Updated trends in the global prevalence and burden of mental disorders, 1990–2023: a systematic analysis for the Global Burden of Disease Study 2023

*GBD 2023 Mental Disorder Collaborators**

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Summary

Background The 2023 iteration of the Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) estimated prevalence, incidence, and health burden for 375 diseases and injuries, including 12 mental disorders. We assess past, current, and emerging trends in the prevalence and burden of mental disorders across sexes and age groups, for 21 regions, 204 countries and territories, and by Socio-demographic Index (SDI) quintile, from 1990 to 2023.

Methods Mental disorders included in GBD 2023 were anxiety disorders, major depressive disorder, dysthymia, bipolar disorder, schizophrenia, autism spectrum disorders, conduct disorder, attention-deficit hyperactivity disorder, anorexia nervosa, bulimia nervosa, idiopathic developmental intellectual disability, and a residual category of other mental disorders. A literature review identified epidemiological data for each disorder. These were analysed via a Bayesian meta-regression to estimate prevalence by disorder, sex, age, location, and year. Disorder-specific prevalence was multiplied by disability weights representing the severity of health loss associated with each disorder to estimate years lived with disability (YLDs). Deaths due to anorexia nervosa were assessed with a Cause of Death Ensemble modelling strategy to estimate deaths by sex, age, location, and year, and then multiplied by the standard life expectancy at age of death to estimate years of life lost (YLLs). YLDs equalled disability-adjusted life-years (DALYs) for all mental disorders except anorexia nervosa (the only mental disorder considered as an underlying cause of death in GBD), for which DALYs represented the sum of YLDs and YLLs. We presented prevalence, deaths, YLDs, YLLs, and DALYs as counts, age-specific rates per 100 000 population, and age-standardised rates per 100 000 population.

Findings We estimated 1·17 billion (95% uncertainty interval 1·06–1·31) prevalent cases of mental disorders globally in 2023, equivalent to an age-standardised prevalence rate of 14 210·7 cases (12 849·5–15 940·1) per 100 000 population. These estimates represented a 95·5% (75·0–121·2) increase in prevalent cases and 24·2% (11·4–41·4) increase in age-standardised prevalence rate between 1990 and 2023. All mental disorders showed increases in prevalent cases between 1990 and 2023, while notable increases were seen in age-standardised prevalence rates for anxiety disorders, major depressive disorder, dysthymia, anorexia nervosa, bulimia nervosa, schizophrenia, and conduct disorder. There were an estimated 171 million (127–228) DALYs due to mental disorders globally across sex and age in 2023, equivalent to an age-standardised DALY rate of 2070·5 DALYs (1519·1–2750·5) per 100 000 population. Mental disorders contributed to 6·1% (4·8–7·6) of all-cause DALYs in 2023, making them the fifth leading cause of global DALYs (up from 12th in 1990). DALYs were almost entirely composed of YLDs. Mental disorders were the leading cause of YLDs in 2023 (up from second in 1990), explaining 17·3% (14·8–20·6) of all-cause global YLDs. Leading causes of mental disorder DALYs were anxiety disorders (ranked 11th among the 304 diseases and injuries at Level 4 of the GBD cause hierarchy), major depressive disorder (15th), and schizophrenia (41st). Globally in 2023, mental disorder age-standardised DALY rates were higher among females (2239·6 [1643·7–3014·1] per 100 000) than among males (1900·2 [1399·8–2510·8] per 100 000), and peaked in the 15–19 years age group (2617·3 [1850·6–3696·8] per 100 000). All locations showed increased mental disorder DALY rates in 2023 compared with 1990, ranging across countries and territories from 1302·4 (952·7–1683·7) per 100 000 in Viet Nam to 3555·8 (2661·9–4715·0) per 100 000 in the Netherlands. Across SDI quintiles, DALY rates ranged from 1853·0 (1352·1–2469·3) per 100 000 for middle SDI to 2184·1 (1606·1–2890·3) per 100 000 for high SDI.

Interpretation A significant health burden was imposed by mental disorders in all countries and territories in 2023, irrespective of the health resources available. In some instances, this burden has increased over time and is unevenly distributed across populations. Stronger surveillance systems, particularly in low-income and middle-income countries, are required. Additionally, we need more coordinated and inclusive policies to reduce the burden through early treatment and prevention, tailored to sex and age differences across locations. Responding to the mental health needs of our global population, especially those most vulnerable, is an obligation, not a choice.

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Introduction

Mental disorders are common illnesses that lead to health loss and human suffering evident at the population level. The Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) 2021 estimated that 1·1 billion individuals across the globe were living with a mental disorder in 2021, making mental disorders the sixth-leading cause of all health burden and the second-leading cause of disability globally across all ages.[1] Mental disorders also have broader societal consequences impacting those responsible for the wellbeing of individuals with mental disorders, as well as employers, due to diminished productivity and work force participation, and government, with increased welfare and mental health service requirements.[2]

The importance of mental health globally was recognised in the UN 2015–30 Sustainable Development Goals[3] and in the WHO Comprehensive Mental Health Action Plan 2013–2030, which called for a doubling of the mental health services coverage globally by 2030.[4] The emergence of the COVID-19 pandemic increased the global prevalence of depressive and anxiety disorders, amplifying unmet mental health needs globally and hindering advancement towards meeting these targets. Mechanisms to monitor progress[5,6] require up-to-date epidemiological data to allow the distribution of mental disorders across populations to be tracked and emerging trends adequately addressed.[7]

Having now proceeded to living with COVID-19 as an infectious disease, continued monitoring of the distribution of mental disorders globally enables us to assess countries' levels of preparedness for existing, emerging, and future mental health threats. This was a key focus for the estimation of prevalence and disease burden in GBD 2023, the most recent GBD iteration. GBD 2023 estimated the prevalence, incidence, and health

Research in context

Evidence before this study

The last comprehensive assessment of mental disorder burden globally conducted by the Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) collaborator network was published in February, 2022, using GBD 2019 findings. There has since been two GBD cycles, with key updates to the epidemiological data and analytical methods underpinning burden analyses for mental disorders, including an assessment of the impact of the COVID-19 pandemic on mental disorder burden. The GBD 2023 diseases and injuries capstone publication summarised trends in burden across all diseases and injuries. We searched PubMed on July 11, 2025 for articles on the global burden of mental disorders published since February 2022. We used the following search terms: ((("Mental disorders"[Title/Abstract]) AND (Global[Title/Abstract])) AND (2023[Title/Abstract])) AND (((Burden[Title/Abstract]) OR (Prevalence[Title/Abstract])) OR (Disability[Title/Abstract])). Our search yielded 28 articles, but none presented on the global burden of mental disorders using GBD 2023 findings.

Added value of this study

GBD 2023 estimated prevalence, incidence, and health burden for 375 diseases and injuries across location, age, sex, and year, including 12 mental disorders with several key updates. We undertook literature review updates for 11 mental disorders, incorporating 5251 new epidemiological datapoints within our estimation of prevalence; reanalysed sources of bias within prevalence data, including the implementation of 12 new bias corrections; transitioned from the Disease Modelling Meta-Regression (DisMod MR 2.1) tool to its updated version, Disease Modelling Age-Time (DisMod-AT) for major depressive disorder, anxiety disorders, and autism spectrum disorders; implemented a more streamlined approach to quantifying the impact of the COVID-19 pandemic on the prevalence of anxiety disorders and major depressive disorder; updated the severity distribution of attention-deficit hyperactivity disorder (ADHD); and undertook a more comprehensive audit of epidemiological datasets for idiopathic developmental intellectual disability, ADHD, conduct disorder, anorexia nervosa, bulimia nervosa, and schizophrenia. Given these updates, GBD 2023 findings supersede findings from previous GBD studies. We identify past, current, and emerging trends in the prevalence and burden of mental disorders, highlighting populations most at risk. We consider the implications of these findings for meeting international mental health targets.

Implications of all the available evidence

Concerns of growing mental health issues globally have been raised by other stakeholders. Using comprehensive and reliable epidemiological datasets and methods, GBD 2023 concluded that, the burden caused by mental disorders was large in 2023, unevenly distributed across populations, and had increased over time. We estimated more than 1·17 billion people were living with mental disorders in 2023, a number that has almost doubled since 1990. Mental disorders were the leading cause of years lived with disability globally in 2023 (up from second in 1990) and the fifth-leading cause of disability-adjusted life-years in 2023 (up from 12th in 1990). GBD 2023 findings reaffirmed conclusions from previous GBD studies in emphasising the need for a significant shift in how we respond to mental disorders globally, with enhanced epidemiological data coverage and surveillance systems, and more coordinated and inclusive policy action facilitating early treatment and prevention strategies to meet the growing mental health needs of our global population.

burden of 375 diseases and injuries, including 12 mental disorders.[8–10] Health burden was quantified using the disability-adjusted life-year (DALY), which combines the non-fatal and fatal consequences of diseases and injuries; one DALY represents one healthy year of life lost to a cause.[10] GBD metrics were produced for 204 countries and territories, across 25 age groups and by sex, from 1990 to 2023. GBD 2023 included these updates: (1) epidemiological literature review updates to incorporate new data; (2) re-analysis of sources of bias within prevalence data; (3) transition from the Disease Modelling Meta-Regression (DisMod MR 2.1) tool to the updated version, Disease Modelling Age-Time (DisMod-AT), for major depressive disorder, anxiety disorders, and autism spectrum disorders; (4) a more streamlined approach to quantifying the effects of the COVID-19 pandemic on the prevalence of anxiety disorders and major depressive disorder; and (5) updates to the severity distribution of attention-deficit hyperactivity disorder (ADHD). Given these updates, GBD 2023 findings supersede findings from previous GBD studies.

In this Article, we expand on our previous publication on the burden of mental disorders, which assessed burden up to 2019,[2] and on the GBD 2023 diseases and injuries capstone publication,[10] by presenting an analysis of the global prevalence and burden of mental disorders. We assessed trends in prevalence and burden for 12 mental disorders from 1990 to 2023, disaggregated by age, sex, location, and Socio-demographic Index (SDI) quintile. We aimed to better understand past, current, and emerging trends in the prevalence and burden of mental disorders, particularly as we transitioned beyond the COVID-19 pandemic, and to highlight populations most at risk. This manuscript was produced as part of the GBD Collaborator Network and in accordance with the GBD Protocol.[11]

Methods

Overview

This study presents the prevalence, years lived with disability (YLDs; the non-fatal component of burden), years of life lost (YLLs; the fatal component of burden), and DALYs (the total burden and aggregate of YLDs and YLLs) for 12 mental disorders. Findings are disaggregated by sex (female and male), age (25 groups from birth to age ≥95 years), location (204 countries and territories, grouped into 21 regions, in turn grouped into seven super-regions), and year (1990–2023).[10] We used pre-aggregated, non-identifiable, and publicly available data, analysed using Python (version 3.10.4), Stata (version 13.1), and R (version 4.2.1). This study complies with the GATHER statement (appendix 1 pp 110–112).[12] Additional methodological information is provided in appendix 1 (pp 2–109).

See Online for appendix 1

Mental disorders in GBD 2023

GBD 2023 estimated burden for an aggregated group of mental disorders (a cause group at Level 2 of the GBD cause hierarchy) comprising the following Level 3 (and 4) causes: depressive disorders (Level 4 causes: major depressive disorder and dysthymia), any anxiety disorder, schizophrenia, bipolar disorder, eating disorders (Level 4 causes: anorexia nervosa and bulimia nervosa), autism spectrum disorders, conduct disorder, ADHD, idiopathic developmental intellectual disability (IDID; ie, intellectual disability from unknown sources after other sources of intellectual disability are accounted for within the broader intellectual disability impairment envelope in GBD 2023), and other mental disorders (a residual group comprising personality disorders without a comorbid mental or substance use disorder).

Disorders were defined according to the Diagnostic and Statistical Manual of Mental Disorders (DSM)[13,14] or the ICD.[15] We accepted epidemiological data adhering to any DSM and ICD version; however, most used DSM-IV-TR criteria. Accordingly, GBD 2023 estimates align primarily with DSM-IV-TR, except for autism spectrum disorders, anorexia nervosa, and bulimia nervosa, which align with DSM-5. Mental disorders varying by severity were disaggregated into health states or sequalae (ie, consequences of the disorder). Clinical definitions and health states for each mental disorder and illustration of mental disorders within the broader GBD cause hierarchy are presented in appendix 1 (pp 2–109, 115).

Epidemiological literature review

Initial systematic literature reviews were conducted for GBD 2010 to identify epidemiological data on mental disorders.[16] These reviews have been updated on a rolling basis with each GBD cycle. The latest update was conducted for GBD 2023 for all disorders except autism spectrum disorders, for which the literature review update was conducted for GBD 2021. We searched three electronic databases (PsycINFO, Embase, PubMed) supplemented by a grey literature search of the Global Health Data Exchange, relevant international databases, and GBD collaborator recommendations. Keywords used within our electronic searches are presented in appendix 1 (pp 2–109).

We included surveys reporting prevalence, incidence, remission or duration, severity, or excess mortality associated with each mental disorder. Mental disorders had to be identified through clinical evaluations or completion of an established instrument broadly adhering to DSM or ICD classifications.[13–15] The effect of clinical criteria was assessed if sufficient data were available. For prevalence and incidence, samples needed to be representative of the general population. Samples with higher or lower risk of mental disorders compared with the general population (eg, surveys using non-probabilistic sampling or specific population groups) were excluded. Samples of inpatients or outpatients were only included for IDID and schizophrenia; individuals with these disorders are more likely to be in contact with

services compared with other mental disorders. US claims information from a database of private and public insurance schemes was used for bipolar disorder. We preferred prevalence estimates derived within a recall period of 12 months or less to minimise the effects of recall bias. Prevalence estimates with lifetime recall of symptoms were included for bipolar disorder, autism spectrum disorders, IDID, and schizophrenia, which have little to no remission. For remission and mortality, we accepted data from follow-up studies capturing cases no longer fulfilling diagnostic criteria for a disorder or reporting the relative risk of death or standardised mortality ratio for the disorder. No language restrictions were imposed.

We included 676 new data sources (5251 new datapoints) across all mental disorders. Overall, our dataset comprised 57 data sources on incidence, 2020 data sources on prevalence, and 225 data sources for other epidemiological measures. Study counts by disorder and location are provided in appendix 1 (p 113).

Data extraction and processing

The titles, abstracts, and full texts of articles were consecutively reviewed for eligibility by the GBD mental disorders research team. Information related to the estimate (eg, value, 95% uncertainty interval [UI], and SE), sample (eg, size, location, age, and ascertainment year), and data collection (eg, instrument and sampling strategy) were extracted. Disagreements regarding study eligibility and data extraction were reviewed by senior team members. We preferred age-specific and sex-specific estimates if available. If a study reported sex-specific estimates aggregated across age, and age-specific estimates aggregated across sex, we used the available sex ratio to split age-specific estimates by sex (appendix 1 pp 2–109).

