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Global, regional, and national burden of suicide mortality 1990 to 2016: systematic analysis for the Global Burden of Disease Study 2016

Mohsen Naghavi, on behalf of the Global Burden of Disease Self-Harm Collaborators

Institute for Health Metrics and Evaluation, University of Washington, Seattle, WA 98121, USA

Correspondence to: M Naghavi nagham@uw.edu

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ABSTRACT

OBJECTIVES
To use the estimates from the Global Burden of Disease Study 2016 to describe patterns of suicide mortality globally, regionally, and for 195 countries and territories by age, sex, and Socio-demographic index, and to describe temporal trends between 1990 and 2016.

DESIGN
Systematic analysis.

MAIN OUTCOME MEASURES
Crude and age standardised rates from suicide mortality and years of life lost were compared across regions and countries, and by age, sex, and Socio-demographic index (a composite measure of fertility, income, and education).

RESULTS
The total number of deaths from suicide increased by 6.7% (95% uncertainty interval 0.4% to 15.6%) globally over the 27 year study period to 817 000 (762 000 to 884 000) deaths in 2016. However, the age standardised mortality rate for suicide decreased by 32.7% (27.2% to 36.6%) worldwide between 1990 and 2016, similar to the decline in the global age standardised mortality rate of 30.6%. Suicide was the leading cause of age standardised years of life lost in the Global Burden of Disease region of high income Asia Pacific and was among the top 10 leading causes in eastern Europe, central Europe, western Europe, central Asia, Australasia, southern Latin America, and high income North America. Rates for men were higher than for women across regions, countries, and age groups, except for the 15 to 19 age group. There was variation in the female to male ratio, with higher ratios at lower levels of Socio-demographic index. Women experienced greater decreases in mortality rates

(49.0%, 95% uncertainty interval 42.6% to 54.6%) than men (23.8%, 15.6% to 32.7%).

CONCLUSIONS
Age standardised mortality rates for suicide have greatly reduced since 1990, but suicide remains an important contributor to mortality worldwide. Suicide mortality was variable across locations, between sexes, and between age groups. Suicide prevention strategies can be targeted towards vulnerable populations if they are informed by variations in mortality rates.

Introduction

Suicide is recognised as a critical public health issue by the World Health Organization in its Comprehensive Mental Health Action Plan.[1] The plan contains a target to decrease global suicide mortality by 10% between 2012 and 2020. Proposed actions for WHO Member States include the development and implementation of comprehensive national suicide prevention strategies, with a focus on populations identified as at increased risk for suicide. As of January 2018, 28 of 194 WHO Member States report having a national suicide prevention strategy.[2] Suicide mortality is also an indicator for Sustainable Development Goal 3.4.2, to be used to measure progress towards a targeted one third reduction in premature mortality from non-communicable diseases through enhanced prevention, treatment, and promotion of mental health and well being.[3]

Suicide is defined as a death caused by intentional self directed injury.[4] It varies systematically by age, sex, and means of suicide.[5 6] A complex web of factors underlies suicide mortality, including both risk factors and protective factors at individual, family, community, and societal levels[7-10]; choices of and access to means of suicide[11-13]; and mental illness and access to mental healthcare and other services.[14-17] These drivers of suicide mortality also vary systematically by region. For example, in most parts of the world, suicide deaths are higher among men than women,[5] although this ratio is much lower for countries across a belt that extends from southern India to China, including some islands in the Pacific ocean.[5 18 19] In Western countries, there is a strong relation between mental illness and suicide,[20] however, in Asia, this relation is much less pronounced.[21]

Given the focus on preventing suicide internationally and by specific countries, an accounting of levels and trends of suicide mortality, including analyses by region, country, age, and sex is necessary to inform suicide prevention efforts. However, suicide

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WHAT IS ALREADY KNOWN ON THIS TOPIC

Suicide is a global public health concern

The World Health Organization reports approximately 800 000 global suicide deaths annually

Men, younger adults, and older adults are reported to have higher rates of suicide than women and middle aged adults

WHAT THIS STUDY ADDS

The global age standardised mortality rate from suicide decreased by almost a third between 1990 and 2016

Men had higher mortality rates from suicide than women, at all ages except for the 15 to 19 age group

Men experienced a lower decrease in age standardised mortality rate from suicide from 1990 to 2016 (23.8%) compared with women (49.0%)

is stigmatised and, in some countries, illegal, which can lead to misclassification and variability in data quality.[5][22] The methods of the Global Burden of Disease Study 2016,[23] which address some of this misclassification through data processing, provide an opportunity to present internationally comparable estimates of suicide that account for some of these data issues. Details on how misclassification is handled are outlined in the Global Burden of Disease Study 2016 Causes of Death appendix.[23]

The standardised methods and comprehensive data of the Global Burden of Disease Study 2016 facilitate an assessment of the patterns of suicide mortality in 2016 by age, sex, and location, and allow comparisons across the period of 1990 to 2016. The data and methods in the Global Burden of Disease Study 2016 represent substantive improvements to previous iterations of the Global Burden of Disease Study including additional data sources, advances in modelling strategies, and the refinement of a continuous scale (the Socio-demographic index) to explore levels and trends relative to socioeconomic factors between locations. This paper uses estimates from the Global Burden of Disease Study 2016 to describe patterns of suicide mortality globally, regionally, and for 195 countries and territories, by age, sex, and Socio-demographic index, from 1990 to 2016.

Methods
Overview
The Global Burden of Disease Study 2016 includes estimates of mortality owing to 264 causes by location, age, and sex between 1990 and 2016 for 195 countries and territories. We provide an overview of the methods employed by the Global Burden of Disease Study 2016 with details specific to the estimation of suicide mortality. The Global Burden of Disease Study 2016 used the ICD (international classification of diseases) definition of suicide mortality as death caused by purposely self-inflicted poisoning or injury (ICD-10 codes X60-X64.9, X66-X84.9, Y87.0; ICD-9 codes E950-E959). For this analysis we present results for suicide as an aggregate cause of death. Additional detailed results can be explored by using online data visualisation tools or downloading a results query tool. Our analyses adhere to the Guidelines for Accurate and Transparent Health Estimates Reporting (GATHER).[24] The Global Burden of Disease Study 2016 uses de-identified, aggregated data, therefore a waiver of informed consent was reviewed and approved by the University of Washington Institutional Review Board (application number 46665).

Causes of death data cleaning and formatting
We obtained cause of death data coded as suicide from vital registration systems and verbal autopsy reports. Vital registration systems collect information about births and deaths in a population, and the vital registration data used for our analysis contains the most detailed cause of death whenever possible by using ICD coding systems. We consider vital registration data to be of the highest quality, and use it whenever possible.

Verbal autopsy is a method of classifying deaths in locations without comprehensive vital registration systems. Verbal autopsy uses trained interviewers to collect information about signs, symptoms and sociodemographic data of the deceased, which are then used to infer a cause of death.

The database developed for the Global Burden of Disease Study 2016 contains 15 937 location years of vital registration data and 1619 location years of data for suicide. The Global Burden of Disease Study 2016 estimates the period reflecting the initial Global Burden of Disease Study, which estimated disease burden for 1990 commissioned by the World Bank in 1993, to the previous calendar year. Our cause of death estimation extends back to 1980, but in developing countries, data are sparser for these locations before 1990, so we restricted cause-specific analyses to 1990 to 2016. Estimates for 2016 are currently available, and estimates for 2017 will be available in late 2018. We developed a star-rating system to capture the quality of data available for each country over the time series for Global Burden of Disease estimation. The rating for each location is available in supplementary table 1. The rating is dependent on availability, completeness, and detail of data and the percentage of deaths that are ill-defined garbage codes or assigned to highly aggregated causes. We consider extensive vital registration data (ie, vital registration data that is available and complete for the Global Burden of Disease estimation time series) to be high quality. Additional details on the calculation of the rating by using the components can be found in the Global Burden of Disease Study 2016 Causes of Death appendix. We included all data in the models to enhance predictive validity for estimates in countries without extensive vital registration data. We excluded data from countries without extensive vital registration coverage from models to avoid inflation of uncertainty. We accessed the details of the specific data source by location used in the estimation process through the Global Burden of Disease data tool. Supplementary table 2 shows how many verbal autopsy, vital registration, and other sources were used for suicide estimation for each location.

The Global Burden of Disease Study 2016 addressed variation in data quality through a series of methods that include data standardisation and the redistribution of inappropriately coded deaths or "garbage codes" that are not possible causes of death, or that are not specific underlying causes of death, that have been entered as the underlying cause of death on death certificates.[23] Undercounting or wrong assignment of deaths from suicide is a known problem in suicide death estimation, and the level and type of wrong assignment differs by location, age, sex, and time.[22][25] Wrong assignment is corrected for in part by reassignment from ICD codes that can include suicide deaths, such as undetermined intent injury codes (Y10-Y34 in ICD-10; E980-E988 in ICD-9) or exposure to unspecified factor (X59 in ICD-10; E887 in ICD-9),

or as poorly defined or unknown causes of mortality (R99).[23] First we determined a set of all possible "target causes" for the garbage codes to be redistributed onto based on knowledge of pathophysiology or certification practices to redistribute these garbage codes. Then we used a regression between suicide fractions and undetermined intent causes by age and sex in each location for each cause of injury to estimate the fraction allocated to each target code; the same regressions were implemented for homicide and unintentional injuries.We redistributed deaths coded to undetermined intent causes to suicide, homicide, and unintentional injury by using these fractions. Supplementary figure 1 shows the variation of direct assignment to suicide in women, aged 40 to 44, and suicide deaths that were reassigned from other causes in six countries for the year 2013.

Estimation

We estimated suicide mortality by using the database described above, covariates (see supplementary table 3), and the cause of death ensemble model (CODEm) framework developed for the Global Burden of Disease Study 2016.[23] Ensemble modelling is a term used to describe the combination of multiple independent model frameworks by using assessments of their relative predictive power. This method of modelling has been shown to estimate more accurate measures of uncertainty compared with other modelling techniques.[23] Using ensemble models in the Global Burden of Disease Study 2016 allows models for countries with less reliable mortality data to borrow strength from adjacent geographies or time periods, by weighting the component models, to increase the accuracy of the final estimates and decrease uncertainty. Models for suicide were age limited such that deaths from suicide were restricted to a lower limit of age 10, owing to the very low numbers of suicide reported among those under the age of 10 in most populations and difficulty in determining intent in children.[26] For this study, we developed individual CODEm models by sex, and separately for each country with or without extensive complete vital registration data. There are many model specifications. All models are systematically tested by using multiple iterations of cross-validation tests to evaluate the out-of-sample predictive validity of model variants that met predetermined requirements for direction and significance of regression coefficients. We incorporated models that performed best into a weighted, or "ensemble" model with the highest weights assigned to models with the best out-of-sample prediction error.[23]

We derived point estimates from the mean of 1000 draws from the posterior distribution of modelled suicide mortality by age, sex, and location; these 1000 draws for the final ensemble model are from each contributing model, with the number of draws being contributed proportional to the model's weight in the final ensemble model. We derived 95% uncertainty intervals from the 2.5th and 97.5th centiles of these 1000 draws. We calculated age standardised mortality

rates by using the time-invariant standard population developed for the Global Burden of Disease Study 2016. Years of life lost incorporate age at the time of death and can provide a more integrated view of the burden of suicide, particularly where mortality occurs at younger ages. We calculated years of life lost as the product of the mean age of death by age, sex, year, and location and the difference between the age at death and the standard life expectancy. In the Global Burden of Disease Study 2016, the standard life expectancy was 86.6 years, based on the lowest observed risk of death in each five year age group, from populations of greater than 5 million. Additional details of these calculations are available in the online appendix to the Global Burden of Disease Study 2016 Causes of Death publication.[23]

We compared rates and levels of suicide mortality and years of life lost among locations across age, sex, and country development status, for the years 1990 through 2016 and included 95% uncertainty intervals for each point estimate. The Socio-demographic index, developed for the Global Burden of Disease Study 2016 as a composite measure of development status,[23] incorporates the geometric mean of total fertility rate, income per capita, and mean years of education among those aged over 15 to create an index for each location. Sex differences in suicide rates vary considerably, with a higher female to male ratio for countries lower on the development spectrum. We explored variation in sex ratios by Socio-demographic index level to identify locations where suicide mortality sex ratios differ from the expected patterns. Temporal change was evaluated from the difference in level or rate between time periods. Differences were considered statistically significant where the 95% uncertainty interval did not include zero (ie, where the quantity of interest increased (or decreased) in at least 95% of the draws).

Patient and public involvement

The investigator did not conduct any interaction or intervention with individuals about whom data was obtained. Patients and the public were not involved in the design, analysis or interpretation of this research study.

Results

Global trends

There were 817 000 (95% uncertainty interval 762 000 to 884 000) deaths globally from suicide in 2016, comprising 1.49% (1.39% to 1.61%) of total deaths in that year and an all ages rate of 11.1 (10.3 to 12.0) deaths per 100 000. The total number of deaths from suicide increased globally between 1990 and 2016 by 6.7% (0.4% to 15.6%), but the age standardised mortality rate from suicide decreased by 32.7% (27.2% to 36.6%) from 16.6 deaths (15.2 to 17.6) per 100 000 in 1990 to 11.2 deaths (10.4 to 12.1) per 100 000 in 2016. In 2016, 34.6 (32.4 to 37.4) million years of life lost resulted from suicide. The global age standardised rate of years of life lost from suicide was estimated at

458.4 (438.5 to 506.1) per 100 000 in 2016 accounting for 2.18% (1.9% to 2.2%) of total years of life lost. This represented a decrease of 34.2% (28.4% to 38.1%) from 1990 when the age standardised years of life lost rate was 696.6 (641.4 to 744.2) per 100 000.

Regional trends

Regionally, suicide was in the leading 10 causes of death in five of the 21 Global Burden of Disease defined regions. Suicide ranked 4th by age standardised mortality rate in eastern Europe, 6th in high income Asia Pacific, 7th in Australasia, and 10th in both central Europe and in high income North America (supplementary figure 2A). Ranked by age standardised years of life lost rate, suicide was the leading cause of death in high income Asia Pacific; 3rd leading cause in eastern Europe and Australasia; 4th in central Europe, western Europe, and high income North America; 6th in southern Latin America; and 8th in central Asia (supplementary fig 2B). Table 1 shows that the highest regional age standardised mortality rate in 2016 was estimated for eastern Europe (27.5 deaths per 100 000, 95% uncertainty interval 10.1 to 37.2), followed by high income Asia Pacific (18.7, 15.6 to 21.7), and southern sub-Saharan Africa (16.3, 14.3 to 19.3). Table 2 shows that a similar pattern was observed for regional age standardised years of life lost rates with the highest age standardised years of life lost rate estimated for eastern Europe (1200.3 years of life lost per 100 000, 95% uncertainty interval 869.2 to 1635.9), followed by high income Asia Pacific (742.0, 614.6 to 855.6) and southern sub-Saharan Africa (664.1, 579.6 to 809.8). The age standardised mortality rate for suicide decreased across most Global Burden of Disease regions between 1990 and 2016, with only

non-significant increases observed for the regions of central Latin America (14.6%, 95% uncertainty interval −5.9% to 31.3%), high income Asia Pacific (10.1%, −23.5% to 30.0%), western sub-Saharan Africa (4.3%, −10.4% to 20.7%), and eastern Europe (1.4%, −24.2% to 34.3%).

Figure 1 shows that there were periods of increases and declines in the age standardised mortality rate from suicide for men in eastern Europe in particular. The age standardised mortality rate from suicide for men in eastern Europe was similar at the beginning and end of the study period (27.1 deaths per 100 000, 95% uncertainty interval 23.8 to 34.1 in 1990; 27.5, 20.1 to 37.2 in 2016) and rose as high as 42.8 deaths per 100 000 (95% uncertainty interval 33.7 to 50.2) during this period.

National trends

Considerable variability emerged beneath these regional patterns. High rates of suicide mortality in a few countries influenced regional averages in Global Burden of Disease regions, particularly South Korea in high income Asia Pacific, Indonesia in South East Asia, and Lesotho and Zimbabwe in Southern sub-Saharan Africa (supplementary table 1). Figure 2 shows that in 2016, for countries with populations greater than 1 million, age standardised mortality rates from suicide were highest in Lesotho (39.0 deaths per 100 000, 95% uncertainty interval 25.5 to 55.7), Lithuania (31.0, 25.6 to 36.2), Russia (30.6, 20.6 to 43.6), and Zimbabwe (27.8, 21.1 to 37.3). Figure 3 shows that in 2016, for countries with populations greater than 1 million, rates of age standardised years of life lost were highest in Lesotho (1413.2 years per 100 000, 95% uncertainty interval 944.9 to 2065.9), Russia (1349.5, 889.7 to 1922.4), Lithuania (1317.8, 1065.1

Table 1 | Total number of deaths, age standardised mortality rate (ASMR) per 100 000 from suicide in 2016, and total percent change in ASMR from suicide 1990 to 2016, for all regions

Region	No of deaths (95% UI)	ASMR (95% UI)			Percent change (95% UI)	Female to male ASMR ratio
		Men	Women	Total		
East Asia	138 000 (129 000 to 154 000)	10.9 (9.8 to 12.8)	6.6 (6.1 to 7.1)	8.7 (8.2 to 9.7)	−63.0 (−65.7 to −55.8)	0.6
South East Asia	42 000 (39 000 to 50 000)	10.3 (9.1 to 12.5)	3.6 (3.3 to 4.0)	6.9 (6.3 to 8.0)	−34.0 (−41.6 to −17.3)	0.3
Oceania	1000 (1000 to 2000)	20.5 (14.5 to 28.5)	7.5 (4.8 to 11.6)	14.1 (10.1 to 17.4)	−13.0 (−27.7 to 8.2)	0.4
Central Asia	11 000 (9000 to 13 000)	21.1 (16.2 to 25.2)	4.8 (4.2 to 5.5)	12.5 (10.2 to 14.5)	−3.3 (−16.5 to 10.9)	0.2
Central Europe	19 000 (16 000 to 21 000)	22.6 (17.9 to 25.9)	4.2 (3.9 to 4.5)	13.0 (10.8 to 14.5)	−23.3 (−32.7 to −14.5)	0.2
Eastern Europe	68 000 (50 000 to 94 000)	50.0 (34.8 to 71.1)	8.3 (5.6 to 12.2)	27.5 (20.1 to 37.2)	1.4 (−24.1 to 34.4)	0.2
High income Asia Pacific	46 000 (38 000 to 53 000)	26.9 (20.1 to 32.6)	11.0 (9.3 to 12.9)	18.7 (15.6 to 21.7)	10.1 (−23.5 to 30.0)	0.4
Australasia	3000 (3000 to 4000)	16.4 (13.0 to 19.2)	5.0 (4.5 to 5.5)	10.6 (9.0 to 12.0)	−19.9 (−31.7 to −8.3)	0.3
Western Europe	53 000 (47 000 to 65 000)	15.2 (13.4 to 20.8)	4.3 (4.1 to 4.6)	9.6 (8.7 to 12.4)	−31.4 (−38.0 to −20.0)	0.3
Southern Latin America	8000 (7000 to 9000)	19.6 (16.0 to 24.0)	4.1 (3.6 to 4.7)	11.5 (9.7 to 13.6)	−15.0 (−27.3 to −1.1)	0.2
High income North America	51 000 (43 000 to 57 000)	20.0 (16.2 to 23)	5.8 (5.5 to 6.0)	12.7 (10.8 to 14.1)	−2.3 (−14.4 to 3.1)	0.3
Caribbean	4000 (4000 to 5000)	15.3 (12.9 to 17.6)	4.0 (3.3 to 4.7)	9.4 (8.3 to 10.6)	−24.5 (−32.9 to −15.5)	0.3
Andean Latin America	3000 (2000 to 3000)	7.4 (5.6 to 8.8)	2.9 (2.4 to 3.3)	5.1 (4.2 to 5.8)	−6.4 (−23.0 to 12.7)	0.4
Central Latin America	16 000 (13 000 to 19 000)	11.0 (8.5 to 13.4)	2.1 (1.9 to 2.3)	6.4 (5.2 to 7.6)	14.6 (−5.9 to 31.3)	0.2
Tropical Latin America	14 000 (12 000 to 18 000)	10.8 (8.8 to 14.0)	2.3 (2.0 to 2.6)	6.4 (5.3 to 7.9)	−11.6 (−22.4 to 4.4)	0.2
North Africa and Middle East	26 000 (23 000 to 31 000)	6.8 (5.9 to 8.4)	2.6 (2.4 to 3.0)	4.8 (4.2 to 5.6)	−2.8 (−15.7 to 14.3)	0.4
South Asia	252 000 (214 000 to 273 000)	18.2 (12.7 to 20.2)	12.6 (11.2 to 13.9)	15.4 (12.9 to 16.6)	−17.5 (−25.8 to −3.2)	0.7
Central sub-Saharan Africa	7000 (5000 to 9000)	16.6 (11.6 to 22.5)	6.0 (5.0 to 7.1)	10.9 (8.5 to 14.0)	−2.3 (−21.4 to 17.4)	0.4
Eastern sub-Saharan Africa	24 000 (21 000 to 28 000)	18.7 (15.8 to 22.1)	7.0 (5.9 to 8.2)	12.5 (11.1 to 14.1)	−15.3 (−26.5 to 2.3)	0.4
Southern sub-Saharan Africa	11 000 (10 000 to 13 000)	26.1 (21.9 to 31.6)	7.8 (6.7 to 8.9)	16.3 (14.3 to 19.3)	−10.8 (−25.0 to 19.1)	0.3
Western sub-Saharan Africa	19 000 (16 000 to 25 000)	12.6 (10.2 to 17.1)	6.7 (4.8 to 8.9)	9.6 (7.9 to 12.3)	4.3 (−10.4 to 20.7)	0.5

UI=uncertainty interval

Table 2 | Total number of years of life lost (YLL) and age standardised rate (ASR) of YLL per 100 000 from suicide in 2016, and total percent change in ASR of YLL from suicide 1990 to 2016, for all regions

