

For the GBD 2010, disability weights have been measured for 220 unique health states that encompass the 1160 disease and injury sequelae. The number of health states is lower than the number of sequelae because the same health status such as anaemia appears in the cause sequela list multiple times (eg, mild anaemia from malaria, or mild anaemia from chronic kidney diseases). Disparate outcomes across some diseases have been grouped into a small number of more homogeneous outcomes. For example, disability from all acute infectious disease episodes was captured by a mild, moderate, or severe health state. Disability weights have been generated using data collected from more than 31000 respondents through population-based surveys in five countries—USA, Peru, Tanzania, Bangladesh, and Indonesia—and an open internet survey. The primary elicitation method used was pairwise comparisons of two randomly selected health states where the respondent selects which health state represents the higher level of health. Results for health-state severities were consistent across levels of educational attainment and cultural groups.³ Uncertainty in the disability weight for each sequela has been propagated into the estimates of YLDs for each disease and injury. Salomon and colleagues³ provide detail on the methods used to analyse the results of pairwise comparisons to yield disability weights.

Ranking lists

For presentation of the leading causes of DALYs, we need to choose the level in the cause hierarchy at which we rank disorders. Because the leading causes of burden tend to have some influence on the perception of disease-control priorities, the choice of aggregation is at once important and subject to debate. To help convey the complexity of the burden of disease results, we show information at the second level of the GBD cause hierarchy (21 causes); we have also identified a ranking list with 176 causes selected to distinguish and cluster disorders that might have programmatic or public-health significance. We aggregated detailed causes within the broader categories of maternal disorders, diarrhoeal diseases, lower respiratory infections, stroke, and road injury for this reason. The full ranking list is included in the report by Murray and colleagues.⁸⁶ Results in the tables are provided for all 291 causes; the ranking list is used only for the figures illustrating the leading cause of DALYs. The 176 causes do not include residual categories such as other parasitic or other cardiovascular diseases because these categories represent complex aggregations of detailed causes for which no clear public health programme exists. The 176 causes along with the excluded residual categories are also mutually exclusive and collectively exhaustive.

Regional ordering and uncertainty

For figures where we present information by region, we order regions by the mean age of death.⁹⁰ Mean age of death reflects both population age-structure and

age-specific death rates and is a simple summary measure of the demographic and epidemiological transition. Mean age of death is a particularly useful metric because average age of the population and age-specific death rates are negatively correlated.

The models used to generate estimates of YLLs and YLDs produce uncertainty intervals that include correlation of uncertainty across age, sex, and time for a given outcome. In the absence of data and a method that would allow one to estimate the correlation of uncertainty between YLLs and YLDs, we had to assume that, for estimating DALYs in an age-sex-country-year-cause, YLL and YLD uncertainty distributions were independent. We computed many different aggregations of DALYs, for example global and regional DALYs for an age group or aggregations for developed or developing regions. For all geographic aggregates, we assumed that uncertainty distributions of the components across countries were independent. In practice, uncertainty from all inputs into the calculations of YLLs, YLDs, and DALYs are propagated with Monte Carlo techniques where 1000 samples are from the posterior distribution. Aggregations are made at the level of the 1000 draws for all estimates that are being summarised. The uncertainty interval (UI) around each quantity of interest is presented as the 2.5th and 97.5th centile values. These ranges can be interpreted as a 95% UI.

Decomposition of change from 1990 to 2010

To help understand the drivers of change in the numbers of DALYs by cause, we have decomposed change from 1990 to 2010 into growth in total population, change in population age-structure and sex-structure, and change in age-specific and sex-specific rates. We compute two counterfactual sets of DALY numbers: (1) a population growth scenario computed as the number of DALYs expected in 2010 if only total population numbers increased to the level of 2010 but the age-sex structure of population stayed the same as in 1990 and age-specific and sex-specific rates remained at 1990 levels and (2) a population growth and population ageing scenario computed as the number of DALYs expected in 2010, using 1990 age-specific and sex-specific rates and 2010 age-specific and sex-specific population numbers. The difference between 1990 numbers and the population growth scenario is the change in DALY numbers due strictly to the growth in total population. The change from the population growth scenario to the population growth and ageing scenario is the number of deaths due to ageing of the population. The difference between 2010 DALYs and the population growth and ageing scenario is the difference in DALY numbers due to epidemiological change in age-specific and sex-specific death rates. Each of these three differences is also presented as a percentage change with reference to the 1990 observed death number.

Further details on the data and methods used for specific diseases and injuries are available on request.

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Results

In 2010, there were a total of 2.490 billion DALYs, or 361 DALYs per 1000 population. Globally, 31.2% of DALYs in 2010 were from YLDs and 68.8% from YLLs. YLDs make very little contribution to the burden in the neonatal age groups but increase to a peak in age group 10–14 years when mortality rates are generally the lowest (figure 1). In nearly all age groups, YLDs make up a larger share of DALYs in women than in men. Globally, YLDs in women caused 50% or more of DALYs up until age 45 years and then declined slowly but still caused about 30% of DALYs over the age of 70 years.

Across broad cause groups, the distribution of DALYs in 2010 reflected a predominance of NCDs globally, with 54% of all DALYs due to non-communicable diseases, compared with 35% due to communicable, maternal, neonatal, and nutritional disorders, and 11% due to injuries. The composition of global DALYs in 2010 shows the diversity of causes that make major contributions to the burden of disease. Cancers and circulatory diseases accounted for 19% of global DALYs, while about a third of the global burden of disease was from other NCDs including chronic respiratory, digestive, neurological, mental and behavioural, endocrine, kidney, musculoskeletal, and other disorders. In the early and late neonatal age groups, neonatal disorders, diarrhoea, lower respiratory infections, and the category other NCDs, which includes congenital anomalies, were most common (figure 2). For children older than the age of 1 month, the cluster of diarrhoea, lower respiratory infections and other infections, nutritional deficiencies, malaria and neglected tropical diseases, and a diverse set

of other causes start to play an increasing part. For young adult men from 15–39 years of age, the main causes of DALYs were HIV/AIDS and tuberculosis, mental and behavioural disorders, road injuries, unintentional injuries other than transport, intentional injuries, and wars or disasters. In young women, the same set of causes plus deaths and YLDs due to maternal disorders occurred. At older ages, cancers, cardiovascular diseases, musculoskeletal disorders, chronic respiratory diseases, digestive diseases, and diabetes are important.

The wide range of causes making up the burden of disease is borne out by examining the cumulative burden as a function of a rank list of specific causes. The top ten causes account for 37% of DALYs, the top 25 account for 61% of DALYs, and the top 50 causes account for 78%. Results for all 20 GBD age groups, by male, female, and combined sexes are shown in the appendix. While the results for many causes have public health significance, we highlight causes that lead to more than 15 million DALYs. Tuberculosis accounts for 2.0% of all DALYs, HIV/AIDS 3.3% of DALYs, and malaria 3.3% (table 1). Diarrhoea and lower respiratory infections were very large causes of burden accounting for 3.6% and 4.6% of global DALYs, respectively. Within the broad group of communicable, maternal, neonatal, and nutritional disorders, meningitis (1.2%), maternal disorders (0.6%), protein-energy malnutrition (1.4%), and iron-deficiency anaemia (1.8%) were all substantial causes. Neonatal disorders collectively caused 8.1% of all DALYs because of the large number of deaths at young ages and some lifelong disability. Each of the four causes in neonatal disorders was a major cause: preterm birth complications (3.1%), neonatal encephalopathy (birth asphyxia and birth trauma; 2.0%), sepsis and other infectious disorders of the newborn baby (1.8%), and other neonatal disorders (1.2%).

