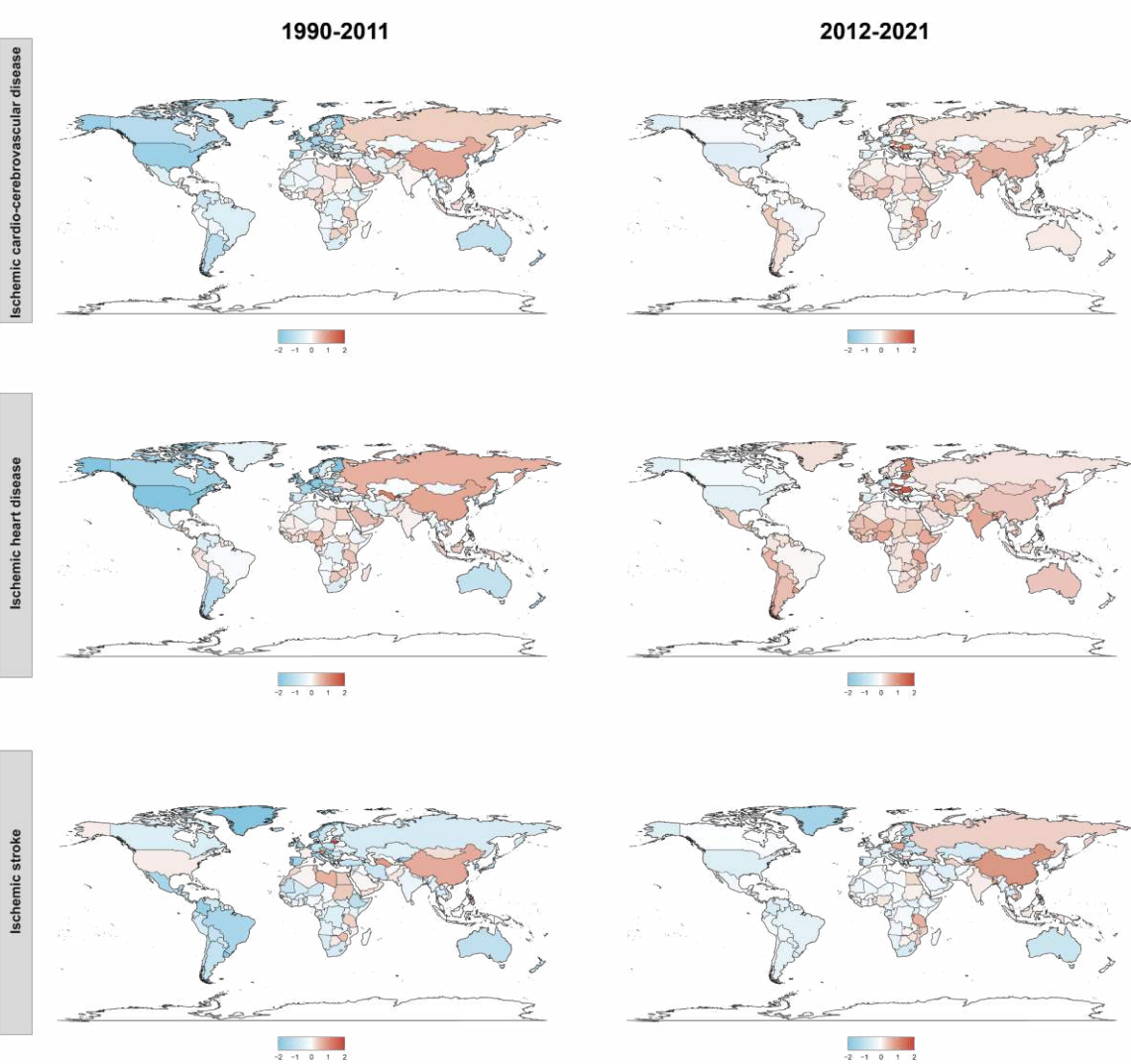
IHD: Ischemic heart disease; DALYs: Disability adjusted life years; AAPC: Average annual percentage change.

Supplemental Figure 5. Map showing global age-standardized incidence (A), prevalence (B), mortality (C), and DALYs (D) in 2021 (per 100 000), as well as AAPC (%) from 1990 to 2021, of **ischemic stroke** among overall women

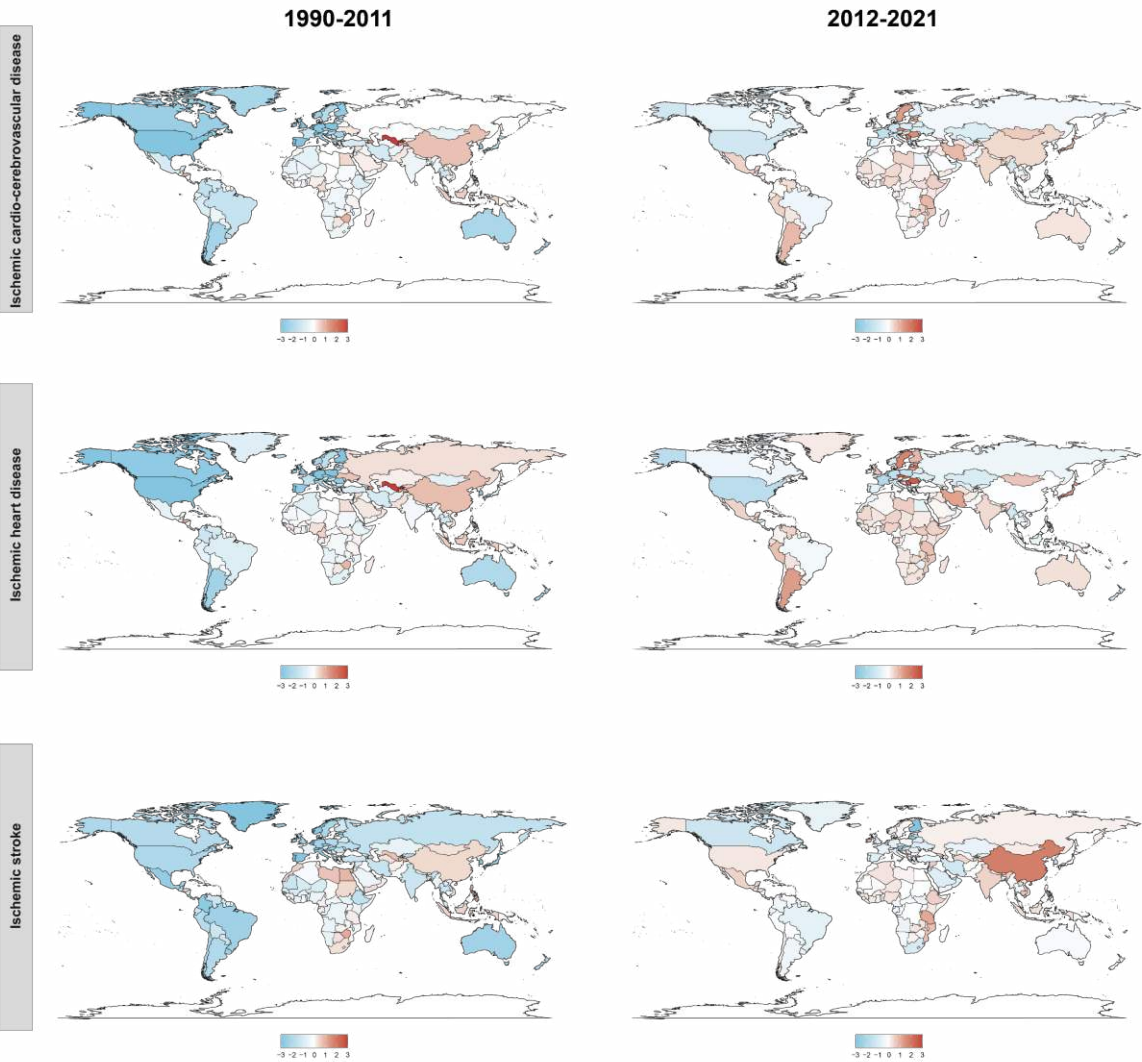


IS: Ischemic stroke; DALYs: Disability adjusted life years; AAPC: Average annual percentage change.