We minimised heterogeneity within prevalence data from measurement error wherever possible. Measurement error occurred from the use of alternative case definitions (eg, various DSM or ICD versions or symptom scales partly adhering to DSM or ICD classifications) or data collection strategies (eg, data collected across various recall periods or survey administration by lay interviewers instead of clinically trained interviewers). For each mental disorder, sources of measurement error were identified through close analysis of the data and broader literature. For each potential source of measurement error, we reviewed the prevalence dataset to identify pairs of reference (gold standard) and corresponding alternative data. Reference and alternative data pairs were matched on location, age, sex, and year, and informed an analysis using meta-regression—Bayesian, regularised, trimmed (MR-BRT) with linear and non-linear mixed-effects models and fitting procedures[10] to produce correction factors. Alternative prevalence estimates in the broader dataset were adjusted according to these correction factors. We implemented 22 bias corrections in GBD 2023, of which 12 were new additions since GBD 2021 (appendix 1 pp 2–109).

Prevalence estimation

Cleaned and processed epidemiological datapoints were used to estimate prevalence by disorder, location, age, sex, and year using one of two Bayesian disease-modelling meta-regression tools: DisMod-MR 2.1 or DisMod-AT. DisMod-AT has an improved ability to incorporate cohort effects over time and location-level covariates by age and sex, and causes are being transitioned to DisMod-AT in stages across GBD iterations. For GBD 2023, the prevalence of major depressive disorder, anxiety disorders, and autism spectrum disorders was assessed with DisMod-AT. The prevalence of all remaining mental disorders was assessed with DisMod-MR 2.1. Both tools meta-analysed raw epidemiological data to produce internally consistent estimates of prevalence, incidence, remission, and mortality in a cascade down the GBD geographical hierarchy, where data from locations higher in the hierarchy (eg, regions such as Western Europe) guided estimation for locations lower down (eg, Spain). Age-specific priors (eg, minimum age of onset) and location-level covariates were used to inform the prevalence modelling.[10] Modelled prevalence outputs represented prevalence with point recall (ie, within the past month or less) for all mental disorders except bipolar disorder and schizophrenia, for which we modelled prevalence with past-year recall. Individuals with bipolar disorder and schizophrenia can alternate between acute and residual phases of illness, both of which carry disability and meet the criteria for diagnosis (rather than clinical remission).[17] However, surveys ascertaining symptoms experienced within the past month or less might fail to correctly identify individuals within a residual state, thereby underestimating prevalence.

Eight location-level covariates informed the prevalence modelling of mental disorders. Their selection was based on assessment of broader literature across GBD iterations, while also being limited by available data to create location-level covariates. Those included in GBD 2023 were as follows: (1) lagged distributed income for anorexia nervosa, IDID, bulimia nervosa, and schizophrenia; (2) child underweight summary exposure values (SEVs) as a location-level covariate for IDID (SEVs are used in GBD to quantify the overall exposure of a population to a given risk factor);[10] (3) the sexual violence against children SEV as a location-level covariate for major depressive disorder; (4) mortality rate due to war and shocks, for major depressive disorder; (5) proportion of births to women aged over 35 years[9] for autism spectrum disorders; (6) Healthcare Access and Quality (HAQ) Index[10] for autism spectrum disorders; (7) reported worry on the Gallup World Poll[18] for anxiety disorders; and (8) COVID-19 mortality rate[10] for major depressive

disorder and anxiety disorders. More details on these covariates and the prevalence modelling are available in appendix 1 (pp 2–109) and in previous publications.[10]

Severity distribution

Disorder-specific modelled prevalence estimates were split into sequela-specific prevalence (eg, the prevalence of anxiety disorders split across cases of asymptomatic, mild, moderate, and severe anxiety disorders). The distribution of prevalent cases across sequelae was estimated from meta-analyses of survey data sourced from the epidemiological literature review or from an analysis of participant-level data from the 1997 Australian National Survey of Mental Health and Wellbeing.[19] More information on severity is available in appendix 1 (pp 2–109) and a previous publication.[20]

Disability weights

Sequela-specific prevalence estimates were multiplied by their corresponding disability weight to estimate crude YLD rates. Disability weights, ranging from 0 (no health loss) to 1 (death), quantified health loss imposed by a sequela (ie, they were assigned to each level of severity for a given mental disorder). Surveys of the general population from communities in Bangladesh, Hungary, Indonesia, Italy, Peru, Sweden, Tanzania, the Netherlands, and the USA, and an open internet survey (in English, Spanish, and Mandarin) were conducted across several GBD cycles to produce disability weights. Survey participants compared two health states at a time and assessed which was the healthiest. Health state descriptions were prepared by disease-specific experts for a lay audience and written in 35 words or fewer. All responses were fixed between 0 and 1 using responses to population health equivalence questions where participants compared the benefit of lifesaving or disease-prevention programmes. GBD 2023 disability weights for mental disorders are summarised in appendix 1 (pp 2–109) and previous publications.[21,22]

Comorbidity

To enable YLDs to be summed across causes, crude YLDs were corrected for independent comorbidity with other diseases and injuries. The co-occurrence of non-fatal causes was simulated within a population of 20 000 individuals by age, sex, location, and year. In this analysis we assumed that the probability of each simulated individual having a given sequela was equal to the prevalence of the sequela within that population. A multiplicative function was used to estimate a cumulative disability weight for each simulated individual. The comorbidity correction was estimated as the difference between the average disability weight for simulated individuals with one sequela and the multiplicatively combined disability weight of those with multiple sequelae. Sequela-specific disability weights were adjusted accordingly and used to generate a comorbidity-corrected YLD rate. More information on comorbidity is available in a previous publication.[10]

Estimation of burden

YLDs and YLLs were estimated through microsimulation. For YLDs, age-sex-location-year-specific prevalence counts for a health state or sequala were multiplied by their corresponding disability weight.[10] For YLLs, age-sex-location-year-specific deaths for a cause were multiplied by the corresponding estimated life expectancy rate (described elsewhere)[9] at the age death occurred. Deaths and YLLs could only be calculated for anorexia nervosa as it was the only mental disorder identified as an underlying cause of death (suicide was categorised as a separate cause to mental disorders in GBD 2023).[2,8] Disease-specific deaths due to anorexia nervosa were estimated from a review of vital registration, verbal autopsy, and other mortality surveillance databases available across locations. The Cause of Death Ensemble model (CODEm) method was used to estimate anorexia nervosa deaths by location, age, sex, and year. CODEm used an ensemble of statistical models and location-level covariates assessed based on their out-of-sample predictive validity (appendix 1 pp 2–109).[8] DALYs equated to YLDs for all mental disorders except for anorexia nervosa, where the YLDs and YLLs were summed to estimate DALYs.

Presentation of GBD 2023 metrics

We present prevalence, deaths, YLDs, YLLs, and DALYs as counts, age-specific rates per 100 000 population, and age-standardised rates per 100 000 population. We used the GBD 2023 global population standard which accounted for population structure across location, age, sex, and year.[8–10] GBD 2023 reproduced the full time-series of demographic estimates (including all-cause mortality, fertility, and population size) from 1950 to 2023.[9] We estimated percentage changes in prevalence or burden estimates between 1990 (baseline) and later years as well as annualised rates of change (difference in the natural log of estimates for a given time period divided by the number of years in the interval).

GBD results are also presented by SDI quintile (low, low-middle, middle, high-middle, or high). SDI scores were produced for each location as the geometric mean of the lag-distributed income per capita, average years of schooling, and the fertility rate in females younger than 25 years. Scores range from 0 (lowest income and years of schooling, and highest fertility) to 100 (highest income and years of schooling, and lowest fertility).[10]

Uncertainty was propagated across the burden estimation process. Estimates represented the mean estimate over 250 draws, and the corresponding 95% UIs represented the intervals between the 2·5th and 97·5th percentile values across draws. The number of draws was reduced from 500 in GBD 2021 to 250 in GBD 2023 to minimise the time and computing power for estimation;

	Prevalent cases, millions			Age-standardised prevalence rate per 100 000 population		
	1990	2023	Percentage change, 1990–2023	1990	2023	Percentage change, 1990–2023
All sexes						
Mental disorders	599 (546 to 664)	1170 (1060 to 1310)	95·5% (75·0 to 121·2)	11 442·6 (10 445·4 to 12 550·5)	14 210·7 (12 849·5 to 15 940·1)	24·2% (11·4 to 41·4)
Schizophrenia	15·0 (12·4 to 17·7)	26·9 (22·5 to 31·7)	79·1% (74·2 to 83·6)	307·6 (257·9 to 364·0)	311·9 (261·5 to 369·2)	1·4% (0·7 to 2·1)
Major depressive disorder	102 (81·3 to 128)	236 (194 to 292)	131·3% (78·9 to 207·3)	1992·8 (1572·7 to 2472·2)	2815·8 (2312·3 to 3478·1)	41·3% (10·3 to 86·1)
Dysthymia	48·1 (41·1 to 57·0)	89·3 (75·7 to 104)	85·6% (79·7 to 91·9)	1004·7 (856·1 to 1176·8)	1032·9 (880·1 to 1215·1)	2·8% (1·8 to 4·0)
Bipolar disorder	21·2 (18·0 to 25·5)	35·7 (30·5 to 42·4)	68·7% (64·0 to 74·4)	420·8 (359·5 to 498·3)	421·5 (358·2 to 503·2)	0·2% (–1·0 to 1·2)
Anxiety disorders	182 (153 to 222)	470 (361 to 597)	158·6% (85·0 to 247·3)	3469·3 (2905·4 to 4137·0)	5722·4 (4412·1 to 7362·3)	64·9% (18·0 to 125·9)
Anorexia nervosa	2·49 (1·76 to 3·43)	3·92 (2·78 to 5·30)	57·9% (54·0 to 62·5)	42·7 (30·3 to 57·8)	49·9 (35·1 to 68·0)	17·0% (15·2 to 18·5)
Bulimia nervosa	8·10 (5·63 to 11·8)	14·2 (10·1 to 20·2)	75·1% (68·0 to 83·7)	144·6 (101·4 to 208·5)	175·9 (124·0 to 252·9)	21·7% (20·5 to 23·0)
Autism spectrum disorders	30·3 (14·2 to 63·6)	52·3 (28·0 to 91·6)	72·4% (–2·0 to 238·8)	549·4 (255·9 to 1151·7)	666·8 (354·2 to 1162·3)	21·4% (–34·7 to 151·9)
ADHD	65·8 (46·9 to 90·0)	86·3 (61·5 to 117)	31·1% (27·2 to 34·8)	1130·3 (804·7 to 1542·0)	1109·9 (792·5 to 1506·4)	–1·8% (–3·9 to 0·4)
Conduct disorder	30·8 (22·8 to 39·3)	39·5 (29·2 to 49·8)	28·0% (26·3 to 30·0)	507·6 (375·9 to 648·1)	521·3 (385·6 to 656·8)	2·7% (1·3 to 4·4)
IDID	56·9 (27·5 to 101)	68·8 (33·8 to 122)	20·9% (–1·6 to 41·1)	1033·1 (498·9 to 1829·2)	864·1 (421·2 to 1538·6)	–16·4% (–32·9 to –1·0)
Other mental disorders*	70·1 (55·6 to 88·0)	128 (102 to 160)	83·1% (78·7 to 87·8)	1482·9 (1179·9 to 1842·5)	1479·7 (1173·7 to 1838·3)	–0·2% (–0·8 to 0·3)
Females						
Mental disorders	300 (273 to 330)	620 (557 to 700)	106·4% (80·9 to 137·1)	11 588·9 (10 602·0 to 12 676·3)	14 990·9 (13 455·1 to 16 911·4)	29·4% (13·7 to 50·3)
Schizophrenia	7·03 (5·83 to 8·32)	12·7 (10·7 to 15·1)	81·4% (76·4 to 85·8)	289·1 (242·7 to 342·9)	294·8 (247·1 to 349·4)	2·0% (1·2 to 2·7)
Major depressive disorder	61·4 (49·2 to 75·7)	144 (120 to 176)	134·6% (82·0 to 209·7)	2393·2 (1907·2 to 2926·1)	3432·0 (2841·0 to 4196·0)	43·4% (12·4 to 87·8)
Dysthymia	29·1 (24·8 to 34·4)	54·0 (45·6 to 62·8)	85·4% (79·1 to 92·2)	1203·6 (1026·4 to 1411·8)	1233·2 (1052·2 to 1446·1)	2·5% (0·9 to 4·1)
Bipolar disorder	11·1 (9·44 to 13·4)	18·6 (15·9 to 21·9)	66·9% (62·2 to 72·5)	442·4 (378·1 to 521·9)	437·3 (371·8 to 521·1)	–1·2% (–2·3 to –0·0)
Anxiety disorders	112 (94·9 to 136)	288 (223 to 364)	156·5% (82·7 to 241·2)	4304·0 (3614·5 to 5135·1)	7039·1 (5476·2 to 8955·2)	63·5% (16·7 to 119·9)
Anorexia nervosa	1·95 (1·39 to 2·68)	3·09 (2·21 to 4·16)	58·2% (54·1 to 62·9)	68·2 (48·7 to 91·9)	80·0 (57·0 to 108·8)	17·3% (15·1 to 19·3)
Bulimia nervosa	5·47 (3·84 to 7·93)	9·49 (6·74 to 13·5)	73·6% (66·5 to 81·7)	197·8 (139·2 to 283·1)	238·7 (168·3 to 342·4)	20·7% (19·2 to 22·0)
Autism spectrum disorders	8·25 (3·86 to 17·2)	14·3 (7·56 to 25·3)	72·7% (–2·1 to 239·7)	302·6 (141·6 to 632·2)	368·5 (192·9 to 645·1)	21·8% (–35·0 to 152·7)
ADHD	17·7 (12·4 to 24·3)	23·3 (16·3 to 31·6)	31·4% (27·2 to 36·5)	621·2 (433·3 to 851·1)	609·8 (429·4 to 827·8)	–1·8% (–4·4 to 1·0)
Conduct disorder	9·82 (6·81 to 13·1)	12·7 (8·77 to 16·8)	29·0% (25·5 to 31·8)	331·2 (229·5 to 440·7)	344·4 (238·3 to 455·7)	4·0% (1·2 to 6·2)
IDID	24·6 (12·7 to 42·7)	30·0 (15·2 to 52·2)	22·1% (4·9 to 35·8)	904·7 (467·1 to 1568·5)	763·6 (384·0 to 1332·0)	–15·6% (–28·8 to –5·4)
Other mental disorders*	28·4 (22·3 to 36·2)	52·5 (41·6 to 66·0)	85·2% (80·3 to 90·4)	1193·0 (942·6 to 1505·1)	1192·4 (942·1 to 1505·4)	–0·0% (–0·7 to 0·5)

(Table 1 continues on next page)