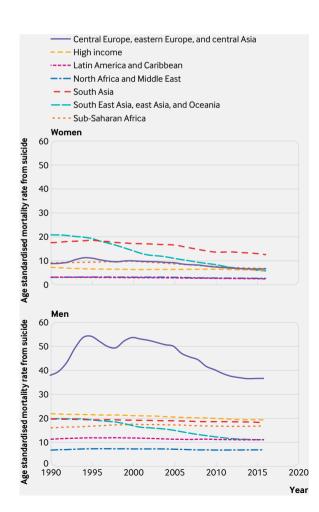| Region	No of YLL (95% UI)	ASR of YLL (95% UI)			Female to male ASR of YLL ratio
		Men	Women	Total	
East Asia	4 665 000 (4 418 000 to 5 330 000)	353.7 (323.4 to 430.8)	223.8 (208.7 to 241.1)	289.6 (274.4 to 330.3)	0.6
South East Asia	1 864 000 (1 690 000 to 2 231 000)	420.1 (369.5 to 516.8)	134.9 (121.7 to 152.1)	276.1 (250.6 to 329.2)	0.3
Oceania	78 000 (54 000 to 99 000)	1013.2 (693.5 to 1409.7)	344.8 (206.5 to 547.7)	684.6 (472.7 to 858.2)	0.3
Central Asia	528 000 (418 000 to 617 000)	946.1 (704.9 to 1133.6)	224.0 (196.9 to 253.9)	575.1 (457.5 to 671.3)	0.2
Central Europe	671 000 (550 000 to 746 000)	882.2 (687.8 to 994.6)	155.8 (145.1 to 168.4)	517.0 (420.4 to 574.9)	0.2
Eastern Europe	2 769 000 (2 000 000 to 3 767 000)	2118.2 (1455.2 to 3016.8)	346.4 (225.9 to 517.2)	1200.3 (869.2 to 1635.9)	0.2
High income Asia Pacific	1 480 000 (1 228 000 to 1 708 000)	1034.7 (774.0 to 1248.3)	447.5 (377.6 to 533.3)	742.0 (614.6 to 855.6)	0.4
Australasia	141 000 (119 000 to 159 000)	729.8 (593.9 to 856.9)	225.5 (202.9 to 251.5)	477.2 (409.0 to 539.6)	0.3
Western Europe	1 785 000 (1 617 000 to 2 346 000)	602.6 (532.4 to 859.4)	167.5 (158.5 to 178.1)	384.1 (347.2 to 514.0)	0.3
Southern Latin America	340 000 (277 000 to 392 000)	838.8 (645.7 to 998.1)	188.1 (162.9 to 217.6)	510.2 (414.4 to 589.8)	0.2
High income North America	2 062 000 (1 745 000 to 2 270 000)	856.4 (696.9 to 973.2)	257.6 (245.3 to 268.7)	556.4 (473.7 to 613.3)	0.3
Caribbean	174 000 (153 000 to 199 000)	598.1 (515.9 to 707.4)	160.9 (128.4 to 199.7)	375.9 (329.7 to 429.7)	0.3
Andean Latin America	140 000 (115 000 to 159 000)	324.8 (243.3 to 385.6)	136.6 (116.6 to 157.4)	230.0 (190.4 to 262.4)	0.4
Central Latin America	813 000 (657 000 to 988 000)	503.8 (382.8 to 630.8)	106.2 (98.4 to 117.2)	302.4 (245.3 to 365.1)	0.2
Tropical Latin America	649 000 (543 000 to 803 000)	464.7 (373.9 to 603.1)	103.0 (90.4 to 117.1)	280.9 (235.1 to 348.2)	0.2
North Africa and Middle East	1 281 000 (1 141 000 to 1 532 000)	308.6 (266.7 to 382.3)	117.8 (104.4 to 132.3)	216.0 (192.0 to 257.1)	0.4
South Asia	12 636 000 (10 923 000 to 13 692 000)	782.9 (562.1 to 868.9)	626.6 (556.1 to 690.5)	704.8 (605.1 to 764.8)	0.8
Central sub-Saharan Africa	275 000 (208 000 to 374 000)	532.4 (370.4 to 747.5)	180.2 (150.9 to 220.7)	351.3 (269.0 to 462.0)	0.3
Eastern sub-Saharan Africa	969 000 (848 000 to 1 111 000)	555.7 (464.5 to 665.8)	203.8 (172.4 to 236.9)	373.5 (330.5 to 425.2)	0.4
Southern sub-Saharan Africa	510 000 (442 000 to 628 000)	1056.5 (896.2 to 1341.8)	296.1 (250.8 to 344.3)	664.1 (579.6 to 809.8)	0.3
Western sub-Saharan Africa	783 000 (644 000 to 1 020 000)	397.1 (316.9 to 543.2)	182.2 (133.9 to 240.8)	288.9 (238.1 to 375.7)	0.5

UI=uncertainty interval

Fig 1 | Age standardised mortality rate from suicide, by Global Burden of Disease super region, for women and men, 1990 to 2016

to 1547.5), Kazakhstan (1119.9, 858.9 to 1462.7), and Mongolia (998.1, 744.3 to 1230.5).

Figure 2 shows that age standardised mortality rates for suicide were lowest in Lebanon (2.4 deaths per 100 000, 95% uncertainty intervals 1.6 to 3.5), Syria (2.5, 2.0 to 3.0), Palestine (2.7, 2.1 to 3.6), Kuwait (2.7, 1.7 to 3.8), and Jamaica (2.9, 2.2 to 3.7). Figure 3 shows that rates of age standardised years of life lost rates were lowest in the same countries.

Between 1990 and 2016, noticeable decreases in age standardised mortality rates from suicide were estimated for 63 of the 195 countries and territories in the Global Burden of Disease Study 2016 (supplementary table 1). Figure 4 shows that the largest statistically significant decreases occurred in China (64.1%, 95% uncertainty interval 57.1% to 66.7%), Denmark (60.0%, 37.6% to 68.3%), the Philippines (58.1%, 10.4% to 69.8%), Singapore (50.6%, 31.0% to 62.9%), and Switzerland (50.3%, 27.9% to 63.5%), as well as in the smaller countries of the Maldives (59.1%, 36.3% to 72.0%) and Seychelles (56.1%, 26.6% to 65.9%). Deaths from suicide in China and India—as the most populous countries—together constituted 44.2% of global suicide deaths in 2016. However, the large decrease in the age standardised mortality rate from suicide in China over the past 27 years was not matched in India where the age standardised mortality rate decreased by 15.2% (95% uncertainty interval 0.3% to 23.7%). Globally, the age standardised mortality rate from suicide increased in some locations, with the largest statistically significant increases estimated for Zimbabwe (96.2%, 95% uncertainty interval 30.7% to 268.4%), Jamaica (70.9%, 21.0% to 128.2%), Paraguay (70.4%, 23.2. to 117.1%), Zambia (61.6%, 5.23% to 128.7%), and Belize (52.2%, 8.8% to 100.7%).
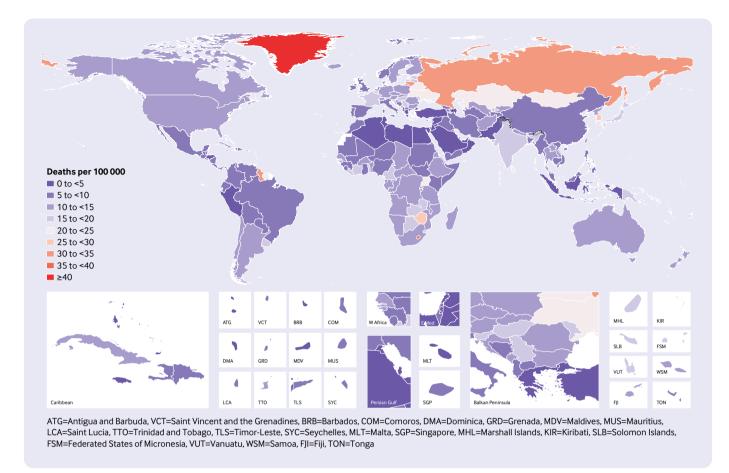
ATG=Antigua and Barbuda, VCT=Saint Vincent and the Grenadines, BRB=Barbados, COM=Comoros, DMA=Dominica, GRD=Grenada, MDV=Maldives, MUS=Mauritius, LCA=Saint Lucia, TTO=Trinidad and Tobago, TLS=Timor-Leste, SYC=Seychelles, MLT=Malta, SGP=Singapore, MHL=Marshall Islands, KIR=Kiribati, SLB=Solomon Islands, FSM=Federated States of Micronesia, VUT=Vanuatu, WSM=Samoa, FJI=Fiji, TON=Tonga

Fig 2 | Age standardised mortality rate from suicide for men and women combined, 2016

Sex and age trends

Globally, the age standardised mortality rate was higher for men (15.6 deaths per 100 000, 95% uncertainty interval 13.7 to 17.2) than for women (7.0, 6.5 to 7.4), however, the rate of decrease from 1990 to 2016 was lower for men (23.8%, 95% uncertainty interval 15.6% to 32.7%) than for women (49.0%, 42.6% to 54.6%). This was reflected in the female to male ratio which was 0.73 in 1990 and 0.46 in 2016. In 2016, for countries with a population greater than 1 million, the age standardised mortality rates from suicide were highest for men in Lithuania (56.6 deaths per 100 000, 95% uncertainty interval 44.4 to 67.7), Russia (55.3, 34.9 to 85.0), and Kazakhstan (44.2, 32.5 to 59.6). The age standardised mortality rate for suicide were highest for women in Lesotho (35.4, 16.8 to 54.7), Uganda (18.7, 12.7 to 25.5), Liberia (17.0, 12.5 to 21.5), and South Korea (15.5, 10.0 to 22.7) (supplementary table 1).

The age standardised mortality rates from suicide in 2016 were lowest for men in Lebanon (3.4 deaths per 100 000, 95% uncertainty interval 2.0 to 5.6), Kuwait (3.8, 2.1 to 5.7), Pakistan (3.9, 2.9 to 5.2), Syria (4.0, 3.1 to 5.1), and Palestine (4.1, 3.0 to 5.7). The age standardised mortality rate from suicide were lowest for women in Syria (1.0, 0.8 to 1.2), Oman (1.1, 0.9 to 1.3), Jamaica (1.1, 0.8 to 1.5), and Greece (1.2, 1.0 to 1.4).

Although age standardised mortality rates were lower for women than for men across all regions, strong regional variation in relative rates by sex existed in 2016. Table 1 shows that the lowest ratios of suicide mortality rates for women compared with those for men occurred in the regions of eastern (0.17) and central (0.18) Europe, and across central (0.19), southern (0.21), and tropical (0.21) Latin America. This ratio was closest to parity in east (0.60) and south (0.69) Asia. At the national level, rates of suicide mortality for women were lower than those for men in all countries except for Liberia (1.08) (supplementary table 1). Relative ratios of female to male age standardised mortality rates were also comparatively high for many countries across Africa (Morocco 0.95, Nigeria 0.88, and Lesotho 0.88), as well as for many countries in south Asia (Pakistan 0.96, Bangladesh 0.73, and India 0.69).

Figure 5 shows that, for men and women and across all regions, rates of suicide mortality were highest for the oldest age groups. However, suicide did not rank in the leading 10 causes of death for those aged 70 and over (supplementary fig 3A). At the same time, regional variation in the overall age distribution of mortality rates from suicide was notable – with comparatively high rates for younger adults in several regions. In the 10 to 24 age group, suicide was ranked in the leading five causes of mortality in all Global Burden of Disease
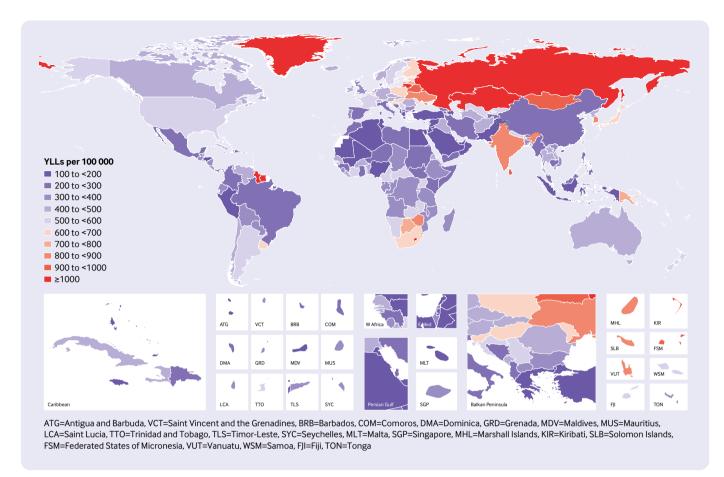
YLLs per 100 000
- 100 to <200
- 200 to <300
- 300 to <400
- 400 to <500
- 500 to <600
- 600 to <700
- 700 to <800
- 800 to <900
- 900 to <1000
- ≥1000

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Fig 3 | Age standardised rate of years of life lost (YLL) from suicide for men and women combined, 2016

regions except for central, eastern, western, and southern sub-Saharan Africa (supplementary fig 3B). Figure 5 shows that a bimodality in the distribution of age specific mortality rates was particularly evident for women in south Asia and for men in central Europe, eastern Europe, and central Asia and in north Africa and Middle East. Across the time series, global mortality rates from suicide were greater, although not significantly so, for women than for men only among those in the 15 to 19 age group (supplementary table 4), although the gap in this age group has also decreased over time (supplementary fig 4). In 2016 mortality rates from suicide for men exceeded those for women in all other age groups by as much as 2.98 times.

For both sexes combined, higher levels of suicide deaths occurred before age 30 in south Asia (46.0% of all suicide deaths), Latin America and Caribbean (38.7%), and North Africa and the Middle East (38.6%) (supplementary fig 5). These higher proportions of suicide deaths among those under 30 reflects the age structure of these populations as age specific mortality rates in the under 30 populations are relatively lower compared with rates at older ages, except for women in south Asia. Deaths from suicide for those younger than 30 comprised less than 30% of total suicide deaths in other Global Burden of Disease super regions. One fifth of suicide deaths occurred among those aged 60 or

over in the Global Burden of Disease super regions of high income (20.8%), and South East Asia, east Asia, and Oceania (24.8%).

Socio-demographic index and differences by sex

Globally, ratios of suicide deaths were skewed strongly towards lower rates for women, but there was a large variation between locations related to Socio-demographic index level. Figure 6 shows that the ratio of age standardised mortality rates for women compared with men were highest in countries with a low Socio-demographic index, however, not all countries followed this trend (eg, China has a Socio-demographic index 0.73 and a female to male ratio of 0.61). For the 23 countries with a female to male ratio of 0.50 or greater, there was no clear association between Socio-demographic index and this ratio. A small number of countries were estimated to have both a relatively low Socio-demographic index and a low female to male ratio of age standardised mortality rate from suicide including Afghanistan, Mozambique, Malawi, and Central African Republic.

Discussion

Suicide continues to be an important cause of preventable mortality worldwide, resulting in an estimated 817 000 deaths in 2016. When ranking leading causes by age standardised mortality rate, this

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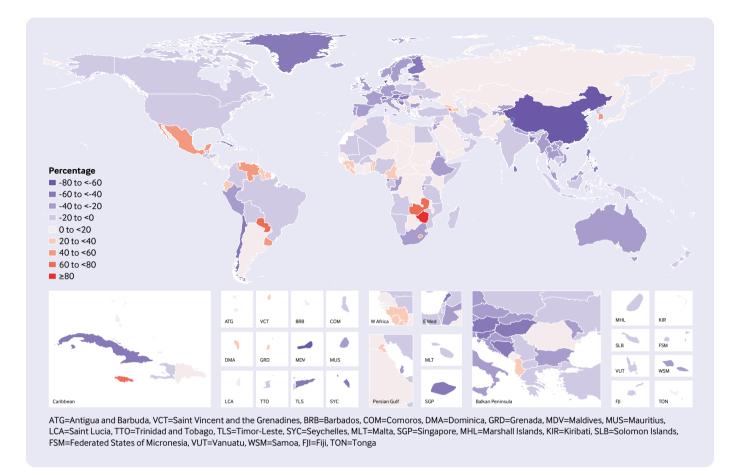
Fig 4 | Percentage change in age standardised mortality rate from suicide for men and women combined, 1990 to 2016
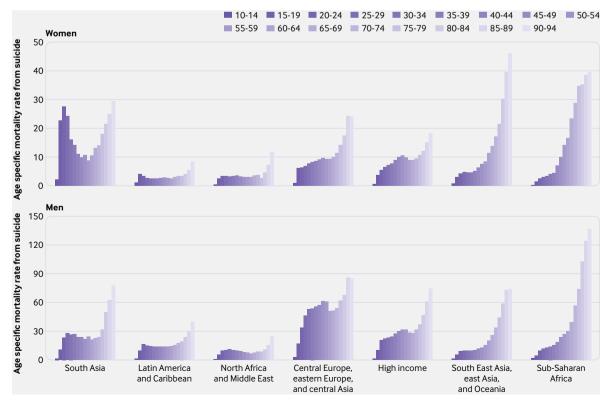

Fig 5 | Age specific mortality rate from suicide by Global Burden of Disease super region and five year age groups for women and men, 2016
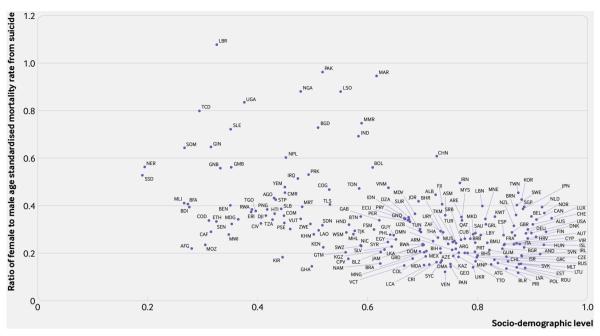
Fig 6 | Ratio of female to male age standardised mortality rate for suicide by Socio-demographic index level by location, 2016. Location codes are described in full in supplementary table 5

study found that suicide deaths were in the leading 10 causes of death across eastern Europe, central Europe, high income Asia Pacific, Australasia, and high income North America. When ranked by age standardised years of life lost rates, suicide was the leading cause of death in high income Asia Pacific and was among the top 10 leading causes in eastern Europe, central Europe, western Europe, central Asia, Australasia, southern Latin America, and high income North America. Suicide continues to be an important cause of mortality in most countries worldwide, but it is promising that both the global age standardised mortality rate and years of life lost rate from suicide have decreased by a third between 1990 and 2016. Globally, the decline in the age standardised mortality rate from suicide (32.7%) we noted is similar to that estimated by the Global Burden of Disease Study 2016 for all cause mortality (30.6%).[23] Whether the decline in suicide mortality is due to suicide prevention activities, or whether it reflects general improvements to population health, warrants further research.

The decline in the age standardised mortality rate has not been universal. There is considerable variation in suicide mortality and rates of change between the sexes, across age groups, and between regions. Consistent with previous research, men had higher rates of suicide at all time points, for all age groups except for among those aged 15 to 19.[27-29] In this age group women had consistently higher rates of suicide mortality; however, this gap narrowed between 1990 and 2016 to almost parity in 2016. A greater decline in the global suicide mortality rate was estimated for women (49.0%) than men (23.8%), and if this trend continues, differences in suicide mortality by sex will continue to widen. The association between lower levels of Socio-demographic index and higher female

to male ratios warrants further research to understand if this pattern reflects a higher level of behaviour related to suicide among women in these countries, or a relatively higher level of lethality of the means used by women in countries with lower development contexts.[18 28 30] Regional variation is also apparent. For example, post-communist privatisation and the Russian economic crisis of 1998 were followed by increases in suicide mortality in eastern Europe, in contrast to a general pattern of decreasing mortality rates overall.[31 32] Much of the global estimated decline is owing to the large decrease in suicide mortality in China during the study period, and the lower but still important decrease in India. The changes observed in China have been attributed to economic growth, urbanisation, improved standards of living, and better access to medical care in rural areas.[33 34] Page and colleagues report that the share of pesticide poisoning suicides, the most common means of suicide in China, decreased from 55% to 49% between 2006 and 2013.[35] Further research to understand if changes to availability or lethality of pesticides has contributed to this decline could suggest a scalable public health intervention for other similar contexts.

Taken as a whole, these patterns reflect a complex interplay of factors, specific to regions and nations, including sociodemographic, sociocultural, and religious factors[6 36]; levels of economic development, unemployment and economic events[7 9]; distribution of risk factors, such as exposure to violence or use of alcohol and drugs[8 10]; choices of and access to means of suicide[12 37]; and patterns of mental illness and as well as culturally specific relations with suicide.[15 21] Moreover, although the decrease in suicide mortality has been substantial during the period 1990 to 2016, if current trends continue, only 3% of 118 countries

will attain the Sustainable Development Goals target to reduce suicide mortality by one third between 2015 and 2030.[38]

Strengths and weaknesses of this study

In estimating suicide mortality rates by using methods that are comparable over time and between countries for the period 1990 to 2016, this study provides comprehensive estimates of suicide mortality and years of life lost by age, sex, region, and country. In addition, this study improves on country-level estimates through data standardisation and redistribution of insufficiently detailed or implausible cause of death codes, which is particularly relevant for suicide deaths. This study is limited by the gaps in data, especially among low and middle income countries, and variations in data quality in the Global Burden of Disease Study. The Global Burden of Disease Study 2016 employs data standardisation and evaluations of data quality in a sophisticated modelling framework that borrows strength across space and time to address some of these issues.[23] Because of the social, cultural, religious, and sometimes legal ramifications of a death by suicide, there are additional concerns with respect to under-reporting of suicide. A recent systematic review concluded that in general, suicide deaths are under-reported, although more research on the reliability of suicide data, especially in low and middle income countries, is needed.[25] Moreover, under-reporting and misclassification of suicide could be affected by sociocultural factors,[39] resulting in differential misclassification. Owing to this, lower rates in countries with religious and cultural sanctions against suicide should be interpreted with caution. Although the Global Burden of Disease Study 2016 method to reclassify garbage codes adjusts for some of this misclassification,[23] this could still be a conservative estimate of the suicide mortality rate if suicide deaths are wrongly assigned to other plausible causes, such as unintentional injuries, when deaths are recorded.[22 25] This paper has not reported the burden of suicide attributable to risk factors such as mental disorders, drug and alcohol use, or violence [10 14]; further research quantifying the contribution of these and other risk factors to suicide mortality would be useful in informing interventions to prevent suicide.

