

Cardiovascular diseases—Level 2 cause

Summary Cardiovascular diseases were responsible for 393 million (95% UI 368–417) DALYs in 2019, and were the leading Level 2 cause of disease burden. Overall, there were 18·6 million (17·1–19·7) deaths due to cardiovascular diseases in both sexes combined in 2019.

Definition This aggregate cause incorporates death and disability resulting from 11 cardiovascular causes, led by ischaemic heart disease, stroke, and hypertensive heart disease, as well as disability due to heart failure. Both atherosclerotic and non-atherosclerotic cardiovascular diseases are included.

	Total sources
Incidence	599
Prevalence	646
Remission	0
Causes of death	3901
Other	361

Table 1: Total sources used in GBD 2019 estimation

What is new in GBD 2019?

- Non-fatal data have been updated for a subset of causes including ischaemic heart disease and heart failure.
- In order to better represent population-level disease prevalence, new adjustments were developed and applied to administrative health facility data for causes that are subcategories of cardiovascular disease.
- Adjustment for alternative study methods and case definitions were applied to data before analysis in DisMod-MR. These adjustments varied by cause and case definition and were implemented using our MR-BRT modelling tool.

	Prevalence		Incidence		Deaths		YLLs		YLDs		DALYs	
	Cases (millions)	Rate (per 100 000)	Cases (millions)	Rate (per 100 000)	Deaths (millions)	Rate (per 100 000)	Counts (millions)	Rate (per 100 000)	Counts (millions)	Rate (per 100 000)	Counts (millions)	Rate (per 100 000)
2019												
Both sexes	523 (497 to 550)	6431·6 (6110·0 to 6759·8)	55·5 (52·3 to 58·9)	684·3 (646·4 to 725·6)	18·6 (17·1 to 19·7)	239·8 (219·4 to 254·9)	359 (335 to 380)	4438·7 (4139·9 to 4704·7)	34·4 (24·9 to 43·6)	424·9 (308·3 to 538·9)	393 (368 to 417)	4863·6 (4548·7 to 5164·2)
Females	275 (261 to 290)	6402·6 (6078·9 to 6740·0)	27·6 (26·1 to 29·3)	642·7 (607·2 to 680·1)	8·94 (7·92 to 9·71)	204·0 (180·9 to 221·5)	152 (138 to 165)	3508·3 (3183·7 to 3796·5)	18·9 (13·8 to 23·8)	440·2 (320·3 to 555·2)	171 (156 to 184)	3948·5 (3616·6 to 4248·6)
Males	248 (235 to 261)	6471·7 (6136·7 to 6814·4)	27·8 (26·2 to 29·6)	729·8 (687·7 to 774·5)	9·63 (8·90 to 10·3)	280·8 (259·2 to 299·8)	207 (191 to 222)	5443·9 (5042·5 to 5831·0)	15·5 (11·2 to 19·8)	407·4 (296·2 to 521·3)	222 (206 to 237)	5851·3 (5448·2 to 6247·7)
Percentage change 2010–19												
Both sexes	26·6% (26·0 to 27·1)	0·6% (0·3 to 1·0)	24·6% (23·7 to 25·5)	–1·6% (–2·1 to –1·0)	17·1% (11·4 to 22·9)	–11·1% (–15·3 to –7·0)	11·2% (5·1 to 17·3)	–12·2% (–16·8 to –7·5)	27·6% (26·3 to 29·0)	1·6% (0·8 to 2·5)	12·5% (6·8 to 18·1)	–11·2% (–15·6 to –6·8)
Females	26·4% (25·9 to 27·0)	1·0% (0·5 to 1·4)	25·0% (24·0 to 26·0)	–1·1% (–1·7 to –0·5)	17·6% (9·9 to 25·5)	–11·2% (–16·8 to –5·4)	12·1% (4·0 to 20·4)	–12·1% (–18·3 to –5·7)	27·9% (26·5 to 29·4)	2·3% (1·3 to 3·3)	13·6% (6·1 to 21·0)	–10·7% (–16·4 to –4·9)
Males	26·7% (26·1 to 27·4)	0·2% (–0·1 to 0·6)	24·2% (23·3 to 25·2)	–2·0% (–2·6 to –1·3)	16·7% (9·0 to 24·1)	–11·1% (–16·5 to –5·8)	10·6% (2·8 to 18·1)	–12·3% (–18·4 to –6·5)	27·2% (25·8 to 28·7)	0·9% (0·0 to 1·9)	11·6% (4·2 to 18·7)	–11·5% (–17·2 to –6·0)

Numbers in parentheses are 95% uncertainty intervals.