Several diseases within the NCD group caused more than 15 million DALYs in 2010. All neoplasms accounted for 7.6% of global DALYs. Of the 28 categories of cancer

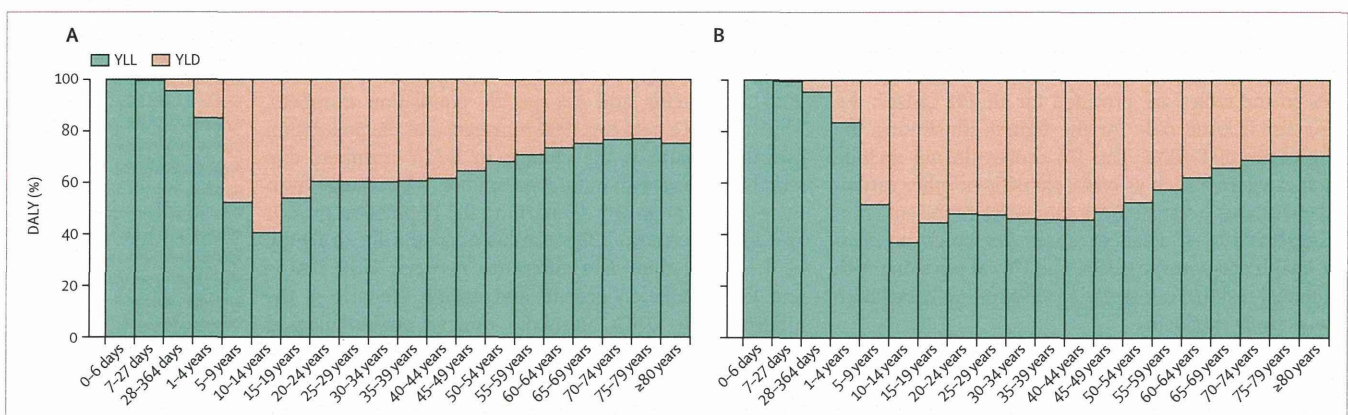


Figure 1: Years of life lost due to premature mortality and years lived with disability composition of total disability-adjusted life years by age and sex, 2010
Composition in male individuals (A) and female individuals (B). DALY=disability-adjusted life years. YLD=years lived with disability. YLL=years of life lost due to premature mortality.

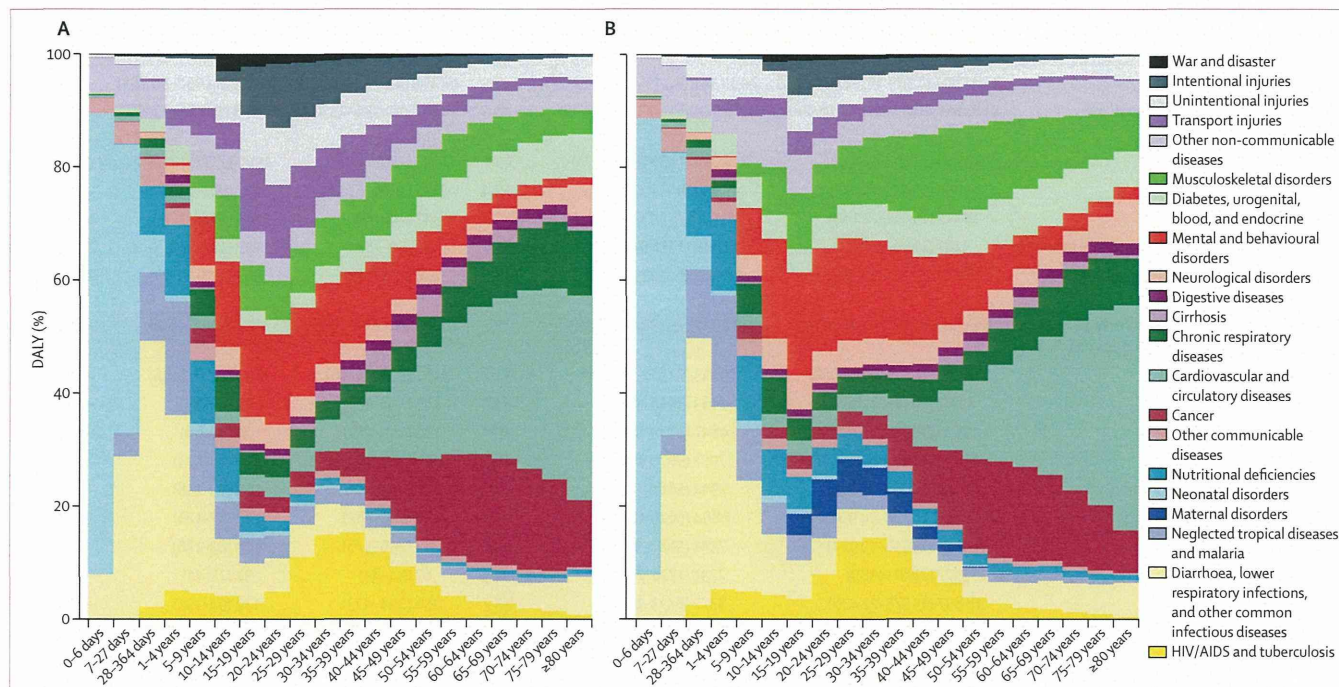


Figure 2: Percentage of global disability-adjusted life years by age, sex, and cause in 2010

Distribution of DALYs for male individuals (A) and female individuals (B). DALY=disability-adjusted life years. An interactive version of this figure is available online at <http://healthmetricsandevaluation.org/gbd/visualizations/regional>.

included in the analysis, four caused more than 15 million DALYs each: stomach cancer (0.7%), other neoplasms (0.7%), liver cancer (0.8%), and trachea, bronchus, and lung cancers (1.3%). Cardiovascular and circulatory diseases accounted for 11.8% of global DALYs; the major diseases within this group are ischaemic heart disease (5.2%), haemorrhagic stroke (2.5%), ischaemic stroke (1.6%), and hypertensive heart disease (0.6%). The larger burden of haemorrhagic stroke compared with ischaemic stroke is mostly a function of the younger average age of death for this form of stroke and consequently more YLLs per death. Chronic respiratory diseases as a group accounted for 4.7% of global DALYs, with chronic obstructive pulmonary disease (COPD) making up two-thirds of the total and asthma nearly a fifth of the total. Surprisingly, cirrhosis accounted for 1.2% of global DALYs with a nearly equal share related to hepatitis B, hepatitis C, and alcohol. 3.0% of global DALYs were from neurological disorders; of which a quarter were due to epilepsy and nearly a third were from migraine. While in some regions dementias were a major cause, at the global level they accounted for 11.3 million DALYs. Mental and behavioural disorders accounted for 7.4% of DALYs; within this large grouping five different diseases caused more than 15 million DALYs each. In order of importance, the main causes were major depressive disorder (2.5%), anxiety disorders (1.1%), drug use disorders (0.8%), alcohol use disorders (0.7%), and schizophrenia (0.6%). Nearly 5.0%

of all DALYs were from diseases in the diabetes, urogenital, blood, and endocrine group: the most important diseases were diabetes mellitus (1.9%), chronic kidney diseases (0.8%), and the group of haemoglobinopathies and haemolytic anaemias (0.6%). Musculoskeletal disorders accounted for 6.8% of total DALYs. Of this large total, low back pain accounted for nearly half, neck pain a fifth, and osteoarthritis about 10.0%. A further 5.1% of the GBD was due to causes in the category other NCDs; roughly 30% of which was due each to congenital anomalies, skin diseases, and sense organ diseases.

Injuries collectively caused 11.2% of DALYs with many different injuries making important contributions. The largest was road injuries, which accounted for 27% of the injury total. Within road injuries, nearly equal shares were due to pedestrian injuries, injuries sustained by occupants of three or more wheeled vehicles, and the rest of road injuries. The next most important injury was self-harm (1.5%) followed by falls (1.4%) and interpersonal violence (1.0%). Drowning and fires each accounted for just over 19 million DALYs.