Conclusion and policy implications

Although there has been progress on reducing suicide mortality in recent decades, suicide remains an important preventable contributor to the global burden of disease across all regions. National, regional, sex, and age related variations yield insight which can inform suicide prevention initiatives, adding to existing effective suicide prevention interventions.[17] Sociocultural and economic factors must also be considered, as temporal and global patterns underscore their likely contribution to suicide mortality.[7 9] A continued focus on strengthening data on suicide deaths is needed, including accurately capturing suicide deaths in low and middle income countries,[25] as well as data on means of suicide.[11 40] Similarly, more evidence on effective suicide prevention interventions is needed, particularly in low and middle income countries. The evaluation of national and regional suicide prevention strategies, such as Preventing Suicide in England,[41] the National Suicide Prevention Plan 2015-2020 for Guyana,[42] and the Fiji National Mental Health and Suicide Prevention Policy will provide evidence to support the public health community to strengthen effective efforts and to redirect activities that are not impactful.[5 17 43] However, care must be taken to not apply strategies that work to dissimilar contexts. Research must continue to build the evidence base for effective interventions that are sensitive to regional and national contexts to address this continuing public health concern.
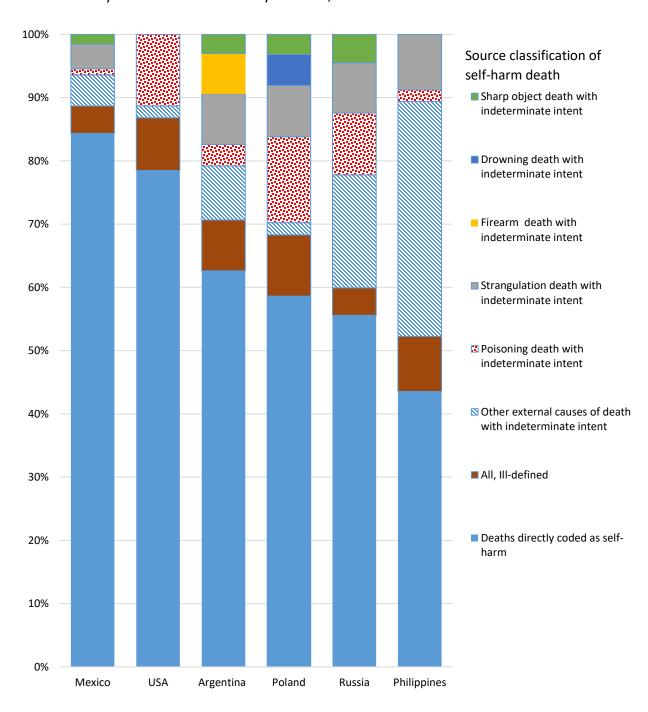
1   World Health Organization. *Comprehensive mental health action plan 2013-2020* . World Health Organization, 2013.
2   WHO. Suicide prevention. http://www.who.int/mental_health/suicide-prevention/en/
3   United Nations. *The Sustainable Development Goals Report.* United Nations, 2017.
4   Crosby AE, Ortega L, Melanson C. *Self-directed Violence Surveillance: Uniform Definitions and Recommended Data Elements, Version 1.0.* Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, 2011.
5   World Health Organization. *Preventing suicide: A global imperative A global imperative.* World Health Organization, 2013.
6   Turecki G, Brent DA. Suicide and suicidal behaviour. *Lancet* 2016;387:1227-39. doi:10.1016/S0140-6736(15)00234-2
7   Rehkopf DH, Buka SL. The association between suicide and the socio-economic characteristics of geographical areas: a systematic review. *Psychol Med* 2006;36:145-57. doi:10.1017/S003329170500588X
8   Darvishi N, Farhadi M, Haghtalab T, Poorolajal J. Alcohol-related risk of suicidal ideation, suicide attempt, and completed suicide: a meta-analysis. *PLoS One* 2015;10:e0126870. doi:10.1371/journal.pone.0126870
9   Oyesanya M, Lopez-Morinigo J, Dutta R. Systematic review of suicide in economic recession. *World J Psychiatry* 2015;5:243-54. doi:10.5498/wjp.v5.i2.243
10   Devries K, Watts C, Yoshihama M, et al, WHO Multi-Country Study Team. Violence against women is strongly associated with suicide attempts: evidence from the WHO multi-country study on women's health and domestic violence against women. *Soc Sci Med* 2011;73:79-86. doi:10.1016/j.socscimed.2011.05.006
11   Ajdacic-Gross V, Weiss MG, Ring M, et al. Methods of suicide: international suicide patterns derived from the WHO mortality database. *Bull World Health Organ* 2008;86:726-32. doi:10.2471/BLT.07.043489
12   Yip PS, Caine E, Yousuf S, Chang SS, Wu KC, Chen YY. Means restriction for suicide prevention. *Lancet* 2012;379:2393-9. doi:10.1016/S0140-6736(12)60521-2
13   Gunnell D, Eddleston M, Phillips MR, Konradsen F. The global distribution of fatal pesticide self-poisoning: systematic review. *BMC Public Health* 2007;7:357. doi:10.1186/1471-2458-7-357
14   Ferrari AJ, Norman RE, Freedman G, et al. The burden attributable to mental and substance use disorders as risk factors for suicide: findings from the Global Burden of Disease Study 2010. *PLoS One* 2014;9:e91936. doi:10.1371/journal.pone.0091936
15   Nock MK, Hwang I, Sampson N, et al. Cross-national analysis of the associations among mental disorders and suicidal behavior: findings from the WHO World Mental Health Surveys. *PLoS Med* 2009;6:e1000123. doi:10.1371/journal.pmed.1000123
16   Patel V, Chisholm D, Parikh R, et al. Addressing the burden of mental, neurological, and substance use disorders: Key messages from Disease Control Priorities, 3rd edition. *Lancet* 2016;387:1672-85. doi:10.1016/S0140-6736(15)00390-6
17   Zalsman G, Hawton K, Wasserman D, et al. Suicide prevention strategies revisited: 10-year systematic review. *Lancet Psychiatry* 2016;3:646-59. doi:10.1016/S2215-0366(16)30030-X
18   Vijayakumar L. Suicide in women. *Indian J Psychiatry* 2015;57(Suppl 2):S233-8. doi:10.4103/0019-5545.161484
19   Chen YY, Wu KC, Yousuf S, Yip PS. Suicide in Asia: opportunities and challenges. *Epidemiol Rev* 2012;34:129-44. doi:10.1093/epirev/mxr025
20   Arsenault-Lapierre G, Kim C, Turecki G. Psychiatric diagnoses in 3275 suicides: a meta-analysis. *BMC Psychiatry* 2004;4:37. doi:10.1186/1471-244X-4-37
21   Phillips MR. Rethinking the role of mental illness in suicide. *Am J Psychiatry* 2010;167:731-3. doi:10.1176/appi.ajp.2010.10040589
22   Kapusta ND, Tran US, Rockett IRH, et al. Declining autopsy rates and suicide misclassification: a cross-national analysis of 35 countries. *Arch Gen Psychiatry* 2011;68:1050-7. doi:10.1001/archgenpsychiatry.2011.66
23   Naghavi M, Abajobir AA, Abbafati C, et al. GBD 2016 Causes of Death Collaborators.Global, regional, and national age-sex specific mortality for 264 causes of death, 1980-2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet* 2017;390:1151-210. doi:10.1016/S0140-6736(17)32152-9
24   Stevens GA, Alkema L, Black RE, et al, The GATHER Working Group). Guidelines for Accurate and Transparent Health Estimates Reporting: the GATHER statement. *Lancet* 2016;388:e19-23. doi:10.1016/S0140-6736(16)30388-9
25   Tøllefsen IM, Hem E, Ekeberg Ø. The reliability of suicide statistics: a systematic review. *BMC Psychiatry* 2012;12:9. doi:10.1186/1471-244X-12-9
26   Dervic K, Brent DA, Oquendo MA. Completed suicide in childhood. *Psychiatr Clin North Am* 2008;31:271-91. doi:10.1016/j.psc.2008.01.006
27   Canetto SS. Women and suicidal behavior: a cultural analysis. *Am J Orthopsychiatry* 2008;78:259-66. doi:10.1037/a0013973
28   Patel V, Ramasundarahettige C, Vijayakumar L, et al, Million Death Study Collaborators. Suicide mortality in India: a nationally representative survey. *Lancet* 2012;379:2343-51. doi:10.1016/S0140-6736(12)60606-0
29   McKay K, Milner A, Maple M. Women and suicide: Beyond the gender paradox. *Int J Cult Ment Health* 2014;7:168-78. doi:10.1080/17542863.2013.765495
30   Chen Y-Y, Park N-S, Lu T-H. Suicide methods used by women in Korea, Sweden, Taiwan and the United States. *J Formos Med Assoc* 2009;108:452-9. doi:10.1016/S0929-6646(09)60092-9
31   Mäkinen IH. Suicide mortality of Eastern European regions before and after the Communist period. *Soc Sci Med* 2006;63:307-19. doi:10.1016/j.socscimed.2006.01.002
32   Stuckler D, King L, McKee M. Mass privatisation and the post-communist mortality crisis: a cross-national analysis. *Lancet* 2009;373:399-407. doi:10.1016/S0140-6736(09)60005-2
33   Wang CW, Chan CLW, Yip PSF. Suicide rates in China from 2002 to 2011: an update. *Soc Psychiatry Psychiatr Epidemiol* 2014;49:929-41. doi:10.1007/s00127-013-0789-5
34   Yip PSF, Liu KY, Hu J, Song XM. Suicide rates in China during a decade of rapid social changes. *Soc Psychiatry Psychiatr Epidemiol* 2005;40:792-8. doi:10.1007/s00127-005-0952-8
35   Page A, Liu S, Gunnell D, et al. Suicide by pesticide poisoning remains a priority for suicide prevention in China: Analysis of national mortality trends 2006-2013. *J Affect Disord* 2017;208:418-23. doi:10.1016/j.jad.2016.10.047
36   Lawrence RE, Oquendo MA, Stanley B. Religion and suicide risk: A systematic review. *Arch Suicide Res* 2016;20:1-21. doi:10.1080/13811118.2015.1004494
37   Gunnell D, Knipe D, Chang S-S, et al. Prevention of suicide with regulations aimed at restricting access to highly hazardous pesticides: a systematic review of the international evidence. *Lancet Glob Health* 2017;5:e1026-37. doi:10.1016/S2214-109X(17)30299-1
38   Fullman N, Barber RM, Abajobir AA, et al, GBD 2016 SDG Collaborators. Measuring progress and projecting attainment on the basis of past trends of the health-related Sustainable Development Goals in 188 countries: an analysis from the Global Burden of Disease Study 2016. *Lancet* 2017;390:1423-59. doi:10.1016/S0140-6736(17)32336-X
39   Rockett IR, Kapusta ND, Bhandari R. Suicide misclassification in an international context: revisitation and update. *Suicidol Online* 2011;2:48-61.
40   Barber CW, Miller MJ. Reducing a suicidal person's access to lethal means of suicide: a research agenda. *Am J Prev Med* 2014;47(Suppl 2):S264-72. doi:10.1016/j.amepre.2014.05.028
41   Department of Health. Preventing Suicide in England 2012 https://www.gov.uk/government/publications/suicide-prevention-strategy-for-england
42   Ministry of Public Health Guyana. National Suicide Prevention Plan 2014. https://www.mindbank.info/item/6321
43   WHO MiNDbank. Fiji National Mental Health and Suicide Prevention Policy 2015. http://www.mindbank.info/item/5909

Supplementary materials: Supplementary figures 1 to 5 and tables 1 to 5

Supplementary materials: Full author list and affiliations

Supplementary Figure 1. Fraction of deaths classified as suicide in 40-44 year old females for the year 2013, from source of death classification

Source classification of self-harm death

- Sharp object death with indeterminate intent
- Drowning death with indeterminate intent
- Firearm death with indeterminate intent
- Strangulation death with indeterminate intent
- Poisoning death with indeterminate intent
- Other external causes of death with indeterminate intent
- All, Ill-defined
- Deaths directly coded as self-harm

Supplementary Figure 2A: Both sexes, Age-standardized, 2016, Deaths per 100,000
2016

	East Asia	Andean Latin America	Australasia	Caribbean	Central Asia	Central Europe	Central Latin America	Central Sub-Saharan Africa	Eastern Europe	Eastern Sub-Saharan Africa	High-income Asia Pacific	High-income North America	North Africa and Middle East	Oceania	South Asia	Southeast Asia	Southern Latin America	Southern Sub-Saharan Africa	Tropical Latin America	Western Europe	Western Sub-Saharan Africa
Ischemic heart disease	1	1	1	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	2	1	1
Stroke	2	3	3	2	2	2	5	3	2	4	3	4	2	2	4	2	2	5	2	3	3
COPD	3	8	5	9	5	7	6	10	11	10	12	5	7	4	2	6	4	7	5	5	10
Alzheimer disease	4	5	2	5	6	4	4	8	3	8	1	2	3	9	9	3	5	10	3	2	9
Lung cancer	5	11	4	8	8	3	13	31	6	36	4	3	11	14	18	9	6	14	10	4	34
Liver cancer	6	16	24	27	15	22	19	23	34	28	9	27	19	30	45	14	33	27	27	20	13
Stomach cancer	7	7	20	20	10	15	14	32	12	33	7	29	17	19	21	20	11	32	14	15	26
Road injuries	8	9	16	12	12	16	9	14	9	15	13	11	6	10	11	10	10	9	8	21	16
Hypertensive heart disease	9	15	35	11	3	8	10	12	15	12	21	16	10	11	13	11	13	11	11	16	23
Lower respiratory infections	10	2	9	4	4	9	8	4	8	3	5	6	8	5	5	4	3	3	4	7	2
Esophageal cancer	11	60	27	46	23	39	59	40	47	30	20	32	52	76	39	53	32	19	29	28	47
Chronic kidney disease	12	4	10	7	11	17	2	22	33	20	10	8	5	7	8	8	7	13	9	13	19
Colorectal cancer	13	14	6	13	17	6	16	33	7	23	8	7	18	27	28	16	9	23	13	6	33
Diabetes	14	6	8	3	7	11	3	11	31	9	14	9	4	3	6	5	8	4	6	10	8
Falls	15	24	15	23	37	19	24	19	20	16	22	18	25	46	10	15	37	44	18	17	17
Self-harm	16	27	7	18	13	10	21	26	4	21	6	10	28	15	14	24	15	15	24	11	25
Congenital defects	17	17	37	19	25	33	18	36	32	68	36	34	14	21	26	26	23	36	20	36	22
Drowning	18	42	68	37	29	50	40	37	23	42	33	63	46	20	37	33	55	45	42	74	39
Rheumatic heart disease	19	56	54	43	30	55	77	43	57	57	46	45	49	12	16	42	26	43	71	46	42
Cirrhosis hepatitis B	20	28	44	67	9	38	76	24	30	27	28	73	21	16	23	18	42	47	45	55	20
Other cardiovascular	21	25	17	17	26	12	23	13	25	7	19	15	12	13	71	21	12	25	15	9	12
Other neoplasms	22	30	18	24	27	21	22	39	24	25	16	21	29	39	22	27	18	33	23	18	37
Neonatal preterm birth	23	21	52	21	22	43	25	27	58	29	61	39	15	22	15	22	29	24	28	50	21
Pancreatic cancer	24	29	13	30	32	14	31	50	19	52	11	13	30	52	54	38	17	34	26	12	38
Breast cancer	25	23	12	16	18	13	20	30	14	34	17	12	20	17	24	19	14	21	19	8	24

	East Asia	Andean Latin America	Australasia	Caribbean	Central Asia	Central Europe	Central Latin America	Central Sub-Saharan Africa	Eastern Europe	Eastern Sub-Saharan Africa	High-income Asia Pacific	High-income North America	North Africa and Middle East	Oceania	South Asia	Southeast Asia	Southern Latin America	Southern Sub-Saharan Africa	Tropical Latin America	Western Europe	Western Sub-Saharan Africa
Stroke	1	4	4	2	2	2	8	7	2	6	3	5	2	2	3	2	2	8	3	3	6
Ischemic heart disease	2	2	1	1	1	1	1	6	1	5	2	1	1	1	1	1	1	1	4	1	5
Road injuries	3	3	6	5	6	6	5	9	5	13	10	3	3	8	9	5	4	6	4	8	14
COPD	4	15	7	17	11	10	10	16	17	16	17	6	11	5	5	9	9	12	8	7	17
Lung cancer	5	19	2	13	13	3	17	40	9	54	5	2	13	22	26	12	7	18	12	2	45
Liver cancer	6	24	25	38	23	27	29	30	42	32	7	28	27	40	57	17	34	35	38	22	16
Congenital defects	7	6	10	7	9	9	7	14	11	35	12	12	5	11	14	10	5	17	6	10	11
Stomach cancer	8	9	24	31	15	18	16	43	14	44	6	35	26	32	32	30	15	40	17	17	39
Neonatal preterm birth	9	7	17	9	7	13	9	10	31	11	28	14	6	10	7	7	8	10	10	18	9
Alzheimer disease	10	13	8	18	21	11	11	21	21	26	4	8	10	23	23	11	16	25	9	5	26
Lower respiratory infections	11	1	19	3	3	7	6	3	7	3	9	11	7	3	4	3	3	2	5	11	3
Drowning	12	21	39	24	17	33	27	22	16	34	27	42	32	13	22	19	31	34	25	55	31
Self-harm	13	16	3	16	8	4	13	24	3	24	1	4	21	12	11	18	6	13	14	4	25
Neonatal encephalopathy	14	11	29	10	5	47	15	11	35	9	53	37	20	18	8	13	36	11	15	37	7
Esophageal cancer	15	76	30	56	36	41	68	51	48	42	21	33	56	85	50	67	37	27	36	29	65
Hypertensive heart disease	16	33	55	19	4	15	24	19	25	20	36	23	17	16	18	16	21	15	21	33	38
Chronic kidney disease	17	5	20	12	14	23	3	34	38	28	13	15	9	7	13	8	10	14	11	23	21
Colon and rectum cancer	18	23	5	23	28	5	26	48	13	38	8	9	25	41	42	23	12	33	19	6	43
Falls	19	32	28	37	34	22	30	35	20	25	20	29	24	51	15	22	41	55	28	24	23
Diabetes	20	8	12	6	10	14	4	15	39	14	16	13	8	4	12	4	11	5	7	15	15
Leukemia	21	20	14	27	30	25	21	63	33	69	18	24	23	42	51	37	24	42	33	16	63
Mechanical forces	22	38	50	39	49	52	37	46	37	51	44	38	37	37	58	65	40	38	49	63	40
Other neoplasms	23	31	18	26	29	21	22	45	28	23	15	22	33	43	28	31	18	29	26	14	44
Cirrhosis hepatitis B	24	36	40	67	12	34	76	27	27	31	23	70	31	20	29	24	44	46	45	49	19
Brain cancer	25	41	15	49	35	20	41	76	34	71	31	25	35	80	65	48	39	58	31	19	66

Supplementary Figure 3A: Both sexes, 70+ years, Deaths per 100,000
2016

	East Asia	Andean Latin America	Australasia	Caribbean	Central Asia	Central Europe	Central Latin America	Central Sub-Saharan Africa	Eastern Europe	Eastern Sub-Saharan Africa	High-income Asia Pacific	High-income North America	North Africa and Middle East	Oceania	South Asia	Southeast Asia	Southern Latin America	Southern Sub-Saharan Africa	Tropical Latin America	Western Europe	Western Sub-Saharan Africa
Ischemic heart disease	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1
Cerebrovascular disease	2	5	3	2	2	2	6	2	2	2	3	3	2	2	4	2	3	2	3	3	3
Chronic obstructive pulmonary disease	3	6	4	7	5	5	5	7	4	8	9	4	5	3	2	4	5	5	4	4	8
Alzheimer disease and other dementias	4	3	2	3	4	3	2	6	3	7	1	2	3	9	7	3	4	6	2	2	6
Tracheal, bronchus, and lung cancer	5	12	5	10	9	8	11	23	6	29	5	5	11	12	14	9	10	13	10	5	23
Hypertensive heart disease	6	11	23	9	3	6	8	8	7	10	14	15	8	10	12	10	8	7	8	12	15
Stomach cancer	7	8	18	14	8	14	10	21	8	25	6	26	13	14	17	20	13	24	14	17	19
Liver cancer	8	14	30	17	13	22	15	19	24	26	10	27	20	24	37	16	28	22	23	23	13
Lower respiratory infections	9	2	7	5	10	9	7	4	13	4	4	6	7	6	5	5	2	4	5	6	2
Chronic kidney disease	10	4	8	8	7	13	4	18	21	14	8	7	6	7	10	8	6	10	7	9	14
Esophageal cancer	11	44	27	36	17	42	47	27	35	22	26	31	44	53	32	44	25	16	26	30	39
Diabetes mellitus	12	7	10	4	6	10	3	9	18	9	13	9	4	4	6	6	7	3	6	10	7
Colon and rectum cancer	13	13	6	11	12	7	13	22	5	19	7	8	14	19	18	14	9	18	13	7	24
Falls	14	21	11	13	35	16	19	17	26	11	23	12	23	35	9	13	26	32	16	14	12
Other cardiovascular and circulatory diseases	15	20	12	12	18	11	17	11	17	6	16	10	9	11	42	17	11	17	12	8	11
Rheumatic heart disease	16	40	44	38	27	44	67	35	52	50	37	35	46	13	13	41	20	41	65	34	33
Atrial fibrillation and flutter	17	19	13	16	15	19	20	34	11	32	17	17	22	34	20	23	18	26	20	13	35
Road injuries	18	17	48	27	32	38	24	32	34	16	31	39	15	27	16	19	33	20	24	48	17
Parkinson disease	19	26	16	22	16	18	27	51	12	47	21	14	21	40	29	26	17	37	28	19	41
Self-harm	20	59	49	33	34	29	58	28	20	24	22	43	57	45	33	46	43	30	58	42	26

Supplementary Figure 3B: Both sexes, 10 to 24, Deaths per 100,000

2016

	East Asia	Andean Latin America	Australasia	Caribbean	Central Asia	Central Europe	Central Latin America	Central Sub-Saharan Africa	Eastern Europe	Eastern Sub-Saharan Africa	High-income Asia Pacific	High-income North America	North Africa and Middle East	Oceania	South Asia	Southeast Asia	Southern Latin America	Southern Sub-Saharan Africa	Tropical Latin America	Western Europe	Western Sub-Saharan Africa
Road injuries	1	1	2	1	2	1	2	1	2	4	2	1	2	1	2	1	1	3	2	1	6
Drowning	2	6	10	5	4	3	4	8	4	9	5	5	5	3	6	3	4	10	4	10	10
Self-harm	3	3	1	4	1	2	3	12	1	10	1	2	3	2	1	4	2	6	3	2	12
Leukemia	4	5	5	11	10	5	5	29	13	36	3	8	9	19	27	16	5	18	6	4	34
Falls	5	19	14	33	12	11	15	27	6	18	7	18	15	38	16	15	16	45	15	13	24
Congenital birth defects	6	14	7	8	15	9	9	24	10	47	6	6	7	17	23	10	9	13	10	6	11
Ischemic heart disease	7	10	27	21	9	16	11	39	15	24	13	15	8	15	8	11	14	42	11	22	32
Cerebrovascular disease	8	8	20	9	19	13	12	21	21	17	14	17	10	6	32	12	10	12	9	17	18
Exposure to mechanical forces	9	11	15	10	22	15	8	17	12	25	18	11	11	14	31	28	7	11	13	15	20
Interpersonal violence	10	2	4	2	5	6	1	9	3	7	9	3	4	8	7	6	3	2	1	8	16
Other unintentional injuries	11	27	30	20	17	18	20	38	16	34	35	36	18	37	25	20	12	47	14	32	37
Brain and nervous system cancer	12	17	9	31	16	8	18	53	18	49	8	12	19	62	37	27	15	35	12	7	47
Other neoplasms	13	15	6	14	13	7	10	22	14	11	4	7	14	23	19	17	8	14	7	5	30
Drug use disorders	14	23	3	45	24	12	25	54	5	87	25	4	25	61	45	39	25	25	20	3	50
Epilepsy	15	18	11	17	6	14	14	16	26	12	12	25	17	30	12	22	19	9	21	11	19
Chronic kidney disease	16	13	33	13	7	22	6	30	30	23	24	30	13	16	15	8	17	19	17	33	17
Lower respiratory infections	17	4	21	7	3	4	7	6	7	5	10	14	6	4	9	7	6	5	5	18	7
Poisonings	18	31	24	46	30	34	32	50	23	57	23	20	31	26	48	54	31	33	58	31	56
Liver cancer	19	40	37	63	44	42	59	61	48	54	30	46	55	67	91	62	71	51	63	40	27
Other transport injuries	20	20	12	36	33	10	17	41	9	44	17	10	28	22	21	23	13	28	16	14	55

Supplementary Figure 4

Global Rates of Self-harm for ages 15-19, 1990-2016

Supplementary Figure 5. Percent of all self-harm deaths that occurred in age groups 15 to 29 years, 30 to 59 years, and 60 years and above – globally and an in each GBD super-region for both sexes combined in 2016.