Table 2: Global prevalence, incidence, deaths, YLLs, YLDs, and DALYs in counts and age-standardised rates for both sexes combined, females, and males, 2019, with percentage change between 2010 and 2019

	Deaths	YLLs	YLDs	DALYs
1990	1st	3rd	11th	3rd
2010	1st	1st	11th	1st
2019	1st	1st	10th	1st

Table 3: Rank among Level 2 causes for global deaths, YLLs, YLDs, and DALYs in 1990, 2010, and 2019, for both sexes combined

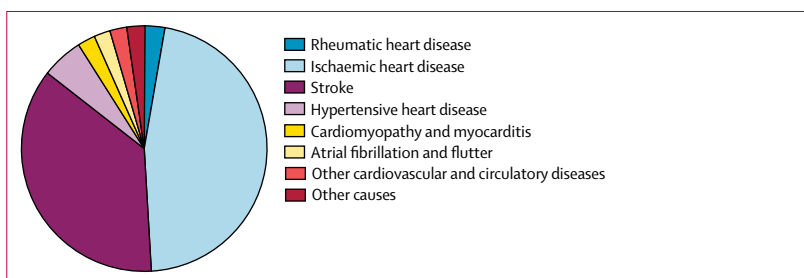


Figure 1: Composition of DALYs by constituent Level 3 causes for both sexes combined, 2019

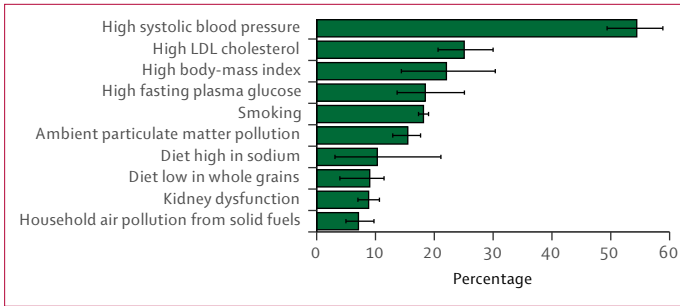


Figure 2: Percentage of DALYs attributable to top risk factors for both sexes combined, 2019

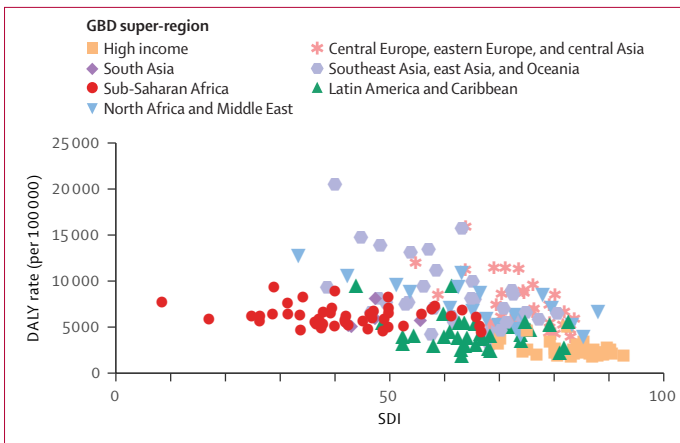


Figure 3: Age-standardised DALY rates for each location by SDI, both sexes combined, 2019