	Prevalent cases, millions			Age-standardised prevalence rate per 100 000 population		
	1990	2023	Percentage change, 1990–2023	1990	2023	Percentage change, 1990–2023
(Continued from previous page)						
Males						
Mental disorders	299 (272 to 333)	552 (504 to 612)	84·7% (67·2 to 105·3)	11 260·7 (10 262·7 to 12 456·6)	13 408·6 (12 190·6 to 14 910·0)	19·1% (8·5 to 32·9)
Schizophrenia	7·97 (6·59 to 9·41)	14·1 (11·8 to 16·7)	77·1% (72·2 to 81·5)	325·6 (272·6 to 385·6)	328·6 (275·5 to 388·3)	0·9% (0·1 to 1·6)
Major depressive disorder	40·8 (32 to 52·5)	92·2 (74·8 to 116)	126·2% (74·0 to 203·6)	1586·9 (1233·4 to 2015·2)	2200·2 (1783·0 to 2760·8)	38·6% (7·6 to 84·4)
Dysthymia	19·0 (16·2 to 22·5)	35·4 (29·8 to 41·7)	85·9% (78·6 to 92·4)	800·2 (676·2 to 937·0)	828·5 (701·7 to 978·7)	3·5% (1·9 to 5·1)
Bipolar disorder	10·1 (8·54 to 12·2)	17·2 (14·6 to 20·4)	70·8% (66·1 to 76·4)	399·2 (340·8 to 474·1)	405·8 (344·6 to 485·4)	1·7% (0·4 to 2·8)
Anxiety disorders	69·3 (57·7 to 86)	181 (138 to 236)	162·0% (89·1 to 257·3)	2630·2 (2193·5 to 3169·8)	4418·3 (3360·6 to 5794·1)	68·0% (22·2 to 134·5)
Anorexia nervosa	0·531 (0·362 to 0·749)	0·832 (0·579 to 1·14)	56·5% (52·3 to 62·0)	17·8 (12·3 to 24·7)	20·8 (14·5 to 28·8)	16·9% (15·3 to 18·5)
Bulimia nervosa	2·64 (1·83 to 3·87)	4·70 (3·32 to 6·71)	78·2% (70·8 to 87·8)	92·6 (64·5 to 134·0)	114·9 (80·7 to 165·3)	24·1% (21·7 to 26·3)
Autism spectrum disorders	22·1 (10·3 to 46·3)	38·0 (20·5 to 66·4)	72·3% (–2·0 to 238·7)	791·2 (367·3 to 1660·2)	957·1 (511·6 to 1659·4)	21·0% (–34·3 to 151·3)
ADHD	48·1 (34·4 to 66·2)	63·0 (45·0 to 85·6)	30·9% (26·6 to 35·5)	1621·5 (1155·6 to 2220·5)	1588·6 (1137·8 to 2158·1)	–2·0% (–5·0 to 1·0)
Conduct disorder	21·0 (15·8 to 26·3)	26·8 (20·2 to 33·3)	27·5% (25·4 to 30·4)	676·3 (507·9 to 846·7)	688·4 (518·0 to 855·3)	1·8% (–0·0 to 4·1)
IDID	32·3 (15·1 to 58·2)	38·8 (18·5 to 69·8)	20·1% (–5·4 to 46·8)	1159·4 (542·2 to 2080·9)	962·8 (456·2 to 1740·3)	–17·0% (–35·9 to 2·6)
Other mental disorders*	41·8 (32·7 to 52·3)	75·9 (59·9 to 94·8)	81·7% (77·3 to 86·3)	1780·9 (1403·4 to 2209·1)	1771·8 (1394·8 to 2207·3)	–0·5% (–1·2 to 0·1)

Values in parentheses are 95% uncertainty intervals. Counts are presented to three significant figures; rates and percentages are presented to one decimal place. ADHD=attention-deficit hyperactivity disorder. IDID=idiopathic developmental intellectual disability. *Other mental disorders were modelled as a residual group comprising personality disorders without a comorbid mental or substance use disorder.

Table 1: **Global prevalence of mental disorders, by sex, 1990 and 2023**

simulations indicated that estimates and uncertainty remained largely unchanged by this reduction.[10]

Role of the funding source

The funders of this study had no role in study design, data collection, data analysis, data interpretation, or writing of the report.

Results

For more the **GBD Results tool** see https://vizhub.healthdata.org/gbd-results/

For **GBD Compare** see https://vizhub.healthdata.org/gbd-compare/

GBD 2023 results presented are publicly accessible through the GBD Results tool and GBD Compare.

In 2023, there were an estimated 1·17 billion (95% UI 1·06–1·31) prevalent cases of mental disorders globally across all sexes and ages, equivalent to an age-standardised prevalence rate of 14 210·7 cases (12 849·5–15 940·1) per 100 000 population (table 1). On this basis, mental disorders were the 12th most prevalent cause group among the 22 causes at Level 2 of the GBD cause hierarchy. There were 620 million (557–700) prevalent cases of mental disorders among females (age-standardised rate 14 990·9 [13 455·1–16 911·4] per 100 000) and 552 million (504–612) prevalent cases of mental disorders among males (13 408·6 [12 190·6–14 910·0] per 100 000). The most common mental disorders globally were anxiety disorders (age-standardised prevalence rate 5722·4 [4412·1–7362·3] per 100 000) and major depressive disorder (2815·8 [2312·3–3478·1] per 100 000), followed by the residual group of other mental disorders (1479·7 [1173·7–1838·3] per 100 000). The least common mental disorders were anorexia nervosa (49·9 [35·1–68·0] per 100 000), bulimia nervosa (175·9 [124·0–252·9] per 100 000), and schizophrenia (311·9 [261·5–369·2] per 100 000).

In 1990, there were an estimated 599 million (546–664) prevalent cases of mental disorders globally across all sexes and ages, equivalent to an age-standardised prevalence rate of 11 442·6 cases (10 445·4–12 550·5) per 100 000, representing a 95·5% (75·0–121·2) increase in prevalent cases and 24·2% (11·4–41·4) increase in age-standardised prevalence rates between 1990 and 2023 (table 1). All mental disorders showed increases in prevalent cases between 1990 and 2023, with notable

increases in the corresponding age-standardised prevalence rates for anxiety disorders, major depressive disorder, dysthymia, anorexia nervosa, bulimia nervosa, schizophrenia, and conduct disorder. The age-standardised prevalence of IDID decreased markedly over this period, from 1033·1 (498·9–1829·2) to 864·1 (421·2–1538·6) per 100 000 (a decrease of 16·4% [1·0–32·9]). These increasing and decreasing trends were consistent across sexes (table 1). The largest increases in age-standardised prevalence rates were estimated for major depressive disorder and anxiety disorders, which incorporated COVID-19 pandemic effects. For major depressive disorder, this rate rose from 2261·0 (1844·4–2795·0) per 100 000 in 2019 by 24·1% (20·3–28·1) to 2806·3 (2229·9–3469·6) per 100 000 in 2020, subsequently peaking in 2021 at 2819·3 (2326·9–3472·9) per 100 000 (a 24·7% [20·3–30·3] increase since 2019), and remaining steady at 2815·3 (2312·3–3478·1) per 100 000 in 2023 (a 24·5% [16·7–34·0] increase since 2019). For anxiety disorders, the rate rose from 3891·2 (3236·7–4778·6) per 100 000 in 2019 by 21·5% (15·6–26·8) to 4728·6 (3791·0–5966·6) per 100 000 in 2020. Anxiety disorders peaked in 2023, at 5722·4 (4412·1–7362·3) per 100 000 (a 47·1% [32·4 to 59·8] increase since 2019). Prevalence and incidence by disorder, location, age, sex and year are provided in appendix 2 (tabs 2–3).

See Online for appendix 2

171 million (127–228) DALYs due to mental disorders were estimated globally in 2023, equivalent to an age-standardised DALY rate of 2070·5 (1519·1–2750·5) per 100 000 population (table 2). Mental disorders contributed to 6·1% (4·8–7·6) of the 2·80 billion all-cause DALYs (2·57–3·08) estimated in 2023, making them the fifth-leading cause of global DALYs among the 22 Level 2

	1990				2023			
	DALY count, millions	Age-standardised DALY rate per 100 000 population	Proportion of all-cause DALYs, %	Global DALY rank*	DALY count, millions	Age-standardised DALY rate per 100 000 population	Proportion of all-cause DALYs, %	Global DALY rank*
All sexes								
Mental disorders	83·6 (60·3–105)	1605·8 (1162·9–2021·9)	3·0% (2·3–3·7)	12	171 (127–228)	2070·5 (1519·1–2750·5)	6·1% (4·8–7·6)	5
Schizophrenia	95·3 (6·94–12·0)	194·5 (142·5–245·3)	0·3% (0·3–0·4)	55	17·0 (12·4–21·4)	197·4 (144·6–249·9)	0·6% (0·4–0·8)	41
Major depressive disorder	20·7 (13·7–30·1)	401·3 (264·7–578·1)	0·8% (0·5–1·0)	33	47·5 (32·0–68·0)	567·8 (382·7–810·2)	1·7% (1·2–2·3)	15
Dysthymia	4·62 (3·08–6·61)	95·8 (64·6–137·5)	0·2% (0·1–0·2)	98	8·52 (5·74–12·2)	98·6 (66·2–141·6)	0·3% (0·2–0·4)	76
Bipolar disorder	4·55 (2·92–6·55)	90·0 (57·8–129·0)	0·2% (0·1–0·2)	100	7·63 (4·86–10·9)	90·2 (57·4–129·2)	0·3% (0·2–0·4)	82
Anxiety disorders	21·6 (14·2–30·5)	409·8 (269·3–570·7)	0·8% (0·5–1·1)	32	55·4 (36·4–81·3)	676·6 (440·9–989·3)	2·0% (1·4–2·8)	11
Anorexia nervosa	0·538 (0·303–0·828)	9·2 (5·2–14·1)	0·0% (0·0–0·0)	243	0·847 (0·477–1·29)	10·8 (6·1–16·5)	0·0% (0·0–0·0)	233
Bulimia nervosa	1·71 (0·926–2·74)	30·4 (16·8–48·3)	0·1% (0·0–0·1)	176	2·98 (1·66–4·72)	37·0 (20·4–58·7)	0·1% (0·1–0·2)	152
Autism spectrum disorders	5·68 (2·42–11·7)	102·5 (43·1–212·3)	0·2% (0·1–0·4)	85	9·83 (4·85–18·4)	125·8 (61·5–247·2)	0·4% (0·2–0·7)	65
ADHD	2·85 (1·66–4·26)	48·8 (28·5–72·7)	0·1% (0·1–0·1)	135	3·73 (2·17–5·60)	48·0 (27·9–72·3)	0·1% (0·1–0·2)	132
Conduct disorder	3·75 (2·14–5·94)	61·8 (35·1–97·7)	0·1% (0·1–0·2)	112	4·81 (2·74–7·59)	63·5 (36·2–100·1)	0·2% (0·1–0·3)	111
IDID	2·88 (1·36–5·38)	52·3 (24·8–97·6)	0·1% (0·1–0·2)	134	3·64 (1·72–6·72)	45·7 (21·4–84·7)	0·1% (0·1–0·2)	135
Other mental disorders†	5·20 (3·42–7·37)	109·2 (72·4–153·6)	0·2% (0·1–0·3)	90	9·45 (6·29–13·30)	109·1 (72·5–153·8)	0·3% (0·2–0·5)	70
Females								
Mental disorders	43·6 (31·0–55·9)	1685·7 (1206·9–2156·8)	3·4% (2·5–4·2)	12	92·6 (68·6–125)	2239·6 (1643·7–3014·1)	7·0% (5·5–8·7)	4
Schizophrenia	4·41 (3·23–5·55)	180·8 (132·6–227·5)	0·3% (0·3–0·4)	56	7·93 (5·83–9·97)	184·1 (135·6–232·4)	0·6% (0·4–0·8)	39
Major depressive disorder	12·4 (8·21–17·8)	479·2 (318·2–684·6)	1·0% (0·7–1·3)	25	28·7 (19·6–41·0)	687·6 (469·0–977·0)	2·2% (1·6–2·9)	11
Dysthymia	2·78 (1·86–3·96)	114·4 (77·1–163·7)	0·2% (0·2–0·3)	81	5·11 (3·45–7·28)	117·2 (78·6–167·4)	0·4% (0·3–0·5)	57
Bipolar disorder	2·37 (1·53–3·40)	93·9 (60·5–134·7)	0·2% (0·1–0·3)	90	3·92 (2·50–5·60)	92·7 (59·0–132·1)	0·3% (0·2–0·4)	70
Anxiety disorders	13·3 (8·77–18·6)	506·3 (335·1–698·4)	1·0% (0·7–1·4)	21	33·7 (22·3–49·5)	827·4 (539·7–1210·6)	2·5% (1·8–3·5)	6
Anorexia nervosa	0·423 (0·240–0·650)	14·7 (8·4–22·5)	0·0% (0·0–0·0)	218	0·666 (0·374–1·01)	17·2 (9·6–26·4)	0·0% (0·0–0·1)	194
Bulimia nervosa	1·15 (0·624–1·83)	41·4 (23·0–65·3)	0·1% (0·1–0·1)	148	1·98 (1·11–3·13)	49·9 (27·7–79·1)	0·1% (0·1–0·2)	122
Autism spectrum disorders	1·54 (0·656–3·14)	56·2 (23·7–115·3)	0·1% (0·1–0·2)	126	2·66 (1·29–5·06)	69·2 (33·1–138·6)	0·2% (0·1–0·4)	103
ADHD	0·762 (0·442–1·14)	26·7 (15·5–39·6)	0·1% (0·0–0·1)	169	1·00 (0·582–1·48)	26·2 (15·2–39·0)	0·1% (0·0–0·1)	173
Conduct disorder	1·19 (0·642–1·87)	40·1 (21·6–62·8)	0·1% (0·1–0·1)	144	1·53 (0·842–2·43)	41·7 (22·8–66·0)	0·1% (0·1–0·2)	138
IDID	1·22 (0·587–2·25)	44·8 (21·7–82·7)	0·1% (0·0–0·2)	143	1·55 (0·756–2·80)	39·4 (19·1–71·5)	0·1% (0·1–0·2)	137
Other mental disorders†	2·08 (1·37–2·96)	87·1 (57·5–123·8)	0·2% (0·1–0·2)	104	3·82 (2·52–5·40)	87·0 (57·2–123·5)	0·3% (0·2–0·4)	71

(Table 2 continues on next page)