SR Table 1. Total number of deaths, age-standardized rates of death in males, age-standardized rates of death in females, age-standardized rates of death for both sexes, female/male age-standardized death rates ratio, and the percent change in the rate of death for all reporting locations in 2016

Location Name	Cause of Death Star Rating	Deaths						YLLs					
		Number	Male ASR	Female ASR	Both sexes ASR	Percent change 1990-2016	Female:Male ASR Ratio	Number	Male ASR	Female ASR	Both sexes ASR	Percent change 1990-2016	Female:Male ASR Ratio
Southeast Asia, East Asia, and Oceania		182000 (172000 to 204000)	11.1 (5.4 to 6.2)	5.8 (7.9 to 9.3)	8.4 (-61.6 to -50.1)	-58.6	0.5	6610000 (6280000 to 7600000)	382.5 (350.6 to 463.7)	199.2 (187.5 to 214.4)	291.6 (277.4 to 335.2)	-63.7 (-65.9 to -63.1)	0.5
East Asia		138000 (129000 to 154000)	10.9 (9.8 to 12.8)	6.6 (6.1 to 7.1)	8.7 (8.2 to 9.7)	-63 (-65.7 to -55.8)	0.6	4660000 (4420000 to 5330000)	353.7 (323.4 to 430.8)	223.9 (208.7 to 241.1)	289.6 (274.4 to 330.3)	-68.8 (-70.7 to -68.3)	0.6
China	★★★☆☆	131000 (122000 to 145000)	10.7 (9.5 to 12.6)	6.5 (6 to 7)	8.5 (8 to 9.5)	-64.3 (-66.9 to -57.1)	0.6	4390000 (4160000 to 5040000)	344 (313.5 to 419)	219.2 (202.9 to 237.3)	281.9 (267.3 to 324.2)	-70.1 (-72 to -69.6)	0.6
North Korea	☆☆☆☆☆	3240 (2440 to 4360)	16.8 (11.9 to 24.2)	8.9 (6.3 to 11.9)	12.2 (9.2 to 16.3)	-4.2 (-28.9 to 27.9)	0.5	132000 (97600 to 177000)	629.5 (426.4 to 900.1)	368.4 (259.7 to 488.1)	491.8 (363.8 to 659.9)	-5 (-31.3 to -4.9)	0.6
Taiwan	★★★☆☆	4050 (3370 to 4760)	18.9 (14.2 to 23.1)	8.6 (6.7 to 10.5)	13.6 (11.2 to 16)	-12.5 (-29.1 to 5.6)	0.5	145000 (114400 to 171000)	699.1 (482.1 to 863.9)	331.8 (259.8 to 402.8)	513.8 (405.8 to 607.4)	-9.1 (-27.7 to -9.2)	0.6
Southeast Asia		42400 (38600 to 49800)	10.3 (9.1 to 12.5)	3.6 (3.3 to 4)	6.8 (6.3 to 8)	-11.5 (-41.6 to -17.3)	0.3	1860000 (1690000 to 2230000)	420.1 (369.5 to 516.8)	134.9 (121.7 to 152.1)	276.1 (250.6 to 329.2)	-37.7 (-44.1 to -36.5)	0.3
Cambodia	★☆☆☆☆	923 (758 to 1080)	10.8 (8.5 to 12.9)	3 (2.5 to 3.6)	6.6 (5.3 to 7.6)	-11.5 (-29 to 12.3)	0.3	44500 (36000 to 53400)	455.1 (355.1 to 554.9)	117.1 (94.4 to 144.4)	278.8 (226.7 to 329.4)	-13.2 (-31.9 to -12.6)	0.3
Indonesia	★★☆☆☆	8580 (7800 to 10300)	5.3 (4.7 to 6.7)	1.8 (1.7 to 2)	3.5 (3.2 to 4.2)	-13.4 (-25.2 to 1.7)	0.3	402000 (363000 to 492000)	232.3 (204.8 to 294.7)	68.4 (62.9 to 75)	150.6 (136.1 to 183.7)	-14.8 (-26.4 to -14)	0.3
Laos	★☆☆☆☆	659 (439 to 831)	16.9 (10.5 to 21.8)	4.9 (3.5 to 6.8)	10.6 (7.3 to 13.3)	-33.7 (-49.7 to -14.5)	0.3	34700 (22800 to 44500)	756.6 (460.3 to 1006.9)	219.1 (143.8 to 309.7)	483.7 (323.2 to 612.5)	-35 (-52.3 to -35.5)	0.3
Malaysia	★★☆☆☆	2280 (1930 to 2880)	12.7 (10.1 to 16)	4.3 (3.5 to 5.1)	8.4 (7.2 to 10.2)	-19.9 (-35.1 to -1.1)	0.3	92800 (78500 to 124000)	463.5 (373.3 to 633.9)	125.3 (102.1 to 151.5)	292.8 (248.5 to 382.7)	-20.1 (-35.8 to -20.2)	0.3
Maldives	★★☆☆☆	12.1 (8.43 to 16.2)	13.6 (4 to 7.7)	5.7 (0.9 to 3.8)	2.1 (2.7 to 5.2)	3.9 (-72 to -36.3)	0.4	533 (364 to 733)	208.7 (144.7 to 293)	73.7 (31.6 to 139.4)	140.6 (97.5 to 189.1)	-65.5 (-76.5 to -64.3)	0.4
Mauritius	★★★★☆	115 (91.1 to 143)	13.6 (10.2 to 17.3)	3.4 (2.7 to 4.2)	8.3 (6.6 to 10.3)	-33.3 (-48.4 to -16.5)	0.3	5360 (4140 to 6610)	617.7 (440.4 to 786.9)	172.5 (136.1 to 220.2)	393.7 (303.4 to 484.1)	-36.1 (-48 to -35.6)	0.3
Myanmar	★☆☆☆☆	3010 (2480 to 3750)	6.8 (5.4 to 8.5)	5.1 (4e to 7)	5.9 (4.9 to 7.3)	-33.3 (-48.1 to -9)	0.8	138000 (112000 to 172000)	291.8 (227 to 372.5)	204.3 (157.7 to 287.3)	247.2 (200.4 to 307.5)	-36.4 (-52.2 to -36.6)	0.7
Philippines	★★★★☆	5600 (4220 to 9060)	10.2 (7.3 to 17.7)	2.8 (2.3 to 3.5)	6.4 (4.9 to 10)	-58.1 (-69.8 to -10.4)	0.3	269000 (2e+05 to 441000)	422.8 (296.8 to 758.6)	107.1 (83.7 to 135.1)	264.9 (198.4 to 431.7)	-62.4 (-70.1 to -57.3)	0.3
Sri Lanka	★★★☆☆	4980 (3770 to 6710)	23.7 (28.9 to 57.1)	9.4 (6.6 to 12.6)	23.7 (18.1 to 31.9)	-42.4 (-56.5 to -20.9)	0.2	202000 (153000 to 274000)	1550.4 (1090.4 to 2245)	427.6 (298.2 to 574.2)	958.1 (729.7 to 1292.9)	-46.9 (-59.7 to -46.1)	0.3
Seychelles	★★★☆☆	8.23 (6.71 to 11)	14.5 (11.7 to 19.7)	2.5 (2 to 3.1)	8.3 (6.9 to 10.9)	-58 (-86.9 to -26.6)	0.2	345 (274 to 468)	581.4 (408.6 to 818.3)	92.5 (70.4 to 121.2)	340.8 (274.4 to 456.8)	-59.4 (-67.5 to -57.6)	0.2
Thailand	★★★☆☆	8410 (6990 to 9750)	17.4 (13.6 to 20.8)	4.6 (3.7 to 5.7)	10.9 (9.1 to 12.6)	-22.7 (-36.8 to -5.3)	0.3	351000 (289000 to 409000)	772.7 (589.6 to 928.1)	179.9 (140.7 to 227.7)	474.1 (390.1 to 554.2)	-24.7 (-39.6 to -24.6)	0.2
Timor-Leste	☆☆☆☆☆	67.3 (36.8 to 95.2)	10.8 (5.4 to 16.2)	4.4 (2.8 to 6.3)	7.6 (4.4 to 10.5)	-36.2 (-63.9 to -4.6)	0.4	3310 (1710 to 4730)	462.5 (201 to 711.7)	125.6 (94.4 to 253.6)	317.6 (157.3 to 461.5)	-39.9 (-70 to -40.8)	0.4
Vietnam	★☆☆☆☆	7740 (6400 to 9200)	11.4 (8.3 to 14.1)	5.4 (4.3 to 7.1)	8.2 (6.8 to 9.7)	-43.4 (-63.4 to -6.2)	0.5	320000 (257000 to 389000)	446.2 (323.5 to 571.6)	194.4 (148.4 to 260.9)	318.2 (256.3 to 383.2)	-32.2 (-48.7 to -32.1)	0.4
Oceania		1450 (1010 to 1810)	20.5 (14.5 to 28.5)	7.5 (4.8 to 11.6)	14.1 (10.1 to 17.4)	-13 (-27.7 to 8.2)	0.4	78300 (53600 to 98600)	1013.2 (693.5 to 1409.7)	344.8 (206.5 to 547.7)	684.6 (472.7 to 858.2)	-12.6 (-28 to -12.2)	0.3
American Samoa	★★★☆☆	4.57 (3.51 to 5.8)	10.4 (7.6 to 13.1)	3.7 (2.8 to 4.8)	7.1 (5.5 to 8.5)	-12.9 (-33.2 to 10.7)	0.4	233 (179 to 284)	484.8 (358.6 to 613.5)	158.8 (117.5 to 206.3)	327.4 (252.9 to 397.8)	-12.3 (-34 to -12.7)	0.3
Federated States of Micronesia	☆☆☆☆☆	19.3 (13.3 to 25.8)	29.7 (19 to 40.8)	8.9 (5.4 to 13.5)	19.4 (12.9 to 26.2)	-5 (-39.3 to 24.9)	0.3	1040 (716 to 1380)	1408.3 (894.8 to 1932.4)	392.9 (226.6 to 615.9)	915.1 (604.3 to 1261)	-13.4 (-39.8 to -13)	0.3
Fiji	★★☆☆☆	108 (75.5 to 145)	17.9 (11.4 to 25.7)	7.3 (4.9 to 10.4)	12.6 (8.9 to 16.9)	-2.8 (-34.3 to 49.8)	0.4	5480 (3860 to 7370)	850 (528.8 to 1245.4)	332.4 (216.3 to 485.1)	596.3 (420.2 to 797.8)	-2.9 (-34.7 to -2.5)	0.4
Guam	★★★☆☆	33.4 (26.6 to 40.5)	35.2 (24.3 to 39.9)	6.9 (5.3 to 8.6)	22.5 (15.6 to 23.6)	-2 (-22.7 to 23.2)	0.2	1580 (1240 to 1910)	1496.3 (1111.5 to 1858.7)	247.7 (217.6 to 364.9)	903.2 (710.6 to 1102.3)	0.2 (-23.9 to 0.1)	0.2
Kiribati	★★☆☆☆	26.7 (20.5 to 34.1)	43.4 (31.3 to 58.1)	7.9 (6 to 10.2)	24.9 (19.3 to 32.1)	1 (-23.6 to 37.8)	0.2	1460 (1110 to 1860)	2138.2 (1538.8 to 2830.8)	361.5 (266 to 474.5)	1232.1 (943.4 to 1521.2)	2 (-22.7 to 2.8)	0.2
Marshall Islands	☆☆☆☆☆	11.6 (8.03 to 14.5)	26.4 (17.6 to 35.2)	7.4 (4.4 to 11.1)	16.9 (12 to 21.2)	-15.7 (-37.5 to 11.4)	0.3	634 (436 to 798)	1309.3 (847.6 to 1738.5)	348.1 (202.1 to 529.8)	837 (580 to 1050.3)	-13.7 (-36.8 to -13.4)	0.3
Northern Mariana Islands	★★★☆☆	13 (8.63 to 17.1)	19.4 (13.7 to 25.8)	3.2 (2.3 to 4.3)	11.3 (8.2 to 14.5)	17.5 (-19.2 to 75.7)	0.2	659 (438 to 875)	804.2 (537.2 to 1079.5)	125.6 (89.3 to 169.4)	460 (322.5 to 600.2)	10.3 (-26.7 to 10.4)	0.2
Papua New Guinea	★☆☆☆☆	1070 (680 to 1420)	21.9 (14.6 to 33.2)	5.7 (4.7 to 13.9)	15.2 (10.1 to 20)	-8.4 (-35.6 to 7.6)	0.4	58500 (36400 to 77900)	1078.7 (691.5 to 1608.8)	380.6 (199.4 to 656)	736.3 (468.8 to 980.8)	-18.5 (-37 to -18.3)	0.4
Samoa	☆☆☆☆☆	21.7 (16.8 to 26.7)	19.9 (14.8 to 25.3)	5.7 (4 to 7.2)	12.9 (10 to 15.8)	-28.6 (-45.6 to -5)	0.3	1100 (830 to 1390)	924.4 (672.6 to 1184.5)	242.2 (172.1 to 314.3)	597.1 (455.6 to 736.1)	-30.1 (-48 to -29.9)	0.3
Solomon Islands	☆☆☆☆☆	91.5 (60.2 to 121)	25.7 (17.3 to 36.5)	10 (5.8 to 16.1)	17.8 (12.1 to 23.4)	-9.4 (-31.2 to 23.2)	0.4	4970 (3260 to 6570)	1246.9 (813.1 to 1777.6)	430.1 (249.8 to 741.1)	849.8 (558 to 1121.6)	-7.5 (-31.3 to -7.7)	0.4
Tonga	★☆☆☆☆	7.42 (5.77 to 9.13)	10.5 (7.8 to 13.4)	5 (3.7 to 6.6)	7.8 (6.1 to 9.5)	1.5 (-23.6 to 33.1)	0.5	382 (288 to 476)	510.7 (372.1 to 660.2)	239.1 (148.9 to 280.7)	361.8 (276.9 to 448.9)	5.5 (-22.9 to 5)	0.4
Vanuatu	☆☆☆☆☆	41.1 (28.7 to 53.7)	25.2 (17.6 to 34.7)	8.7 (5.4 to 12.8)	16.9 (12.1 to 21.8)	-9.2 (-30.4 to 20.8)	0.3	2210 (1520 to 2880)	1234 (848.3 to 1696.7)	394.4 (236.3 to 632.6)	811.5 (564.8 to 1062.4)	-6.9 (-30.5 to -7.2)	0.3
Central Europe, Eastern Europe, and Central Asia		98200 (78100 to 127000)	36.7 (28.4 to 48.7)	6.6 (5.1 to 8.6)	20.2 (16.4 to 26.5)	-6.8 (-23.9 to 13.8)	0.2	3970000 (3140000 to 5050000)	1534 (1171.6 to 2022.7)	286.9 (211.4 to 361.1)	886.8 (699.3 to 1116.3)	-3.2 (-21.8 to -2.9)	0.2
Central Asia		10900 (8760 to 12700)	21.1 (16.2 to 25.2)	4.8 (4.2 to 5.5)	12.5 (10.2 to 14.5)	-16.5 (-30 to 9)	0.2	528000 (418000 to 617000)	946.1 (704.9 to 1133.6)	224 (196.9 to 253.9)	575.1 (457.5 to 671.3)	2.2 (-14.2 to 1.8)	0.2
Armenia	★★★★☆	252 (161 to 308)	13.1 (6.7 to 16.7)	2.8 (2.3 to 3.4)	7.4 (4.7 to 9)	78.8 (-13.2 to 139.8)	0.2	9490 (5970 to 11700)	522.8 (278.8 to 667.6)	94.7 (78.8 to 115.2)	290.5 (182.4 to 357.3)	89.8 (-24.3 to 67.2)	0.2
Azerbaijan	★★★☆☆	423 (287 to 566)	7 (4.3 to 9.9)	1.4 (1.1 to 1.9)	4.4 (2.8 to 5.5)	22.5 (-18 to 67.4)	0.2	19800 (13300 to 26800)	316.3 (188.2 to 446.3)	57.4 (42.1 to 77.2)	185.6 (125.5 to 250)	30.7 (-11.2 to 28.9)	0.2
Georgia	★★★★☆	310 (231 to 396)	12.3 (8.5 to 16.2)	1.9 (1.4 to 2.5)	6.7 (5 to 8.6)	-13.6 (-13.6 to 63.6)	0.2	11900 (8900 to 15500)	501.3 (354.5 to 678.7)	72.7 (53.2 to 96.9)	280.5 (207.3 to 368.9)	-7.1 (-12.4 to 25.7)	0.1
Kazakhstan	★★★★☆	4460 (3410 to 5820)	44.2 (32.5 to 59.6)	8.3 (6.6 to 10.8)	25 (19.2 to 32.5)	1.6 (-20.8 to 30.3)	0.2	205000 (156000 to 268000)	1928.1 (1410.3 to 2625.6)	372.1 (289.5 to 483.1)	1119.9 (858.9 to 1462.7)	4.3 (-19.8 to 4.9)	0.2
Kyrgyzstan	★★★★☆	672 (552 to 917)	12.4 (16.6 to 30.7)	4.5 (3.9 to 5.3)	12.4 (10.2 to 16.9)	-27.7 (-39.1 to -8.7)	0.2	32600 (26400 to 43500)	902.5 (705.5 to 1297.3)	196.1 (166 to 232.2)	531.2 (444.6 to 733)	-26.9 (-37.4 to -25.9)	0.2
Mongolia	★★☆☆☆	626 (478 to 773)	34.7 (26.7 to 43.4)	6.2 (4.7 to 7.9)	20.1 (16.1 to 24.6)	-11.1 (-9.7 to 47)	0.2	33600 (23600 to 40600)	1695.6 (1202.2 to 2139.3)	308.4 (230.8 to 399.3)	1004 (744.3 to 1230.5)	14.5 (-11.2 to 14.7)	0.2
Tajikistan	★★★☆☆	396 (313 to 505)	8.3 (6.3 to 10.9)	2.4 (1.8 to 3.3)	5.3 (3.4 to 6.8)	-25.7 (-41.9 to -2.3)	0.3	19900 (15600 to 25500)	368 (275.5 to 485.3)	103.6 (75.9 to 144)	235.7 (186.5 to 301.5)	-25.3 (-41.8 to -24.9)	0.3
Turkmenistan	★★★★☆	467 (355 to 546)	13.7 (10.1 to 17.1)	3.4 (3 to 4)	8.4 (6.7 to 10)	-15.9 (-27.1 to 2)	0.2	24500 (17900 to 28700)	660.5 (447.1 to 793.3)	169 (146.7 to 199.6)	410.7 (307 to 477)	-11.2 (-22.3 to -10.8)	0.3
Uzbekistan	★★★★☆	3290 (2400 to 3980)	17.1 (11.6 to 21.5)	4.9 (4 to 6)	10.8 (8.1 to 13.1)	4.5 (-14.4 to 26)	0.3	172000 (122000 to 207000)	812.2 (514.2 to 1024.1)	256.9 (210.9 to 309.9)	517 (379.5 to 634.1)	16.4 (-9.4 to 16.4)	0.3
Central Europe		18900 (15900 to 21300)	22.6 (17.9 to 25.9)	4.2 (3.9 to 4.5)	13 (10.8 to 14.5)	-23.3 (-32.7 to -14.5)	0.2	671000 (550000 to 746000)	882.2 (687.3 to 994.6)	155.8 (145.1 to 168.4)	517 (403.4 to 574.9)	-22.6 (-34.5 to -23)	0.2
Albania	★★★☆☆	181 (137 to 220)	5.7 (5.2 to 10.2)	3.5 (2.8 to 4.5)	5.5 (4.2 to 6.9)	5.7 (-3.4 to 68.2)	0.4	7990 (5790 to 9760)	258.6 (222.5 to 460.1)	166.4 (131.3 to 213.1)	251.8 (186.6 to 317)	36.3 (-4.3 to 34.8)	0.5
Bosnia and Herzegovina	★★★☆☆	352 (273 to 459)	12.2 (9 to 16.6)	2.7 (2.1 to 3.4)	7.3 (5.7 to 9.7)	-7.3 (-55.7 to -28.4)	0.2	12500 (9760 to 16300)	474 (357.8 to 639)	105.4 (81.1 to 134.2)	291.1 (228.9 to 375)	-45.9 (-39.6 to -45.8)	0.2
Bulgaria	★★★★☆	1080 (844 to 1490)	18.1 (13.4 to 27)	4 (3.1 to 5.1)	10.7 (8.2 to 15.2)	-33.4 (-48.3 to -10.7)	0.2	33300 (25200 to 49000)	651.9 (465.2 to 1022.3)	139.9 (109.8 to 182)	395.9 (297.3 to 596.4)	-32.8 (-47.8 to -31.5)	0.2
Croatia	★★★★☆	825 (679 to 1070)	24.1 (18.8 to 33.1)	5.7 (4.6 to 7)	14.3 (11.7 to 18.9)	-30.1 (-50 to -16.1)	0.2	25700 (20900 to 34200)	870.8 (674.2 to 1229.7)	200.1 (159.2 to 244)	540.3 (429.2 to 711.1)	-40.3 (-51.6 to -39.2)	0.2
Czech Republic	★★★★☆	1560 (1300 to 2060)	18.9 (15.5 to 27)	5.7 (4.6 to 7)	11.6 (9.4 to 14.8)	-48.1 (-51 to -22.9)	0.3	54200 (42500 to 74000)	770.2 (564.5 to 1000.9)	140.4 (123.8 to 157.2)	456.5 (351.9 to 572.2)	-51.4 (-51.8 to -22.5)	0.2
Hungary	★★★★★	2460 (2040 to 3340)	31.5 (24.9 to 46)	7.4 (6.3 to 8.7)	18.5 (15.2 to 25.4)	-48.1 (-58.2 to -24.4)	0.2	79700 (65400 to 110000)	1119.4 (877.7 to 1650.2)	253.3 (214.4 to 298.4)	675.3 (551.5 to 924.3)	-51.9 (-58.4 to -50.5)	0.2
Macedonia	★★★☆☆	207 (177 to 243)	13.5 (11 to 16.5)	3.8 (3.2 to 4.4)	8.9 (7.2 to 9.9)	-7.7 (-29.4 to -0.5)	0.3	7180 (6250 to 7760)	480.4 (397.9 to 604.4)	134.8 (114.4 to 156.7)	306.9 (267.5 to 374.2)	-16.1 (-28.4 to -16.1)	0.3
Montenegro	★★☆☆☆	82.2 (70.3 to 96)	15.2 (13.7 to 20.4)	5.8 (4.7 to 6.9)	11.1 (9.6 to 12.9)	16.9 (-9.9 to 28.9)	0.3	2930 (2520 to 3370)	647.3 (533.4 to 776.3)	217.7 (176.4 to 261.2)	431.2 (370.5 to 498.6)	5.7 (-13.6 to 3.1)	0.3
Poland	★★★★☆	6830 (4840 to 8180)	26.2 (17.1 to 32)	3.7 (3.1 to 4.3)	14.6 (10.1 to 17.5)	-0.6 (-26.9 to 19.6)	0.1	262000 (178000 to 314000)	1080.2 (666.4 to 1327.3)	146.1 (123.5 to 171.6)	610.7 (408.4 to 752.5)	-2.4 (-29.8 to -3.8)	0.1
Romania	★★★★☆	2420 (1760 to 2850)	17.7 (14.3 to 21.5)	2.8 (2.4 to 3.3)	10 (7.2 to 11.8)	1.9 (-22.1 to 20.8)	0.2	87400 (61800 to 104000)	712.8 (463.7 to 871.4)	108.7 (92.5 to 129.2)	409.2 (286.5 to 486.4)	1.8 (-26.3 to 0.7)	0.2
Serbia	★★★☆☆	1720 (1550 to 1990)	25.4 (22.2 to 30.6)	6.5 (5.8 to 7.4)	15.5 (13.9 to 18.2)	-19.6 (-31.3 to -9.2)	0.3	57300 (51200 to 68400)	954.5 (829.2 to 1180.9)	231.9 (203 to 264.8)	523.6 (475.2 to 711.2)	-31.8 (to -19.5)	0.2
Slovakia	★★★☆☆	714 (586 to 861)	19 (15 to 23.5)	3 (2.4 to 3.5)	10.6 (8.6 to 12.5)	-47 (-47.4 to -14.6)	0.2	26500 (21200 to 31900)	736.1 (562.2 to 905.4)	113 (91.8 to 136.4)	422.4 (349.4 to 597.6)	-37.8 (-49 to -36.7)	0.2
Slovenia	★★★★☆	453 (365 to 608)	27.7 (21.4 to 38.9)	5.3 (4.3 to 6.5)	16.1 (13 to 21.9)	-46.6 (-58 to -32.9)	0.2	14400 (11500 to 19800)	1005.3 (773.1 to 1432.2)	187.1 (151.2 to 229)	601.2 (482.6 to 823.5)	-50.4 (-60.2 to -49.2)	0.2
Eastern Europe		68400 (50200 to 94200)	50 (34.8 to 71.1)	8.3 (5.5 to 12.2)	27.5 (20.1 to 37.2)	-24.1 (-34 to 4.4)	0.2	2770000 (2e+06 to 3770000)	2118.2 (1455.2 to 3016.8)	346.4 (225.9 to 517.2)	1210.7 (869.2 to 1635.9)	-22.5 (-34 to 5)	0.2
Belarus	★★★★☆	2660 (2070 to 3640)	42.7 (31.2 to 59.1)	6.5 (4.9 to 6.5)	23 (17.3 to 31.2)	-0.1 (-21.3 to 26.4)	0.2	103000 (79000 to 138000)	1717.1 (1252.6 to 2391.3)	257.6 (190.7 to 337.6)	957.6 (738.7 to 1299.5)	-2.6 (-23.3 to -1.6)	0.2
Estonia	★★★★★	256 (200 to 382)	26.9 (21.8 to 45.7)	4 (3.1 to 5)	15.5 (12.1 to 23.5)	-44.3 (-53.1 to -18.3)	0.1	9020 (6990 to 13900)	1135.1 (851.8 to 1818.7)	183.5 (112.7 to 183.5)	632.1 (490.8 to 971.5)	-47.9 (-58.6 to -46.3)	0.1
Latvia	★★★★★	482 (388 to 654)	36.5 (28.1 to 51.4)	4.9 (4 to 6.1)	19.4 (15.5 to 26.7)	-44.7 (-51.1 to 4)	0.1	17200 (13600 to 23700)	1450.8 (1091.4 to 2058.6)	144.2 (122.4 to 144.2)	794 (624.2 to 1098.7)	-32.4 (-51.4 to -31.4)	0.1
Lithuania	★★★★★	1090 (910 to 1280)	56.6 (44.4 to 67.7)	8.7 (7.6 to 10)	31 (25.5 to 36.2)	2.4 (-13 to 17)	0.2	41100 (33600 to 48100)	2355.3 (1835.5 to 2821.1)	341.3 (303.3 to 341.3)	1317.8 (1065.1 to 1547.5)	3.9 (-14.5 to 3.6)	0.2
Moldova	★★★★★	728 (581 to 895)	27.6 (21 to 34.7)	4.2 (3.4 to 5)	15.1 (12 to 18.6)	-7.2 (-36.3 to -6.4)	0.2	28700 (22700 to 36000)	1089.1 (821.1 to 1404.5)	160 (131.2 to 192)	607.4 (483.1 to 764.6)	-25.5 (-38.9 to -25.1)	0.1
Russian Federation	★★★★★	52000 (35200 to 75100)	55.3 (24.9 to 65)	9.6 (5.6 to 15.3)	30.6 (20.6 to 43.6)	4.4 (-30 to 48.9)	0.2	2140000 (1420000 to 3060000)	2368.2 (1476.5 to 3390.2)	397.7 (231.7 to 653.1)	1349.5 (889.7 to 1927.4)	8.9 (-27.4 to 9.6)	0.2
Ukraine	★★★★★	11200 (7870 to 16300)	37.9 (25.1 to 56.7)	5.4 (3.4 to 9)	20.2 (14 to 29.1)	-7.9 (-33.4 to 25.2)	0.1	436000 (299000 to 633000)	1551.1 (1009.1 to 2304)	216.2 (134.9 to 323.6)	857.6 (589.7 to 1216.1)	-5.7 (-31.9 to -4.4)	0.1
High-income		161000 (140000 to 184000)	19.3 (16.2 to 23)	6 (5.7 to 6.4)	12.5 (11 to 14.4)	-11.9 (-35 to -5.4)	0.3	5810000 (5110000 to 6670000)	789.2 (679.2 to 945)	249.1 (235.6 to 264.7)	516.6 (461.6 to 597.1)	-9.6 (-26.4 to -11.1)	0.3
High-income Asia Pacific		45600 (38000 to 55100)	26.9 (20.1 to 32.6)	11 (9.3 to 12.9)	18.3 (15.6 to 21.7)	-23.5 (to 30)	0.4	1400000 (1230000 to 1690000)	1034.7 (774 to 1248.3)	377.6 (377.6 to 533.3)	614.6 (516.6 to 797.1)	-20.8 (-22.4 to 18.8)	0.3
Brunei	★★★☆☆	20.6 (15 to 27.8)	6.9 (4.5 to 9.7)	2.5 (1.8 to 3.3)	4.8 (3.3 to 6.2)	-2.7 (-31.7 to 36.6)	0.4	936 (671 to 1300)	289.9 (181 to 431.8)	99.5 (34.4 to 136.6)	197.7 (142.9 to 269.5)	-4 (-34.4 to -3.2)	0.4
Japan	★★★★☆	29000 (25300 to 32500)	25.1 (19.7 to 28.4)	9.7 (8.9 to 10.6)	17.3 (14.7 to 19)	-0.8 (-19.2 to 8.7)	0.4	926000 (788000 to 1020000)	998.1 (777.2 to 1119.5)	397.5 (368.1 to 432.2)	699.7 (592.2 to 764.7)	12.1 (-13.5 to 9.7)	0.4