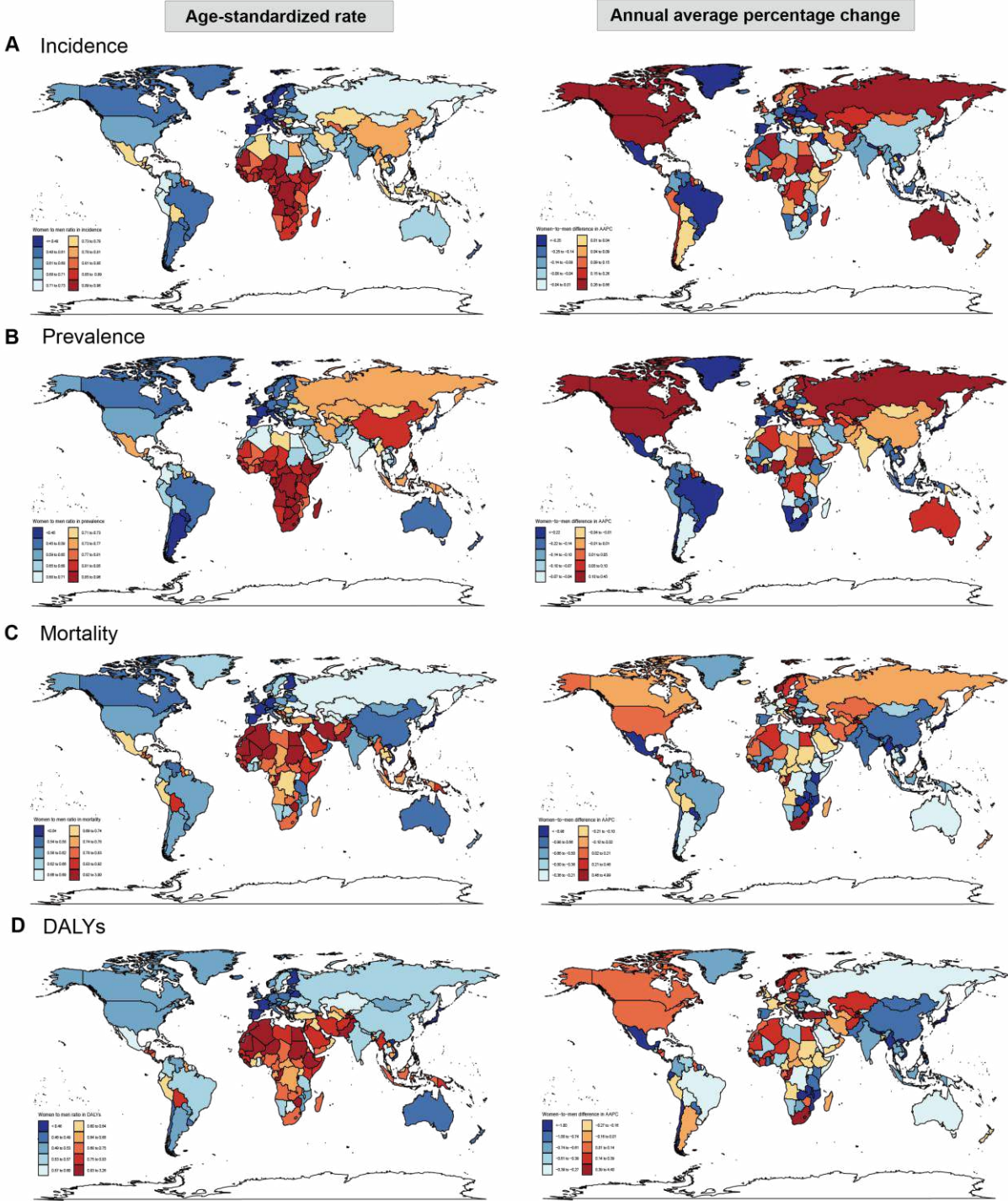
Supplemental Figure 6. Average annual percentage change (%) of the age-standardized prevalence of ischemic cardio-cerebrovascular disease and its subtypes in women, comparing 1990-2011 and 2012-2021



Supplemental Figure 7. Average annual percentage change (%) of age-standardized incidence of ischemic cardio-cerebrovascular disease and its subtypes in women, comparing 1990-2011 and 2012-2021



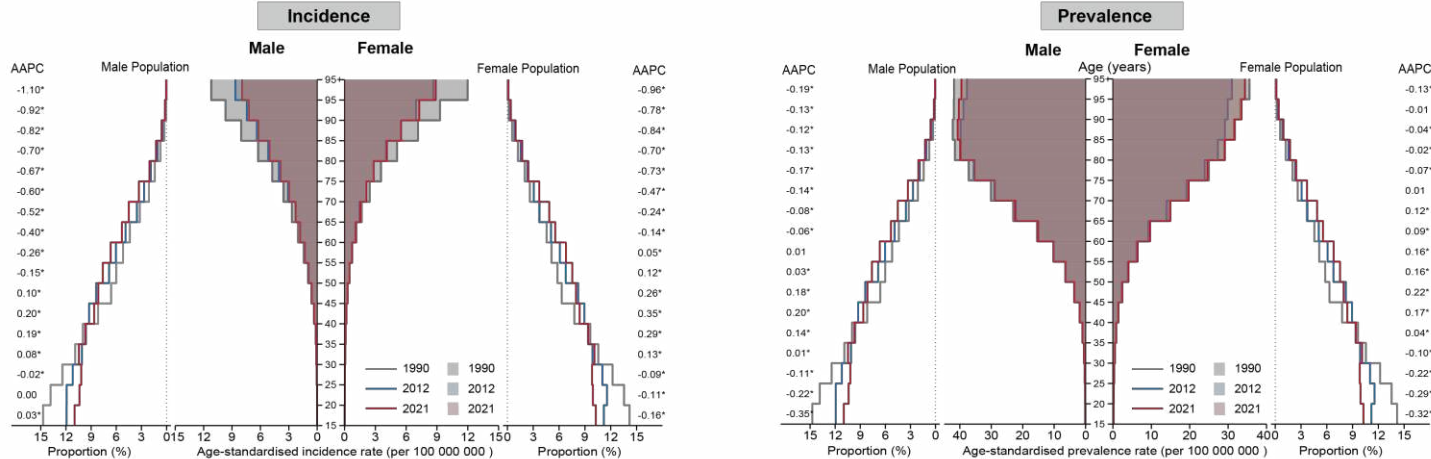
Supplemental Figure 8. Map showing the global female-to-male ratio of age-standardized incidence (A), prevalence (B), mortality (C), and DALYs (D) of ischemic cardio-cerebrovascular disease in 2021 (per 100,000), as well as the **female-to-male** difference in corresponding AAPC (%) from 1990 to 2021