An important innovation in the GBD 2010 is the quantification of uncertainty from all sources entering the estimation of DALYs. Figure 3 shows how the first and second ranked disorders, ischaemic heart disease and lower respiratory infections, have nearly overlapping uncertainty distributions but do not overlap with any of the lower ranked causes. There are many examples of

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	All ages DALYs (thousands)			DALYs (per 100 000)		
	1990	2010	%Δ	1990	2010	%Δ
All causes	2502 601 (2 389 053–2 639 606)	2 490 385 (2 349 250–2 637 538)	-0.5	47 205 (45 063–49 789)	36 145 (34 097–38 281)	-23.4
Communicable maternal, neonatal, and nutritional disorders	1 181 610 (1 113 122–1 268 900)	868 024 (818 934–921 489)	-26.5	22 288 (20 996–23 934)	12 598 (11 886–13 374)	-43.5
HIV/AIDS and tuberculosis	79 368 (72 264–90 448)	130 944 (119 310–141 121)	65.0	1497 (1363–1706)	1900 (1732–2048)	26.9
Tuberculosis	61 250 (55 443–71 077)	49 396 (40 065–56 071)	-19.4	1155 (1046–1341)	717 (581–814)	-37.9
HIV/AIDS	18 117 (15 012–22 260)	81 547 (75 003–88 367)	350.1	342 (283–420)	1184 (1089–1283)	246.3
HIV disease resulting in mycobacterial infection	3281 (2658–4135)	14 948 (13 589–16 410)	355.5	62 (50–78)	217 (197–238)	250.5
HIV disease resulting in other specified or unspecified diseases	14 836 (12 246–18 359)	66 600 (60 517–72 845)	348.9	280 (231–346)	967 (878–1057)	245.4
Diarrhoea, lower respiratory infections, meningitis, and other common infectious diseases	543 168 (491 308–624 755)	282 982 (254 312–317 466)	-47.9	10 245 (9267–11 784)	4107 (3691–4608)	-59.9
Diarrhoeal diseases	183 538 (168 790–198 052)	89 513 (77 572–98 906)	-51.2	3462 (3184–3736)	1299 (1126–1436)	-62.5
Cholera	9802 (7834–12 198)	4463 (3344–5787)	-54.5	185 (148–230)	65 (49–84)	-65.0
Other salmonella infections	9550 (7690–11 625)	4847 (3819–5949)	-49.2	180 (145–219)	70 (55–86)	-60.9
Shigellosis	13 575 (11 325–16 120)	7052 (5676–8466)	-48.1	256 (214–304)	102 (82–123)	-60.0
Enteropathogenic <i>E coli</i> infection	17 808 (14 243–21 647)	7542 (5686–9524)	-57.6	336 (269–408)	109 (83–138)	-67.4
Enterotoxigenic <i>E coli</i> infection	12 629 (10 768–14 968)	6894 (5619–8286)	-45.4	238 (203–282)	100 (82–120)	-58.0
Campylobacter enteritis	16 611 (13 558–19 924)	7541 (5687–9374)	-54.6	313 (256–376)	109 (83–136)	-65.1
Amoebiasis	3577 (2861–4389)	2237 (1728–2832)	-37.5	67 (54–83)	32 (25–41)	-51.9
Cryptosporidiosis	18 897 (15 579–22 426)	8372 (6473–10 401)	-55.7	356 (294–423)	122 (94–151)	-65.9
Rotaviral enteritis	42 224 (35 313–48 745)	18 650 (14 431–22 746)	-55.8	796 (666–919)	271 (209–330)	-66.0
Other diarrhoeal diseases	38 865 (28 644–51 813)	21 916 (16 031–28 760)	-43.6	733 (540–977)	318 (233–417)	-56.6
Typhoid and paratyphoid fevers	9256 (12 81–17 123)	12 239 (1702–23 043)	32.2	175 (24–323)	178 (25–334)	1.7
Lower respiratory infections	206 460 (183 340–222 982)	115 227 (102 282–126 985)	-44.2	3894 (3458–4206)	1672 (1485–1843)	-57.1
Influenza	32 428 (28 369–36 097)	19 244 (16 906–21 451)	-40.7	612 (535–681)	279 (245–311)	-54.3
Pneumococcal pneumonia	43 371 (38 585–47 618)	26 906 (23 723–29 865)	-38.0	818 (728–898)	391 (344–433)	-52.3
<i>H influenzae</i> type B pneumonia	43 895 (38 426–48 914)	21 315 (18 581–24 305)	-51.4	828 (725–923)	309 (270–353)	-62.6
Respiratory syncytial virus pneumonia	44 970 (38 833–51 176)	20 472 (17 193–24 136)	-54.5	848 (732–965)	297 (250–350)	-65.0
Other lower respiratory infections	41 796 (36 198–47 564)	27 289 (23 757–30 811)	-34.7	788 (683–897)	396 (345–447)	-49.8
Upper respiratory infections	1695 (1007–2797)	1866 (1049–3189)	10.1	32 (19–53)	27 (15–46)	-15.3
Otitis media	4171 (2521–8188)	4680 (2946–7589)	12.2	79 (48–154)	68 (43–110)	-13.7
Meningitis	37 815 (33 840–45 081)	29 399 (25 584–33 328)	-22.3	713 (638–850)	427 (371–484)	-40.2
Pneumococcal meningitis	9442 (8322–11 429)	8024 (6946–9065)	-15.0	178 (157–216)	116 (101–132)	-34.6
<i>H influenzae</i> type B meningitis	10 142 (8793–12 574)	6611 (5661–7851)	-34.8	191 (166–237)	96 (82–114)	-49.8
Meningococcal infection	5796 (5126–7055)	5163 (4397–5890)	-10.9	109 (97–133)	75 (64–85)	-31.4
Other meningitis	12 401 (11 069–14 632)	9563 (8108–10 858)	-22.9	234 (209–276)	139 (118–158)	-40.7
Encephalitis	10 157 (8828–12 143)	7141 (6148–8274)	-29.7	192 (167–229)	104 (89–120)	-45.9
Diphtheria	514 (0–4351)	236 (0–2016)	-54.1	10 (0–82)	3 (0–29)	-64.7
Whooping cough	14 331 (236–69 476)	7018 (149–33 926)	-51.0	270 (4–1310)	102 (2–492)	-62.3
Tetanus	21 815 (13 557–34 348)	4663 (2569–7588)	-78.6	411 (256–648)	68 (37–110)	-83.6
Measles	52 570 (15 757–124 079)	10 420 (3453–24 535)	-80.2	992 (297–2340)	151 (50–356)	-84.7
Varicella	847 (106–4875)	581 (145–2773)	-31.4	16 (2–92)	8 (2–40)	-47.2
Neglected tropical diseases and malaria	103 808 (86 028–123 663)	108 739 (87 846–137 588)	4.7	1958 (1623–2333)	1578 (1275–1997)	-19.4
Malaria	69 138 (54 532–85 576)	82 685 (63 426–109 836)	19.6	1304 (1029–1614)	1200 (921–1594)	-8.0
Chagas disease	584 (322–966)	546 (271–1054)	-6.5	11 (6–18)	8 (4–15)	-28.1
Leishmaniasis	5877 (3416–9458)	3317 (2180–4890)	-43.6	111 (64–178)	48 (32–71)	-56.6
African trypanosomiasis	2034 (630–4370)	560 (76–1766)	-72.5	38 (12–82)	8 (1–26)	-78.8
Schistosomiasis	2125 (1052–4230)	3309 (1705–6260)	55.7	40 (20–80)	48 (25–91)	19.8
Cysticercosis	514 (398–650)	503 (379–663)	-2.1	10 (8–12)	7 (5–10)	-24.7
Echinococcosis	152 (60–359)	144 (69–286)	-5.1	3 (1–7)	2 (1–4)	-27.0
Lymphatic filariasis	2368 (1551–3399)	2775 (1807–4000)	17.2	45 (29–64)	40 (26–58)	-9.9
Onchocerciasis	512 (361–687)	494 (360–656)	-3.5	10 (7–13)	7 (5–10)	-25.7