Location	Rating												
South Korea	★★★☆☆	16100 (10400 to 21800)	36.3 (18.8 to 53.4)	15.5 (10 to 22.7)	25.1 (16.5 to 33.7)	77.3 (-29.9 to 172.3)	0.4	538000 (364000 to 728000)	1221.8 (707.6 to 1778.6)	588.5 (376.7 to 878.4)	899 (617.5 to 1209.6)	66 (-37 to 55.4)	0.5
Singapore	★★★★★	398 (308 to 565)	12.2 (8.7 to 18.9)	4.8 (3.5 to 6.4)	8.4 (6.5 to 11.7)	-50.6 (-62.9 to -31)	0.4	14100 (10700 to 20600)	453.1 (318.8 to 708.1)	162.2 (132.3 to 239.9)	314.6 (240.3 to 448.3)	-52.1 (-63.5 to -51.4)	0.4
Australasia		3360 (2830 to 3830)	16.4 (13 to 19.2)	5 (4.5 to 5.5)	10.6 (8.9 to 12)	-19.9 (-31.7 to -8.3)	0.3	141000 (119000 to 159000)	729.8 (593.9 to 856.9)	225.5 (202.9 to 251.5)	477.2 (409 to 539.6)	-21.4 (-33.5 to -21.4)	0.3
Australia	★★★★★	2830 (2380 to 3260)	16.2 (12.9 to 19.2)	4.9 (4.3 to 5.5)	10.5 (8.9 to 12.1)	-20 (-32.5 to -8.5)	0.3	117000 (99600 to 135000)	712.7 (574 to 846.7)	217.7 (191 to 247.1)	465.6 (396.7 to 539.6)	-21.8 (-33.9 to -21.7)	0.3
New Zealand	★★★★★	536 (436 to 633)	17.2 (13 to 21.2)	5.4 (4.6 to 6.4)	11.1 (9 to 13.1)	-19.6 (-34.3 to -3.6)	0.3	23800 (19000 to 27800)	816.6 (608.7 to 997.6)	264.4 (221.8 to 311.5)	535.5 (428.3 to 628.7)	-19.6 (-34.8 to -19.5)	0.3
Western Europe		52600 (46600 to 65100)	15.2 (13.4 to 20.8)	4.3 (4.1 to 4.6)	9.6 (8.7 to 12.4)	-15 (-38 to -20)	0.3	1790000 (1620000 to 2350000)	602.6 (532.4 to 859.4)	167.5 (158.5 to 178.1)	384.1 (347.2 to 514)	-32.4 (-39.8 to -32.2)	0.3
Andorra	☆☆☆☆☆	7.84 (5.61 to 10.7)	14 (9.3 to 20.1)	2.7 (1.7 to 4.1)	8.3 (6 to 11.2)	-43.1 (-43.1 to 32.1)	0.2	302 (216 to 411)	604.9 (399.5 to 860.4)	118.4 (75.2 to 171.7)	362.4 (259.4 to 489.6)	-16.1 (-44.9 to -16)	0.2
Austria	★★★★★	1470 (1280 to 1990)	20.5 (17.2 to 31)	5.4 (4.8 to 6)	12.6 (10.9 to 18)	-50.6 (-50.2 to -25.9)	0.3	47800 (41100 to 71200)	769.9 (633.5 to 1254.8)	198.3 (175.4 to 224.2)	482.5 (412.1 to 732)	-46.6 (-52.8 to -45.4)	0.3
Belgium	★★★★☆	2250 (1920 to 2720)	23.9 (19.5 to 31.5)	8.5 (7.1 to 10)	16 (13.7 to 19.8)	-18 (-33.5 to -5.6)	0.4	78900 (67300 to 98500)	953.5 (785.6 to 1278.8)	325.5 (271.7 to 383.3)	640 (545.5 to 814.7)	-18.5 (-36.2 to -19.1)	0.3
Cyprus	★★☆☆☆	50.9 (45.1 to 61.5)	7.8 (6.7 to 9.8)	1.9 (1.7 to 2.1)	4.7 (4.1 to 5.8)	-22.6 (-35.2 to -7.4)	0.2	1930 (1690 to 2520)	316.9 (269.4 to 438.1)	67.7 (58.6 to 77.1)	187.3 (163.6 to 246.6)	-17.9 (-31.7 to -18.2)	0.2
Denmark	★★★★☆	730 (602 to 1060)	15.7 (12.3 to 25.9)	4.6 (3.8 to 5.5)	10 (8.1 to 15.1)	-60 (-68.3 to -37.4)	0.3	24200 (19500 to 37400)	595.1 (456.8 to 1045)	163 (133.5 to 197.8)	379.8 (305.5 to 605.6)	-63.1 (-69.3 to -61.1)	0.3
Finland	★★★★★	907 (762 to 1280)	22.3 (17.9 to 33.5)	6 (5.1 to 6.9)	14 (11.9 to 19.6)	-50 (-58.7 to -23.8)	0.3	34000 (28700 to 47100)	966.5 (768.5 to 1386)	260.8 (224.1 to 300.1)	607.7 (516.5 to 830.2)	-53.4 (-60.1 to -51.8)	0.3
France	★★★★☆	12400 (10900 to 15900)	24.7 (20.8 to 34.6)	6.8 (6 to 7.5)	15.3 (13.4 to 20.4)	-34.1 (-43 to -20.7)	0.3	412000 (359000 to 560000)	954.6 (796.6 to 1417)	256.7 (226.5 to 285)	599.4 (517.7 to 831.9)	-34.8 (-43.3 to -34.1)	0.3
Germany	★★★★☆	12000 (10300 to 15400)	16.7 (13 to 24.2)	4.7 (4.1 to 5.5)	10.5 (9.1 to 14.3)	-30.5 (-41.6 to -16.9)	0.3	379000 (326000 to 527000)	636.3 (524.9 to 997.4)	175.4 (149 to 202.9)	406.4 (346.4 to 583.8)	-32.7 (-43.9 to -32.2)	0.3
Greece	★★★★☆	513 (424 to 624)	6.4 (5.2 to 8.8)	1.2 (1 to 1.4)	3.7 (3.1 to 5)	-3.9 (-20.3 to 11.4)	0.2	17900 (15100 to 24700)	293.2 (213.2 to 400.8)	48.9 (42.1 to 56.5)	157.1 (130.9 to 227.1)	-1.5 (-18.5 to -2.1)	0.2
Iceland	★★★★★	41.5 (35.9 to 50.8)	17.7 (14.8 to 22.5)	4.2 (3.5 to 4.8)	10.8 (9.3 to 13.4)	-29.2 (-40 to -18)	0.2	1480 (1290 to 1920)	693.9 (585.4 to 942.8)	147.9 (125.3 to 172.7)	422.7 (366.3 to 511.6)	-31.6 (-42.3 to -31.4)	0.2
Ireland	★★★★★	482 (348 to 594)	16.4 (10.8 to 20.8)	3.7 (3 to 4.5)	9.9 (7.1 to 12.2)	-7.5 (-28.5 to 13.8)	0.2	20900 (14900 to 25800)	760 (490.4 to 965.2)	167.4 (134.8 to 204.7)	460.8 (325.2 to 568.8)	-5.1 (-25.9 to -5.2)	0.2
Israel	★★★★☆	628 (472 to 868)	11.2 (9.4 to 19.6)	2.5 (1.9 to 3.4)	7.7 (5.8 to 10.8)	-12.2 (-42.3 to 1.7)	0.2	25400 (18900 to 36700)	554.8 (393.7 to 854.3)	95.5 (69.5 to 129.2)	324.3 (241.5 to 470)	-16.7 (-38.8 to -16.7)	0.2
Italy	★★★★★	4700 (3950 to 6070)	9.4 (7.5 to 14.1)	2.2 (1.9 to 2.5)	5.7 (4.7 to 8.6)	-29.9 (-43.4 to -17)	0.2	150000 (124000 to 218000)	365.2 (287.3 to 603.6)	84.7 (73.6 to 97.1)	223.8 (183.9 to 342.2)	-28.4 (-43.5 to -28.8)	0.2
Luxembourg	★★★★☆	68.2 (56.6 to 97.4)	14.1 (10.9 to 24.2)	4.9 (4.1 to 5.8)	9.4 (7.8 to 13.7)	-46.4 (-57.4 to -25.9)	0.3	2350 (1940 to 3590)	524.5 (399 to 906.7)	178.3 (150 to 210.5)	353.2 (289.8 to 543.7)	-51.8 (-60.5 to -50.3)	0.3
Malta	★★★★★	24.3 (19.1 to 32.8)	6.9 (6 to 11.5)	1.3 (1 to 1.7)	4.7 (3.6 to 6.6)	-17.1 (-15.6 to 6.2)	0.2	868 (636 to 1280)	326.4 (235.7 to 514)	51.9 (38 to 67.5)	192.8 (145.2 to 293.3)	-13.4 (-33.1 to -13.1)	0.2
Netherlands	★★★★☆	1960 (1660 to 2300)	13.3 (10.5 to 17)	5.3 (4.5 to 6.1)	9.8 (7.8 to 11.1)	-22.6 (-36.6 to -11.7)	0.4	69000 (58500 to 83500)	533.6 (426.7 to 706.7)	205.8 (177.8 to 238.2)	369.5 (314.8 to 456.4)	-22.7 (-38.5 to -23.3)	0.4
Norway	★★★★★	591 (499 to 752)	14.3 (11.5 to 19.6)	5.3 (4.4 to 6.5)	9.8 (8.3 to 12.4)	-34.7 (-44.8 to -15.5)	0.4	23400 (19700 to 29400)	619.3 (492.9 to 819.9)	226.5 (186.3 to 273.1)	427.4 (362.5 to 536.9)	-37 (-45.9 to -36)	0.4
Portugal	★★★★☆	1430 (1140 to 1650)	16.9 (13.8 to 21)	3.5 (3 to 4)	9.7 (8.3 to 12)	-37.4 (-43.6 to -17.5)	0.2	43600 (37100 to 56400)	619.6 (505 to 899.8)	121.7 (105.8 to 138.4)	360.6 (302.2 to 502.8)	-37.4 (-48.4 to -36.9)	0.2
Spain	★★★★☆	3760 (3190 to 4630)	9.6 (8 to 13.4)	2.7 (2.4 to 3)	6 (5.2 to 7.9)	-24.4 (-44.5 to -11.4)	0.3	123000 (105000 to 168000)	360.2 (294.9 to 557)	101.3 (89.2 to 114.6)	230.1 (195.9 to 329.3)	-24.3 (-50.4 to -26.6)	0.3
Sweden	★★★★★	1430 (1140 to 1670)	17.2 (12.8 to 21.5)	6.9 (5.8 to 8.4)	12.1 (9.7 to 14.2)	-35 (-45 to -20.3)	0.4	51900 (41700 to 61300)	710.7 (539.6 to 888.6)	291.9 (242.9 to 355.2)	504.4 (411.5 to 599.5)	-35.2 (-44.8 to -34.7)	0.4
Switzerland	★★★★☆	1310 (963 to 1890)	18.2 (12.1 to 29.6)	5.9 (4.4 to 8.4)	11.8 (8.6 to 17.8)	-50.3 (-63.5 to -27.9)	0.3	43100 (31100 to 67400)	686.1 (447.2 to 1158.2)	213.2 (146.8 to 316.1)	452.1 (325.3 to 707)	-55.9 (-67.2 to -54.3)	0.3
United Kingdom	★★★★★	5800 (4890 to 6410)	12.3 (9.6 to 13.7)	3.5 (3.4 to 3.7)	7.9 (6.6 to 8.5)	-21.7 (-27.4 to -15.6)	0.3	234000 (194000 to 253000)	546.3 (422.6 to 596.2)	153.4 (146.6 to 161.6)	349.1 (289 to 375.3)	-21.6 (-27.8 to -22.1)	0.3
Southern Latin America		7310 (6630 to 9240)	19.6 (16 to 24)	4.1 (3.6 to 4.7)	11.5 (9.7 to 13.6)	-15 (-27.3 to -1.1)	0.2	340000 (277000 to 392000)	838.8 (645.7 to 998.1)	188.1 (162.9 to 217.6)	510.2 (414.4 to 589.8)	-6.8 (-21.1 to -7.1)	0.2
Argentina	★★★★☆	5010 (4130 to 5780)	19.1 (14.9 to 22.7)	4.2 (3.7 to 4.7)	11.2 (9.2 to 12.9)	2.9 (-13.2 to 18)	0.2	223000 (176000 to 257000)	828.2 (611.3 to 973.2)	190.9 (165.9 to 218.6)	505.6 (399.9 to 582.3)	21.5 (-7.3 to 19.5)	0.2
Chile	★★★★☆	2160 (1550 to 3040)	18.8 (12.9 to 27.7)	3.5 (2.3 to 5)	10.9 (7.9 to 15.4)	-46 (-62.7 to -10.9)	0.2	92300 (66300 to 127000)	799 (543.6 to 1145.9)	163 (108.5 to 236.9)	480.1 (345.8 to 655.1)	-45 (-61.2 to -43.9)	0.2
Uruguay	★★★★☆	642 (486 to 722)	28.4 (19.6 to 32.9)	6.8 (5.9 to 7.8)	16.8 (12.8 to 18.9)	38.7 (-0.4 to 63.8)	0.2	24600 (19100 to 27800)	1136.2 (800.5 to 1323.6)	278.9 (241.2 to 322.3)	698.8 (546.2 to 792.1)	52.7 (3.3 to 46.3)	0.2
High-income North America		51200 (43400 to 57000)	16.2 (16 to 23)	5.3 (5.5 to 6)	12.9 (10.8 to 14.1)	-22.3 (-14.4 to 3.1)	0.3	2060000 (1740000 to 2270000)	856.4 (696.9 to 973.2)	257.6 (245.3 to 268.7)	473.7 (473.7 to 613.3)	-19.8 (-16.2 to -3.1)	0.3
Canada	★★★★★	4570 (3800 to 5190)	16.3 (12.4 to 19.2)	5.6 (5.1 to 6.1)	10.9 (9 to 12.3)	-17.5 (-26.4 to -2.9)	0.3	185000 (149000 to 208000)	717.9 (529.1 to 837.9)	254.8 (232.8 to 277.7)	486.1 (387.9 to 548.2)	-19.6 (-28 to -19.5)	0.4
Greenland	★★★☆☆	40.1 (31.7 to 50.5)	118.4 (89.4 to 155.6)	38.1 (28.3 to 49.2)	79.7 (63.4 to 99.5)	-42.5 (-55 to -22.7)	0.3	2010 (1590 to 2490)	5749 (4295.9 to 7513.3)	2044.2 (1529.6 to 2666.6)	3996.2 (3173.7 to 4951.5)	-45.7 (-57.6 to -45.2)	0.4
United States	★★★★★	46600 (39300 to 52000)	20.4 (16.4 to 23.6)	5.8 (5.5 to 6.1)	12.9 (10.9 to 14.4)	-0.3 (-13.7 to 5.7)	0.3	1870000 (1600000 to 2070000)	872 (712.2 to 992.2)	258 (243.8 to 270.6)	564.3 (483.3 to 623.8)	-1.8 (-15.6 to -0.9)	0.3
Latin America and Caribbean		37900 (32000 to 44500)	11.1 (8.8 to 13.4)	2.4 (2.3 to 2.6)	6.6 (5.6 to 7.7)	-4.3 (-16.1 to 3.5)	0.2	1760000 (1500000 to 2110000)	482.4 (385.7 to 588.2)	114.1 (106.2 to 123.1)	295.6 (249.6 to 349.3)	-1.4 (-12.5 to -1.6)	0.2
Caribbean		4320 (3800 to 4860)	15.3 (12.9 to 17.6)	4 (3.3 to 4.7)	9.4 (8.3 to 10.6)	-24.5 (-32.9 to -15.5)	0.3	174000 (153000 to 194000)	599.1 (515.9 to 707.4)	160.9 (142 to 197.8)	375.9 (329.7 to 459.7)	-26.9 (-35 to -26.8)	0.3
Antigua and Barbuda	★★★★☆	2.13 (1.63 to 2.65)	3.9 (2.8 to 5.1)	0.8 (0.6 to 1)	2.3 (1.7 to 2.8)	3.7 (-19 to 31)	0.2	97.1 (73.2 to 123)	173.4 (120.9 to 228.5)	35.3 (27.7 to 44.3)	100.8 (76 to 127.3)	37.9 (-18.1 to 5.4)	0.2
The Bahamas	★★★★☆	13 (9.96 to 16)	5.3 (3.8 to 6.8)	1.1 (0.9 to 1.3)	3.3 (2.4 to 3.8)	12.1 (-13 to 37.3)	0.2	597 (445 to 757)	236.3 (163 to 313.9)	53 (38.3 to 57.4)	140 (104.4 to 177.6)	7.2 (-14 to 9.2)	0.2
Barbados	★★★★☆	15.4 (12.2 to 18.4)	8.1 (5.9 to 10.2)	2 (1.7 to 2.4)	4.9 (3.9 to 5.8)	12.1 (-9.6 to 36)	0.2	614 (490 to 756)	347.9 (252.7 to 441.1)	91 (74.6 to 111.1)	214.3 (169.5 to 291.4)	12 (-10.6 to 12.2)	0.3
Belize	★★★★☆	24.8 (18 to 32.3)	13.2 (9.8 to 17.4)	2.7 (2.1 to 3.3)	7.9 (5.8 to 10)	52.2 (8.8 to 100.7)	0.2	1200 (875 to 1600)	545.6 (359.7 to 750.5)	119.5 (92.5 to 150.6)	329.9 (240.1 to 432.4)	45.3 (4.2 to 44.6)	0.2
Bermuda	★★★★★	3 (2.37 to 4.2)	11.7 (5.2 to 10.2)	2.2 (1.3 to 2.1)	6.9 (3.3 to 5.9)	-46.8 (-94.4 to -15.5)	0.2	127 (91.1 to 178)	609 (191.5 to 426.1)	60.9 (47.1 to 77.2)	160 (124.4 to 242.1)	-52.3 (-63.2 to -50.9)	0.2
Cuba	★★★★★	1750 (1500 to 2160)	19.2 (15.8 to 25.2)	5 (4.3 to 5.8)	12 (10.2 to 15.1)	-42 (-50.6 to -28.7)	0.3	55600 (46800 to 74900)	668.9 (544.3 to 999)	168.6 (142 to 197.8)	420.4 (352.3 to 592)	-50.2 (-57.5 to -49.3)	0.3
Dominica	★★★★☆	3.51 (2.38 to 4.4)	8.1 (5 to 10.4)	1.3 (1.1 to 1.6)	4.6 (3.2 to 5.8)	36.4 (0.1 to 76)	0.2	158 (105 to 201)	353.1 (217.2 to 463.3)	58.3 (46.7 to 74.1)	204.4 (137 to 260.5)	37.9 (1 to 38.5)	0.2
Dominican Republic	★★★☆☆	570 (435 to 719)	10.2 (7.2 to 13.4)	2.4 (1.6 to 2.7)	6 (4.5 to 7.6)	14.1 (-20.7 to 60)	0.2	23500 (18200 to 29800)	378 (276.7 to 500.1)	81.3 (60.2 to 102.3)	227.3 (174.2 to 287.5)	26.3 (-22.4 to 12.9)	0.2
Grenada	★★★★☆	7.64 (5.69 to 9.74)	11.9 (8.4 to 15.5)	2.4 (1.9 to 3.1)	7.1 (5 to 8.9)	28.7 (-5 to 72.5)	0.2	370 (270 to 482)	531.9 (364.4 to 709.5)	109.5 (92.5 to 130.6)	323.1 (238.3 to 416)	26.3 (-7.9 to 2.7)	0.2
Guyana	★★★★☆	220 (163 to 262)	47.6 (31.7 to 58.2)	13.1 (10.7 to 15.7)	30.4 (22.8 to 36.1)	33.3 (1.2 to 63.9)	0.3	10700 (7830 to 12900)	2142.4 (1367.8 to 2636.1)	619 (500 to 746.1)	1397.2 (1021.4 to 1677)	35.8 (2.2 to 35.3)	0.3
Haiti	★☆☆☆☆	971 (673 to 1330)	5.4 (9.5 to 23)	1.1 (2.9 to 8.7)	9.8 (7 to 13.3)	14.7 (-30.8 to 35.3)	0.4	49800 (33700 to 68700)	667.3 (416.8 to 1062.4)	288.2 (129 to 407.7)	452.3 (310.2 to 618.3)	-7.1 (-33.8 to -6.5)	0.4
Jamaica	★★★☆☆	84.6 (62.9 to 108)	4.8 (3.2 to 6.5)	1.1 (0.8 to 1.5)	2.9 (2.2 to 3.7)	70.9 (21 to 128.2)	0.2	3760 (2770 to 4900)	210.1 (136.3 to 288.6)	46.1 (33.4 to 61.3)	127.2 (93.8 to 164.4)	69.4 (19.8 to 69.7)	0.2
Puerto Rico	★★★★☆	314 (254 to 424)	14.1 (11 to 19.9)	1.4 (1.2 to 2)	7.5 (6 to 10.4)	-29.9 (-45.1 to -0.6)	0.1	12300 (9620 to 17900)	584.5 (436.1 to 887.7)	62.9 (55.6 to 79.8)	314.3 (244.2 to 469.6)	-32 (-46.4 to -29.7)	0.1
Saint Lucia	★★★★☆	13.7 (10 to 17.4)	12.5 (8.5 to 16.4)	1.9 (1.6 to 2.3)	7 (5.1 to 8.9)	3.3 (-26.7 to 35)	0.2	618 (443 to 797)	552.9 (363.4 to 736.3)	85.8 (70.1 to 104.1)	314.3 (255.9 to 405.2)	30 (-22.3 to 2.8)	0.2
Saint Vincent and the Grenadines	★★★★☆	8.49 (6.51 to 10.3)	13.2 (9.7 to 16.3)	2 (1.7 to 2.3)	7.6 (5.7 to 9.2)	31.6 (3.7 to 64.4)	0.2	389 (286 to 482)	578.9 (413.9 to 734.2)	87.4 (73.7 to 104.7)	336.2 (248.5 to 416.1)	30 (0.2 to 30.1)	0.2
Suriname	★★★☆☆	131 (105 to 150)	38.3 (29 to 44.6)	11.3 (9.5 to 13.1)	24.5 (19.6 to 28)	35.2 (5.4 to 61.8)	0.3	5960 (4700 to 6810)	1641.9 (1203.3 to 1935.1)	484.3 (401.6 to 565.9)	1063.9 (842.3 to 1216.6)	30.9 (2.4 to 29.7)	0.3
Trinidad and Tobago	★★★★★	177 (138 to 212)	20.7 (15.3 to 25.4)	3.3 (3 to 4.4)	12 (9.5 to 14.4)	-13 (-29.4 to 6.8)	0.2	8140 (6220 to 9990)	937.2 (674.5 to 1181.4)	183.3 (157.8 to 221.9)	599.9 (428.3 to 684.5)	-13 (-30.2 to -12.9)	0.2
Virgin Islands, U.S.	★★★☆☆	7.44 (5.5 to 9.36)	10.1 (6.7 to 13.4)	2.4 (1.6 to 3.1)	6 (4.2 to 7.6)	-2.7 (-31.2 to 31.9)	0.2	262 (183 to 350)	411.8 (254.6 to 552.2)	97.3 (58.3 to 133.6)	244.8 (158.7 to 313.3)	-7.6 (-40.2 to -4.4)	0.2
Andean Latin America		2880 (2390 to 3290)	7.4 (5.6 to 8.8)	2.9 (2.4 to 3.3)	6.5 (4.2 to 5.8)	-6.4 (-23 to 12.7)	0.4	140000 (115000 to 159000)	324.8 (243.3 to 385.6)	136.6 (116.6 to 157.4)	190.4 (190.4 to 262.4)	-5.8 (-23.5 to -5.9)	0.4
Bolivia	★☆☆☆☆	700 (524 to 894)	9.3 (5.9 to 12.6)	5.2 (3.6 to 7.2)	7.2 (5.5 to 9.1)	-5.2 (-35.1 to 23.4)	0.6	33000 (24300 to 43800)	396.4 (246.7 to 546.8)	223.3 (150.1 to 307.3)	308.3 (228.3 to 399.2)	-0.6 (-39.3 to -16.3)	0.6
Ecuador	★★★★☆	1270 (916 to 1480)	11.9 (7.2 to 14.6)	4 (3.5 to 4.7)	7.9 (5.6 to 9.2)	31.2 (-8.1 to 61.1)	0.3	64400 (47200 to 74900)	542 (332.6 to 671)	215.9 (177.6 to 262.3)	377.7 (276 to 440.5)	34.2 (-6.8 to 30.1)	0.3
Peru	★★★☆☆	917 (707 to 1180)	4.6 (3.2 to 6.2)	1.5 (1.1 to 2)	3 (2.3 to 3.9)	-30.4 (-48.5 to -8.7)	0.3	42100 (32400 to 54000)	191.5 (129 to 259.6)	66.5 (49.5 to 91)	129.5 (99.3 to 166.6)	-30.7 (-48.1 to -30.3)	0.4
Central Latin America		16200 (13100 to 19300)	11 (8.5 to 13.4)	2.1 (1.9 to 2.3)	6.4 (5.2 to 7.6)	11 (-5.9 to 31.3)	0.2	813000 (657000 to 988000)	503.8 (382.8 to 630.8)	106.2 (98.4 to 117.2)	302.4 (245.3 to 365.1)	19.7 (-4.3 to 18.8)	0.2
Colombia	★★★★☆	2820 (2200 to 3580)	9.9 (7.1 to 12.9)	1.8 (1.5 to 2.2)	5.7 (4 to 6.9)	-1.8 (-37.1 to 23.5)	0.2	138000 (107000 to 181000)	442.9 (323.4 to 601.7)	98 (80.6 to 118.6)	267.4 (206.9 to 330.2)	0.9 (-37.6 to -2.4)	0.2
Costa Rica	★★★★★	348 (250 to 413)	11.7 (8 to 14.2)	1.9 (1.6 to 2.2)	6.8 (4.9 to 8)	10.7 (-7.7 to 30)	0.2	16300 (11600 to 19700)	529.9 (346.4 to 658.8)	96.4 (82.1 to 113.1)	313.6 (224.1 to 378.9)	13.5 (-4.8 to 13.9)	0.2
El Salvador	★★★☆☆	591 (484 to 751)	16.5 (12.8 to 21.5)	3.8 (3 to 4.6)	9.4 (7.7 to 11.8)	-30.9 (-44.1 to -10.7)	0.3	30200 (24700 to 39300)	763.8 (592.4 to 1034.7)	179 (166.8 to 253.4)	375.6 (298.5 to 533.7)	-34.8 (-46.9 to -33.8)	0.3
Guatemala	★★★★☆	1060 (720 to 1690)	7.1 (4.9 to 12.4)	2.5 (1.6 to 3.6)	5.2 (3.5 to 7.3)	-22 (-50.1 to 35.8)	0.2	37500 (37500 to 91300)	348.8 (367.4 to 585.9)	129.8 (83.7 to 385.9)	333.8 (227.4 to 532.7)	-21.7 (-48.1 to -18.6)	0.3
Honduras	★★☆☆☆	307 (163 to 463)	7.1 (3.9 to 11.8)	2.3 (1.4 to 3.3)	4.6 (3 to 6.8)	2.2 (-33 to 61.3)	0.3	9100 (5200 to 21000)	261 (148.7 to 450.1)	83.3 (46.3 to 122.2)	174.6 (115.2 to 265.5)	-8.7 (-39.6 to -6)	0.2
Mexico	★★★★☆	7440 (5460 to 10300)	9.8 (6.7 to 11.3)	1.9 (1.9 to 2.2)	5.9 (4.3 to 6.5)	35.6 (1.1 to 51.2)	0.2	372000 (272000 to 447000)	446 (302.9 to 517.6)	104.1 (97.1 to 119.3)	273.5 (200.4 to 308.4)	49.7 (3 to 42.7)	0.2
Nicaragua	★★★☆☆	450 (353 to 560)	12.3 (8.9 to 16.1)	2.9 (2.2 to 3.7)	7.3 (5.2 to 9.1)	15.4 (-12 to 47.8)	0.2	23700 (18400 to 29500)	518.4 (411.1 to 738.3)	158.9 (118.9 to 207.6)	356.3 (279.2 to 444.2)	11.2 (-14.3 to 11.6)	0.2
Panama	★★★★☆	233 (177 to 313)	10.4 (7.5 to 14.3)	1.5 (1.2 to 1.9)	5.9 (4.5 to 7.9)	-2.2 (-25.9 to 30.7)	0.1	11600 (8340 to 15400)	473 (340.8 to 668.7)	72.9 (55 to 93.9)	287.8 (189.4 to 388.2)	0.7 (-24.9 to 1.8)	0.1
Venezuela	★★★★☆	2970 (2030 to 4600)	17.1 (11.2 to 27)	2.1 (1.6 to 2.7)	9.4 (6.5 to 14.3)	50.9 (-9.6 to 112.1)	0.1	154000 (101000 to 240000)	829.9 (517.7 to 1376.7)	98.4 (73.4 to 129)	463 (306.7 to 740.5)	33.5 (-2.2 to 48.4)	0.1
Tropical Latin America		14300 (11900 to 17600)	10.8 (8.8 to 14)	2.3 (2 to 2.6)	6.4 (5.3 to 7.9)	-11.6 (-22.4 to 4.4)	0.2	649000 (543000 to 803000)	464.7 (373.9 to 603.1)	103 (90.4 to 117.1)	280.9 (235.1 to 348.2)	-8.6 (-18.7 to -6.8)	0.2
Brazil	★★★★☆	13900 (11500 to 17200)	10.9 (8.7 to 14.2)	2.3 (2 to 2.6)	6.4 (5.3 to 7.9)	-12.8 (-23.7 to 3.7)	0.2	627000 (521000 to 786000)	465.6 (372.3 to 611.8)	100.6 (87.7 to 114.8)	279.9 (232 to 351.3)	-10 (-20.2 to -8.1)	0.2