	1990				2023			
	DALY count, millions	Age-standardised DALY rate per 100 000 population	Proportion of all-cause DALYs, %	Global DALY rank*	DALY count, millions	Age-standardised DALY rate per 100 000 population	Proportion of all-cause DALYs, %	Global DALY rank*
(Continued from previous page)								
Males								
Mental disorders	40·1 (29·0–49·8)	1522·2 (1104·4–1898·9)	2·7% (2·1–3·3)	14	78·6 (58·1–104)	1900·2 (1399·8–2510·8)	5·3% (4·2–6·7)	6
Schizophrenia	5·12 (3·73–6·47)	207·9 (151·9–262·6)	0·4% (0·3–0·4)	55	9·02 (6·59–11·4)	210·4 (153·5–266·6)	0·6% (0·4–0·8)	41
Major depressive disorder	8·35 (5·47–12·3)	322·5 (210·4–471·2)	0·6% (0·4–0·8)	38	18·8 (12·5–27·0)	448·4 (297·5–643·9)	1·3% (0·9–1·8)	19
Dysthymia	1·84 (1·22–2·65)	76·8 (51·6–110·6)	0·1% (0·1–0·2)	113	3·41 (2·27–4·94)	79·8 (53·2–115·4)	0·2% (0·2–0·3)	90
Bipolar disorder	2·18 (1·39–3·15)	86·0 (55·0–123·4)	0·1% (0·1–0·2)	98	3·71 (2·36–5·29)	87·8 (55·8–125·9)	0·3% (0·2–0·3)	84
Anxiety disorders	8·32 (5·39–11·8)	313·2 (205·3–438·7)	0·6% (0·4–0·8)	39	21·6 (14·1–31·7)	527·5 (341·7–784·0)	1·5% (1·0–2·1)	17
Anorexia nervosa	0·115 (0·0646–0·178)	3·9 (2·2–5·9)	0·0% (0·0–0·0)	252	0·180 (0·0994–0·279)	4·5 (2·5–7·0)	0·0% (0·0–0·0)	247
Bulimia nervosa	0·561 (0·301–0·913)	19·7 (10·8–31·7)	0·0% (0·0–0·1)	199	1·00 (0·553–1·60)	24·5 (13·5–39·1)	0·1% (0·0–0·1)	176
Autism spectrum disorders	4·14 (1·77–8·55)	147·8 (62·0–307·4)	0·3% (0·1–0·6)	66	7·17 (3·56–13·4)	180·9 (89·1–351·5)	0·5% (0·2–0·9)	52
ADHD	2·08 (1·22–3·13)	70·2 (41·1–104·7)	0·1% (0·1–0·2)	100	2·73 (1·58–4·10)	68·8 (39·9–103·4)	0·2% (0·1–0·3)	104
Conduct disorder	2·56 (1·48–4·12)	82·5 (47·6–132·6)	0·2% (0·1–0·3)	94	3·28 (1·88–5·22)	84·2 (48·3–133·9)	0·2% (0·1–0·3)	96
IDID	1·66 (0·748–3·13)	59·7 (27·0–112·4)	0·1% (0·1–0·2)	123	2·10 (0·963–3·91)	52·0 (23·7–97·5)	0·1% (0·1–0·3)	126
Other mental disorders†	3·12 (2·03–4·42)	131·9 (86·7–187·0)	0·2% (0·1–0·3)	86	5·63 (3·70–7·97)	131·5 (86·4–185·9)	0·4% (0·3–0·5)	61

Values in parentheses are 95% uncertainty intervals. Counts are presented to three significant figures; rates and percentages are presented to one decimal place. ADHD=attention-deficit hyperactivity disorder. DALY=disability-adjusted life-year. IDID=idiopathic developmental intellectual disability. *Total DALY counts for the mental disorder aggregate are ranked out of a total of 22 cause groups, at Level 2 of the GBD cause hierarchy; total DALY counts for individual mental disorders are ranked out of a total of 304 causes at Level 4 of the GBD cause hierarchy. †Other mental disorders were modelled as a residual group comprising personality disorders without a comorbid mental or substance use disorder.

Table 2: **Global DALYs due to mental disorders, by sex, 1990 and 2023**

cause-groups (up from 12th in 1990). Within non-communicable diseases (NCDs), mental disorders explained 9·5% (7·7–11·6) of the 1·80 billion DALYs (1·63–2·03), making them the third-leading cause of NCD DALYs globally after cardiovascular diseases (24·3% [21·8–26·6] of NCD DALYs) and neoplasms (15·4% [13·8–17·3] of NCD DALYs). The leading causes of DALYs globally within mental disorders were anxiety disorders (ranked 11th of 304 Level 4 causes of DALYs), major depressive disorder (ranked 15th), and schizophrenia (ranked 41st). DALYs by disorder, sex, and year are summarised in table 2 and appendix 2 (tab 4).

Trends in mental disorder DALY counts and age-standardised rates across time were driven by changes in prevalence (table 2). We estimated a 104·8% (83·4–134·7) increase in mental disorder DALYs globally since 1990, when mental disorders accounted for 83·6 million (60·3–105·0) DALYs. We also estimated an increase in the age-standardised DALY rate in 2023, up 28·9% (14·6–47·8) since 1990, when the age-standardised rate was 1605·8 (1162·9–2021·9) per 100 000. Between 1990 and 2023, DALY counts increased for all mental disorders.

Mental disorder DALYs were almost completely composed of YLDs. Globally and across all sexes and ages in 2023, mental disorders were responsible for 171 million YLDs (127–228; age-standardised rate 2070·4 [1518·9 to 2750·3] per 100 000) and 13 300 YLLs (6510 to 21 000; equivalent to <0·1% [<0·1 to <0·1] of total mental disorder DALYs; age-standardised rate 0·2 [0·1 to 0·3] per 100 000). YLDs by disorder, sex, location, and year are summarised in appendix 2 (tab 5). YLLs were due to 237 deaths (116–373; age-standardised death rate <0·1 [<0·1 to <0·1] per 100 000) estimated for anorexia nervosa. The remaining mental disorders were not considered direct underlying causes of death; deaths occurring in individuals with these mental disorders were assigned to other underlying causes of death (eg, deaths due to self-harm were assigned their own cause group, categorised under injuries in the cause hierarchy).

Mental disorders explained 17·3% (14·8–20·6) of 990 million (756–1280) all-cause YLDs estimated in 2023 globally and were the leading cause of YLDs at Level 2 of the GBD cause hierarchy (up from second in 1990). Within NCDs, mental disorders explained 22·3% (19·6–26·1) of 768 million (586–986) YLDs. Among Level 4 causes in the GBD cause hierarchy, anxiety disorders (ranked second), major depressive disorder (fifth), schizophrenia (11th), autism spectrum disorders (24th), and other mental disorders (25th) were in the top 25 leading causes of YLDs globally in 2023.

Figure 1 illustrates the distribution of DALYs across disorder, sex, and age globally in 2023. In 2023 and across all ages, mental disorder DALYs were higher among females (92·6 million [68·6–125]; 2239·6 [1643·7–3014·1]

per 100 000) than among males (78·6 million [58·1–104]; 1900·2 [1399·8–2510·8] per 100 000). Females experienced a larger age-standardised rate of mental disorder DALYs than males, equivalent to 339·4 additional DALYs (176·5–568·0) per 100 000 females (table 2). We estimated higher age-standardised DALY rates in females for major depressive disorder (additional 239·1 [167·1–334·0] per 100 000), dysthymia (additional 37·4 [24·9–52·8] per 100 000), bipolar disorder (additional 5·0 [3·2–7·1] per 100 000), anxiety disorders (additional 299·9 [201·6–435·6] per 100 000), anorexia nervosa (additional 12·7 [7·2–19·5] per 100 000), and bulimia nervosa (additional 25·4 [14·1–39·7] per 100 000). By comparison, DALY rates were higher in males for schizophrenia (additional 26·2 [17·8–34·9] per 100 000), autism spectrum disorders (additional 111·7 [55·8–212·9] per 100 000), ADHD (additional 42·6 [24·6–63·3] per 100 000), conduct disorder (additional 42·4 [24·6–67·9] per 100 000), IDID (additional 12·6 [4·7–25·8] per 100 000), and other mental disorders (additional 44·5 [27·6–65·3] per 100 000).

From birth to age 14 years, mental disorder DALYs (24·7 million [15·7–39·0]; 1219·7 [773·2–1925·2] per 100 000) were mostly caused by anxiety disorders (12·0 million [5·28–24·7]; 593·2 [260·9–1216·9] per 100 000), autism spectrum disorders (3·49 million [1·18–9·62]; 172·2 [58·2–475·0] per 100 000), and conduct disorder (3·38 million [1·82–5·24]; 167·1 [90·1–258·6] per 100 000), with overall mental disorder burden higher among males (13·0 million [8·39–19·8]; 1250·1 [804·3–1898·6] per 100 000) than among females (11·66 million [7·09–19·1]; 1187·3 [721·8–1945·9] per 100 000) in this age group.

The burden of mental disorder DALYs peaked among youth aged 15–19 years (16·9 million [11·9–23·8]; 2617·3 [1850·6–3696·8] per 100 000) and continued to be dominated by anxiety disorders (5·96 million [3·32–10·9]; 924·4 [514·5–1686·0] per 100 000). However, major depressive disorder (5·49 million [3·30–8·39]; 851·1 [511·6–1302·1] per 100 000) emerged as the second-leading cause of DALYs among mental disorders, with conduct disorder (1·35 million [0·78–2·32]; 209·3 [120·7–359·9] per 100 000) still ranked third and autism spectrum disorders ranked fourth (0·98 million [0·42–2·20]; 151·4 [64·8–341·3] per 100 000). Mental disorder DALYs in those aged 15–19 years were greater among females (9·01 million [6·21–13·1]; 2867·0 [1977·2–4162·3] per 100 000) than males (7·87 million [5·56–10·9]; 2380·0 [1681·0–3282·8] per 100 000). This sex difference was driven by anxiety disorders and major depressive disorder DALYs which were both greater in females (anxiety disorders 3·58 million [2·01–6·40], 1140·7 [640·7–2036·2] per 100 000; major depressive disorder 3·35 million [1·97–4·94], 1035·6 [628·5–1574·2] per 100 000) compared with males (anxiety disorders 2·38 million [1·30–4·47], 718·9 [393·0–1353·3] per 100 000; major depressive disorder 2·23 million [1·33–3·44], 675·7 [403·6–1040·4] per 100 000). Conversely, DALYs for conduct disorder and autism spectrum disorders were greater among males aged 15–19 years (conduct disorder 0·93 million [0·54–1·60], 280·6 [163·7–485·5] per 100 000; autism spectrum disorders 0·71 million [0·31–1·60], 216·0 [92·7–482·9] per 100 000) than among females (conduct disorder 0·42 million [0·23–0·72], 134·4 [72·9–229·3] per 100 000; autism spectrum disorders 0·26 million [0·11–0·60], 83·5 [35·3–191·3] per 100 000).

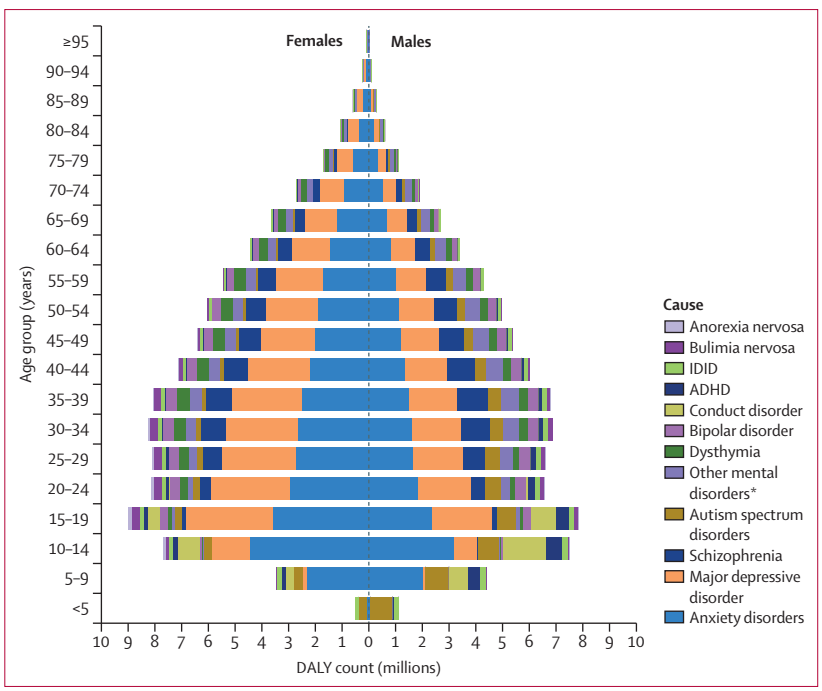

Figure 1: **Global mental disorder DALYs by age and sex, 2023**
ADHD=attention-deficit hyperactivity disorder. DALY=disability-adjusted life-year. IDID=idiopathic developmental intellectual disability. *Other mental disorders were modelled as a residual group comprising personality disorders without a comorbid mental or substance use disorder.

For people aged 20 years and older, major depressive disorder (39·4 million [26·3–56·9] DALYs; 730·9 [487·4–1054·5] per 100 000) and anxiety disorders (37·4 million [25·4–55·2]; 693·0 [470·9–1022·6] per 100 000) remained the largest contributors to the total burden of mental disorders, with similar sex patterns as in the younger age groups. Schizophrenia emerged as the third most burdensome mental disorder in this age group (16·5 million [12·2–20·8] DALYs; 306·7 [225·3–385·8] per 100 000). Although higher in males, schizophrenia DALYs were more evenly distributed between males (8·80 million [6·44–11·1]; 328·9 [241·0–416·0] per 100 000) and females (7·75 million [5·71–9·70]; 284·9 [209·9–356·6] per 100 000) compared with major depressive disorder and anxiety disorders. Mental disorder DALY rates by age group are further summarised in appendix 2 (tab 6).