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	All ages DALYs (thousands)			DALYs (per 100 000)		
	1990	2010	%Δ	1990	2010	%Δ
(Continued from previous page)						
Trachoma	144 (104-189)	334 (243-438)	132.5	3 (2-4)	5 (4-6)	78.9
Dengue	712 (226-1513)	825 (344-1412)	15.9	13 (4-29)	12 (5-20)	-10.8
Yellow fever	<0.5 (0-0.5)	<0.5 (0-0.5)	15.1	<0.5 (0-0.5)	<0.5 (0-0.5)	-11.4
Rabies	3234 (1866-6509)	1462 (852-2659)	-54.8	61 (35-123)	21 (12-39)	-65.2
Intestinal nematode infections	9008 (4993-15 391)	5184 (2979-8811)	-42.5	170 (94-290)	75 (43-128)	-55.7
Ascariasis	4217 (2291-7148)	1315 (713-2349)	-68.8	80 (43-135)	19 (10-34)	-76.0
Trichuriasis	857 (465-1420)	638 (349-1061)	-25.5	16 (9-27)	9 (5-15)	-42.7
Hookworm disease	3934 (2056-6983)	3231 (1695-5732)	-17.9	74 (39-132)	47 (25-83)	-36.8
Food-borne trematodiasis	2394 (635-8501)	1875 (708-4837)	-21.7	45 (12-160)	27 (10-70)	-39.7
Other neglected tropical diseases	5012 (3656-7226)	4724 (3525-6351)	-5.7	95 (69-136)	69 (51-92)	-27.5
Maternal disorders	21582 (18 000-25 720)	16 104 (12 972-18 912)	-25.4	407 (340-485)	234 (188-274)	-42.6
Maternal haemorrhage	4784 (3923-5713)	3289 (2619-3860)	-31.2	90 (74-108)	48 (38-56)	-47.1
Maternal sepsis	2043 (1701-2508)	1309 (1059-1585)	-35.9	39 (32-47)	19 (15-23)	-50.7
Hypertensive disorders of pregnancy	4108 (3406-4986)	2797 (2254-3357)	-31.9	77 (64-94)	41 (33-49)	-47.6
Obstructed labour	1891 (1451-2625)	1792 (1249-2806)	-5.2	36 (27-50)	26 (18-41)	-27.1
Abortion	3218 (2668-3945)	2138 (1731-2592)	-33.6	61 (50-74)	31 (25-38)	-48.9
Other maternal disorders	5538 (4576-6538)	4778 (3819-5512)	-13.7	104 (86-123)	69 (55-80)	-33.6
Neonatal disorders	273 711 (239 733-300 723)	201 959 (182 138-221 901)	-26.2	5163 (4522-5672)	2931 (2644-3221)	-43.2
Preterm birth complications	105 969 (88 149-120 926)	76 982 (66 233-88 295)	-27.4	1999 (1663-2281)	1117 (961-1282)	-44.1
Neonatal encephalopathy (birth asphyxia/trauma)	60 592 (50 207-75 034)	50 150 (40 521-59 841)	-17.2	1143 (947-1415)	728 (588-869)	-36.3
Sepsis and other infectious disorders of the newborn baby	46 029 (25 147-70 357)	44 236 (27 349-72 418)	-3.9	868 (474-1327)	642 (397-1051)	-26.1
Other neonatal disorders	61 121 (46 110-74 451)	30 591 (25 603-37 360)	-50.0	1153 (870-1404)	444 (372-542)	-61.5
Nutritional deficiencies	111 787 (94 423-134 793)	85 341 (68 823-106 945)	-23.7	2109 (1781-2543)	1239 (999-1552)	-41.3
Protein-energy malnutrition	60 543 (50 360-71 685)	34 874 (27 975-41 628)	-42.4	1142 (950-1352)	506 (406-604)	-55.7
Iodine deficiency	3273 (2143-5008)	4027 (2594-6279)	23.0	62 (40-94)	58 (38-91)	-5.3
Vitamin A deficiency	740 (565-941)	806 (612-1037)	9.0	14 (11-18)	12 (9-15)	-16.1
Iron-deficiency anaemia	46 792 (32 598-66 122)	45 338 (30 977-64 551)	-3.1	883 (615-1247)	658 (450-937)	-25.4
Other nutritional deficiencies	439 (384-552)	295 (218-327)	-32.8	8 (7-10)	4 (3-5)	-48.3
Other communicable, maternal, neonatal, and nutritional disorders	48 186 (39 071-58 574)	41 957 (36 061-49 095)	-12.9	909 (737-1105)	609 (523-713)	-33.0
Sexually transmitted diseases excluding HIV	18 314 (11 399-28 213)	10 978 (6821-16 989)	-40.1	345 (215-532)	159 (99-247)	-53.9
Syphilis	17 014 (10 026-26 765)	9578 (5650-15 409)	-43.7	321 (189-505)	139 (82-224)	-56.7
Sexually transmitted chlamydial diseases	621 (332-1085)	714 (369-1271)	15.0	12 (6-20)	10 (5-18)	-11.5
Gonococcal infection	230 (137-381)	282 (156-481)	22.8	4 (3-7)	4 (2-7)	-5.5
Trichomoniasis	182 (0-549)	167 (0-493)	-8.4	3 (0-10)	2 (0-7)	-29.5
Other sexually transmitted diseases	267 (181-351)	236 (177-339)	-11.5	5 (3-7)	3 (3-5)	-31.9
Hepatitis	10 447 (9780-11 134)	13 258 (11 364-15 855)	26.9	197 (184-210)	192 (165-230)	-2.4
Acute hepatitis A	4945 (2942-7350)	4351 (2412-9026)	-12.0	93 (55-139)	63 (35-131)	-32.3
Acute hepatitis B	2877 (1910-3596)	4674 (3189-6052)	62.5	54 (36-68)	68 (46-88)	25.0
Acute hepatitis C	276 (169-394)	518 (378-713)	87.7	5 (3-7)	8 (5-10)	44.4
Acute hepatitis E	2349 (1339-3675)	3715 (1552-7470)	58.1	44 (25-69)	54 (23-108)	21.7
Leprosy	26 (12-48)	6 (3-11)	-76.6	<0.5 (0-1)	<0.5 (0-0.5)	-82.0
Other infectious diseases	19 399 (13 847-23 286)	17 715 (13 382-21 539)	-8.7	366 (261-439)	257 (194-313)	-29.7
Non-communicable diseases	1 075 297 (1 001 607-1 159 673)	1 343 696 (1 239 973-1 456 773)	25.0	20 283 (18 893-21 874)	19 502 (17 997-21 143)	-3.8
Neoplasms	148 078 (136 775-158 256)	188 487 (174 452-199 037)	27.3	2793 (2580-2985)	2736 (2532-2889)	-2.1
Oesophageal cancer	8139 (6608-10 115)	8943 (6698-10 822)	9.9	154 (125-191)	130 (97-157)	-15.5
Stomach cancer	18 453 (14 113-24 068)	16 413 (12 290-21 537)	-11.1	348 (266-454)	238 (178-313)	-31.6
Liver cancer	13 187 (10 746-15 056)	19 111 (16 655-22 911)	44.9	249 (203-284)	277 (242-333)	11.5
Liver cancer secondary to hepatitis B	6152 (5031-6999)	8938 (7729-10 877)	45.3	116 (95-132)	130 (112-158)	11.8
Liver cancer secondary to hepatitis C	2628 (2194-2937)	4141 (3542-4859)	57.6	50 (41-55)	60 (51-71)	21.3