Location	Rating	Col1	Col2	Col3	Col4	Col5	V1	Col6	Col7	Col8	Col9	Col10	V2
Paraguay	★★★☆☆	422 (300 to 514)	9.7 (6 to 12.5)	3.4 (2.7 to 4.1)	6.5 (4.7 to 7.9)	70.4 (23.2 to 117.1)	0.4	21300 (14600 to 26300)	429.6 (241.3 to 557.3)	169.6 (135.7 to 212.2)	301.4 (211.2 to 369.6)	74.2 (24.6 to 73.7)	0.4
North Africa and Middle East		25900 (23000 to 30600)	6.8 (5.9 to 8.4)	2.6 (2.4 to 3)	4.8 (4.2 to 5.6)	-2.7 (-15.7 to 14.3)	0.4	1280000 (1140000 to 1530000)	308.9 (267 to 382.8)	117.9 (104.5 to 132.5)	216.5 (192.2 to 257.1)	-3.2 (-16.4 to -2.9)	
North Africa and Middle East		25900 (22900 to 30500)	6.8 (5.9 to 8.4)	2.6 (2.4 to 3)	4.8 (4.2 to 5.6)	6.8 (-15.7 to 14.3)	0.4	1280000 (1140000 to 1530000)	308.6 (266.7 to 382.3)	117.8 (104.4 to 132.3)	216 (192 to 257.1)	-3.3 (-16.4 to -2.9)	0.4
Afghanistan	★☆☆☆☆	2250 (1790 to 3680)	16.4 (13.2 to 26.3)	3.6 (2.9 to 4.5)	10.1 (8.4 to 15.2)	9.7 (-10.4 to 37.2)	0.2	116000 (90300 to 192000)	667.1 (514.3 to 1185.6)	140 (106 to 184.6)	413 (332 to 675.7)	7.2 (-14.7 to 7.5)	0.2
Algeria	★☆☆☆☆	1440 (1140 to 1960)	5.5 (4.1 to 8.1)	1.9 (1.5 to 2.4)	3.7 (3 to 5)	-10.4 (-33.7 to 24.4)	0.3	67800 (53600 to 93000)	239.6 (180.7 to 351.8)	82.9 (66.2 to 104.1)	161.4 (128.1 to 221.4)	-15.2 (-36.4 to -13.9)	0.3
Bahrain	★★★☆☆	96 (70 to 137)	6.8 (6.8 to 13.7)	2.8 (2 to 3.7)	7 (5.2 to 9.5)	-14.2 (-39.6 to 17.3)	0.3	4770 (3450 to 6830)	384.7 (265.1 to 571.3)	117.2 (82.6 to 158.9)	288 (211.6 to 406.4)	-15.9 (-40.4 to -15.5)	0.3
Egypt	★★★☆☆	3090 (2180 to 4290)	6.1 (3.9 to 9)	1.6 (1.1 to 2.1)	3.8 (2.7 to 5.3)	0 (-21.6 to 27.9)	0.3	144000 (102000 to 199000)	256 (168.6 to 374.3)	67.1 (44.9 to 93.7)	161.8 (113.3 to 226.6)	-6.4 (-27.1 to -6.2)	0.3
Iran	★★★☆☆	5010 (4070 to 6250)	7.9 (5.9 to 10.5)	3.9 (2.9 to 5.1)	5.9 (4.8 to 7.4)	-8.5 (-33.2 to 25.8)	0.5	256000 (206000 to 316000)	373.4 (269.1 to 498.7)	195.3 (146 to 256.8)	284.2 (230.3 to 353.4)	-9.7 (-33.8 to -10)	0.5
Iraq	★★☆☆☆	2920 (2050 to 3870)	12.8 (8.1 to 18)	6.6 (4.4 to 9.8)	9.7 (7 to 12.7)	16 (-20.8 to 62)	0.5	149000 (104000 to 198000)	598.7 (367.1 to 854.5)	286.7 (187.5 to 430.6)	445.3 (312 to 589.6)	15.1 (-21.5 to 15.5)	0.5
Jordan	★★★☆☆	218 (158 to 305)	4.9 (3.3 to 7)	2.1 (1.4 to 2.9)	3.5 (2.6 to 4.7)	-34.9 (-59 to -5.8)	0.4	10600 (7600 to 15000)	204.4 (132.6 to 307)	78.2 (53.3 to 112.8)	142.8 (103.2 to 199.7)	-37.3 (-56.8 to -36.6)	0.4
Kuwait	★★★★☆	113 (70.1 to 163)	3.8 (2.1 to 5.7)	1.3 (0.9 to 2)	2.7 (1.7 to 3.8)	25.7 (-21 to 85.2)	0.3	5670 (3520 to 8170)	165.6 (90.5 to 254.2)	53.3 (33 to 80.7)	116.8 (72.8 to 166.7)	23.1 (-22.8 to 23.1)	0.3
Lebanon	★☆☆☆☆	146 (99.1 to 218)	3.4 (2 to 5.6)	1.4 (1 to 1.9)	2.4 (1.6 to 3.5)	-44.2 (-61.3 to -8.7)	0.4	6830 (4680 to 10400)	149.6 (87.9 to 245.9)	60.2 (42.6 to 84.3)	104.6 (71.2 to 157.3)	-49.6 (-63.8 to -47.1)	0.4
Libya	★★☆☆☆	282 (198 to 406)	7.5 (4.8 to 11.3)	2.1 (1.6 to 2.9)	4.7 (3.4 to 6.8)	13.7 (-17.2 to 55.4)	0.3	13400 (9350 to 19400)	321.6 (205.5 to 492.3)	89 (67 to 128.5)	204.5 (144.1 to 295.2)	9 (-19.7 to 11)	0.3
Morocco	★★☆☆☆	1790 (1450 to 2210)	5.2 (4.2 to 7.5)	5.2 (4.1 to 6.6)	5.4 (4.4 to 6.7)	3.7 (-6.8 to 44.5)	0.9	80500 (63800 to 101000)	249.9 (186.6 to 344.9)	202.1 (150.7 to 251)	225.5 (180 to 282)	-1.4 (-20.6 to 0.4)	0.8
Palestine	★★★☆☆	97.8 (76 to 129)	4.1 (3 to 5.7)	1.1 (1 to 1.8)	2.7 (2.1 to 3.6)	-6.8 (-35.9 to 35.8)	0.3	5070 (3900 to 6750)	179 (130.9 to 244.4)	46.7 (35.4 to 64.4)	113.5 (88.4 to 149.6)	-16.1 (-41.6 to -15.1)	0.3
Oman	★★☆☆☆	150 (113 to 212)	4.2 (3 to 5.7)	1.1 (0.9 to 1.3)	3.1 (2.5 to 4.2)	-1.8 (-34.8 to 75.9)	0.3	7590 (5630 to 10900)	169.4 (125.2 to 239.5)	39.5 (30.9 to 50.7)	128.7 (97.6 to 172.2)	-11.1 (-39.6 to -5.7)	0.2
Qatar	★★☆☆☆	135 (92 to 195)	6.3 (4.1 to 9.2)	1.6 (1 to 2.5)	4.6 (3.4 to 7.2)	-32.1 (-56.5 to 7.3)	0.3	6860 (4710 to 9870)	258 (168.2 to 384.3)	72.8 (43.8 to 113.3)	211.5 (143.4 to 306.4)	-36.4 (-59.1 to -35.6)	0.3
Saudi Arabia	★★☆☆☆	929 (710 to 1130)	3.4 (3.2 to 5.5)	1.3 (1 to 1.6)	3.1 (2.4 to 3.7)	17.2 (-21.3 to 90)	0.3	44000 (34500 to 54800)	194 (140.2 to 240.1)	48.9 (37.9 to 62.3)	132.3 (102.1 to 161.1)	11.3 (-23.3 to 14.2)	0.3
Sudan	☆☆☆☆☆	1750 (1280 to 2170)	7.9 (5.8 to 10.7)	2.5 (1.8 to 3.4)	5.2 (4 to 6.5)	8.4 (-11.8 to 46.3)	0.3	91100 (65700 to 114000)	363 (255.9 to 496.1)	117 (75.1 to 166)	239.5 (175.4 to 298.8)	4.5 (-15.4 to 5.6)	0.3
Syria	★★★★☆	377 (307 to 468)	4 (3.1 to 5.1)	1 (0.8 to 1.2)	2.5 (2 to 3)	-7.7 (-29.4 to 23.7)	0.3	18700 (15000 to 23600)	173.6 (131.1 to 226.7)	38.1 (30.4 to 47.5)	106.3 (85.8 to 132.6)	-9.1 (-32.8 to -8.4)	0.2
Tunisia	★★☆☆☆	436 (313 to 583)	5.8 (4 to 8.2)	1.8 (1.2 to 2.5)	3.7 (2.7 to 5)	5 (-22.9 to 39.3)	0.3	19500 (14100 to 26400)	257.1 (173.1 to 365.8)	68.2 (46.1 to 95.2)	161 (116.7 to 217.1)	2.2 (-25 to 2.6)	0.3
Turkey	★★★☆☆	2750 (2140 to 3430)	5.6 (4.2 to 7.3)	1.4 (1 to 1.7)	3.4 (2.6 to 4.2)	-4.1 (-43.2 to -0.6)	0.3	133000 (102000 to 166000)	257.6 (187.7 to 335)	64.7 (48.8 to 84.3)	159.9 (123.7 to 199.3)	-18.2 (-40.5 to -18.3)	0.3
United Arab Emirates	★★☆☆☆	445 (291 to 697)	4.6 (3 to 7.3)	1.6 (1.1 to 2.4)	3.9 (2.6 to 6)	3.3 (-37 to 74.9)	0.3	22100 (14300 to 34700)	204.4 (131.1 to 332.1)	73.4 (47.1 to 110.8)	170.9 (113.2 to 265.5)	-2.3 (-41 to -1.6)	0.4
Yemen	☆☆☆☆☆	1450 (1040 to 1860)	8.9 (6.5 to 12.3)	4.2 (2.8 to 6)	6.5 (4.9 to 8.3)	12.8 (-12.8 to 63.7)	0.5	77000 (54600 to 99900)	407.1 (282.3 to 565.6)	189.4 (118.4 to 278.7)	298.9 (213.4 to 380.9)	8.7 (-18 to 8.5)	0.5
South Asia		252000 (214000 to 273000)	18.2 (12.7 to 20.2)	15.4 (11.2 to 13.9)	18.2 (12.9 to 16.6)	-17.5 (-25.8 to -3.2)	0.7	12600000 (10900000 to 13700000)	782.9 (562.1 to 868.9)	626.6 (556.1 to 690.5)	704.3 (605.1 to 764.8)	-24 (-30.9 to -23)	0.8
South Asia		252000 (214000 to 273000)	18.2 (12.7 to 20.2)	12.6 (11.2 to 13.9)	15.4 (12.9 to 16.6)	-17.5	0.7	12600000 (10900000 to 13700000)	782.9 (562.1 to 868.9)	626.6 (556.1 to 690.5)	704.3 (605.1 to 764.8)	-24 (-30.9 to -23)	0.8
Bangladesh	★★☆☆☆	11600 (9690 to 13700)	8.9 (6.8 to 10.7)	6.4 (5.1 to 8.2)	7.6 (6.3 to 8.9)	-39.1 (-50.8 to -24.3)	0.7	584000 (487000 to 711000)	339.3 (266.6 to 438.8)	326.2 (253.1 to 422.1)	331.4 (279.1 to 398.6)	-49.7 (-59.8 to -49.6)	1
Bhutan	☆☆☆☆☆	50.3 (37.5 to 66.4)	9.8 (6.9 to 13.4)	3.5 (2.5 to 4.8)	7 (5.4 to 8.9)	-27.2 (-47 to 8.9)	0.4	2330 (1710 to 3240)	396 (270 to 572)	139.3 (96.5 to 199)	280.2 (208.3 to 374.3)	-30.9 (-51.2 to -29.9)	0.4
India	★★☆☆☆	230000 (194000 to 250000)	21.2 (14.6 to 23.6)	14.7 (13.1 to 16.3)	17.9 (15 to 19.4)	-15.2 (-23.7 to -0.3)	0.7	11500000 (9880000 to 12500000)	917 (641.1 to 1021.7)	733.3 (649.9 to 810.7)	797.5 (702.6 to 870.8)	-21 (-28.4 to -19.9)	0.8
Nepal	★☆☆☆☆	2970 (2270 to 3540)	14.2 (9 to 18)	8.5 (7 to 10.3)	11.1 (8.5 to 13.1)	-40.7 (-60.4 to 16.4)	0.6	152000 (117000 to 183000)	630.1 (394.1 to 803.3)	409.3 (328.6 to 503.9)	509.7 (388.1 to 611.8)	-49.9 (-46.9 to -27.4)	0.6
Pakistan	★☆☆☆☆	7040 (5650 to 8720)	3.9 (2.8 to 5.2)	3.7 (2.8 to 4.9)	3.8 (3.1 to 4.7)	0.7 (-24.1 to 34.2)	0.9	388000 (309000 to 463000)	186.7 (133.1 to 251.7)	194.4 (140.7 to 256.8)	190.2 (152.4 to 235.8)	0.1 (-26.1 to 0.6)	1
Sub-Saharan Africa		60900 (53700 to 70600)	16.8 (14.4 to 19.7)	6.8 (5.7 to 8)	11.5 (10.1 to 13.1)	-7.6 (-23 to 3.5)	0.4	2240000 (1900000 to 3e+06)	536.8 (457.9 to 654)	199.9 (168.4 to 234.8)	364.1 (321.5 to 422.7)	-12.1 (-23 to -0.4)	0.4
Central Sub-Saharan Africa		6630 (5880 to 8700)	16.5 (11.6 to 22.5)	5.9 (5 to 7.1)	10.6 (8.5 to 14)	-2.3 (-21.4 to 17.4)	0.4	275000 (208000 to 374000)	532.4 (370.4 to 747.5)	180.2 (150.9 to 220.7)	351.3 (269 to 462)	-3.5 (-24.1 to -4.1)	0.4
Angola	★☆☆☆☆	1230 (896 to 1740)	15.3 (11.3 to 21.2)	6.6 (4.6 to 9.2)	10.6 (8 to 14.5)	-36.6 (-36.6 to 37)	0.3	51200 (36300 to 75100)	457.3 (328.8 to 683.8)	202 (139 to 289.7)	447.3 (236.1 to 456.6)	-17 (-41.8 to -15.7)	0.4
Central African Republic	☆☆☆☆☆	462 (276 to 671)	23.8 (12.7 to 36.1)	6.9 (4.4 to 10.2)	14.8 (9 to 21)	5.9 (-20.9 to 41.4)	0.3	19200 (11300 to 28400)	801.8 (425.8 to 1250.5)	222.8 (137.8 to 341)	502.2 (295.8 to 736.4)	6.8 (-20.9 to 7.9)	0.3
Congo	☆☆☆☆☆	292 (198 to 430)	14.9 (9 to 23.6)	7 (4.8 to 10)	10.8 (7.4 to 15.5)	-28 (-50.2 to 12.8)	0.5	11600 (7700 to 18000)	473.6 (274.3 to 771.5)	222.3 (148.2 to 329.6)	346.6 (232.3 to 515.7)	-28 (-52.5 to -27.1)	0.5
Democratic Republic of the Congo	★☆☆☆☆	4460 (3190 to 6020)	16.7 (10.5 to 23.5)	5.6 (4.5 to 7.1)	10.8 (7.8 to 14)	-4.7 (-15.7 to 25.8)	0.3	187000 (131000 to 257000)	542.6 (343.6 to 779.6)	168.4 (135.5 to 211.1)	350.5 (248.4 to 473)	-3 (-18.9 to 3)	0.3
Equatorial Guinea	☆☆☆☆☆	48.9 (27 to 79.9)	14.1 (7.4 to 22.7)	4.8 (2.4 to 8.9)	9.5 (5.4 to 15)	-39.6 (-67.4 to 9.9)	0.3	1890 (1010 to 3150)	416.8 (210.7 to 718)	148.6 (69.4 to 277.6)	287.9 (160 to 476.2)	-47.9 (-71.8 to -46.1)	0.4
Gabon	☆☆☆☆☆	127 (88.1 to 182)	16.5 (9.9 to 25.5)	5.6 (4 to 7.6)	10.8 (7.6 to 15.2)	-16.8 (-44.7 to 25.7)	0.3	4760 (3230 to 6970)	516.1 (305 to 828.6)	170.2 (117.5 to 242.4)	343.3 (235.9 to 504.7)	-18.1 (-46.9 to -18)	0.4
Eastern Sub-Saharan Africa		24200 (21500 to 27500)	18.7 (15.8 to 22.1)	7 (5.9 to 8.2)	12.5 (11.1 to 14.1)	-26.5 (-26.5 to 2.3)	0.4	969000 (848000 to 1110000)	557 (464.5 to 665.8)	203.8 (172.4 to 236.9)	443.4 (330.1 to 425.2)	-29.1 (to -6.9)	0.4
Burundi	★☆☆☆☆	821 (636 to 1030)	21.5 (15.6 to 29.7)	8.5 (6.1 to 11.5)	14.6 (11.4 to 18.3)	-33.8 (-50.2 to 8.2)	0.4	26000 (26000 to 43000)	647 (461 to 900.1)	260.1 (153.2 to 399.5)	447.4 (345.9 to 563.3)	-35.4 (-51.6 to -34.9)	0.4
Comoros	☆☆☆☆☆	39 (24 to 76.5)	13.7 (7.3 to 29.9)	4.8 (2.2 to 7.4)	9.5 (5.4 to 17.1)	-0.5 (-27.5 to 33.6)	0.4	1630 (984 to 3160)	399.5 (219.1 to 907.6)	153.2 (69.5 to 239.9)	273.4 (167.5 to 536.5)	-6.3 (-31 to -3)	0.4
Djibouti	☆☆☆☆☆	40.1 (23.4 to 71)	10.2 (5.6 to 19.9)	6.7 (1.6 to 6.2)	10.2 (4 to 11.8)	-28.3 (-28.3 to 50.8)	0.3	1570 (907 to 2780)	309.9 (166.1 to 613.7)	207.1 (43.9 to 186.6)	201.1 (120.8 to 366)	1.7 (-30.6 to 4.3)	0.3
Eritrea	☆☆☆☆☆	353 (286 to 431)	20.1 (15.6 to 25.5)	7.5 (5.9 to 9.3)	12.9 (10.6 to 15.5)	-20.9 (-40.3 to 16.5)	0.4	15100 (12000 to 18600)	613.9 (470.2 to 781.3)	225.5 (174.1 to 284)	408.3 (331.5 to 497.2)	-21.5 (-42.5 to -21.8)	0.4
Ethiopia	★★☆☆☆	6980 (5540 to 8620)	19.6 (14.6 to 25.1)	6.5 (4.9 to 8.4)	12.9 (10.1 to 15.5)	-29.4 (-47 to 3.8)	0.3	279000 (219000 to 344000)	583.7 (426.4 to 760.6)	201.4 (149.5 to 263.3)	386.6 (304.9 to 475)	-33.5 (-50.4 to -32.7)	0.3
Kenya	★☆☆☆☆	2110 (1660 to 2650)	15.7 (11.6 to 19.4)	3.5 (2.5 to 4.6)	9 (7.1 to 11.1)	-17.4 (-17.4 to 48.6)	0.2	83700 (65000 to 107000)	435.8 (328.9 to 567.1)	95.4 (71.5 to 133.1)	207.4 (207.4 to 332.1)	9.9 (-1.9 to 7.8)	0.2
Madagascar	★☆☆☆☆	1430 (1110 to 1800)	16.2 (12 to 21.4)	5.5 (3.8 to 7.5)	10.6 (8.3 to 13.1)	-12.5 (-32.8 to 16.7)	0.3	59300 (45000 to 76000)	500.2 (353.8 to 673.7)	173.7 (122.5 to 235.3)	332.7 (256.9 to 355.3)	-13.8 (-35.7 to -13)	0.3
Malawi	★☆☆☆☆	1070 (821 to 1370)	20.4 (15.4 to 26.9)	5.7 (3.8 to 7.6)	12.4 (9.8 to 15.6)	-16.1 (-20.3 to 54.3)	0.3	42700 (31600 to 55200)	597.7 (431.6 to 795.9)	164.6 (108.6 to 222.4)	371.1 (282.7 to 475.8)	-14.9 (-23.5 to 9.3)	0.2
Mozambique	★☆☆☆☆	1870 (1430 to 2340)	22 (16.5 to 28.1)	5.2 (3.8 to 6.9)	12.5 (9.9 to 15.5)	-28.4 (-28.4 to 22)	0.3	75800 (56600 to 99900)	666.3 (472.7 to 873.5)	156.8 (117.3 to 204.9)	390.1 (297.5 to 490.6)	-43.2 (-32.4 to -11.1)	0.2
Rwanda	★☆☆☆☆	698 (543 to 901)	17.9 (13.3 to 24.6)	6.9 (4.9 to 9.1)	11.5 (9 to 14.5)	-39.8 (-55.2 to -12)	0.4	28100 (21600 to 36900)	506.6 (365 to 725.1)	202.5 (144.6 to 272.3)	336.6 (260.9 to 443.4)	-57.5 (-41.2)	0.4
Somalia	☆☆☆☆☆	512 (338 to 774)	11.8 (7.3 to 21.4)	7.6 (4.6 to 11.6)	9.5 (6.3 to 14.5)	-2.9 (-23.6 to 24.8)	0.6	24500 (13800 to 31600)	365.6 (223.8 to 659.6)	234.7 (140.9 to 368.5)	295.7 (193.9 to 448.5)	-4.3 (-26.2 to -3.4)	0.7
South Sudan	☆☆☆☆☆	455 (264 to 766)	9 (5.2 to 17.6)	4.8 (2.5 to 7.3)	6.8 (4 to 11.3)	-19 (-19 to 43)	0.5	17700 (10100 to 31600)	265.8 (146 to 531)	142.4 (74.1 to 220.7)	202.6 (116.2 to 341.7)	-21.5 (-21.5 to 6.6)	0.5
Tanzania	★☆☆☆☆	3120 (2550 to 3900)	17.3 (13.5 to 22.3)	5.9 (4.3 to 7.7)	11.4 (9.3 to 14)	-4.1 (-24.7 to 34.4)	0.3	124000 (99100 to 156000)	516.2 (395.7 to 677)	173.9 (124.7 to 231.3)	341 (277.8 to 426.5)	-8.6 (-22.7 to -4.7)	0.3
Uganda	★☆☆☆☆	3320 (2680 to 4030)	18.7 (17.3 to 28.1)	12.7 (12.7 to 25.5)	20.6 (16 to 25.1)	-16.1 (-33.1 to 12.3)	0.8	130000 (105000 to 159000)	675.3 (527.6 to 852.2)	471.3 (328.8 to 647.4)	574.9 (463 to 703.3)	-14.9 (-32.5 to -14.1)	0.7
Zambia	★☆☆☆☆	1380 (1050 to 1980)	28.4 (19.7 to 37.1)	8.6 (4.9 to 12.4)	17.7 (13.4 to 22.8)	5.2 (5.2 to 28.7)	0.3	56200 (40000 to 73600)	851.4 (585.9 to 1156.8)	616 (149.1 to 393.1)	545 (410.2 to 713.8)	66.2 (5.9 to 63)	0.3
Southern Sub-Saharan Africa		10900 (9570 to 13200)	26.1 (21.9 to 31.6)	7.8 (6.7 to 9.9)	16.3 (14.3 to 19.3)	-10.8 (-25 to 19.1)	0.3	442000 (423000 to 510000)	1056.5 (896.2 to 1341.8)	296.1	664.1	-17.2	
Botswana	☆☆☆☆☆	346 (152 to 563)	29.1 (13.5 to 48.2)	6.9 (1.6 to 13.5)	17.6 (8 to 27.6)	-10.5 (-46.5 to 85.3)	0.2	16500 (7050 to 27100)	1200.1 (522.8 to 1986.4)	296.1 (54.6 to 540.9)	726.2 (319.1 to 1177.8)	-8 (-47.8 to 8.5)	0.2
Lesotho	☆☆☆☆☆	566 (384 to 817)	40.2 (25.6 to 60.1)	35.3 (16.8 to 54.7)	39 (25.5 to 55.7)	-8.5 (-8.5 to 104.2)	0.2	23300 (17300 to 36800)	1692.3 (1081.2 to 2534)	1084.6 (488.6 to 1787.7)	1413.2 (949.9 to 2065.9)	43.8 (-6.1 to 45.4)	0.6
Namibia	☆☆☆☆☆	255 (161 to 360)	24 (17 to 34.9)	3.8 (1.4 to 6.5)	13 (9 to 18)	-18.9 (-44.2 to 13)	0.2	12400 (7630 to 17800)	980.6 (675.6 to 1465.1)	137.4 (58.4 to 762.6)	537.1 (366.1 to 762.6)	-18.3 (-44.9 to -18.7)	0.1
South Africa	★★☆☆☆	7370 (6130 to 8380)	22.7 (18.6 to 26.2)	6.6 (5.6 to 7.6)	14.2 (12 to 16.1)	-38.4 (-38.4 to -4.2)	0.3	356000 (291000 to 410000)	977.9 (771.1 to 1140.6)	292.7 (240.7 to 343.5)	620.4 (516.7 to 717.1)	-28.9 (-41.5 to -28.7)	0.3
Swaziland	★☆☆☆☆	185 (117 to 271)	31.4 (20.1 to 46)	7.3 (3 to 13.5)	18.7 (11.7 to 27)	22.2 (-16.1 to 72.7)	0.2	9250 (5950 to 13400)	1320.9 (848.7 to 1920.9)	271.2 (101.3 to 535.1)	783 (491 to 1161.3)	27.7 (-12.9 to 20.9)	0.2
Zimbabwe	★★☆☆☆	2200 (1630 to 3570)	43.2 (30.4 to 59.8)	14 (9.7 to 18.7)	27.8 (21.1 to 37.2)	96.2 (30.7 to 268.4)	0.3	90700 (64500 to 172000)	1383.3 (937.6 to 2360.2)	334.1 (220.3 to 464.1)	839.9 (619.5 to 1335.2)	87.7 (23.1 to 90.6)	0.2
Western Sub-Saharan Africa		19100 (15800 to 24900)	12.6 (10.2 to 17.1)	6.7 (4.8 to 8.9)	9.6 (7.9 to 12.3)	4.3 (-10.4 to 20.7)	0.5	783000 (644000 to 1020000)	397.1 (316.9 to 543.2)	182 (133.9 to 240.8)	288.9 (238.1 to 375.7)	-3.8 (-10.5 to 4.4)	0.5
Benin	★☆☆☆☆	847 (672 to 1020)	15.2 (15.2 to 25.4)	6.2 (6.2 to 10.4)	11.1 (11.1 to 16.4)	8.2 (-0.5 to 52.8)	0.4	35500 (28800 to 43700)	672.6 (495.3 to 848.7)	274.8 (175.5 to 286.3)	444.3 (352.4 to 537.5)	24 (-3.2 to 23)	0.3
Burkina Faso	★☆☆☆☆	1170 (998 to 1420)	19.5 (15.7 to 23.8)	7.9 (6.5 to 9.5)	12.9 (11.1 to 15.1)	-4.3 (-19.8 to 17.5)	0.4	50200 (42200 to 62900)	593.7 (485 to 762.5)	246.3 (202.3 to 296.6)	408.6 (350.2 to 492.6)	-2.9 (-18.6 to -2.4)	0.4
Cameroon	☆☆☆☆☆	2180 (1640 to 2800)	23.6 (16.3 to 29.9)	10.7 (7 to 15)	16.9 (13 to 21.2)	37.6 (4.9 to 76.8)	0.5	66200 (66200 to 117000)	780.8 (540.6 to 1017.2)	297.4 (192.4 to 420.8)	399.3 (296.6 to 616.6)	33.3 (2.5 to 37.7)	0.4
Cape Verde	★★☆☆☆	88.9 (65 to 107)	36.2 (26.9 to 45.7)	5 (5 to 7.9)	28.1 (15.6 to 24.5)	33.3 (0 to 76.6)	0.2	3590 (2600 to 4750)	1349.8 (935.2 to 1724.1)	143.1 (143.1 to 231.5)	543.2 (543.2 to 927.2)	34.3 (-1 to 34.4)	0.1
Chad	☆☆☆☆☆	642 (448 to 929)	11.1 (7.6 to 18)	8.9 (5.2 to 13)	10 (6.9 to 14.5)	14.5 (-7.6 to 42.4)	0.8	26400 (16600 to 38400)	365.9 (249.9 to 588.1)	234.3 (139.8 to 333.3)	300.7 (208.1 to 436.3)	12.1 (-4.1 to 13.8)	0.6
Cote d'Ivoire	★☆☆☆☆	2050 (1690 to 2510)	24.4 (19.8 to 29.8)	7.9 (6 to 10.5)	16.6 (13.8 to 19.9)	17.6 (-5.8 to 49.1)	0.3	68300 (68300 to 105000)	778.1 (618.9 to 983.7)	235.1 (177.5 to 315.9)	427.1 (336.2 to 567.9)	24.7 (-8.7 to 15.6)	0.5
The Gambia	★☆☆☆☆	70 (50.4 to 109)	7.5 (6.2 to 17.6)	5.4 (4.1 to 6.9)	7.5 (5.5 to 11.5)	30.7 (-21 to 30.5)	0.5	3072 (2970 to 4730)	477.4 (192.3 to 565.5)	147.4 (112.2 to 187.3)	224.7 (162.6 to 350.1)	-1.8 (-22.8 to -0.2)	0.5
Ghana	★☆☆☆☆	1400 (1140 to 1700)	15.7 (12.3 to 19)	2.3 (1.8 to 2.8)	8.4 (6.7 to 10)	30.4 (-6.7 to 47.8)	0.1	57800 (46400 to 71100)	477.4 (373.5 to 595.7)	74.5 (58.4 to 94.2)	266.6 (217.3 to 324.3)	7.8 (-13.5 to 8.5)	0.2
Guinea	★☆☆☆☆	671 (457 to 988)	11.8 (7.6 to 19.5)	7.6 (4.8 to 10.6)	9.7 (6.6 to 14.1)	30.4 (1.1 to 61.8)	0.6	27100 (18700 to 40800)	384 (248.5 to 646.1)	212 (137.7 to 291.8)	297.9 (203.8 to 439.7)	30.5 (0.4 to 30.6)	0.6