Table 3 summarises trends in mental disorder DALYs across SDI quintile and GBD regions (estimates by

	DALY count, millions			Age-standardised DALY rate per 100 000 population		
	1990	2023	Percentage change, 1990–2023	1990	2023	Percentage change, 1990–2023
All sexes						
Global	83·6 (60·3 to 105)	171 (127 to 228)	104·8% (83·4 to 134·7)	1605·8 (1162·9 to 2021·9)	2070·5 (1519·1 to 2750·5)	28·9% (14·6 to 47·8)
Central Europe, eastern Europe, and central Asia	6·61 (4·70 to 8·36)	8·25 (6·01 to 10·9)	24·8% (12·0 to 42·9)	1520·1 (1078·5 to 1924·6)	1833·9 (1315·8 to 2442·2)	20·6% (7·2 to 40·0)
Central Asia	0·935 (0·659 to 1·18)	1·70 (1·21 to 2·27)	81·7% (62·4 to 109·0)	1421·1 (1001·7 to 1786·0)	1702·9 (1217·9 to 2271·5)	19·8% (7·5 to 36·8)
Central Europe	2·02 (1·45 to 2·55)	2·27 (1·68 to 2·98)	12·0% (–0·2 to 26·7)	1537·0 (1099·1 to 1941·0)	1822·6 (1300·8 to 2413·5)	18·6% (4·4 to 38·3)
Eastern Europe	3·65 (2·59 to 4·64)	4·29 (3·13 to 5·62)	17·3% (4·5 to 34·2)	1542·5 (1100·3 to 1968·5)	1918·1 (1379·8 to 2571·3)	24·3% (10·4 to 45·4)
High income	18·6 (13·9 to 23·7)	28·8 (21·4 to 37·5)	54·7% (38·2 to 73·3)	1951·9 (1462·4 to 2484·5)	2582·4 (1895·1 to 3351·5)	32·3% (17·6 to 52·4)
Australasia	0·457 (0·339 to 0·581)	1·00 (0·738 to 1·30)	119·7% (97·5 to 149·0)	2164·8 (1609·4 to 2752·1)	3138·4 (2288·3 to 4013·6)	45·0% (28·6 to 65·8)
High-income Asia Pacific	2·87 (2·15 to 3·61)	3·63 (2·75 to 4·66)	26·6% (13·3 to 43·3)	1584·8 (1187·4 to 1995·2)	2049·9 (1500·0 to 2678·9)	29·3% (11·6 to 55·6)
High-income North America	6·27 (4·67 to 7·99)	9·92 (7·38 to 12·9)	58·1% (41·0 to 76·4)	2124·8 (1577·7 to 2705·4)	2577·3 (1930·2 to 3350·6)	21·3% (6·9 to 38·0)
Southern Latin America	1·04 (0·736 to 1·37)	2·04 (1·44 to 2·79)	96·1% (70·3 to 132·1)	2103·1 (1490·4 to 2769·7)	2792·6 (1949·2 to 3863·3)	32·8% (14·9 to 58·4)
Western Europe	7·95 (5·89 to 10·2)	12·2 (9·03 to 15·9)	53·1% (36·7 to 72·1)	1958·1 (1445·6 to 2503·9)	2733·4 (2003·5 to 3586·2)	39·6% (23·6 to 60·8)
Latin America and Caribbean	7·12 (5·13 to 9·07)	15·6 (11·5 to 20·8)	118·9% (92·5 to 154·4)	1926·4 (1396·9 to 2478·5)	2508·6 (1834·1 to 3352·1)	30·2% (13·9 to 50·4)
Andean Latin America	0·723 (0·505 to 0·935)	1·75 (1·26 to 2·34)	141·7% (107·3 to 180·5)	2037·9 (1444·5 to 2647·8)	2583·2 (1862·4 to 3471·0)	26·8% (9·2 to 46·9)
Caribbean	0·677 (0·48 to 0·871)	1·23 (0·893 to 1·65)	81·2% (62·7 to 105·9)	1958·0 (1398·4 to 2536·0)	2449·7 (1768·8 to 3293·3)	25·1% (11·8 to 42·8)
Central Latin America	2·50 (1·81 to 3·12)	5·92 (4·35 to 7·91)	136·5% (106·3 to 176·7)	1642·9 (1194·7 to 2067·2)	2182·4 (1595·3 to 2921·6)	32·8% (16·0 to 54·6)
Tropical Latin America	3·22 (2·33 to 4·12)	6·69 (4·95 to 9·01)	108·0% (82·9 to 141·7)	2177·2 (1586·3 to 2801·5)	2879·1 (2113·5 to 3852·0)	32·2% (15·6 to 52·4)
North Africa and Middle East	6·22 (4·34 to 7·97)	15·8 (11·5 to 21·3)	154·7% (119·7 to 190·7)	1964·8 (1382·8 to 2487·1)	2450·3 (1781·0 to 3286·2)	24·7% (10·9 to 41·4)
South Asia	15·3 (10·8 to 19·7)	39·6 (29·1 to 53·2)	159·1% (130·1 to 203·5)	1527·3 (1090·6 to 1942·5)	2044·9 (1508·2 to 2727·0)	33·9% (19·8 to 56·1)
Southeast Asia, east Asia, and Oceania	22·8 (16·4 to 28·7)	38·1 (28·5 to 50·0)	67·4% (51·2 to 87·6)	1355·2 (984·1 to 1709·9)	1619·7 (1197·1 to 2144·7)	19·5% (7·1 to 36·0)
East Asia	17·8 (12·9 to 22·5)	27·2 (20·6 to 35·9)	53·0% (38·1 to 72·1)	1445·6 (1053·5 to 1833·2)	1716·3 (1270·3 to 2302·2)	18·7% (5·6 to 37·4)
Oceania	0·0825 (0·0566 to 0·107)	0·253 (0·177 to 0·351)	206·6% (158·5 to 263·6)	1359·9 (935·5 to 1744·0)	1799·0 (1279·9 to 2478·5)	32·3% (15·3 to 55·3)
Southeast Asia	4·90 (3·49 to 6·15)	10·6 (7·77 to 14·0)	117·1% (91·8 to 145·6)	1110·7 (794·6 to 1385·2)	1429·6 (1046·5 to 1877·4)	28·7% (16·1 to 44·7)
Sub-Saharan Africa	7·03 (5·02 to 9·00)	25·1 (17·9 to 34·7)	257·1% (209·6 to 317·3)	1634·9 (1158·4 to 2069·0)	2218·9 (1598·3 to 2972·4)	35·7% (18·8 to 57·1)
Central sub-Saharan Africa	0·912 (0·639 to 1·20)	3·32 (2·3 to 4·56)	263·9% (216·5 to 322·0)	1916·7 (1332·1 to 2505·9)	2500·4 (1761·6 to 3416·2)	30·5% (14·2 to 50·5)
Eastern sub-Saharan Africa	2·64 (1·90 to 3·37)	8·64 (6·24 to 11·6)	227·6% (182·7 to 283·8)	1617·3 (1157·8 to 2068·5)	2071·5 (1520·7 to 2752·2)	28·1% (13·4 to 46·1)
Southern sub-Saharan Africa	0·798 (0·568 to 1·01)	1·87 (1·36 to 2·55)	134·8% (103·8 to 175·8)	1624·4 (1153·1 to 2054·2)	2082·4 (1514·6 to 2839·7)	28·2% (11·7 to 50·2)
Western sub-Saharan Africa	2·69 (1·90 to 3·43)	11·3 (8·09 to 15·6)	320·1% (249·4 to 417·7)	1578·2 (1115·5 to 1984·7)	2297·1 (1666·3 to 3154·6)	45·6% (26·2 to 72·5)

(Table 3 continues on next page)

	DALY count, millions			Age-standardised DALY rate per 100 000 population		
	1990	2023	Percentage change, 1990–2023	1990	2023	Percentage change, 1990–2023
(Continued from previous page)						
High SDI	36·4 (26·8 to 46·2)	57·8 (43·1 to 75·5)	58·8% (43·1 to 78·0)	1710·2 (1260·5 to 2164·0)	2184·1 (1606·1 to 2890·3)	27·7% (13·7 to 46·1)
High-middle SDI	17·4 (12·4 to 21·9)	35·1 (26·2 to 46·6)	101·7% (80·3 to 132·3)	1550·6 (1118·7 to 1952·4)	2028·9 (1492·6 to 2701·8)	30·8% (15·9 to 50·9)
Middle SDI	8·27 (5·85 to 10·5)	18·3 (13·4 to 24·4)	121·2% (98·4 to 152·5)	1439·1 (1028·7 to 1811·1)	1853·0 (1352·1 to 2469·3)	28·8% (15·0 to 46·6)
Low-middle SDI	10·2 (7·22 to 13·1)	24·7 (18 to 33·3)	141·9% (114·5 to 181·3)	1541·5 (1095·7 to 1943·1)	2064·3 (1512·8 to 2762·6)	33·9% (19·7 to 54·6)
Low SDI	11·2 (7·98 to 14·4)	35·2 (25·1 to 47·4)	213·3% (176·1 to 263·5)	1592·0 (1130·2 to 2012·4)	2142·2 (1556·1 to 2879·7)	34·6% (19·6 to 55·2)
Females						
Global	43·6 (31 to 55·9)	92·6 (68·6 to 125)	112·6% (89·0 to 144·7)	1685·7 (1206·9 to 2156·8)	2239·6 (1643·7 to 3014·1)	32·9% (17·4 to 53·5)
Central Europe, eastern Europe, and central Asia	3·70 (2·61 to 4·76)	4·75 (3·46 to 6·31)	28·6% (15·1 to 48·0)	1614·7 (1131·7 to 2089·7)	2006·0 (1407·8 to 2703·9)	24·2% (9·9 to 46·3)
Central Asia	0·486 (0·338 to 0·62)	0·904 (0·634 to 1·21)	86·0% (65·4 to 115·4)	1448·8 (1010·4 to 1845·2)	1789·1 (1247·0 to 2397·6)	23·5% (10·2 to 42·6)
Central Europe	1·11 (0·792 to 1·44)	1·30 (0·961 to 1·72)	16·8% (2·6 to 33·4)	1648·9 (1164·5 to 2136·0)	2026·2 (1450·5 to 2718·0)	22·9% (7·1 to 45·4)
Eastern Europe	2·10 (1·48 to 2·71)	2·55 (1·86 to 3·38)	21·5% (8·8 to 39·2)	1647·7 (1157·8 to 2121·2)	2116·5 (1480·0 to 2854·0)	28·5% (13·5 to 51·9)
High-income	10·4 (7·74 to 13·5)	16·2 (12·0 to 21·4)	56·2% (39·6 to 74·4)	2131·5 (1584·8 to 2793·4)	2879·9 (2109·3 to 3789·0)	35·1% (19·9 to 55·8)
Australasia	0·235 (0·172 to 0·309)	0·536 (0·394 to 0·702)	127·7% (102·3 to 156·9)	2220·4 (1619·5 to 2889·2)	3322·0 (2412·6 to 4382·8)	49·6% (31·5 to 70·5)
High-income Asia Pacific	1·50 (1·11 to 1·95)	1·94 (1·45 to 2·53)	29·2% (15·2 to 46·2)	1632·1 (1201·3 to 2123·0)	2119·9 (1527·7 to 2811·9)	29·9% (13·3 to 51·1)
High-income North America	3·54 (2·67 to 4·59)	5·56 (4·07 to 7·34)	57·0% (40·5 to 75·9)	2340·4 (1766·4 to 3035·7)	2849·1 (2103·9 to 3803·2)	21·7% (8·0 to 39·5)
Southern Latin America	0·598 (0·409 to 0·801)	1·21 (0·848 to 1·66)	102·5% (75·6 to 141·5)	2360·6 (1618·8 to 3168·8)	3222·7 (2227·4 to 4443·2)	36·5% (17·6 to 64·6)
Western Europe	4·52 (3·29 to 5·87)	6·99 (5·17 to 9·29)	54·7% (37·3 to 74·9)	2165·3 (1572·3 to 2834·0)	3123·9 (2293·8 to 4144·0)	44·3% (26·9 to 67·4)
Latin America and Caribbean	4·01 (2·87 to 5·22)	9·25 (6·8 to 12·6)	130·6% (100·7 to 170·0)	2147·3 (1543·3 to 2789·8)	2881·4 (2107·5 to 3904·1)	34·2% (16·5 to 55·5)
Andean Latin America	0·401 (0·277 to 0·535)	0·993 (0·721 to 1·35)	147·6% (106·3 to 188·8)	2256·4 (1586·6 to 3022·3)	2898·5 (2095·6 to 3937·9)	28·5% (8·5 to 50·9)
Caribbean	0·375 (0·263 to 0·49)	0·699 (0·509 to 0·948)	86·2% (65·0 to 112·5)	2143·1 (1518·7 to 2792·8)	2728·4 (1980·7 to 3708·2)	27·3% (12·8 to 45·1)
Central Latin America	1·38 (0·987 to 1·77)	3·48 (2·55 to 4·70)	151·8% (117·9 to 197·5)	1794·7 (1287·8 to 2330·6)	2476·4 (1805·5 to 3331·9)	38·0% (19·4 to 60·7)
Tropical Latin America	1·85 (1·34 to 2·42)	4·08 (3·00 to 5·58)	120·2% (91·6 to 157·9)	2477·1 (1794·5 to 3232·0)	3382·3 (2480·8 to 4586·8)	36·5% (18·5 to 59·4)
North Africa and Middle East	3·32 (2·28 to 4·33)	8·22 (6·02 to 11·2)	147·6% (107·5 to 185·9)	2152·2 (1494·2 to 2747·3)	2660·3 (1950·0 to 3594·3)	23·6% (6·5 to 40·9)
South Asia	7·23 (5·02 to 9·39)	21·0 (15·4 to 28·4)	190·0% (156·2 to 240·3)	1525·7 (1077·9 to 1958·4)	2200·5 (1626·1 to 2971·5)	44·2% (27·5 to 68·7)
Southeast Asia, east Asia, and Oceania	11·3 (8·03 to 14·5)	19·8 (14·8 to 26·2)	74·9% (56·2 to 98·6)	1377·3 (985·9 to 1750·6)	1681·4 (1240·2 to 2256·5)	22·1% (8·4 to 41·1)
East Asia	8·84 (6·29 to 11·3)	14·2 (10·7 to 19·0)	60·6% (43·3 to 82·3)	1481·0 (1062·4 to 1885·0)	1791·0 (1319·3 to 2453·4)	20·9% (6·0 to 41·7)
Oceania	0·0372 (0·0248 to 0·0501)	0·118 (0·0824 to 0·167)	216·6% (158·1 to 282·8)	1282·8 (871·9 to 1682·3)	1743·2 (1242·1 to 2450·3)	35·9% (15·8 to 62·5)
Southeast Asia	2·45 (1·71 to 3·14)	5·51 (3·99 to 7·38)	124·4% (98·6 to 158·0)	1104·4 (784·6 to 1405·8)	1468·0 (1068·5 to 1961·5)	32·9% (18·7 to 51·4)

(Table 3 continues on next page)