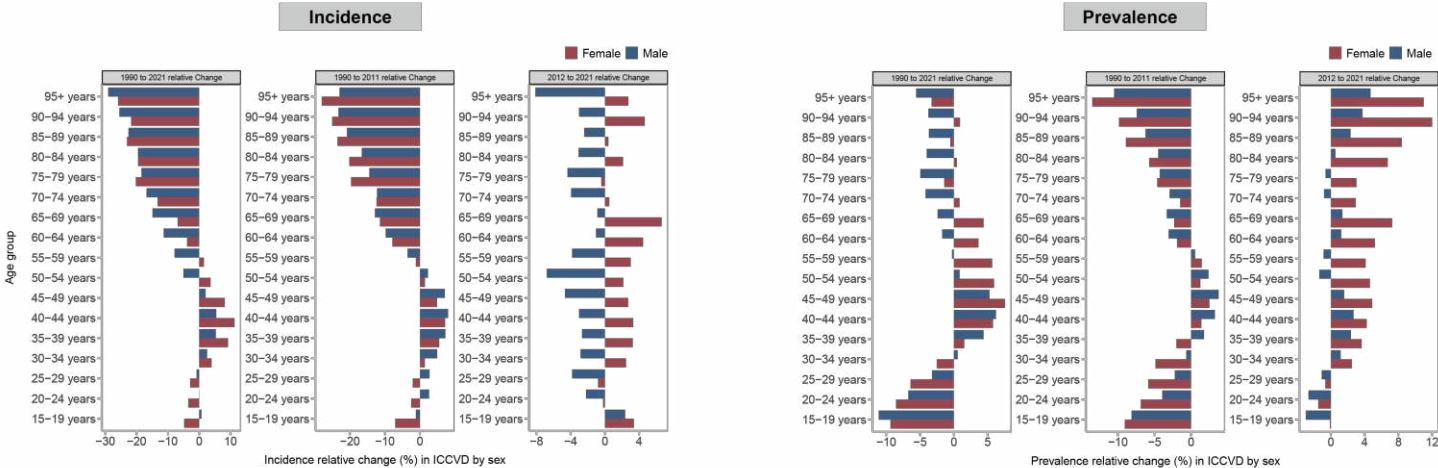
DALYs: Disability adjusted life years; AAPC: Average annual percentage change.

Supplemental Figure 9. Age- and sex-specific patterns in proportions and differences in incidence and prevalence rates of ischemic cardio-cerebrovascular disease by sub-type groups in 1990, 2012, and 2021, along with population structures and their relative change over time

(A) Age-standardised rate in ischemic cardio-cerebrovascular disease by age

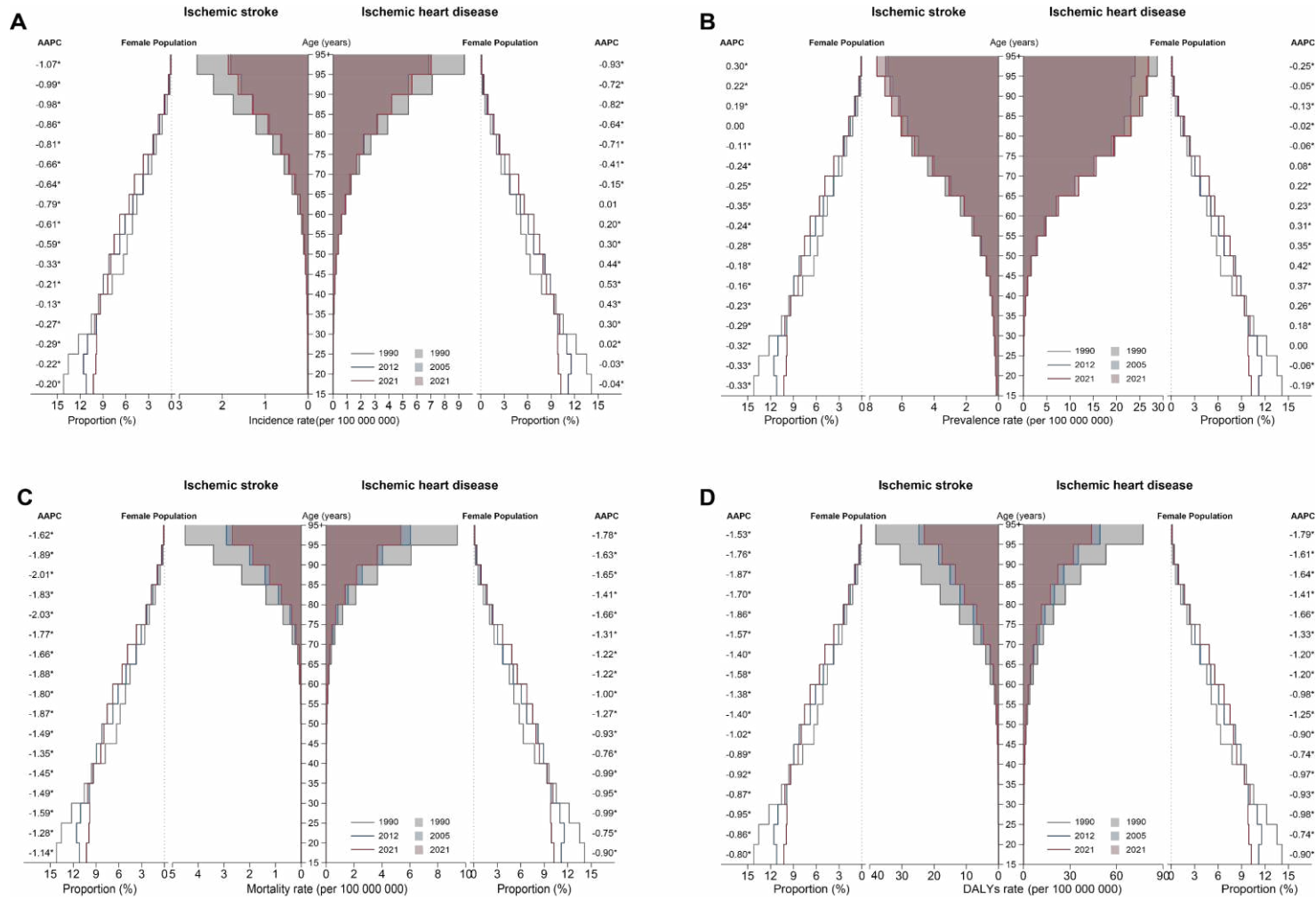


(B) Relative change in age-specific rates of ischemic cardio-cerebrovascular disease by sex



