

Silicosis—Level 4 cause

Summary Silicosis was responsible for 280 000 YLLs (95% UI 228 000–350 000) and 376 000 YLDs (247 000–539 000) in 2019. Silicosis was responsible for 71·2% (65·3–76·3) of total pneumoconiosis DALYs.

Definition Silicosis is a lung disease caused by long-term inhalation of dust that contains silica. It occurs in workers in industries such as mining and construction.

	Total sources
Incidence	0
Prevalence	283
Remission	0
Causes of death	2581
Other	0

Table 1: Total sources used in GBD 2019 estimation

What is new in GBD 2019?

- Excess mortality data (EMR) were modelled in MR-BRT by age and sex as a function of HAQ Index. For silicosis, this revealed a large inconsistency between cause-specific mortality and prevalence data in east Asia resulting in much higher prevalence.
- Processing of clinical informatics data led to higher correction factors from single-diagnosis inpatient data to the equivalent of all cases accessing health care. This is quite a challenge for the low-prevalence pneumoconioses. In coming rounds, we plan to address this by estimating for the aggregate category of pneumoconioses and using the distribution by specific subtype from cause of death estimates.

	Prevalence		Incidence		Deaths		YLLs		YLDs		DALYs	
	Cases (millions)	Rate (per 100 000)	Cases (millions)	Rate (per 100 000)	Deaths (millions)	Rate (per 100 000)	YLLs (millions)	Rate (per 100 000)	YLDs (millions)	Rate (per 100 000)	DALYs (millions)	Rate (per 100 000)
2019												
Both Sexes	2·65 (2·18 to 3·18)	31·6 (26·1 to 37·9)	0·139 (0·114 to 0·167)	1·7 (1·4 to 2·0)	0·0129 (0·0108 to 0·0162)	0·2 (0·1 to 0·2)	0·280 (0·228 to 0·350)	3·4 (2·8 to 4·2)	0·376 (0·247 to 0·539)	4·5 (3·0 to 6·4)	0·656 (0·519 to 0·828)	7·9 (6·2 to 10·0)
Females	0·113 (0·0884 to 0·145)	2·6 (2·0 to 3·3)	0·00740 (0·00560 to 0·00976)	0·2 (0·1 to 0·2)	0·000551 (0·000408 to 0·000724)	0·0 (0·0 to 0·0)	0·0104 (0·00750 to 0·0138)	0·2 (0·2 to 0·3)	0·0167 (0·0107 to 0·0251)	0·4 (0·2 to 0·6)	0·0271 (0·0207 to 0·0360)	0·6 (0·5 to 0·8)
Males	2·54 (2·08 to 3·05)	63·2 (52·1 to 76·0)	0·132 (0·107 to 0·159)	3·2 (2·6 to 3·8)	0·0123 (0·0102 to 0·0154)	0·3 (0·3 to 0·4)	0·269 (0·218 to 0·337)	7·0 (5·7 to 8·7)	0·359 (0·236 to 0·515)	8·9 (5·9 to 12·8)	0·629 (0·497 to 0·800)	15·9 (12·6 to 20·1)
Percentage change 2010-19												
Both Sexes	10·0% (2·1 to 17·1)	-11·9% (-17·5 to -6·9)	1·8% (-6·4 to 8·9)	-14·8% (-20·6 to -9·5)	-5·7% (-19·7 to 13·6)	-26·7% (-37·2 to -12·4)	-8·9% (-23·9 to 12·2)	-27·6% (-39·5 to -11·1)	9·3% (1·3 to 17·0)	-12·3% (-18·2 to -6·6)	0·7% (-8·1 to 11·6)	-19·6% (-26·4 to -11·0)
Females	21·7% (16·8 to 26·0)	-4·1% (-8·5 to -0·6)	15·5% (9·5 to 21·0)	-7·9% (-12·4 to -4·2)	15·6% (-6·8 to 37·9)	-10·6% (-27·8 to 6·5)	7·9% (-12·4 to 29·9)	-13·6% (-29·8 to 3·8)	22·6% (15·6 to 29·7)	-3·2% (-8·9 to 2·3)	16·5% (5·9 to 27·0)	-7·5% (-15·7 to 0·7)
Males	9·5% (1·5 to 16·8)	-12·0% (-17·6 to -6·8)	1·1% (-7·2 to 8·5)	-14·9% (-20·9 to -9·4)	-6·5% (-20·7 to 13·2)	-28·2% (-38·3 to -13·7)	-9·5% (-25·2 to 12·2)	-28·5% (-40·5 to -12·0)	8·7% (0·6 to 16·6)	-12·5% (-18·5 to -6·7)	0·1% (-8·8 to 11·5)	-20·3% (-27·1 to -11·5)