	DALY count, millions			Age-standardised DALY rate per 100 000 population		
	1990	2023	Percentage change, 1990–2023	1990	2023	Percentage change, 1990–2023
(Continued from previous page)						
Sub-Saharan Africa	3·58 (2·51 to 4·64)	13·4 (9·51 to 18·7)	273·7% (219·8 to 345·6)	1665·2 (1162·9 to 2142·1)	2327·1 (1690·5 to 3193·2)	39·7% (22·1 to 63·9)
Central sub-Saharan Africa	0·483 (0·331 to 0·652)	1·73 (1·19 to 2·39)	259·1% (211·3 to 315·1)	2022·9 (1391·8 to 2700·1)	2639·2 (1866·1 to 3633·6)	30·5% (14·2 to 50·9)
Eastern sub-Saharan Africa	1·32 (0·937 to 1·70)	4·37 (3·09 to 5·88)	231·4% (189·5 to 285·7)	1628·3 (1155·6 to 2103·2)	2101·0 (1528·7 to 2795·7)	29·0% (15·3 to 48·0)
Southern sub-Saharan Africa	0·421 (0·294 to 0·543)	1·01 (0·738 to 1·39)	138·5% (106·3 to 183·8)	1668·3 (1177·2 to 2145·8)	2163·2 (1584·2 to 2993·0)	29·7% (12·4 to 55·1)
Western sub-Saharan Africa	1·36 (0·948 to 1·75)	6·29 (4·36 to 8·88)	361·6% (274·0 to 493·2)	1598·8 (1121·5 to 2030·1)	2469·4 (1781·3 to 3433·3)	54·5% (31·3 to 87·6)
High SDI	19·9 (14·5 to 25·7)	32·0 (23·9 to 42·3)	61·2% (44·5 to 81·1)	1839·2 (1340·9 to 2382·6)	2412·0 (1769·2 to 3209·3)	31·1% (16·0 to 51·2)
High-middle SDI	8·82 (6·22 to 11·3)	19·1 (14·2 to 25·6)	116·4% (90·4 to 151·1)	1615·9 (1150·7 to 2056·2)	2202·1 (1616·9 to 2983·7)	36·3% (19·5 to 59·3)
Middle SDI	4·24 (2·95 to 5·45)	9·72 (7·14 to 13·0)	129·4% (102·1 to 164·4)	1484·9 (1046·1 to 1888·9)	1981·0 (1448·4 to 2668·3)	33·4% (18·0 to 53·4)
Low-middle SDI	5·10 (3·54 to 6·58)	13·4 (9·80 to 18·2)	162·3% (132·8 to 208·3)	1581·1 (1110·8 to 2020·4)	2237·4 (1647·5 to 3042·3)	41·5% (25·2 to 65·5)
Low SDI	5·51 (3·83 to 7·11)	18·4 (13·1 to 25·0)	233·4% (190·5 to 291·3)	1600·1 (1122·9 to 2050·4)	2241·1 (1634·2 to 3034·9)	40·1% (23·8 to 62·8)
Males						
Global	40·1 (29·0 to 49·8)	78·6 (58·1 to 104·0)	96·2% (74·6 to 124·3)	1522·2 (1104·4 to 1898·9)	1900·2 (1399·8 to 2510·8)	24·8% (11·3 to 42·8)
Central Europe, eastern Europe, and central Asia	2·91 (2·09 to 3·71)	3·5 (2·61 to 4·55)	20·0% (6·9 to 36·2)	1408·7 (1009·9 to 1798·2)	1646·1 (1201·4 to 2142·1)	16·9% (4·0 to 33·8)
Central Asia	0·448 (0·32 to 0·569)	0·794 (0·579 to 1·04)	77·1% (57·7 to 102·8)	1384·2 (991·4 to 1732·5)	1608·8 (1174·2 to 2109·6)	16·2% (4·4 to 32·1)
Central Europe	0·91 (0·656 to 1·15)	0·966 (0·723 to 1·25)	6·1% (–4·6 to 18·2)	1417·3 (1023·9 to 1789·0)	1614·9 (1177·7 to 2131·8)	13·9% (1·1 to 31·1)
Eastern Europe	1·56 (1·11 to 2·01)	1·74 (1·29 to 2·28)	11·7% (–0·5 to 27·3)	1415·0 (1009·8 to 1833·5)	1696·8 (1236·8 to 2247·8)	19·9% (6·3 to 40·2)
High-income	8·20 (6·02 to 10·3)	12·5 (9·41 to 16·1)	52·8% (36·3 to 72·7)	1765·0 (1296·3 to 2231·3)	2287·0 (1689·8 to 2932·1)	29·6% (13·9 to 51·0)
Australasia	0·221 (0·164 to 0·282)	0·467 (0·346 to 0·593)	111·2% (87·5 to 140·7)	2109·1 (1558·0 to 2700·0)	2953·2 (2183·4 to 3744·6)	40·0% (23·3 to 59·8)
High-income Asia Pacific	1·37 (1·02 to 1·69)	1·69 (1·29 to 2·12)	23·7% (11·9 to 40·9)	1532·5 (1152·1 to 1898·5)	1979·5 (1497·9 to 2557·2)	29·2% (11·2 to 63·9)
High-income North America	2·73 (2·00 to 3·42)	4·35 (3·29 to 5·56)	59·5% (41·7 to 79·0)	1899·5 (1388·6 to 2387·3)	2305·2 (1730·6 to 2948·5)	21·4% (7·1 to 39·0)
Southern Latin America	0·443 (0·318 to 0·567)	0·831 (0·595 to 1·13)	87·5% (62·0 to 120·2)	1829·1 (1310·8 to 2332·4)	2344·0 (1657·5 to 3156·2)	28·2% (10·4 to 50·6)
Western Europe	3·44 (2·52 to 4·36)	5·18 (3·84 to 6·67)	50·9% (34·0 to 71·3)	1744·1 (1280·2 to 2206·1)	2348·9 (1724·5 to 3020·8)	34·7% (17·5 to 55·2)
Latin America and Caribbean	3·11 (2·27 to 3·87)	6·33 (4·66 to 8·48)	103·7% (78·0 to 134·1)	1691·3 (1239·8 to 2111·0)	2111·4 (1543·1 to 2814·4)	24·8% (9·9 to 44·4)
Andean Latin America	0·322 (0·23 to 0·404)	0·754 (0·54 to 1)	134·3% (102·3 to 171·2)	1809·1 (1294·4 to 2284·8)	2257·4 (1610·2 to 2992·8)	24·8% (8·5 to 46·2)
Caribbean	0·301 (0·217 to 0·377)	0·527 (0·381 to 0·703)	74·9% (57·0 to 99·0)	1762·4 (1274·4 to 2213·9)	2156·4 (1548·0 to 2868·5)	22·4% (10·1 to 40·9)
Central Latin America	1·12 (0·826 to 1·42)	2·44 (1·8 to 3·24)	117·6% (90·4 to 151·9)	1479·4 (1086·5 to 1842·5)	1866·5 (1369·6 to 2465·0)	26·2% (11·1 to 45·5)
Tropical Latin America	1·36 (0·996 to 1·70)	2·61 (1·94 to 3·46)	91·3% (67·7 to 120·7)	1859·7 (1365·6 to 2336·4)	2344·3 (1717·1 to 3117·7)	26·1% (10·5 to 45·5)
North Africa and Middle East	2·90 (2·06 to 3·65)	7·62 (5·53 to 10·1)	162·9% (133·6 to 198·5)	1786·1 (1276·6 to 2235·7)	2258·4 (1638·5 to 2993·4)	26·4% (13·0 to 43·3)

(Table 3 continues on next page)

	DALY count, millions			Age-standardised DALY rate per 100 000 population		
	1990	2023	Percentage change, 1990–2023	1990	2023	Percentage change, 1990–2023
(Continued from previous page)						
South Asia	8·04 (5·74 to 10·3)	18·6 (13·7 to 24·8)	131·4% (106·2 to 167·4)	1528·6 (1099·5 to 1932·7)	1892·0 (1395·7 to 2516·6)	23·8% (11·1 to 42·0)
Southeast Asia, east Asia, and Oceania	11·5 (8·34 to 14·2)	18·3 (13·8 to 23·9)	59·9% (45·2 to 78·4)	1330·4 (971·1 to 1648·3)	1555·9 (1168·4 to 2063·7)	17·0% (5·8 to 31·5)
East Asia	8·96 (6·59 to 11·2)	13·0 (9·85 to 17)	45·5% (32·0 to 62·8)	1408·6 (1038·5 to 1757·4)	1640·9 (1237·6 to 2157·0)	16·5% (5·3 to 33·1)
Oceania	0·0453 (0·0314 to 0·0581)	0·135 (0·0976 to 0·188)	198·4% (156·2 to 248·5)	1431·4 (1002·4 to 1835·0)	1850·6 (1324·1 to 2526·4)	29·3% (13·9 to 49·2)
Southeast Asia	2·45 (1·78 to 3·15)	5·14 (3·81 to 6·64)	109·8% (84·9 to 136·2)	1114·6 (814·6 to 1407·2)	1387·7 (1021·2 to 1786·9)	24·5% (11·0 to 41·0)
Sub-Saharan Africa	3·45 (2·44 to 4·43)	11·7 (8·35 to 16·0)	239·8% (189·8 to 316·1)	1602·4 (1145·3 to 2043·6)	2101·6 (1540·4 to 2808·4)	31·2% (14·4 to 52·0)
Central sub-Saharan Africa	0·429 (0·299 to 0·553)	1·58 (1·13 to 2·16)	269·3% (220·2 to 338·4)	1802·5 (1266·3 to 2327·6)	2351·3 (1687·9 to 3199·3)	30·4% (13·9 to 51·1)
Eastern sub-Saharan Africa	1·32 (0·939 to 1·72)	4·27 (3·08 to 5·66)	223·7% (172·9 to 296·0)	1603·4 (1158·2 to 2046·4)	2036·1 (1500·9 to 2704·3)	27·0% (10·8 to 46·5)
Southern sub-Saharan Africa	0·376 (0·265 to 0·484)	0·868 (0·636 to 1·18)	130·6% (97·2 to 170·9)	1571·2 (1120·9 to 2005·8)	1989·7 (1460·9 to 2691·7)	26·6% (9·9 to 47·5)
Western sub-Saharan Africa	1·32 (0·937 to 1·70)	5·00 (3·57 to 6·91)	277·4% (219·9 to 367·2)	1556·7 (1109·3 to 1978·8)	2112·4 (1540·6 to 2865·5)	35·7% (17·9 to 57·5)
High SDI	16·6 (12·1 to 20·6)	25·8 (19·4 to 33·3)	56·0% (39·9 to 75·1)	1574·6 (1153·3 to 1954·4)	1962·9 (1452·7 to 2572·0)	24·7% (11·1 to 41·3)
High-middle SDI	8·58 (6·21 to 10·7)	16·0 (11·9 to 21·2)	86·5% (66·9 to 111·6)	1485·7 (1080·5 to 1846·0)	1855·1 (1366·9 to 2475·2)	24·9% (11·4 to 43·3)
Middle SDI	4·03 (2·90 to 5·05)	8·57 (6·30 to 11·3)	112·5% (89·0 to 142·0)	1390·9 (1003·5 to 1741·6)	1724·5 (1263·3 to 2268·2)	24·0% (11·0 to 40·8)
Low-middle SDI	5·13 (3·67 to 6·53)	11·4 (8·35 to 15·1)	121·6% (96·7 to 155·0)	1502·1 (1076·1 to 1885·4)	1889·0 (1397·8 to 2491·4)	25·8% (12·4 to 44·3)
Low SDI	5·71 (4·09 to 7·27)	16·8 (12·0 to 22·5)	193·8% (158·6 to 246·9)	1583·4 (1134·1 to 2009·4)	2039·8 (1498·2 to 2721·2)	28·8% (14·6 to 48·4)

Values in parentheses are 95% uncertainty intervals. Counts are presented to three significant figures; rates and percentages are presented to one decimal place. DALY=disability-adjusted life-year. SDI=Socio-demographic Index.

Table 3: **DALYs due to mental disorders by sex, globally and by SDI quintile, super-region, and region, 1990 and 2023**

disorder and for countries and territories are presented in appendix 2 [tab 4]). When grouped by SDI quintile, the age-standardised DALY rate for mental disorders in 2023 ranged from 1853·0 (1352·1–2469·3) per 100 000 in middle SDI locations to 2184·1 (1606·1–2890·3) per 100 000 in high SDI locations. Across GBD regions, the age-standardised DALY rate for mental disorders in 2023 ranged from 1429·6 (1046·5–1877·4) per 100 000 in southeast Asia to 3138·4 (2288·3–4013·6) per 100 000 in Australasia. Increases in age-standardised prevalence and DALY rates for mental disorders between 1990 and 2023 were evident across all regions, but were largest in western sub-Saharan Africa (DALY rate increase 45·6% [26·2–72·5]) and Australasia (45·0% [28·6–65·8]).

Figure 2 summarises DALY ranks for each mental disorder, among all causes at Level 4 of the GBD cause hierarchy, across GBD regions and SDI quintile in 2023, along with their annualised rates of change from 1990 (see appendix 1 p 116 for corresponding figure for YLDs). Compared with other GBD Level 4 causes, three mental disorders (anxiety disorders, major depressive disorder, and schizophrenia) consistently ranked in the top 50 leading causes of DALYs across 16 regions. Within mental disorders, anxiety disorders and major depressive disorder DALYs were ranked the highest across all regions and SDI quintiles. The highest rankings were seen in the Andean Latin America and Tropical Latin America regions, where anxiety disorders ranked as the second-leading cause among all-cause DALYs in 2023. The annualised rate of change in number of DALYs estimated between 1990 and 2023 across all mental disorders and regions was largest for anxiety disorders in Australasia and western sub-Saharan Africa (figure 2).

Figure 3 shows age-standardised DALY rates for mental disorders by country and territory in 2023 (equivalent figures disaggregated for females and males are presented in appendix 1 pp 117–118). These rates ranged from 1302·4 DALYs (952·7–1683·7) per 100 000 in Viet Nam to 3555·8 (2661·9–4715·0) per 100 000 in the Netherlands. At Level 4 of the GBD cause hierarchy, anxiety disorders was