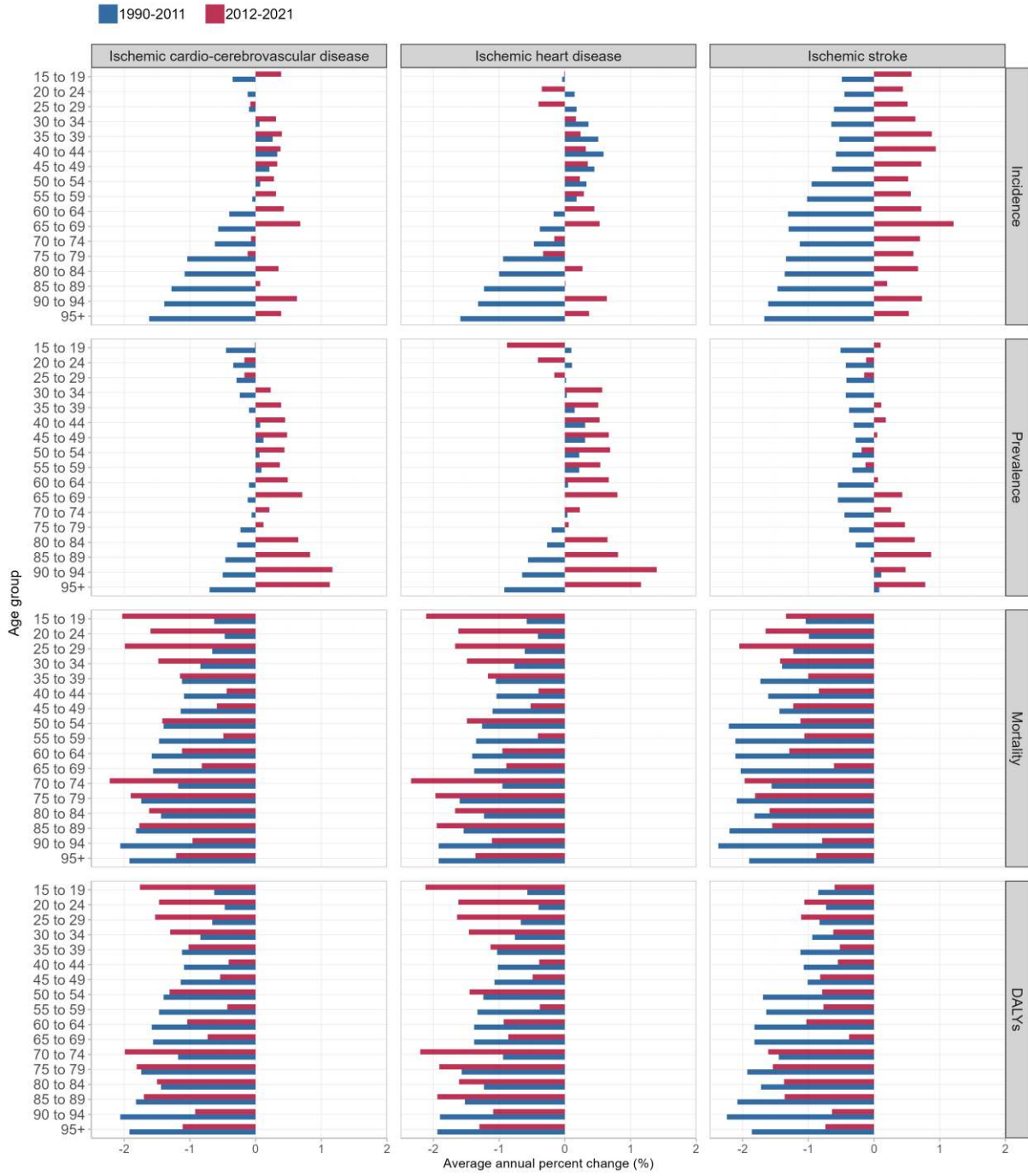
AAPC: Average annual percentage change; ICCVD: Ischemic cardio-cerebrovascular disease.

Supplemental Figure 10. Incidence (A), prevalence (B), mortality (C), and DALYs (D) of **ischemic heart disease** and **ischemic stroke** by age in 1990, 2012, and 2021 among women, based on global population structures



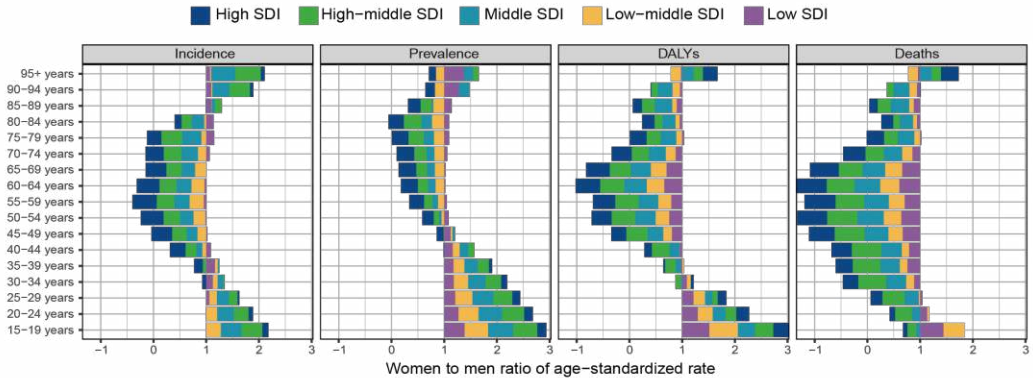
AAPC: Average annual percentage change; DALYs: Disability adjusted life years; * $P < 0.05$.

Supplemental Figure 11. Temporal trend changes in age-standardized rates of ischemic cardio-cerebrovascular disease and its subtypes by sex and age group (1990-2011 vs. 2012-2021)

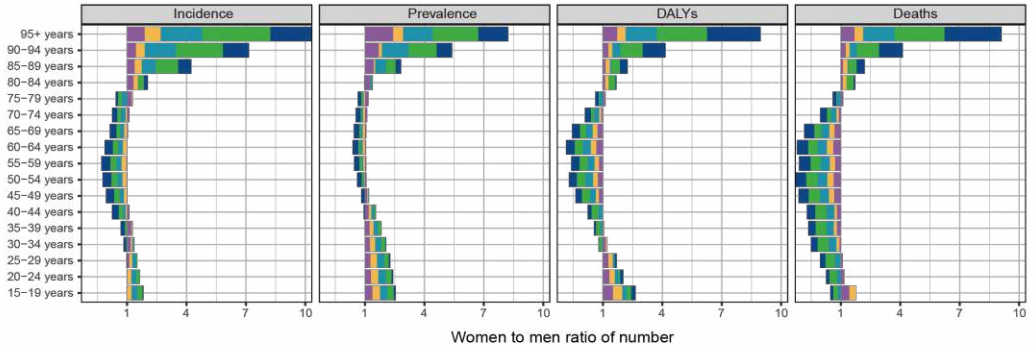


Supplemental Figure 12. Female-to-male ratio of age-standardized rates (A) and absolute numbers (B) across age groups and SDI levels, and average annual percentage changes (%) in age-standardized rates by sex and age (C) for ischemic stroke