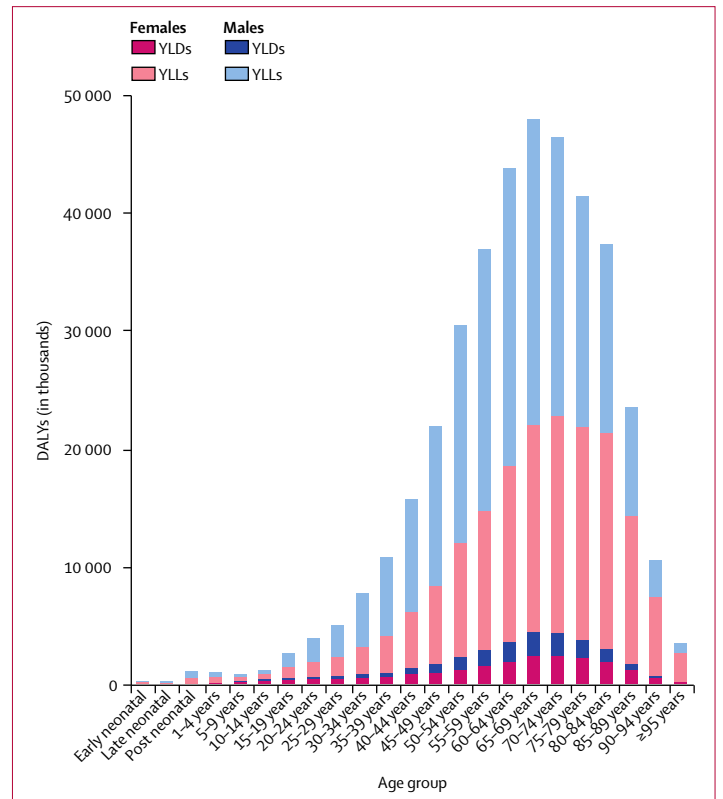


Figure 4: Composition of DALYs by YLLs and YLDs, age group, and sex, 2019

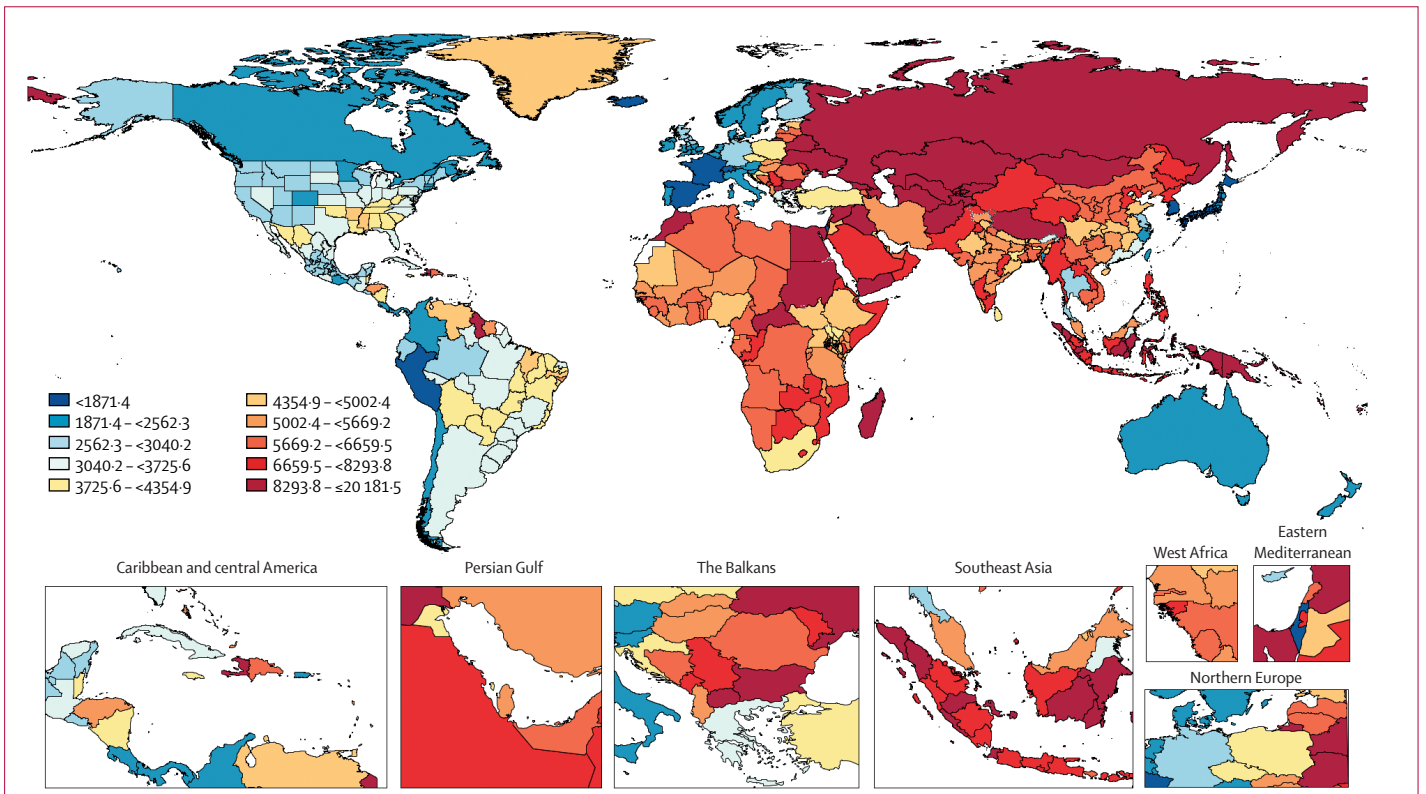


Figure 5: Age-standardised DALY rates (per 100 000) by location, both sexes combined, 2019