Region	Leading Level 4 mental disorders 1	2	3	4	5	6	7	8	9	10	11	12
Global	Anxiety disorders (11)	Major depressive disorder (15)	Schizophrenia (41)	Autism spectrum disorders (65)	Other mental disorders (70)	Dysthymia (76)	Bipolar disorder (82)	Conduct disorder (111)	ADHD (132)	IDID (135)	Bulimia nervosa (152)	Anorexia nervosa (233)
Central Europe, eastern Europe, and central Asia	Major depressive disorder (16)	Anxiety disorders (18)	Schizophrenia (46)	Other mental disorders (64)	Bipolar disorder (73)	Dysthymia (74)	Autism spectrum disorders (75)	IDID (112)	Conduct disorder (117)	Bulimia nervosa (136)	ADHD (171)	Anorexia nervosa (205)
Central Asia	Major depressive disorder (13)	Anxiety disorders (17)	Schizophrenia (35)	Autism spectrum disorders (54)	Other mental disorders (60)	Bipolar disorder (63)	Dysthymia (68)	Conduct disorder (83)	IDID (94)	Bulimia nervosa (132)	ADHD (141)	Anorexia nervosa (193)
Central Europe	Anxiety disorders (14)	Major depressive disorder (21)	Schizophrenia (33)	Other mental disorders (54)	Bipolar disorder (61)	Dysthymia (66)	Autism spectrum disorders (69)	IDID (111)	Conduct disorder (123)	Bulimia nervosa (133)	ADHD (164)	Anorexia nervosa (196)
Eastern Europe	Major depressive disorder (12)	Anxiety disorders (21)	Schizophrenia (54)	Other mental disorders (63)	Dysthymia (65)	Bipolar disorder (73)	Autism spectrum disorders (76)	IDID (112)	Conduct disorder (117)	Bulimia nervosa (140)	ADHD (174)	Anorexia nervosa (206)
High income	Anxiety disorders (8)	Major depressive disorder (12)	Schizophrenia (33)	Autism spectrum disorders (44)	Other mental disorders (51)	Bipolar disorder (56)	Dysthymia (70)	Bulimia nervosa (106)	ADHD (123)	Conduct disorder (126)	IDID (153)	Anorexia nervosa (172)
Australasia	Anxiety disorders (4)	Major depressive disorder (10)	Schizophrenia (26)	Autism spectrum disorders (37)	Bipolar disorder (38)	Other mental disorders (44)	Bulimia nervosa (45)	Dysthymia (62)	ADHD (79)	IDID (96)	Conduct disorder (99)	Anorexia nervosa (133)
High-income Asia Pacific	Major depressive disorder (17)	Anxiety disorders (18)	Schizophrenia (22)	Autism spectrum disorders (28)	Other mental disorders (47)	Bipolar disorder (64)	Dysthymia (87)	Bulimia nervosa (100)	ADHD (109)	Conduct disorder (128)	IDID (163)	Anorexia nervosa (166)
High-income North America	Anxiety disorders (10)	Major depressive disorder (11)	Schizophrenia (35)	Autism spectrum disorders (45)	Other mental disorders (50)	Bipolar disorder (56)	Dysthymia (61)	ADHD (114)	Conduct disorder (125)	Bulimia nervosa (130)	IDID (147)	Anorexia nervosa (176)
Southern Latin America	Anxiety disorders (4)	Major depressive disorder (6)	Schizophrenia (39)	Bipolar disorder (40)	Autism spectrum disorders (44)	Other mental disorders (55)	Dysthymia (88)	Bulimia nervosa (99)	Conduct disorder (101)	ADHD (134)	IDID (154)	Anorexia nervosa (172)
Western Europe	Anxiety disorders (6)	Major depressive disorder (10)	Schizophrenia (37)	Other mental disorders (48)	Bipolar disorder (49)	Autism spectrum disorders (51)	Dysthymia (67)	Bulimia nervosa (94)	Conduct disorder (118)	ADHD (128)	IDID (156)	Anorexia nervosa (158)
Latin America and Caribbean	Anxiety disorders (3)	Major depressive disorder (9)	Schizophrenia (41)	Bipolar disorder (53)	Autism spectrum disorders (70)	Other mental disorders (71)	Dysthymia (94)	Bulimia nervosa (101)	Conduct disorder (103)	ADHD (107)	IDID (173)	Anorexia nervosa (199)
Andean Latin America	Anxiety disorders (2)	Major depressive disorder (10)	Bipolar disorder (54)	Schizophrenia (55)	Autism spectrum disorders (70)	Other mental disorders (73)	Bulimia nervosa (89)	ADHD (94)	Dysthymia (95)	Conduct disorder (99)	IDID (165)	Anorexia nervosa (174)
Caribbean	Anxiety disorders (7)	Major depressive disorder (13)	Schizophrenia (52)	Bipolar disorder (63)	Other mental disorders (77)	Autism spectrum disorders (85)	ADHD (91)	Dysthymia (97)	Conduct disorder (123)	Bulimia nervosa (131)	IDID (183)	Anorexia nervosa (209)
Central Latin America	Anxiety disorders (6)	Major depressive disorder (10)	Schizophrenia (43)	Bipolar disorder (47)	Autism spectrum disorders (59)	Other mental disorders (68)	Conduct disorder (88)	Dysthymia (99)	Bulimia nervosa (102)	ADHD (123)	IDID (166)	Anorexia nervosa (191)
Tropical Latin America	Anxiety disorders (2)	Major depressive disorder (10)	Schizophrenia (36)	Bipolar disorder (44)	Other mental disorders (67)	Autism spectrum disorders (81)	Dysthymia (94)	ADHD (100)	Bulimia nervosa (102)	Conduct disorder (120)	IDID (166)	Anorexia nervosa (195)
North Africa and Middle East	Anxiety disorders (6)	Major depressive disorder (8)	Schizophrenia (34)	Bipolar disorder (47)	Autism spectrum disorders (50)	Other mental disorders (54)	Dysthymia (60)	ADHD (94)	Conduct disorder (97)	Bulimia nervosa (108)	IDID (131)	Anorexia nervosa (215)
South Asia	Anxiety disorders (14)	Major depressive disorder (15)	Schizophrenia (30)	Other mental disorders (65)	Autism spectrum disorders (77)	Dysthymia (78)	IDID (84)	Bipolar disorder (94)	Conduct disorder (101)	Bulimia nervosa (138)	ADHD (143)	Anorexia nervosa (213)
Southeast Asia, east Asia, and Oceania	Major depressive disorder (16)	Anxiety disorders (17)	Schizophrenia (28)	Dysthymia (46)	Other mental disorders (49)	Autism spectrum disorders (60)	Bipolar disorder (83)	ADHD (101)	IDID (111)	Conduct disorder (112)	Bulimia nervosa (148)	Anorexia nervosa (211)
East Asia	Anxiety disorders (13)	Major depressive disorder (14)	Schizophrenia (23)	Dysthymia (35)	Other mental disorders (44)	Autism spectrum disorders (58)	ADHD (71)	Bipolar disorder (86)	IDID (93)	Conduct disorder (100)	Bulimia nervosa (122)	Anorexia nervosa (188)
Oceania	Anxiety disorders (18)	Major depressive disorder (23)	Schizophrenia (50)	Autism spectrum disorders (59)	Other mental disorders (74)	Bipolar disorder (90)	Conduct disorder (94)	Dysthymia (97)	ADHD (116)	IDID (129)	Bulimia nervosa (162)	Anorexia nervosa (208)
Southeast Asia	Major depressive disorder (22)	Anxiety disorders (25)	Schizophrenia (39)	Other mental disorders (61)	Autism spectrum disorders (64)	Dysthymia (75)	Bipolar disorder (85)	Conduct disorder (116)	IDID (139)	Bulimia nervosa (166)	ADHD (174)	Anorexia nervosa (208)
Sub-Saharan Africa	Anxiety disorders (15)	Major depressive disorder (21)	Autism spectrum disorders (59)	Schizophrenia (68)	Conduct disorder (85)	Dysthymia (105)	Bipolar disorder (106)	Other mental disorders (109)	ADHD (131)	Bulimia nervosa (195)	IDID (222)	Anorexia nervosa (235)
Central sub-Saharan Africa	Major depressive disorder (16)	Anxiety disorders (18)	Autism spectrum disorders (65)	Schizophrenia (75)	Conduct disorder (92)	Other mental disorders (106)	Bipolar disorder (108)	Dysthymia (110)	ADHD (130)	Bulimia nervosa (196)	IDID (219)	Anorexia nervosa (232)
Eastern sub-Saharan Africa	Anxiety disorders (19)	Major depressive disorder (21)	Autism spectrum disorders (50)	Schizophrenia (67)	Conduct disorder (87)	Dysthymia (95)	Bipolar disorder (101)	Other mental disorders (104)	ADHD (116)	Bulimia nervosa (203)	IDID (219)	Anorexia nervosa (241)
Southern sub-Saharan Africa	Anxiety disorders (12)	Major depressive disorder (20)	Schizophrenia (54)	Autism spectrum disorders (62)	Other mental disorders (71)	Bipolar disorder (74)	Dysthymia (75)	Conduct disorder (87)	ADHD (126)	Bulimia nervosa (153)	IDID (201)	Anorexia nervosa (217)
Western sub-Saharan Africa	Anxiety disorders (10)	Major depressive disorder (22)	Autism spectrum disorders (66)	Schizophrenia (70)	Conduct disorder (82)	Bipolar disorder (103)	Dysthymia (104)	Other mental disorders (108)	ADHD (133)	Bulimia nervosa (184)	IDID (201)	Anorexia nervosa (223)
Low SDI	Anxiety disorders (15)	Major depressive disorder (21)	Schizophrenia (54)	Autism spectrum disorders (69)	Conduct disorder (89)	Other mental disorders (92)	Dysthymia (100)	Bipolar disorder (101)	ADHD (139)	IDID (149)	Bulimia nervosa (187)	Anorexia nervosa (239)
Low-middle SDI	Anxiety disorders (14)	Major depressive disorder (15)	Schizophrenia (41)	Autism spectrum disorders (68)	Other mental disorders (74)	Dysthymia (85)	Bipolar disorder (90)	Conduct disorder (102)	IDID (108)	ADHD (147)	Bulimia nervosa (155)	Anorexia nervosa (222)
Middle SDI	Anxiety disorders (11)	Major depressive disorder (14)	Schizophrenia (40)	Autism spectrum disorders (57)	Other mental disorders (59)	Dysthymia (70)	Bipolar disorder (72)	Conduct disorder (105)	IDID (127)	ADHD (128)	Bulimia nervosa (139)	Anorexia nervosa (216)
High-middle SDI	Anxiety disorders (9)	Major depressive disorder (13)	Schizophrenia (32)	Other mental disorders (53)	Dysthymia (56)	Autism spectrum disorders (67)	Bipolar disorder (73)	Conduct disorder (107)	IDID (108)	ADHD (110)	Bulimia nervosa (127)	Anorexia nervosa (212)
High SDI	Anxiety disorders (11)	Major depressive disorder (13)	Schizophrenia (28)	Other mental disorders (47)	Autism spectrum disorders (50)	Dysthymia (55)	Bipolar disorder (64)	ADHD (118)	Bulimia nervosa (121)	Conduct disorder (126)	IDID (143)	Anorexia nervosa (187)

Annualised rate of change, 1990–2023

- <−1·2%
- −1·2% to <−0·8%
- −0·8% to <−0·3%
- −0·3% to <0·1%
- 0·1% to <0·5%
- 0·5% to <1%
- 1% to <1·4%
- 1·4% to <1·8%
- 1·8% to <2·3%
- ≥2·3%

among the top 20 leading causes of DALYs in 189 countries and territories, while major depressive disorder was in the top 20 causes in 158 countries and territories. DALY rates by disorder, SDI quintile, region, and country and territory are shown in appendix 2 (tab 4).

Discussion

GBD 2023 findings indicated that the burden caused by mental disorders was large, unevenly distributed across populations, and increasing over time, emphasising the need for a significant shift in how we respond to mental disorders, with better surveillance systems (especially in low-income and middle-income countries), and more coordinated and inclusive action to meet the growing mental health needs of our global population.

We estimated that there were approximately 1·17 billion (95% UI 1·06–1·31) people with mental disorders in 2023 (a number that has almost doubled since 1990), with a global age-standardised prevalence of 14 210·7 cases (95% UI 12 849·5–15 940·1) per 100 000, representing an increase of 24·2% (11·4–41·4) since 1990. These trends in prevalence were reflected in burden metrics. Mental disorders were the leading cause of YLDs at Level 2 of the GBD cause hierarchy globally in 2023 (up from 2nd in 1990) and, despite being responsible for very few YLLs, they emerged as the fifth-leading cause of DALYs in 2023 (up from 12th in 1990). Concerns of an increasing mental health crisis globally have been raised by other stakeholders.[1,2,10,23] GBD 2023 results used the most reliable epidemiological data available and best practices to contribute several qualifiers to this observation. First, prevalent cases for all 12 mental disorders increased with population growth and ageing. Declining mortality rates from communicable, maternal, nutritional, and neonatal diseases over the past 30 years allowed many more individuals to live longer, but not without increasing occurrences of chronic and disabling illnesses such as mental disorders.[10] This global epidemiological transition has increased the number of prevalent cases and DALYs for mental disorders since 1990. Secondly, the increases in age-standardised mental disorder prevalence and DALY rates globally were mostly accounted for by substantial increases in anxiety disorders and major depressive disorder, while increases were, to a smaller extent, also observed for dysthymia, anorexia nervosa, bulimia nervosa, conduct disorder, and schizophrenia. Prevalence and DALY rates for the remaining mental disorders did not increase substantially over time. Mental disorders have been a leading cause of disability globally for decades; however, GBD 2023 findings suggest that we are entering an even more concerning phase of worsening mental disorder burden globally, as indicated by various metrics. Concerningly, this increase in burden has not been accompanied by proportional expansion of mental health services to meet the growing demand globally.[4,24] Challenges are not limited to mental health systems, as mental disorders also place individuals at an increased risk of other diseases and injuries or impede their management.[25]

Mental disorder prevalent cases and DALYs were not distributed equally across disorders. Due to their high prevalence and high disability weights compared with other mental disorders, anxiety disorders and major depressive disorder explained the largest proportion of mental disorder burden (contributing 2·0% [1·4–2·8] and 1·7% [1·2–2·3] of all-cause DALYs, respectively), with both disorders featuring in the 20 leading causes of all-cause DALYs in 152 of the 204 countries and territories included in GBD.[10] Anxiety disorder DALYs surpassed major depressive disorder DALYs in 2023. While there were similar surges in the age-standardised prevalence and DALY rates for both disorders at the start of the COVID-19 pandemic, major depressive disorder prevalence and DALY rates peaked in 2021, whereas anxiety disorder prevalence and DALY rates peaked later, in 2023. This trend was partly due to the persisting nature of anxiety disorders,[14] with fewer cases remitting over time compared with major depressive disorder. Despite having low prevalence, schizophrenia was the third-leading cause of mental disorder DALYs globally and across age and sex due to its high severity; an acute state of psychosis had the highest disability weight in GBD's disability weight surveys.[10]

Mental disorders were a lifelong concern globally; they were evident at birth with autism spectrum disorders and IDID, and all 12 mental disorders were present in the 15–19 years age group. DALY rates peaked among adolescents aged 15–19 years (the age at which anxiety disorders and major depressive disorder became most prevalent) and remained high between ages 20 years and 39 years, with a slow decline from age 40 years onwards. Mental disorders thus pose challenges for individuals of (or approaching) working age, who are expected to contribute economically and as caregivers. Evidence shows that poor mental health in caregivers can adversely affect children's physical and mental health.[26] Overall, these trends highlight the need to promote mental wellbeing across the life course, with prevention and early intervention to improve outcomes for children, families, and communities into adulthood.[24,27]

Our findings showed that anxiety disorders, major depressive disorder, dysthymia, bipolar disorders, anorexia nervosa, and bulimia nervosa were more

Figure 2: **Mental disorder rankings among all Level 4 causes in the GBD cause hierarchy according to DALY count, by SDI quintile and region, 2023**
The horizonal axis sorts the 12 mental disorders from disorders with highest to lowest DALY count and values in parentheses show the rank of each disorder among all Level 4 causes based on DALY count within the respective regional or SDI grouping. Cells are coloured according to annualised rate of change. Other mental disorders were modelled as a residual group comprising personality disorders without a comorbid mental or substance use disorder. ADHD=attention-deficit hyperactivity disorder. DALY=disability-adjusted life-year. IDID=idiopathic developmental intellectual disability. SDI=Socio-demographic Index.