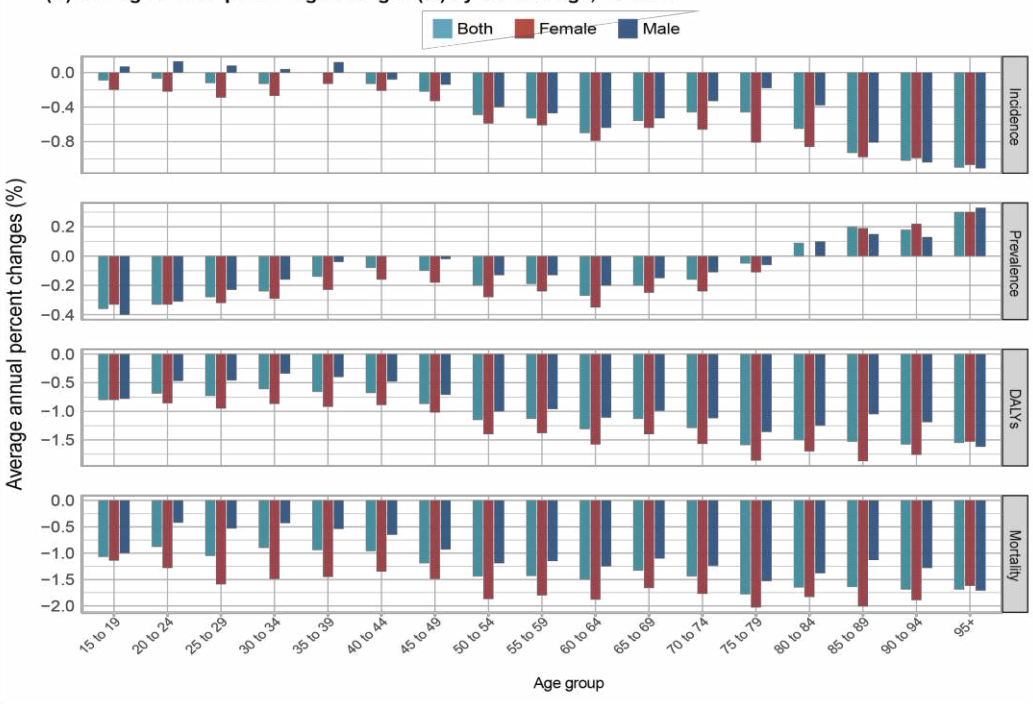
(A) Female-to-male ratio of age-standardized rates, 2021



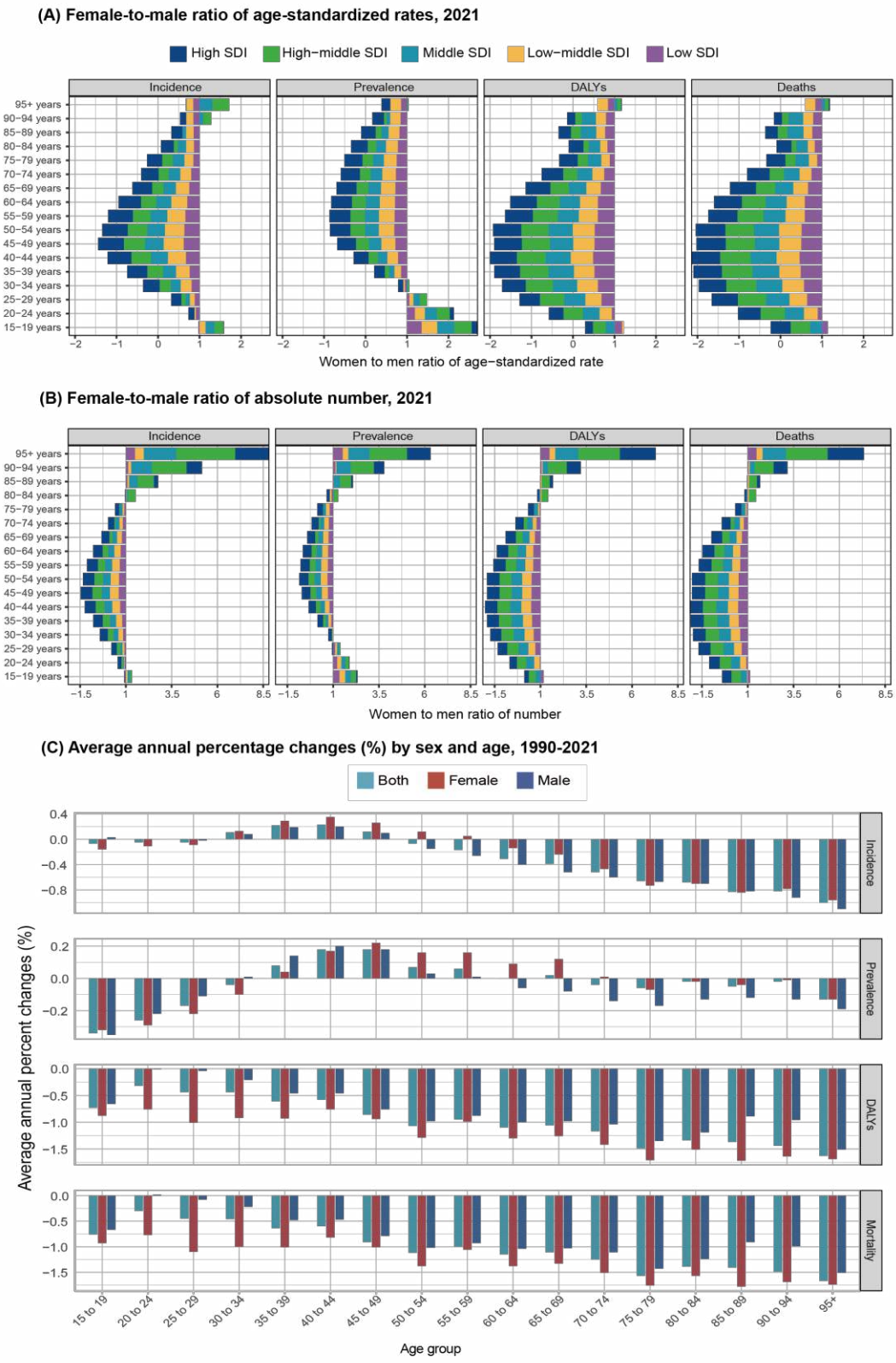
(B) Female-to-male ratio of absolute number, 2021