Guinea-Bissau	★☆☆☆☆	137 (99.5 to 202)	16.3 (11.2 to 26.2)	9.1 (6.2 to 12.6)	12.5 (9.1 to 18.2)	16.4 (-8.8 to 51.9)	0.6	5720 (4100 to 8570)	558.8 (386.2 to 908.9)	266.4 (181.2 to 374.4)	410.4 (296.4 to 604)	12.7 (-11.5 to 13.5)	0.5
Liberia	★☆☆☆☆	381 (305 to 455)	15.8 (11.6 to 19.4)	17 (12.5 to 21.5)	16.5 (13.3 to 19.6)	45.9 (17 to 78.4)	1.1	14400 (11500 to 17300)	497.2 (362.4 to 621.2)	446.9 (331.4 to 562.9)	475.4 (378.9 to 569.7)	39.7 (11.3 to 39)	0.9
Mali	★☆☆☆☆	511 (331 to 874)	8.6 (5.1 to 17)	3.5 (2.2 to 5.2)	6 (3.9 to 10.1)	-5.6 (-29.5 to 37.8)	0.4	22100 (14400 to 37700)	269.5 (154.8 to 537.1)	106.6 (66.5 to 155.4)	186.5 (120.2 to 320.7)	-13.4 (-34.4 to -9.7)	0.4
Mauritania	☆☆☆☆☆	133 (73.7 to 265)	8.3 (4.2 to 18.4)	3.3 (1.8 to 5.1)	5.6 (3.3 to 10.6)	-11.9 (-40.3 to 26.9)	0.4	5440 (2820 to 11300)	255 (112.2 to 593.8)	96.8 (50.3 to 154.8)	174.1 (95.6 to 350.4)	-21.4 (-47.8 to -16.3)	0.4
Niger	★☆☆☆☆	752 (496 to 1230)	10.2 (6.3 to 19)	5.8 (3.3 to 8.8)	7.9 (5.2 to 12.9)	14.4 (-12.5 to 50.7)	0.6	30700 (20100 to 50700)	330.9 (198.2 to 616.4)	162.2 (91.2 to 243.8)	245.7 (161.2 to 404.8)	7.7 (-16.6 to 10.6)	0.5
Nigeria	★☆☆☆☆	6090 (3830 to 10300)	7.4 (3.8 to 14.6)	6.5 (3.2 to 11)	7 (4.4 to 11.5)	-15.9 (-38.3 to 11.5)	0.9	244000 (153000 to 420000)	232.3 (113.6 to 459.9)	162.5 (79.3 to 275.5)	198.5 (124.2 to 334.9)	-17 (-39.4 to -15.2)	0.7
Sao Tome and Principe	★☆☆☆☆	3.76 (2.56 to 5.16)	4.3 (2.6 to 6.3)	1.8 (1.3 to 2.4)	3 (2.2 to 4)	12.8 (-18.5 to 52.3)	0.4	176 (113 to 247)	165.1 (90.6 to 245.9)	60.8 (39.9 to 84.6)	111.9 (76.2 to 155.5)	9.3 (-23.5 to 9.5)	0.4
Senegal	★☆☆☆☆	1040 (882 to 1280)	21.8 (17.3 to 26.6)	7 (5.7 to 8.8)	13.6 (11.4 to 16)	17.9 (-2.3 to 44)	0.3	41700 (34800 to 54200)	647.1 (521.4 to 832.1)	203.5 (163.4 to 255.3)	408 (345.4 to 501)	15.4 (-5 to 15.8)	0.3
Sierra Leone	★☆☆☆☆	334 (248 to 473)	11.4 (7.8 to 18.3)	8.2 (5.7 to 11.4)	9.8 (7.2 to 13.7)	39.6 (10.5 to 71)	0.7	14100 (10400 to 20200)	377.7 (253.7 to 614.1)	234.7 (168 to 324)	305.1 (225.2 to 431.3)	35.6 (6.1 to 35.6)	0.6
Togo	☆☆☆☆☆	645 (502 to 797)	23.1 (16.8 to 29.2)	8.7 (6.6 to 11)	15.5 (12.3 to 18.9)	29.4 (0.4 to 64.3)	0.4	28000 (21500 to 35100)	792.7 (561.4 to 1012)	247.8 (189.5 to 314.7)	511 (398.3 to 629.8)	31.4 (0 to 30.9)	0.3