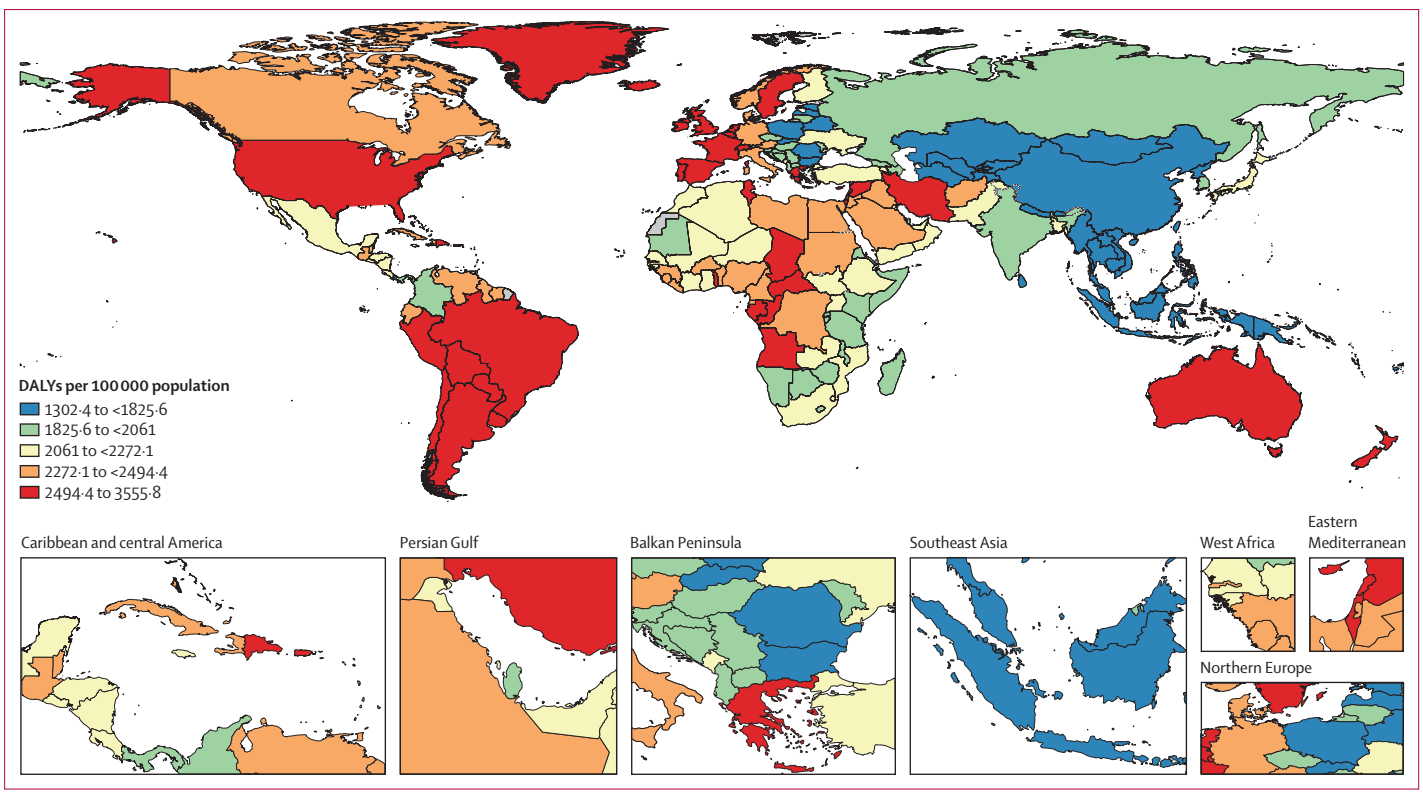

Figure 3: **Mental disorder age-standardised DALY rates by country and territory, 2023**
DALY=disability-adjusted life-year.

common among females, while autism spectrum disorders, conduct disorder, ADHD, IDID, and the residual group of other mental disorders were more common among males.[2,16] Mental disorder prevalence and DALYs were higher among females than males when all age groups where combined globally; however, this sex difference only emerged from age 15 years onwards, when the burden of anxiety disorders and major depressive disorder was greatest. Between birth and 14 years of age, mental disorder prevalence and DALYs were higher among males than females. This sex difference was driven by autism spectrum disorders, conduct disorder, ADHD, and IDID, which were more common among males within this age group. Little research has been done to quantify drivers of the sex difference in mental disorders. Explanations for higher rates of mental disorders among adolescent girls and women include interacting psychological, social, and biological mechanisms. Compared with males, females experience lower self-esteem, greater tendency towards body-related shame, and higher rates of domestic violence and sexual abuse. Females undergo biological changes, particularly across the peripartum period, have increased carer responsibilities, and are subject to other structural inequalities such as gender discrimination and reduced gender equity.[28] More research to investigate these stressors at the population level, and how they differentially affect therapeutic pathways between males and females, are required. Our findings emphasise the need for sex-sensitive and age-sensitive mental health policies, recognising that adolescent girls and young women require targeted prevention and support for anxiety and depressive disorders, while boys in childhood need earlier screening and intervention for neurodevelopmental and behavioural disorders.

Due to global initiatives such as the UN Sustainable Development Goals[3] and Global Strategy for Women's, Children's and Adolescents' Health,[27] there has been marked improvement in the physical health of women (especially in the context of maternal health), children, and adolescents over the past 30 years. However, GBD 2023 results suggest the opposite trend in the mental health of children, adolescents, and women. GBD 2023 incorporated the effects of the COVID-19 pandemic on anxiety disorders and major depressive disorder, which exacerbated the mental health of many around the world, especially women and young people, through loss of employment, increased carer responsibilities, social restrictions, gender-based violence, and disruption to education.[7] However, the COVID-19 pandemic is unlikely to be the only determining factor in the disparate mental disorder burden, especially among women, and among individuals aged 15–19 years globally, who have the

greatest burden. Some population-representative mental health surveys suggested increasing prevalence of anxiety disorders and major depressive disorder before the pandemic.[29–32] Variation in epidemiological data collection practices, attitudes towards mental health and survey participation, as well other risk and protective factors, could have contributed to these trends over time.

GBD 2023 risk factor analysis indicated that exposure to sexual violence against children, intimate partner violence, and bullying victimisation were risk factors for schizophrenia, major depressive disorder, bipolar disorder, anxiety disorders, conduct disorder, and bulimia nervosa. However, the data also showed that these risk factors remained stable over time, and their exposure explained only 18·1% (95% UI 10·2–26·5) of mental disorder DALYs in 2023.[10] These are currently the only risk factors for mental disorders with sufficient epidemiological data for comparative risk assessment. However, mental disorders are likely to be driven by a more complex interplay between these risk factors and others related to genetic and biological factors, poverty, rising inequality, and population shocks such as war and conflict, pandemics, natural disasters, or other effects of climate change.[23] Alongside risk factors, we must consider the deterioration of protective factors, such as a decline in social connectedness. It has been argued that the widespread growth in digital technologies is altering how we socially engage, especially among children and adolescents.[33] Attention has recently turned towards the role of social media, extended screen use, and cyberbullying as potential drivers of the increase in mental disorder prevalence among youth, but the available epidemiological data are not sufficiently robust to confirm this.[33]

Evidence-based primary prevention strategies addressing these risk and protective factors for mental disorders exist, yet their uptake at the population level remains limited.[34] GBD 2023 findings indicate that approaches targeting early-life risk factors are especially important because many mental disorders emerge in childhood and adolescence. Approaches can include parental programmes to strengthen parenting skills and the wellbeing of caregivers and children, as well as school-based interventions to promote resilience, social skills, and other important life skills, and to prevent bullying and other forms of abuse and violence.[24] In addition to failures in prevention, the diagnosis and treatment of existing cases of mental disorders lag behind sustained advancement for other diseases and injuries.[6] There is large disparity between the total number of individuals with mental disorders, and those accessing appropriate care.[6,23,24] In a previous analysis, we estimated that only 9·1% (7·2–11·6) of individuals with major depressive disorder globally in 2021 received minimally adequate treatment. Of the 204 countries and territories included in GBD, only seven (Australia, Belgium, Canada, Germany, the Netherlands, South Korea, and Sweden) reached minimally adequate treatment rates surpassing 30%, and 90 countries had coverage lower than 5%.[35] Mental disorders were a leading cause of all-cause DALYs across all locations in 2023; however age-standardised DALY rates were highest in high SDI locations, and specifically in the Netherlands, Portugal, and Australia (primarily due to anxiety disorders and major depressive disorder), where the available data on mental health service use indicate that more individuals have access to preferred treatment.[6,35]

There are many reasons provided for failures in the implementation of primary prevention and treatment for mental disorders globally.[34] Comparatively less government health expenditure or developmental assistance is assigned to mental health compared with other areas of health. Many countries face shortages of staff with mental health training or do not have a dedicated mental health policy or plan.[24] The solution to reducing the mental disorder burden is often pitched towards facilitating access to more trained mental health professionals and medication.[23] However, the lack of improvement in mental disorder burden globally in 2023, even in locations with better access to health care and evidence-based treatments, suggests there is also a need for broader systemic change to global mental health responses and stronger leadership to enhance mental health policies.

WHO's World Mental Health Report[36] and other leaders in global mental health[4,23,24] have asked for more consideration to be given to social determinants of poor mental health, as early as possible, using a broader range of psychosocial interventions, delivered by more diverse service providers and front-line workers (across primary care, community-lead, and grass roots mental health and social care services), using evidence-based and international human rights standards. These proposed solutions are not novel, and many can be operationalised by leveraging resources already available to most countries and territories.[4,23,24,36] What is currently lacking, however, is a unified response and commitment to invest in changes to meet the mental health needs of individuals at a population level. GBD estimates continually provide important metrics to this effort, as none of these goals can have meaningful impact without the monitoring of indicators of progress to hold stakeholders accountable.

While some of the variation in our prevalence and burden estimates across disorders, locations, age, sex, and year reflects true differences driven by the determinants of mental disorders, some variation is attributable to measurement error that come with the use of self-reported survey data, including under-reporting or over-reporting within mental health surveys and limited availability of survey data. The generalisability of our findings to the general population is constrained (especially for low-income and middle-income locations) by these limitations. While we managed to identify an additional 5251 epidemiological data points, covering 119 existing and ten new locations across all mental disorders in GBD 2023, there were still 75 countries and territories (mostly low-income and middle-income countries) for

which we had no data. Most data were collected between 1980 and 2019, with fewer diagnostic mental health surveys available during and after the COVID-19 pandemic, which affected our ability to accurately assess globally representative time trends. While recent survey data indicated rising trends in prevalence of anxiety disorders and major depressive disorder, these data were mostly from high-income countries.[29–32] We used location-level covariates to guide prevalence across location and year, but a small number of indicators had available data to be used as country-level covariates. Those included did not capture the full complexity within drivers of mental disorder prevalence across populations. Given these limitations, the extent to which increasing trends in mental disorder prevalence can be extrapolated to all ages, and across countries and territories globally, is unclear and should be interpreted with caution.

Our bias corrections did not capture all sources of bias. For instance, we adhered to DSM and ICD definitions to enforce consistency in case definitions across surveys, but these definitions might not be generalisable across cultures. The same is true for many survey instruments that have not been fully validated across populations. Our bias correction relied on gold-standard mental health data collection practices, which are costly and time consuming to administer. In the absence of high-quality epidemiological data, we depended on the out-of-sample predictive validity of our DisMod modelling analysis to produce estimates of prevalence for combinations of age, sex, year, and location. Modelled estimates cannot fully substitute for high-quality survey data, but they enable assessments of health loss within populations with little or no raw data available and can inform health priority setting. In GBD 2023, several causes, including major depressive disorder, anxiety disorders, and autism spectrum disorders, transitioned to DisMod-AT. Because GBD encompasses hundreds of non-fatal causes, this transition is being implemented iteratively across GBD cycles. For GBD 2023, both DisMod platforms produced internally consistent prevalence estimates within the integrated GBD framework; however, we acknowledge that temporal trends for conditions modelled using DisMod-MR 2.1 might be attenuated due to this platform's more limited ability to capture trends in data-sparse settings.

The severity distributions used to estimate YLDs were consistently applied across location, age, sex, and year. They also relied on a small number of surveys, mostly from high-income settings, therefore failing to capture variation across place, time, and access to treatment. We are developing new approaches to incorporate globally representative severity distributions within GBD, especially related to changes in severity by health-care access for depressive and anxiety disorders.[37] Additionally, we were successful in updating the severity split used to inform ADHD burden in GBD 2023, which resulted in the removal of the asymptomatic health state for this cause. YLDs estimated per case of ADHD increased compared with previous GBD iterations as a result. Our comorbidity correction assumed independent distributions of comorbid diseases and injuries. This underestimated comorbidity between causes for which the comorbidity distribution is dependent on the range of disorders experienced. This limitation is difficult and computationally intensive to resolve within the GBD framework given insufficient epidemiological data to consistently capture the co-occurrence of all diseases and injuries across location, age, and sex.[10]

GBD estimates do not capture various important sources of health loss from mental disorders. These sources have been discussed at length in a previous publication[2] and are summarised below. YLDs capture health loss but not broader welfare loss. As a result, our estimates of mental disorder burden do not reflect the full societal impact of these disorders. Moreover, GBD disability weights were derived from brief lay descriptions of health states, which might not capture the complexity of symptoms experienced across populations. We estimated very few deaths and YLLs for anorexia nervosa and no deaths or YLLs for other mental disorders. Individuals with mental disorders are at an increased risk of early mortality from a range of physical illnesses and injuries, such as suicide and homicide,[2,38] but these are categorised as separate causes within GBD. Where the evidence exists, it is feasible to use GBD's comparative risk assessment to quantify premature deaths from other diseases and injuries that can be causally attributed to mental disorders. This continues to be a priority area for further development within GBD studies.

This Article presents the burden of mental disorders excluding substance use disorders, which is a separate cause group within GBD. This focus enabled us to present a more detailed analysis of the prevalence and burden of mental disorders than we would have been able to present with a broader cause group. However, it limited interpretation of findings, particularly for situations in which mental and substance use disorders are combined within essential health-care packages and delivery platforms. Drug use and alcohol use disorders frequently co-occur with mental disorders and are notable contributors to global disease burden.[10] Their exclusion from this analysis means that the total burden of conditions typically addressed within mental health systems was underestimated. We currently only capture burden associated with 12 mental disorders, but work is continuously underway to include other disorders in future GBD cycles.

These limitations present many competing priorities for innovation within the GBD framework. Our focus for the next GBD cycle includes the incorporation of new epidemiological data for all mental disorders, especially for currently under-represented populations and survey series, allowing us to better assess trends over time; the

inclusion of personality disorders as a formal GBD cause; and the transition to DisMod AT as our preferred prevalence estimation tool. We strongly encourage research collaborations to support new data collection efforts and further epidemiological investigations into the determinants and risk factors of mental disorders, using gold-standard data collection practices.

GBD 2023 reaffirmed the significant burden imposed by mental disorders in all countries and territories in 2023, irrespective of the resources available. It also indicated instances where this burden was unevenly distributed across populations, and increasing over time. Concerningly, an increasing number of individuals are being impacted by mental disorders across all locations, ages, and sexes. Existing efforts to reduce the burden imposed by mental disorders globally have not produced meaningful change, with GBD 2023 findings emphasising the need for better surveillance and more coordinated and inclusive policy action. Ongoing efforts need to include the prioritisation of early treatment and prevention strategies that address sex-specific and age-specific variation in mental disorder burden across locations. Responding to the mental health needs of our population, especially those most vulnerable, is an obligation, not a choice.

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See **Online** for appendix 3

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See appendix 3 (pp 37–49) for more detailed information about individual author contributions to the research, divided into the following categories: managing the overall research enterprise; writing the first draft of the manuscript; primary responsibility for applying analytical methods to produce estimates; primary responsibility for seeking, cataloguing, extracting, or cleaning data; designing or coding figures and tables; providing data or critical feedback on data sources; developing methods or computational machinery; providing critical feedback on methods or results; drafting the manuscript or revising it critically for important intellectual content; and managing the estimation or publications process. Members of the core research team for this topic area had full access to the underlying data used to generate estimates presented in this Article, and had final responsibility for the decision to submit the manuscript for publication. All other authors had

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For the **GBD Sources Tool** see https://sources.healthdata.org/collection/sources-2023

Data sharing

All relevant datasets, including the underlying epidemiological data used to inform burden estimates for each mental disorder, can be accessed via the GBD Sources Tool. Relevant code is available on request.

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