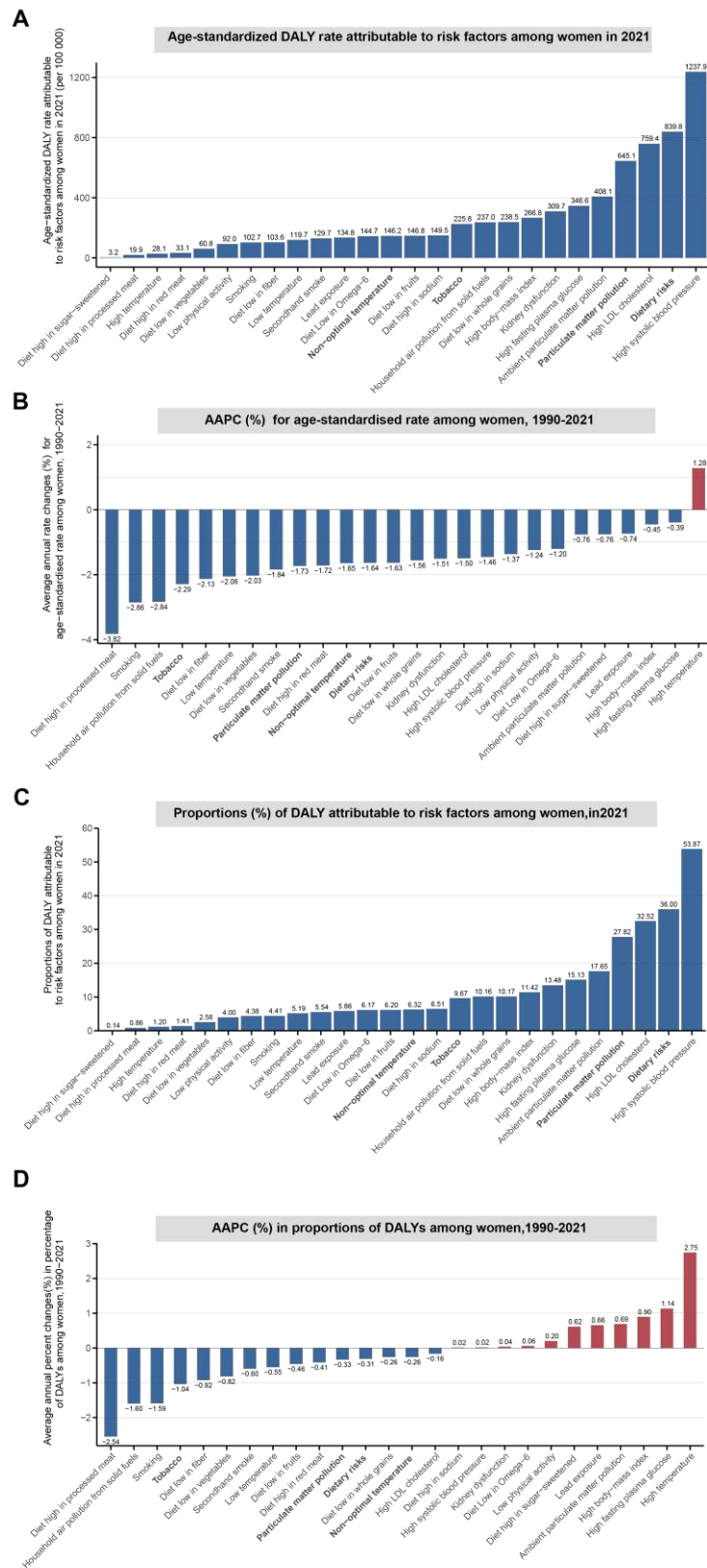
(C) Average annual percentage changes (%) by sex and age, 1990-2021



Supplemental Figure 13. Female-to-male ratio of age-standardized rates (A) and absolute numbers (B) across age groups and SDI levels in, and average annual percentage changes (%) in age-standardized rates by sex and age (C) for ischemic cardio-cerebrovascular disease

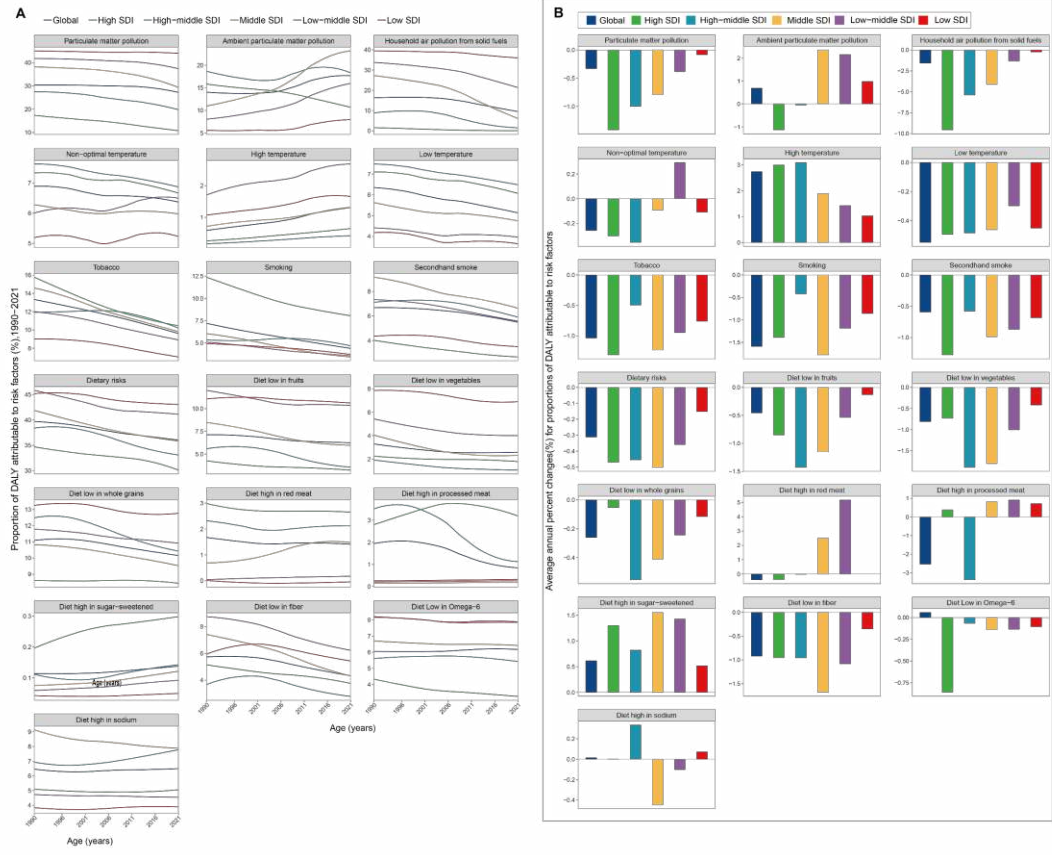


Supplemental Figure 14. Contributions of detailed risk factors to DALYs of ischemic cerebrovascular disease among women in 2021 and corresponding AAPCs from 1990 to 2021