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	All ages DALYs (thousands)			DALYs (per 100 000)		
	1990	2010	%Δ	1990	2010	%Δ
(Continued from previous page)						
Liver cancer secondary to alcohol use	2645 (2167-2999)	3782 (3295-4488)	42.9	50 (41-57)	55 (48-65)	10.0
Other liver cancer	1762 (1430-2003)	2250 (1964-2687)	27.7	33 (27-38)	33 (29-39)	-1.7
Larynx cancer	2055 (1101-3338)	2367 (1281-3818)	15.1	39 (21-63)	34 (19-55)	-11.4
Trachea, bronchus, and lung cancers	23 850 (18 835-29 845)	32 405 (24 400-38 334)	35.9	450 (355-563)	470 (354-556)	4.5
Breast cancer	8845 (8571-9295)	12 018 (11 514-12 704)	35.9	167 (162-175)	174 (167-184)	4.5
Cervical cancer	5570 (3570-7639)	6440 (4111-8758)	15.6	105 (67-144)	93 (60-127)	-11.0
Uterine cancer	1016 (588-1744)	1272 (630-1825)	25.2	19 (11-33)	18 (9-26)	-3.7
Prostate cancer	2352 (1438-3486)	3787 (2189-5623)	61.0	44 (27-66)	55 (32-82)	23.9
Colon and rectum cancers	10 640 (8967-11 798)	14 422 (12 774-16 571)	35.5	201 (169-223)	209 (185-241)	4.3
Mouth cancer	2224 (1859-2401)	3228 (2718-3538)	45.1	42 (35-45)	47 (39-51)	11.7
Nasopharynx cancer	1486 (980-1925)	2007 (1311-2611)	35.1	28 (18-36)	29 (19-38)	3.9
Cancer of other part of pharynx and oropharynx	2094 (1211-2579)	2742 (1577-3413)	30.9	39 (23-49)	40 (23-50)	0.8
Gallbladder and biliary tract cancer	2046 (1374-2812)	3034 (1966-4061)	48.3	39 (26-53)	44 (29-59)	14.1
Pancreatic cancer	4188 (3186-5376)	6161 (4644-7694)	47.1	79 (60-101)	89 (67-112)	13.2
Malignant melanoma of skin	841 (539-1231)	1169 (744-1694)	39.1	16 (10-23)	17 (11-25)	7.0
Non-melanoma skin cancer	515 (350-746)	798 (557-1068)	54.9	10 (7-14)	12 (8-16)	19.2
Ovarian cancer	2987 (2146-3606)	4118 (2930-5115)	37.9	56 (40-68)	60 (43-74)	6.1
Testicular cancer	282 (172-364)	313 (202-405)	11.2	5 (3-7)	5 (3-6)	-14.4
Kidney and other urinary organ cancers	2132 (1554-2806)	3676 (2857-4922)	72.5	40 (29-53)	53 (41-71)	32.7
Bladder cancer	2388 (1904-2858)	3015 (2336-3563)	26.2	45 (36-54)	44 (34-52)	-2.9
Brain and nervous system cancers	4602 (3053-6493)	6060 (3669-7455)	31.7	87 (58-122)	88 (53-108)	1.3
Thyroid cancer	579 (446-714)	836 (625-997)	44.4	11 (8-13)	12 (9-14)	11.1
Hodgkin's disease	751 (474-1035)	647 (430-920)	-13.8	14 (9-20)	9 (6-13)	-33.7
Non-Hodgkin lymphoma	4509 (3577-5210)	5860 (4610-6450)	30.0	85 (67-98)	85 (67-94)	0.0
Multiple myeloma	1029 (724-1452)	1475 (969-2002)	43.3	19 (14-27)	21 (14-29)	10.2
Leukaemia	8950 (7078-11 042)	9556 (7662-11 232)	6.8	169 (134-208)	139 (111-163)	-17.8
Other neoplasms	12 366 (9438-15 506)	16 615 (11 928-19 888)	34.4	233 (178-292)	241 (173-289)	3.4
Cardiovascular and circulatory diseases	240 667 (227 084-257 718)	295 036 (273 061-309 562)	22.6	4540 (4283-4861)	4282 (3963-4493)	-5.7
Rheumatic heart disease	14 418 (13 170-16 236)	10 150 (9 058-11 308)	-29.6	272 (248-306)	147 (131-164)	-45.8
Ischaemic heart disease	100 473 (96 503-108 966)	129 820 (119 174-138 044)	29.2	1895 (1820-2055)	1884 (1730-2004)	-0.6
Cerebrovascular disease	86 010 (81 022-94 811)	102 232 (90 428-107 989)	18.9	1622 (1528-1788)	1484 (1312-1567)	-8.5
Ischaemic stroke	32 128 (29 567-36 615)	39 389 (36 906-45 504)	22.6	606 (558-691)	572 (536-660)	-5.7
Haemorrhagic and other non-ischaemic stroke	53 882 (45 237-63 351)	62 843 (54 386-72 540)	16.6	1016 (853-1195)	912 (789-1053)	-10.3
Hypertensive heart disease	11 152 (9216-13 691)	15 324 (12 835-18 433)	37.4	210 (174-258)	222 (186-268)	5.7
Cardiomyopathy and myocarditis	9148 (7463-10 970)	11 151 (9759-12 882)	21.9	173 (141-207)	162 (142-187)	-6.2
Atrial fibrillation and flutter	1854 (1377-2429)	3598 (2756-4578)	94.1	35 (26-46)	52 (40-66)	49.3
Aortic aneurysm	2349 (1629-3220)	3163 (2280-4235)	34.6	44 (31-61)	46 (33-61)	3.6
Peripheral vascular disease	505 (342-748)	995 (703-1445)	97.1	10 (6-14)	14 (10-21)	51.7
Endocarditis	1489 (1215-1828)	1582 (1245-1839)	6.2	28 (23-34)	23 (18-27)	-18.3
Other cardiovascular and circulatory diseases	13 266 (11 425-15 212)	17 021 (15 191-19 188)	28.3	250 (216-287)	247 (220-278)	-1.3
Chronic respiratory diseases	119 153 (107 917-132 391)	117 945 (102 924-135 608)	-1.0	2248 (2036-2497)	1712 (1494-1968)	-23.8
Chronic obstructive pulmonary disease	78 283 (70 391-87 044)	76 731 (65 654-90 111)	-2.0	1477 (1328-1642)	1114 (953-1308)	-24.6
Pneumoconiosis	3503 (1799-6097)	2582 (1667-4295)	-26.3	66 (34-115)	37 (24-62)	-43.3
Asthma	21 469 (16 117-28 161)	22 459 (17 184-29 189)	4.6	405 (304-531)	326 (249-424)	-19.5
Interstitial lung disease and pulmonary sarcoidosis	1547 (1043-2156)	2233 (1547-2978)	44.4	29 (20-41)	32 (22-43)	11.1
Other chronic respiratory diseases	14 352 (10 700-19 695)	13 940 (11 167-17 190)	-2.9	271 (202-371)	202 (162-249)	-25.3
Cirrhosis of the liver	24 327 (20 693-27 179)	31 027 (25 965-34 645)	27.5	459 (390-513)	450 (377-503)	-1.9
Cirrhosis of the liver secondary to hepatitis B	7088 (5842-7961)	8990 (7728-10 912)	26.8	134 (110-150)	130 (112-158)	-2.4
Cirrhosis of the liver secondary to hepatitis C	5629 (4813-6421)	7452 (6370-8553)	32.4	106 (91-121)	108 (92-124)	1.9
Cirrhosis of the liver secondary to alcohol use	6350 (5128-7602)	8575 (6840-10 177)	35.0	120 (97-143)	124 (99-148)	3.9