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	169th	183rd	165th	233rd
2010	166th	188th	151st	236th
2019	170th	189th	153rd	241st

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

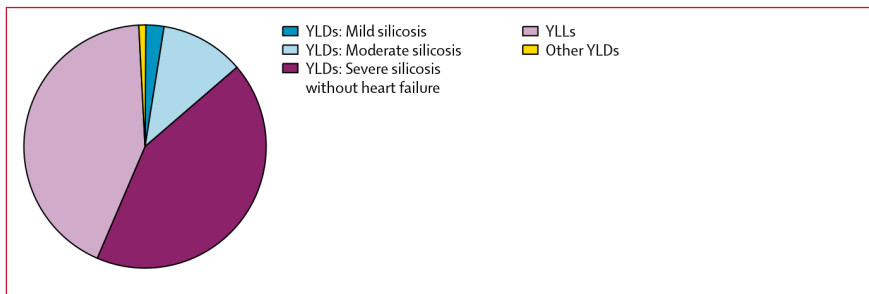


Figure 1: Composition of DALYs by YLLs and constituent sequelae YLDs for both sexes combined, 2019

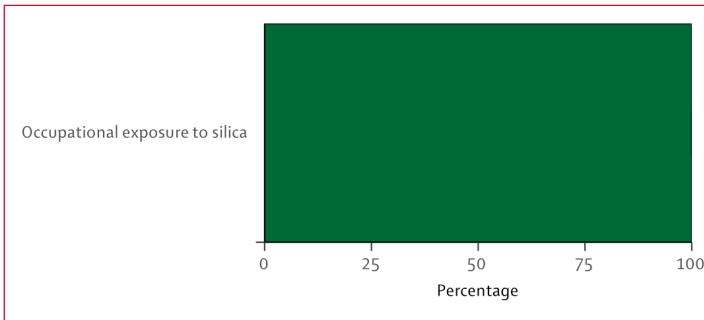


Figure 2: Percentage of DALYs attributable to top risk factors for both sexes combined, 2019

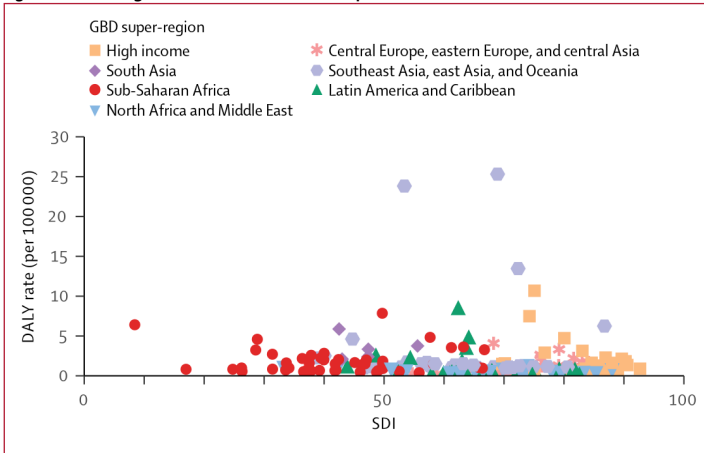


Figure 3: Age-standardised DALY rates for each location by SDI, both sexes combined, 2019