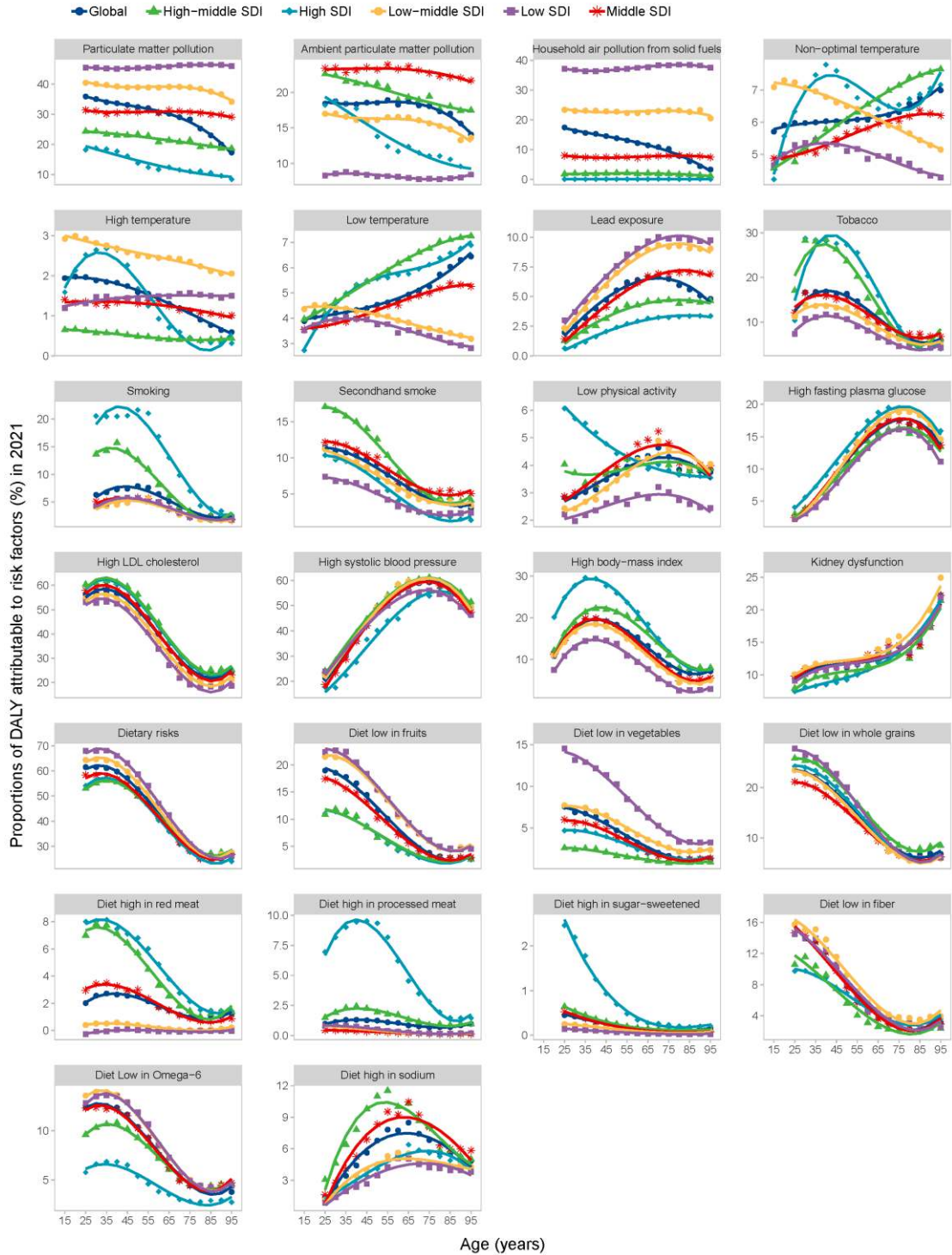
DALYs: Disability adjusted life years; AAPC: Average annual percentage change.

Supplemental Figure 15. Trends of the proportion of total DALYs contributions of more specific risk factors to ischemic cardio-cerebrovascular disease among women globally and by SDI, 1990-2021



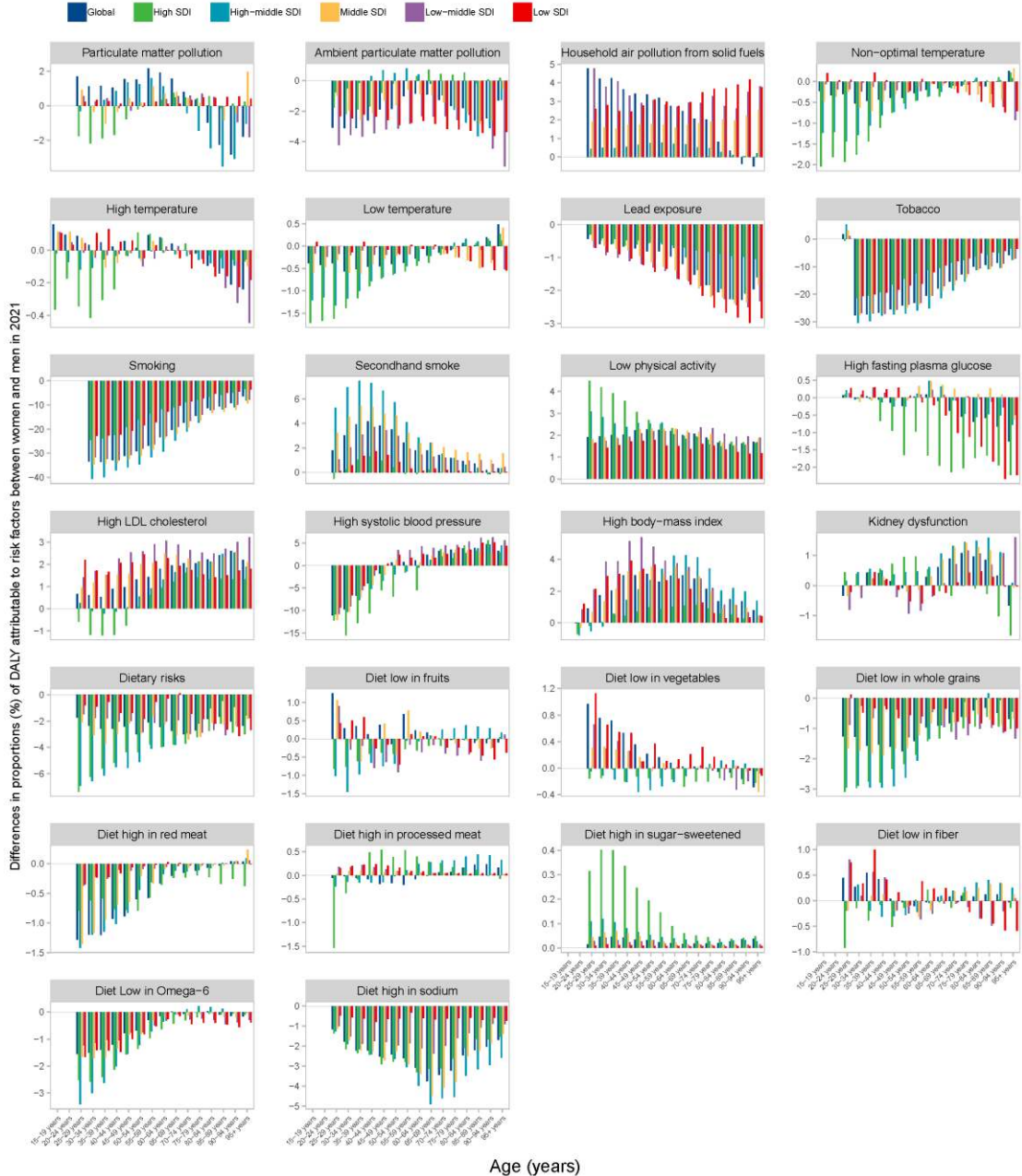
DALYs: Disability adjusted life years; SDI: Sociodemographic index.