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	All ages DALYs (thousands)			DALYs (per 100 000)		
	1990	2010	%Δ	1990	2010	%Δ
(Continued from previous page)						
Other cirrhosis of the liver	5260 (4556-6111)	6011 (5172-7117)	14.3	99 (86-115)	87 (75-103)	-12.1
Digestive diseases (except cirrhosis)	33 564 (30 273-36 733)	32 691 (29 153-35 898)	-2.6	633 (571-693)	474 (423-521)	-25.1
Peptic ulcer disease	9940 (8233-10 669)	6718 (5718-7752)	-32.4	187 (155-201)	98 (83-113)	-48.0
Gastritis and duodenitis	1277 (926-1717)	1197 (860-1717)	-6.3	24 (17-32)	17 (12-25)	-27.9
Appendicitis	1902 (1306-2933)	1483 (993-2096)	-22.0	36 (25-55)	22 (14-30)	-40.0
Paralytic ileus and intestinal obstruction without hernia	3860 (2243-4940)	3729 (2785-5009)	-3.4	73 (42-93)	54 (40-73)	-25.7
Inguinal or femoral hernia	999 (808-1358)	792 (539-1208)	-20.7	19 (15-26)	11 (8-18)	-39.0
Non-infective inflammatory bowel disease	2830 (1928-3648)	2875 (2190-3629)	1.6	53 (36-69)	42 (32-53)	-21.8
Vascular disorders of intestine	880 (449-1903)	1100 (566-2399)	25.1	17 (8-36)	16 (8-35)	-3.7
Gallbladder and bile duct disease	2179 (1836-2743)	2245 (1933-2598)	3.0	41 (35-52)	33 (28-38)	-20.7
Pancreatitis	1695 (1240-2121)	2354 (1811-2989)	38.9	32 (23-40)	34 (26-43)	6.9
Other digestive diseases	8003 (6261-9544)	10 197 (8318-13 168)	27.4	151 (118-180)	148 (121-191)	-2.0
Neurological disorders	48 663 (41 117-56 947)	73 781 (62 753-84 299)	51.6	918 (776-1074)	1071 (911-1224)	16.7
Alzheimer's disease and other dementias	5695 (4516-6982)	11 349 (9147-13 741)	99.3	107 (85-132)	165 (133-199)	53.3
Parkinson's disease	1094 (880-1374)	1918 (1529-2387)	75.3	21 (17-26)	28 (22-35)	34.9
Epilepsy	13 386 (10 681-16 667)	17 429 (14 129-21 202)	30.2	252 (201-314)	253 (205-308)	0.2
Multiple sclerosis	875 (700-1033)	1075 (893-1251)	22.9	17 (13-19)	16 (13-18)	-5.5
Migraine	15 927 (10 394-22 023)	22 362 (14 395-31 121)	40.4	300 (196-415)	325 (209-452)	8.0
Tension-type headache	1266 (754-2016)	1779 (1056-2822)	40.5	24 (14-38)	26 (15-41)	8.1
Other neurological disorders	10 419 (6837-14 567)	17 869 (12 788-24 723)	71.5	197 (129-275)	259 (186-359)	32.0
Mental and behavioural disorders	134 598 (112 138-159 316)	185 190 (154 647-218 496)	37.6	2539 (2115-3005)	2688 (2245-3171)	5.9
Schizophrenia	10 444 (6935-14 099)	14 999 (9766-20 399)	43.6	197 (131-266)	218 (142-296)	10.5
Alcohol use disorders	13 133 (9516-17 511)	17 644 (12 928-23 273)	34.3	248 (179-330)	256 (188-338)	3.4
Drug use disorders	13 143 (9721-17 259)	19 994 (15 254-25 366)	52.1	248 (183-326)	290 (221-368)	17.1
Opioid use disorders	5278 (3766-6850)	9152 (7066-11 443)	73.4	100 (71-129)	133 (103-166)	33.4
Cocaine use disorders	862 (529-1321)	1110 (645-1727)	28.8	16 (10-25)	16 (9-25)	-0.9
Amphetamine use disorders	1911 (1080-2984)	2617 (1470-4109)	36.9	36 (20-56)	38 (21-60)	5.4
Cannabis use disorders	1693 (1105-2418)	2057 (1348-2929)	21.5	32 (21-46)	30 (20-43)	-6.5
Other drug use disorders	3399 (2335-4932)	5059 (3555-7042)	48.8	64 (44-93)	73 (52-102)	14.5
Unipolar depressive disorders	54 010 (40 381-68 450)	74 264 (55 670-94 240)	37.5	1019 (762-1291)	1078 (808-1368)	5.8
Major depressive disorder	46 139 (34 517-58 427)	63 179 (47 779-80 891)	36.9	870 (651-1102)	917 (693-1174)	5.4
Dysthymia	7871 (5266-10 858)	11 084 (7297-15 447)	40.8	148 (99-205)	161 (106-224)	8.4
Bipolar affective disorder	9129 (5757-13 169)	12 867 (8084-18 654)	40.9	172 (109-248)	187 (117-271)	8.5
Anxiety disorders	19 664 (13 868-26 820)	26 826 (18 779-36 795)	36.4	371 (262-506)	389 (273-534)	5.0
Eating disorders	1304 (934-1770)	2161 (1519-2949)	65.7	25 (18-33)	31 (22-43)	27.5
Pervasive development disorders	5918 (4133-8130)	7666 (5355-10 565)	29.5	112 (78-153)	111 (78-153)	-0.3
Autism	3088 (2119-4260)	4007 (2752-5563)	29.8	58 (40-80)	58 (40-81)	-0.2
Asperger's syndrome	2830 (1917-4016)	3659 (2463-5150)	29.3	53 (36-76)	53 (36-75)	-0.5
Childhood behavioural disorders	5472 (3277-8359)	6245 (3785-9347)	14.1	103 (62-158)	91 (55-136)	-12.2
Attention-deficit hyperactivity disorder	424 (244-667)	491 (280-775)	15.8	8 (5-13)	7 (4-11)	-10.9
Conduct disorder	5047 (2960-7840)	5753 (3428-8748)	14.0	95 (56-148)	84 (50-127)	-12.3
Idiopathic intellectual disability	1247 (746-1924)	1043 (572-1687)	-16.4	24 (14-36)	15 (8-24)	-35.7
Other mental and behavioural disorders	1135 (721-1675)	1482 (990-2152)	30.6	21 (14-32)	22 (14-31)	0.5
Diabetes, urogenital, blood, and endocrine diseases	85 084 (73 638-102 489)	122 437 (107 437-143 387)	43.9	1605 (1389-1933)	1777 (1559-2081)	10.7
Diabetes mellitus	27 706 (23 696-32 894)	46 823 (40 085-55 215)	69.0	523 (447-620)	680 (582-801)	30.0
Acute glomerulonephritis	6774 (2754-17 979)	3684 (1746-8386)	-45.6	128 (52-339)	53 (25-122)	-58.1
Chronic kidney diseases	13 946 (12 194-15 480)	21 151 (18 147-23 223)	51.7	263 (230-292)	307 (263-337)	16.7
Chronic kidney disease due to diabetes mellitus	2642 (2371-3018)	4675 (4030-5182)	76.9	50 (45-57)	68 (58-75)	36.1
Chronic kidney disease due to hypertension	2850 (2524-3183)	4599 (3982-5057)	61.4	54 (48-60)	67 (58-73)	24.2