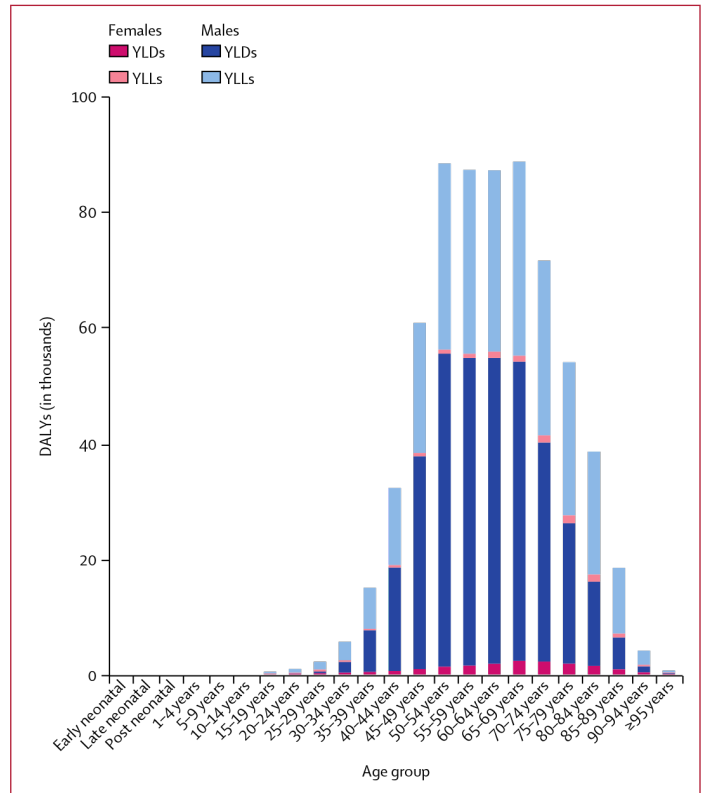


Figure 4: Composition of DALYs by YLLs and YLDs, age group, and sex, 2019

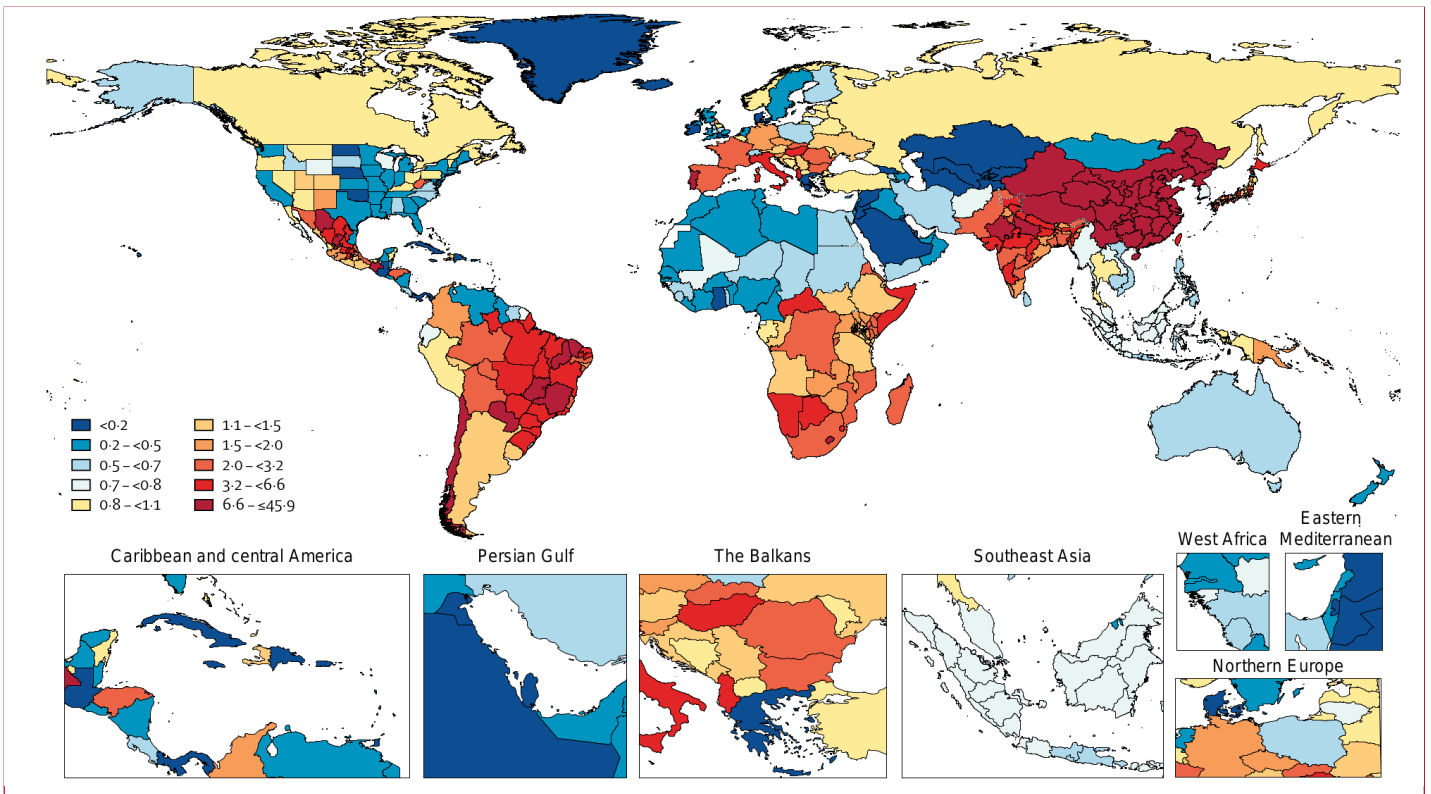


Figure 5: Age-standardised DALY rates (per 100 000) by location, both sexes combined, 2019