Supplemental Figure 16. Age-related characteristics in terms of proportions of DALY attributable to all specific risk factors (%) for ischemic cardio-cerebrovascular disease among women in 2021, globally and by SDI



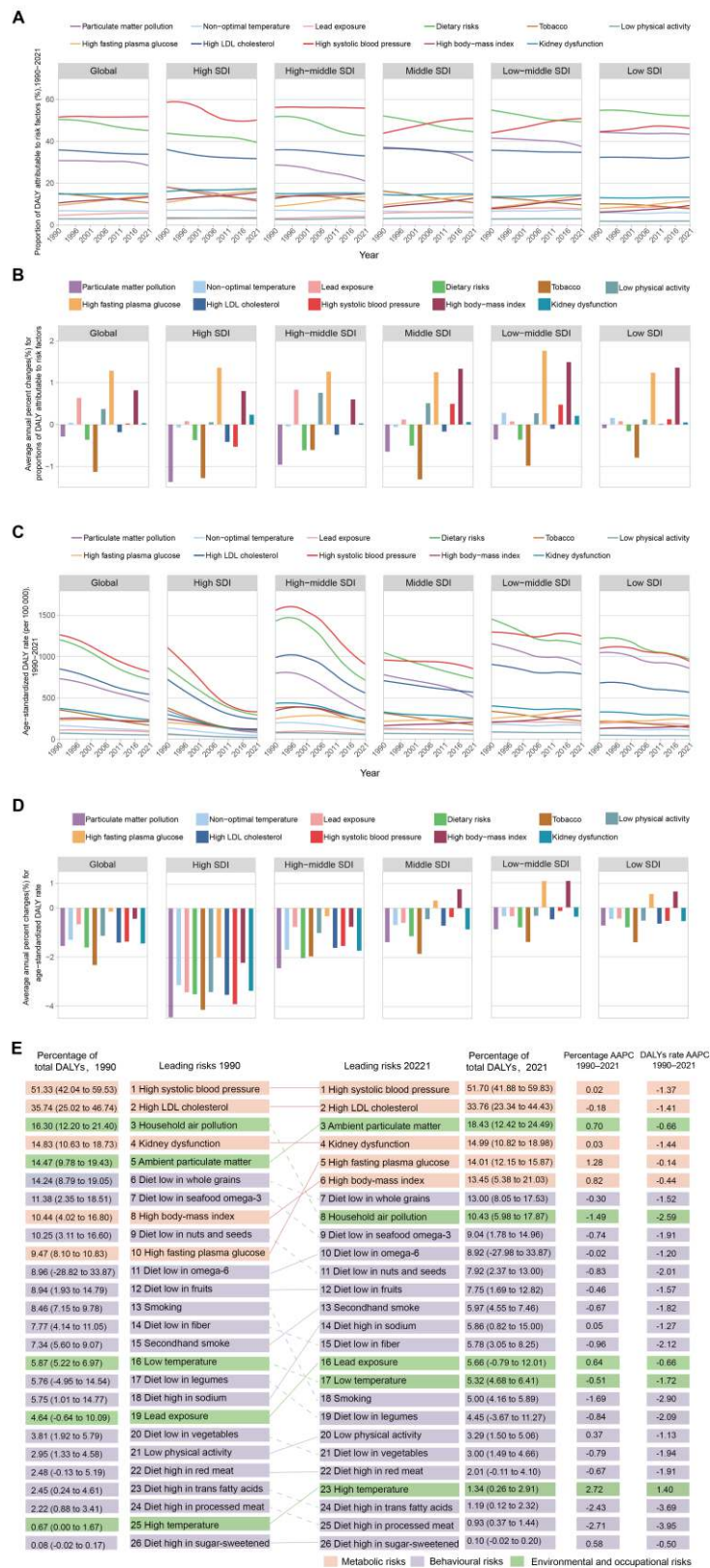
DALYs: Disability adjusted life years; SDI: Sociodemographic index.

Supplemental Figure 17. Age-specific differences between women and men in proportional DALY attributable to more specific risk factors (%) for ischemic cardio-cerebrovascular disease in 2021, globally and by SDI



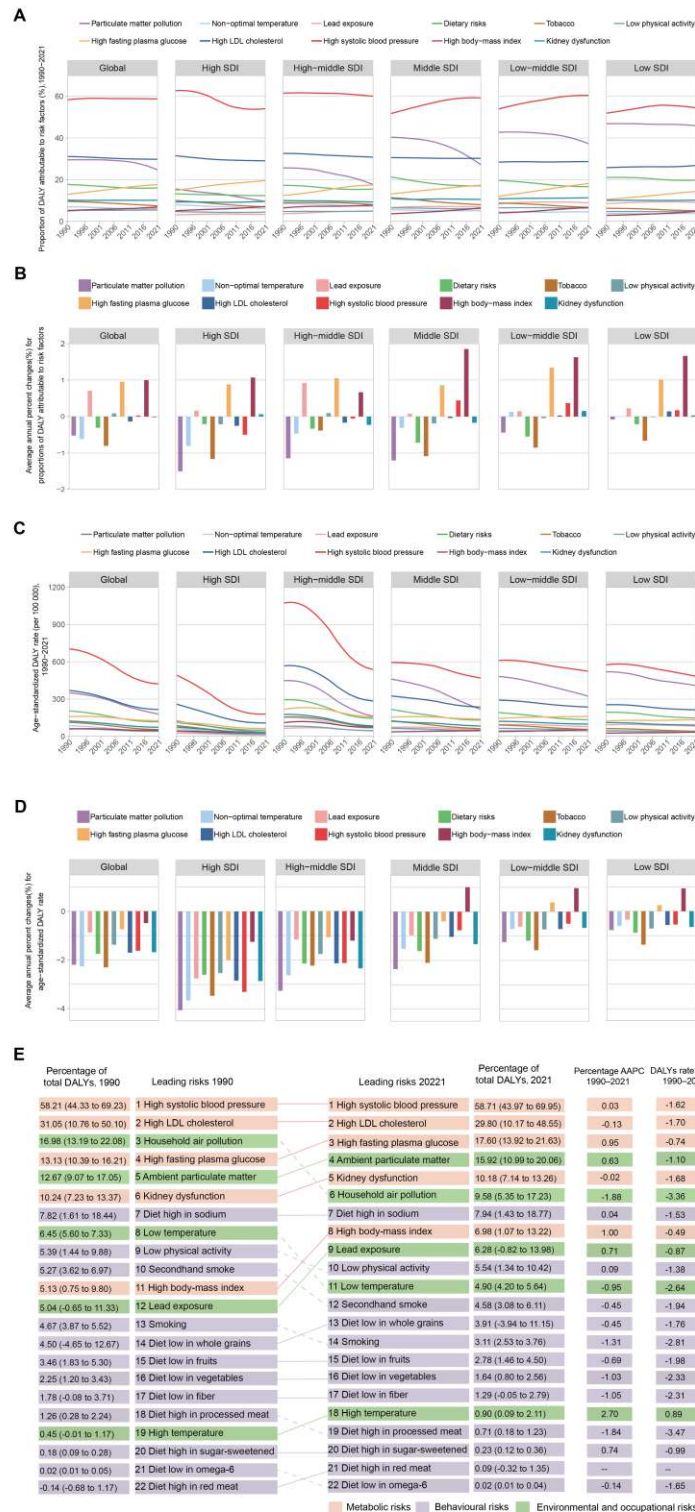
DALY: Disability adjusted life years; SDI: Sociodemographic index.

Supplemental Figure 18. The **proportion and age-standardized** of DALYs contributions to main risk factors of **ischemic heart disease** among females and trends by SDI, along with the ranking of all risk factors in 1990 and 2021



DALYs: Disability adjusted life years; SDI: Sociodemographic index.

Supplemental Figure 19. The **proportion and age-standardized** of DALYs contributions to main risk factors of **ischemic stroke** among women and trends by SDI, along with the ranking of all risk factors in 1990 and 2021



DALYs: Disability adjusted life years; SDI: Sociodemographic index.

Supplemental Figure 20. Age-standardized rates of DALY, YLD, and YLL for ischemic heart disease (A) and ischemic stroke (B) among women by SDI levels, for the past and five future scenarios, 1990–2050