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	All ages DALYs (thousands)			DALYs (per 100 000)		
	1990	2010	%Δ	1990	2010	%Δ
(Continued from previous page)						
Chronic kidney disease unspecified	8453 (7291-9375)	11877 (10193-13047)	40.5	159 (138-177)	172 (148-189)	8.1
Urinary diseases and male infertility	8116 (6179-10673)	13523 (10484-17718)	66.6	153 (117-201)	196 (152-257)	28.2
Tubulointerstitial nephritis, pyelonephritis, and urinary tract infections	2060 (1421-2638)	3108 (2196-3766)	50.8	39 (27-50)	45 (32-55)	16.1
Urolithiasis	897 (659-1331)	1113 (785-1834)	24.1	17 (12-25)	16 (11-27)	-4.5
Benign prostatic hyperplasia	3726 (2392-5645)	6834 (4377-10179)	83.4	70 (45-106)	99 (64-148)	41.1
Male infertility	126 (50-270)	173 (70-365)	36.9	2 (1-5)	3 (1-5)	5.3
Other urinary diseases	1307 (829-1844)	2296 (1681-3068)	75.7	25 (16-35)	33 (24-45)	35.2
Gynaecological diseases	7858 (5064-11911)	10258 (6438-15837)	30.5	148 (96-225)	149 (93-230)	0.4
Uterine fibroids	2355 (1584-3354)	3062 (1990-4573)	30.0	44 (30-63)	44 (29-66)	0.0
Polycystic ovarian syndrome	2027 (971-3786)	2756 (1312-5212)	35.9	38 (18-71)	40 (19-76)	4.6
Female infertility	91 (36-189)	125 (50-259)	37.6	2 (1-4)	2 (1-4)	5.9
Endometriosis	405 (143-739)	545 (188-1008)	34.6	8 (3-14)	8 (3-15)	3.6
Genital prolapse	1343 (548-2690)	1817 (746-3654)	35.3	25 (10-51)	26 (11-53)	4.1
Premenstrual syndrome	983 (49-2592)	1249 (63-3337)	27.0	19 (1-49)	18 (1-48)	-2.3
Other gynaecological diseases	654 (491-873)	705 (527-954)	7.7	12 (9-16)	10 (8-14)	-17.1
Haemoglobinopathies and haemolytic anaemias	14293 (10785-18552)	15640 (12225-19722)	9.4	270 (203-350)	227 (177-286)	-15.8
Thalassaemias	5397 (4084-7018)	5717 (4170-7728)	5.9	102 (77-132)	83 (61-112)	-18.5
Sickle-cell disorders	4333 (3288-5576)	5641 (4244-7246)	30.2	82 (62-105)	82 (62-105)	0.2
G6PD deficiency	325 (254-414)	303 (244-372)	-6.8	6 (5-8)	4 (4-5)	-28.3
Other haemoglobinopathies and haemolytic anaemias	4238 (2950-6223)	3979 (2887-5400)	-6.1	80 (56-117)	58 (42-78)	-27.7
Other endocrine, nutritional, blood, and immune disorders	6392 (4349-8434)	11358 (8204-17019)	77.7	121 (82-159)	165 (119-247)	36.7
Musculoskeletal disorders	116554 (88684-147285)	169624 (129771-212734)	45.5	2198 (1673-2778)	2462 (1883-3088)	12.0
Rheumatoid arthritis	3335 (2573-4192)	4815 (3705-6056)	44.4	63 (49-79)	70 (54-88)	11.1
Osteoarthritis	10449 (7100-14788)	17135 (11884-24256)	64.0	197 (134-279)	249 (172-352)	26.2
Low back and neck pain	82111 (56962-110433)	116704 (80615-156527)	42.1	1549 (1074-2083)	1694 (1170-2272)	9.4
Low back pain	58245 (39934-78139)	83063 (56632-111880)	42.6	1099 (753-1474)	1206 (822-1624)	9.7
Neck pain	23866 (16535-33105)	33640 (23469-46476)	41.0	450 (312-624)	488 (341-675)	8.5
Gout	76 (48-112)	114 (72-167)	49.3	1 (1-2)	2 (1-2)	14.9
Other musculoskeletal disorders	20583 (17019-23254)	30856 (25815-34583)	49.9	388 (321-439)	448 (375-502)	15.4
Other non-communicable diseases	124608 (101248-157225)	127477 (99171-169616)	2.3	2350 (1910-2966)	1850 (1439-2462)	-21.3
Congenital anomalies	54242 (45567-69009)	38887 (31850-45719)	-28.3	1023 (860-1302)	564 (462-664)	-44.8
Neural tube defects	10291 (6276-14848)	6372 (3884-9096)	-38.1	194 (118-280)	92 (56-132)	-52.4
Congenital heart anomalies	21786 (18241-28667)	15457 (13675-17754)	-29.0	411 (344-541)	224 (198-258)	-45.4
Cleft lip and cleft palate	982 (543-1688)	571 (408-747)	-41.9	19 (10-32)	8 (6-11)	-55.3
Down's syndrome	2120 (1087-3380)	1775 (1227-2463)	-16.3	40 (21-64)	26 (18-36)	-35.6
Other chromosomal abnormalities	3051 (1159-6843)	1761 (1017-2972)	-42.3	58 (22-129)	26 (15-43)	-55.6
Other congenital anomalies	16012 (9010-24351)	12951 (8408-17169)	-19.1	302 (170-459)	188 (122-249)	-37.8
Skin and subcutaneous diseases	30197 (20885-44452)	36948 (24800-55671)	22.4	570 (394-838)	536 (360-808)	-5.8
Eczema	6890 (3508-10872)	8897 (4518-14049)	29.1	130 (66-205)	129 (66-204)	-0.6
Psoriasis	742 (371-1179)	1059 (528-1690)	42.8	14 (7-22)	15 (8-25)	9.8
Cellulitis	1428 (1069-1863)	1292 (1000-1770)	-9.6	27 (20-35)	19 (15-26)	-30.4
Abscess, impetigo, and other bacterial skin diseases	3166 (2295-4355)	2869 (2099-4175)	-9.4	60 (43-82)	42 (30-61)	-30.3
Scabies	1881 (956-3384)	1580 (807-2792)	-16.0	35 (18-64)	23 (12-41)	-35.4
Fungal skin diseases	1618 (532-3754)	2303 (740-5435)	42.3	31 (10-71)	33 (11-79)	9.5
Viral skin diseases	2354 (1058-4369)	2731 (1203-4941)	16.0	44 (20-82)	40 (17-72)	-10.7
Acne vulgaris	3281 (1545-6205)	4002 (1869-7575)	22.0	62 (29-117)	58 (27-110)	-6.2
Alopecia areata	1002 (313-1906)	1352 (424-2567)	35.0	19 (6-36)	20 (6-37)	3.9

(Continues on next page)

	All ages DALYs (thousands)			DALYs (per 100 000)		
	1990	2010	%Δ	1990	2010	%Δ
(Continued from previous page)						
Pruritus	1433 (682–2676)	2086 (1004–3951)	45.6	27 (13–50)	30 (15–57)	12.1
Urticaria	1968 (757–3431)	2600 (980–4441)	32.1	37 (14–65)	38 (14–64)	1.6
Decubitus ulcer	975 (764–1232)	1206 (914–1539)	23.6	18 (14–23)	17 (13–22)	-4.9
Other skin and subcutaneous diseases	3459 (1642–6475)	4973 (2328–9311)	43.7	65 (31–122)	72 (34–135)	10.6
Sense organ diseases	25 169 (18 140–35 220)	34 733 (25 167–47 663)	38.0	475 (342–664)	504 (365–692)	6.2
Glaucoma	443 (338–561)	943 (725–1178)	112.7	8 (6–11)	14 (11–17)	63.7
Cataracts	4225 (3283–5364)	4732 (3647–6010)	12.0	80 (62–101)	69 (53–87)	-13.8
Macular degeneration	513 (388–647)	1329 (1026–1668)	158.9	10 (7–12)	19 (15–24)	99.2
Refraction and accommodation disorders	3608 (2688–4762)	5593 (4117–7468)	55.0	68 (51–90)	81 (60–108)	19.3
Other hearing loss	12 211 (7258–19 495)	15 761 (9455–25 210)	29.1	230 (137–368)	229 (137–366)	-0.7
Other vision loss	4069 (2171–7180)	6240 (3260–11 208)	53.4	77 (41–135)	91 (47–163)	18.0
Other sense organ diseases	100 (34–231)	136 (46–309)	35.4	2 (1–4)	2 (1–4)	4.2
Oral disorders	12 417 (6824–20 984)	15 015 (7795–26 482)	20.9	234 (129–396)	218 (113–384)	-7.0
Dental caries	3704 (1523–7150)	4984 (2086–9356)	34.5	70 (29–135)	72 (30–136)	3.5
Periodontal disease	3440 (1310–7305)	5410 (2051–11 286)	57.3	65 (25–138)	79 (30–164)	21.0
Edentulism	5273 (3100–8127)	4621 (2678–7296)	-12.4	99 (58–153)	67 (39–106)	-32.6
Sudden infant death syndrome	2583 (1321–4884)	1893 (1127–3139)	-26.7	49 (25–92)	27 (16–46)	-43.6
Injuries	245 694 (228 373–268 325)	278 665 (253 532–305 786)	13.4	4634 (4308–5061)	4044 (3680–4438)	-12.7
Transport injuries	61 026 (51 613–72 674)	81 577 (67 477–103 465)	33.7	1151 (974–1371)	1184 (979–1502)	2.9
Road injury	56 655 (49 607–68 078)	75 482 (61 556–94 783)	33.2	1069 (936–1284)	1096 (893–1376)	2.5
Pedestrian injury by road vehicle	17 477 (13 682–20 572)	25 636 (20 291–33 329)	46.7	330 (258–388)	372 (295–484)	12.9
Pedal cycle vehicle	3362 (2601–4070)	4645 (3643–5496)	38.2	63 (49–77)	67 (53–80)	6.3
Motorised vehicle with two wheels	8631 (6913–10 361)	12 266 (9979–13 897)	42.1	163 (130–195)	178 (145–202)	9.4
Motorised vehicle with three or more wheels	21 448 (17 644–25 904)	28 233 (23 657–33 474)	31.6	405 (333–489)	410 (343–486)	1.3
Road injury other	6565 (3845–10 481)	5974 (3593–10 091)	-9.0	124 (73–198)	87 (52–146)	-30.0
Other transport injury	4370 (3623–5384)	6096 (5032–7458)	39.5	82 (68–102)	88 (73–108)	7.3
Unintentional injuries other than transport injuries	129 188 (118 487–143 697)	120 546 (107 276–133 408)	-6.7	2437 (2235–2710)	1750 (1557–1936)	-28.2
Falls	25 891 (21 284–31 651)	35 385 (28 479–44 049)	36.7	488 (401–597)	514 (413–639)	5.2
Drowning	28 724 (22 511–34 347)	19 742 (16 948–24 802)	-31.3	542 (425–648)	287 (246–360)	-47.1
Fire, heat, and hot substances	17 128 (13 849–20 276)	19 010 (13 290–24 139)	11.0	323 (261–382)	276 (193–350)	-14.6
Poisonings	11 151 (8403–17 607)	8934 (6647–11 850)	-19.9	210 (158–332)	130 (96–172)	-38.4
Exposure to mechanical forces	15 793 (11 470–23 763)	11 367 (8668–13 493)	-28.0	298 (216–448)	165 (126–196)	-44.6
Mechanical forces (firearm)	7603 (4721–11 573)	4624 (3125–6872)	-39.2	143 (89–218)	67 (45–100)	-53.2
Mechanical forces (other)	8504 (5674–11 561)	7097 (4686–8517)	-16.5	160 (107–218)	103 (68–124)	-35.8
Adverse effects of medical treatment	2483 (1901–3006)	4082 (3333–4730)	64.4	47 (36–57)	59 (48–69)	26.5
Animal contact	4743 (3217–6151)	3659 (2366–5049)	-22.9	89 (61–116)	53 (34–73)	-40.6
Animal contact (venomous)	3531 (2110–5519)	2729 (1545–4806)	-22.7	67 (40–104)	40 (22–70)	-40.5
Animal contact (non-venomous)	1212 (625–1952)	929 (558–1281)	-23.3	23 (12–37)	13 (8–19)	-41.0
Unintentional injuries not classified elsewhere	23 275 (20 000–25 649)	18 369 (16 254–20 786)	-21.1	439 (377–484)	267 (236–302)	-39.3
Self-harm and interpersonal violence	49 198 (41 304–56 869)	62 195 (51 859–73 023)	26.4	928 (779–1073)	903 (753–1060)	-2.7
Self-harm	29 605 (23 033–37 329)	36 654 (26 890–44 649)	23.8	558 (434–704)	532 (390–648)	-4.7
Interpersonal violence	19 593 (14 501–23 503)	25 541 (20 030–32 921)	30.4	370 (274–443)	371 (291–478)	0.3
Assault by firearm	8239 (6325–10 094)	11 146 (8769–13 161)	35.3	155 (119–190)	162 (127–191)	4.1
Assault by sharp object	4776 (3319–6698)	7095 (4828–10 148)	48.6	90 (63–126)	103 (70–147)	14.3
Assault by other means	6729 (5182–7705)	7526 (6274–8920)	11.8	127 (98–145)	109 (91–129)	-13.9
Forces of nature, war, and legal intervention	6282 (4786–9222)	14 347 (8969–27 860)	128.4	118 (90–174)	208 (130–404)	75.7
Exposure to forces of nature	1674 (1091–2917)	13 387 (8177–26 226)	699.9	32 (21–55)	194 (119–381)	515.5
Collective violence and legal intervention	4608 (3538–6516)	960 (708–1480)	-79.2	87 (67–123)	14 (10–21)	-84.0

Data are DALYs (95% UI) or % change. UI=uncertainty interval. DALYs=disability-adjusted life years. %Δ=percentage change. *E. coli*=*Escherichia coli*. *H. influenzae*=*Haemophilus influenzae*.

Table 1: Global disability-adjusted life years for 291 causes in 1990 and 2010 for all ages, both sexes combined, and per 100 000 with 95% UI and percentage change

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causes with similar ranks where the uncertainty intervals are up to tenfold wider for one compared with another cause. The largest rank uncertainty intervals are for whooping cough (149 ranks), typhoid and paratyphoid fevers (96 ranks), food-borne trematodiasis (77 ranks), fungal skin diseases (75 ranks), premenstrual syndrome (71 ranks), and acute hepatitis E (68 ranks).

Global DALYs decreased slightly from 2.503 billion in 1990 to 2.490 billion in 2010 (table 2). The nearly constant volume of DALYs is due to a near balancing of two key forces: nearly 40% growth in DALYs due to increases in population numbers, ageing of the population, and

declines of more than 35% due to changes in age-specific and sex-specific rates. The story is more complicated when we examine the balance of these demographic and epidemiological forces at the level of broad cause groups. Communicable, maternal, neonatal, and nutritional disorders have declined by more than 25% because population growth has been more than compensated by large drops in expected DALYs due to population ageing and over 50% reductions in DALYs due to declining age-specific and sex-specific rates. For NCDs, both population growth and ageing of the world's population is driving up DALYs; these factors alone would have increased NCD

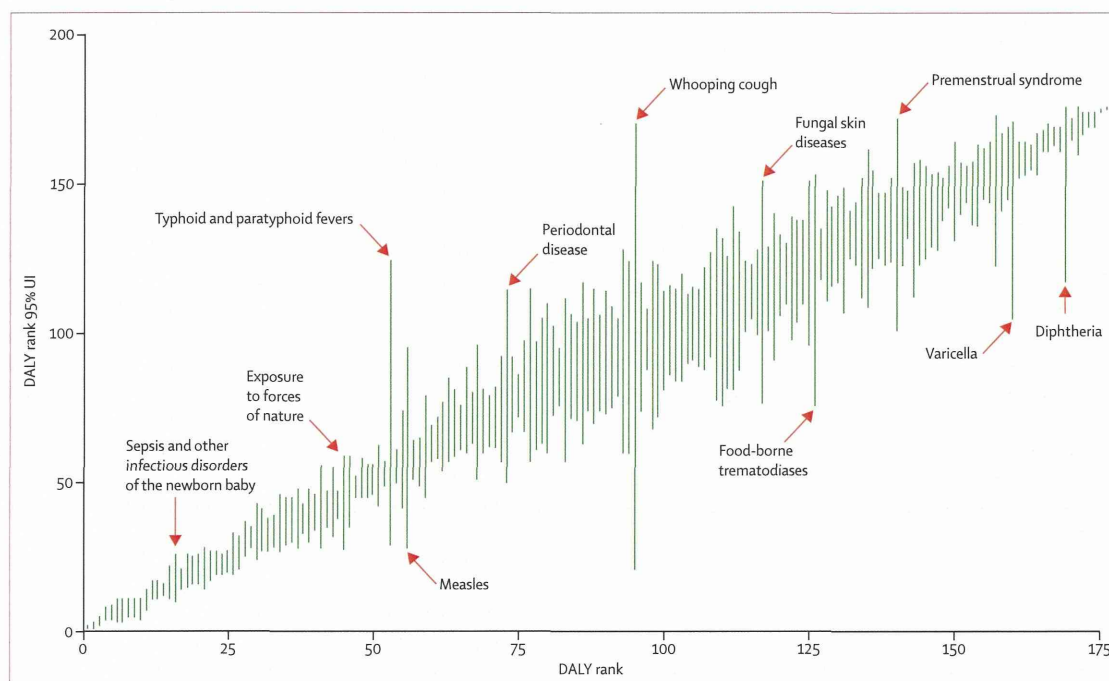


Figure 3: Global disability-adjusted life years (DALY) rank with 95% UI by cause in 2010. UI=uncertainty interval. An interactive version of this figure is available online at <http://healthmetricsandevaluation.org/gbd/visualizations/regional>.

	All causes	Communicable, maternal, neonatal, and nutritional disorders	Non-communicable diseases	Injuries
1990 DALYs (thousands)	2502 601	1181 610	1075 297	245 694
DALYs expected with 2010 population, 1990 population age structure, 1990 DALY rates (thousands)	3444 678	1744 235	1374 650	325 793
DALYs expected with 2010 population, 2010 population age structure, 1990 DALY rates (thousands)	3386 762	1481 435	1579 654	325 673
2010 DALYs (thousands)	2490 385	868 024	1343 696	278 665
Percentage change from 1990 due to population growth	37.6%	47.6%	27.8%	32.6%
Percentage change from 1990 due to population ageing	-2.3%	-22.2%	19.1%	0.0%
Percentage change from 1990 due to change in DALY rates	-35.8%	-51.9%	-21.9%	-19.1%
Percentage change from 1990 to 2010	-0.5%	-26.5%	25.0%	13.4%

DALY=disability-adjusted life years.

Table 2: Decomposition analysis of the change of global disability-adjusted life years (thousands) by level 1 causes from 1990 to 2010 into total population growth, population ageing, and changes in age-specific, sex-specific, and cause-specific disability-adjusted-life-year rates