SR Table 2. Number of location years of data by source type for fatal self-harm (suicide) data

Location	Data Source Type	
	Vital registration	Other
China	106562	0
North Korea	0	0
Taiwan	1472	0
Cambodia	0	79
Indonesia	0	1752
Laos	0	0
Malaysia	1106	0
Maldives	169	0
Mauritius	3320	0
Myanmar	0	17
Philippines	2440	0
Sri Lanka	1000	0
Seychelles	749	0
Thailand	600	120
Timor-Leste	0	0
Vietnam	0	128
American Samoa	1686	0
Federated States of Micronesia	0	0
Fiji	1240	0
Guam	2253	0
Kiribati	682	0
Marshall Islands	0	0
Northern Mariana Islands	1575	0
Papua New Guinea	0	0
Samoa	0	0
Solomon Islands	0	0
Tonga	40	0
Vanuatu	0	0
Armenia	1480	0
Azerbaijan	1000	0
Georgia	1880	0
Kazakhstan	1520	0
Kyrgyzstan	2582	0
Mongolia	4	0
Tajikistan	920	0
Turkmenistan	1240	0
Uzbekistan	1800	0
Albania	2139	0
Bosnia and Herzegovina	476	0
Bulgaria	3280	0
Croatia	3600	0
Czech Republic	3588	0

Country	Value	Value2
Hungary	4317	0
Macedonia	2600	0
Montenegro	840	0
Poland	2495	0
Romania	2800	0
Serbia	2160	0
Slovakia	2640	0
Slovenia	3408	0
Belarus	1080	0
Estonia	2960	0
Latvia	2920	0
Lithuania	3080	0
Moldova	2920	0
Russia	0	0
Ukraine	1240	0
Brunei	1079	0
Japan	191535	0
South Korea	2680	0
Singapore	2786	0
Australia	4200	0
New Zealand	4200	0
Andorra	0	0
Austria	4120	0
Belgium	3800	0
Cyprus	1317	0
Denmark	3080	0
Finland	2920	0
France	4080	0
Germany	3000	0
Greece	3160	0
Iceland	3652	0
Ireland	4000	0
Israel	2976	0
Italy	3720	0
Luxembourg	4039	0
Malta	4170	0
Netherlands	4320	0
Norway	3720	0
Portugal	3960	0
Spain	4200	0
Sweden	8637	0
Switzerland	2880	0
United Kingdom	625110	0
Argentina	2840	0
Chile	2800	0
Uruguay	2760	0
Canada	3480	0

Greenland	2244	0
United States	217004	0
Antigua and Barbuda	1991	0
The Bahamas	2237	0
Barbados	2305	0
Belize	2720	0
Bermuda	2630	0
Cuba	2772	0
Dominica	2591	0
Dominican Republic	2600	0
Grenada	2222	0
Guyana	2372	0
Haiti	0	0
Jamaica	1667	0
Puerto Rico	0	0
Saint Lucia	2679	0
Saint Vincent and the Grenadines	2462	0
Suriname	2760	0
Trinidad and Tobago	2200	0
Virgin Islands, U.S.	2263	0
Bolivia	0	0
Ecuador	2920	0
Peru	1640	0
Colombia	4080	0
Costa Rica	2840	0
El Salvador	2440	0
Guatemala	2480	0
Honduras	120	0
Mexico	138120	0
Nicaragua	2360	0
Panama	2520	0
Venezuela	2680	0
Brazil	100515	0
Paraguay	2840	0
Afghanistan	0	40
Algeria	0	0
Bahrain	1960	0
Egypt	8	0
Iran	800	0
Iraq	120	0
Jordan	960	0
Kuwait	2800	0
Lebanon	0	0
Libya	0	0
Morocco	0	0
Palestine	1360	0

Oman	40	0
Qatar	1560	0
Saudi Arabia	8536	0
Sudan	0	0
Syria	560	0
Tunisia	0	0
Turkey	600	47
United Arab Emirates	0	61
Yemen	0	0
Bangladesh	0	1793
Bhutan	0	40
India	81	912
Nepal	0	0
Pakistan	0	35
Angola	0	40
Central African Republic	0	0
Congo	0	0
Democratic Republic of the Congo	0	0
Equatorial Guinea	0	0
Gabon	0	0
Burundi	0	0
Comoros	0	0
Djibouti	0	0
Eritrea	0	0
Ethiopia	0	177
Kenya	0	1000
Madagascar	0	0
Malawi	0	376
Mozambique	0	120
Rwanda	0	0
Somalia	0	0
South Sudan	0	0
Tanzania	0	120
Uganda	0	0
Zambia	80	0
Botswana	0	0
Lesotho	0	0
Namibia	0	0
South Africa	18760	1300
Swaziland	0	0
Zimbabwe	110	0
Benin	0	0
Burkina Faso	0	167
Cameroon	0	0
Cape Verde	244	0
Chad	0	0

Cote d'Ivoire	0	20
The Gambia	0	20
Ghana	202	328
Guinea	0	0
Guinea-Bissau	0	0
Liberia	0	0
Mali	0	0
Mauritania	0	0
Niger	0	0
Nigeria	0	0
Sao Tome and Principe	40	0
Senegal	0	40
Sierra Leone	0	0
Togo	0	0

Cause	Sex	Age start	Age end	Direction	Covariate
SR Table 3. CODEm covariates used in suicide death estimation and expected direction of covariate by sex, and age					
Self-harm and interpersonal violence	Female	0-6 days	95+ years	1	Alcohol (liters per capita)
Self-harm and interpersonal violence	Female	0-6 days	95+ years	-1	Education (years per capita)
Self-harm and interpersonal violence	Female	0-6 days	95+ years	0	LDI (I$ per capita)
Self-harm and interpersonal violence	Female	0-6 days	95+ years	0	Elevation Over 1500m (proportion)
Self-harm and interpersonal violence	Female	0-6 days	95+ years	0	Population Density (over 1000 ppl/sqkm, proportion)
Self-harm and interpersonal violence	Female	0-6 days	95+ years	0	Population Density (under 150 ppl/sqkm, proportion)
Self-harm and interpersonal violence	Female	0-6 days	95+ years	0	Elevation Under 100m (proportion)
Self-harm and interpersonal violence	Female	0-6 days	95+ years	1	Log-transformed SEV scalar: Oth Unint
Self-harm and interpersonal violence	Female	0-6 days	95+ years	1	Healthcare access and quality index
Self-harm and interpersonal violence	Male	0-6 days	95+ years	1	Alcohol (liters per capita)
Self-harm and interpersonal violence	Male	0-6 days	95+ years	-1	Education (years per capita)
Self-harm and interpersonal violence	Male	0-6 days	95+ years	0	LDI (I$ per capita)
Self-harm and interpersonal violence	Male	0-6 days	95+ years	0	Elevation Over 1500m (proportion)
Self-harm and interpersonal violence	Male	0-6 days	95+ years	0	Population Density (over 1000 ppl/sqkm, proportion)
Self-harm and interpersonal violence	Male	0-6 days	95+ years	0	Population Density (under 150 ppl/sqkm, proportion)
Self-harm and interpersonal violence	Male	0-6 days	95+ years	0	Elevation Under 100m (proportion)
Self-harm and interpersonal violence	Male	0-6 days	95+ years	1	Log-transformed SEV scalar: Oth Unint
Self-harm and interpersonal violence	Male	0-6 days	95+ years	1	Healthcare access and quality index
Self-harm	Female	10-14 years	95+ years	1	Alcohol (liters per capita)
Self-harm	Female	10-14 years	95+ years	0	Education (years per capita)
Self-harm	Female	10-14 years	95+ years	0	LDI (I$ per capita)
Self-harm	Female	10-14 years	95+ years	0	Population Density (150-300 ppl/sqkm, proportion)
Self-harm	Female	10-14 years	95+ years	0	Population Density (300-500 ppl/sqkm, proportion)
Self-harm	Female	10-14 years	95+ years	0	Population Density (500-1000 ppl/sqkm, proportion)
Self-harm	Female	10-14 years	95+ years	0	Population Density (over 1000 ppl/sqkm, proportion)
Self-harm	Female	10-14 years	95+ years	0	Population Density (under 150 ppl/sqkm, proportion)

Self-harm	Female	10-14 years	95+ years	-1	Religion (binary, >50% Muslim)
Self-harm	Female	10-14 years	95+ years	1	Log-transformed SEV scalar: Self Harm
Self-harm	Female	10-14 years	95+ years	0	Socio-demographic Index
Self-harm	Female	10-14 years	95+ years	1	Major depressive disorder
Self-harm	Female	10-14 years	95+ years	-1	Healthcare access and quality index
Self-harm	Male	10-14 years	95+ years	1	Alcohol (liters per capita)
Self-harm	Male	10-14 years	95+ years	0	Education (years per capita)
Self-harm	Male	10-14 years	95+ years	0	LDI (I$ per capita)
Self-harm	Male	10-14 years	95+ years	0	Population Density (150-300 ppl/sqkm, proportion)
Self-harm	Male	10-14 years	95+ years	0	Population Density (300-500 ppl/sqkm, proportion)
Self-harm	Male	10-14 years	95+ years	0	Population Density (500-1000 ppl/sqkm, proportion)
Self-harm	Male	10-14 years	95+ years	0	Population Density (over 1000 ppl/sqkm, proportion)
Self-harm	Male	10-14 years	95+ years	0	Population Density (under 150 ppl/sqkm, proportion)
Self-harm	Male	10-14 years	95+ years	-1	Religion (binary, >50% Muslim)
Self-harm	Male	10-14 years	95+ years	0	Socio-demographic Index
Self-harm	Male	10-14 years	95+ years	-1	Healthcare access and quality index
Self-harm by firearm	Female	10-14 years	95+ years	1	Alcohol (liters per capita)
Self-harm by firearm	Female	10-14 years	95+ years	0	Education (years per capita)
Self-harm by firearm	Female	10-14 years	95+ years	0	LDI (I$ per capita)
Self-harm by firearm	Female	10-14 years	95+ years	0	Population Density (150-300 ppl/sqkm, proportion)
Self-harm by firearm	Female	10-14 years	95+ years	0	Population Density (300-500 ppl/sqkm, proportion)
Self-harm by firearm	Female	10-14 years	95+ years	0	Population Density (500-1000 ppl/sqkm, proportion)
Self-harm by firearm	Female	10-14 years	95+ years	0	Population Density (over 1000 ppl/sqkm, proportion)
Self-harm by firearm	Female	10-14 years	95+ years	0	Population Density (under 150 ppl/sqkm, proportion)
Self-harm by firearm	Female	10-14 years	95+ years	-1	Religion (binary, >50% Muslim)
Self-harm by firearm	Female	10-14 years	95+ years	1	Log-transformed SEV scalar: Self Harm
Self-harm by firearm	Female	10-14 years	95+ years	0	Socio-demographic Index
Self-harm by firearm	Female	10-14 years	95+ years	1	Major depressive disorder
Self-harm by firearm	Female	10-14 years	95+ years	-1	Healthcare access and quality index

Self-harm by firearm	Male	10-14 years	95+ years	1	Alcohol (liters per capita)
Self-harm by firearm	Male	10-14 years	95+ years	0	Education (years per capita)
Self-harm by firearm	Male	10-14 years	95+ years	0	LDI (I$ per capita)
Self-harm by firearm	Male	10-14 years	95+ years	0	Population Density (150-300 ppl/sqkm, proportion)
Self-harm by firearm	Male	10-14 years	95+ years	0	Population Density (300-500 ppl/sqkm, proportion)
Self-harm by firearm	Male	10-14 years	95+ years	0	Population Density (500-1000 ppl/sqkm, proportion)
Self-harm by firearm	Male	10-14 years	95+ years	0	Population Density (over 1000 ppl/sqkm, proportion)
Self-harm by firearm	Male	10-14 years	95+ years	0	Population Density (under 150 ppl/sqkm, proportion)
Self-harm by firearm	Male	10-14 years	95+ years	-1	Religion (binary, >50% Muslim)
Self-harm by firearm	Male	10-14 years	95+ years	1	Log-transformed SEV scalar: Self Harm
Self-harm by firearm	Male	10-14 years	95+ years	0	Socio-demographic Index
Self-harm by firearm	Male	10-14 years	95+ years	1	Major depressive disorder
Self-harm by firearm	Male	10-14 years	95+ years	-1	Healthcare access and quality index
Self-harm by other specified means	Female	10-14 years	95+ years	1	Alcohol (liters per capita)
Self-harm by other specified means	Female	10-14 years	95+ years	0	Education (years per capita)
Self-harm by other specified means	Female	10-14 years	95+ years	0	LDI (I$ per capita)
Self-harm by other specified means	Female	10-14 years	95+ years	0	Population Density (150-300 ppl/sqkm, proportion)
Self-harm by other specified means	Female	10-14 years	95+ years	0	Population Density (300-500 ppl/sqkm, proportion)
Self-harm by other specified means	Female	10-14 years	95+ years	0	Population Density (500-1000 ppl/sqkm, proportion)
Self-harm by other specified means	Female	10-14 years	95+ years	0	Population Density (over 1000 ppl/sqkm, proportion)
Self-harm by other specified means	Female	10-14 years	95+ years	0	Population Density (under 150 ppl/sqkm, proportion)
Self-harm by other specified means	Female	10-14 years	95+ years	-1	Religion (binary, >50% Muslim)
Self-harm by other specified means	Female	10-14 years	95+ years	1	Log-transformed SEV scalar: Self Harm
Self-harm by other specified means	Female	10-14 years	95+ years	0	Socio-demographic Index
Self-harm by other specified means	Female	10-14 years	95+ years	1	Major depressive disorder
Self-harm by other specified means	Female	10-14 years	95+ years	-1	Healthcare access and quality index
Self-harm by other specified means	Male	10-14 years	95+ years	1	Alcohol (liters per capita)
Self-harm by other specified means	Male	10-14 years	95+ years	0	Education (years per capita)
Self-harm by other specified means	Male	10-14 years	95+ years	0	LDI (I$ per capita)

Self-harm by other specified means	Male	10-14 years	95+ years	0	Population Density (150-300 ppl/sqkm, proportion)
Self-harm by other specified means	Male	10-14 years	95+ years	0	Population Density (300-500 ppl/sqkm, proportion)
Self-harm by other specified means	Male	10-14 years	95+ years	0	Population Density (500-1000 ppl/sqkm, proportion)
Self-harm by other specified means	Male	10-14 years	95+ years	0	Population Density (over 1000 ppl/sqkm, proportion)
Self-harm by other specified means	Male	10-14 years	95+ years	0	Population Density (under 150 ppl/sqkm, proportion)
Self-harm by other specified means	Male	10-14 years	95+ years	-1	Religion (binary, >50% Muslim)
Self-harm by other specified means	Male	10-14 years	95+ years	1	Log-transformed SEV scalar: Self Harm
Self-harm by other specified means	Male	10-14 years	95+ years	0	Socio-demographic Index
Self-harm by other specified means	Male	10-14 years	95+ years	1	Major depressive disorder
Self-harm by other specified means	Male	10-14 years	95+ years	-1	Healthcare access and quality index

SR Table 4. Total number of deaths, mortality rate per 100,000, total years of life lost (YLL) and YLL rate per 100,000 by sex and 5-year age group globally in 2016. Values in brackets are 95% uncertainty intervals.

	Deaths				YLLs			
	Number		Rate		Number		Rate	
Age (years)	Female	Male	Female	Male	Female	Male	Female	Male
10 to 14	3443 (2935 to 3973)	4533 (3759 to 5226)	1.2 (1 to 1.3)	1.4 (1.2 to 1.7)	255420 (217752 to 294737)	335984 (278636 to 387405)	86.6 (73.8 to 99.9)	106.3 (88.2 to 122.6)
15 to 19	24269 (21474 to 27295)	25002 (22016 to 28007)	8.5 (7.5 to 9.6)	8.2 (7.2 to 9.2)	1680169 (1486670 to 1889675)	1729132 (1522633 to 1937196)	588.3 (520.5 to 661.7)	566.9 (499.2 to 635.1)
20 to 24	29624 (26668 to 32689)	50088 (44511 to 55363)	10.2 (9.2 to 11.2)	16.2 (14.4 to 17.9)	1907169 (1716876 to 2104513)	3221939 (2863325 to 3561319)	654.6 (589.3 to 722.3)	1041.6 (925.6 to 1151.3)
25 to 29	27970 (25456 to 30465)	57703 (51608 to 64771)	9.3 (8.5 to 10.2)	18.4 (16.4 to 20.6)	1662786 (1513252 to 1811177)	3428497 (3066460 to 3848383)	554.7 (504.8 to 604.2)	1092.5 (977.1 to 1226.3)
30 to 34	20843 (19138 to 22628)	54874 (47900 to 60578)	7.5 (6.9 to 8.2)	19.2 (16.8 to 21.2)	1135371 (1042462 to 1232644)	2988885 (2609217 to 3299609)	410.2 (376.6 to 445.3)	1047.2 (914.2 to 1156.1)
35 to 39	18293 (16984 to 19812)	49900 (42609 to 55900)	7.3 (6.8 to 8)	19.6 (16.7 to 21.9)	906004 (841153 to 981292)	2472196 (2110838 to 2769678)	363.8 (337.8 to 394)	970.2 (828.4 to 1086.9)
40 to 44	16722 (15727 to 17959)	47374 (41752 to 53739)	6.9 (6.5 to 7.5)	19.2 (17 to 21.8)	746156 (701748 to 801313)	2115160 (1864119 to 2399125)	310 (291.5 to 332.9)	859.1 (757.2 to 974.5)
45 to 49	17118 (16154 to 18148)	46515 (40804 to 52243)	7.5 (7 to 7.9)	20.1 (17.6 to 22.5)	681316 (642967 to 722299)	1852518 (1625060 to 2080605)	297.1 (280.4 to 315)	798.6 (700.6 to 897)
50 to 54	17409 (16538 to 18574)	44884 (39328 to 51620)	8.5 (8 to 9)	21.9 (19.2 to 25.2)	610887 (580310 to 651742)	1575656 (1380558 to 1812076)	296.7 (281.9 to 316.5)	768 (672.9 to 883.2)
55 to 59	15165 (14212 to 16252)	41246 (35534 to 47190)	8.6 (8.1 to 9.3)	24.1 (20.8 to 27.6)	461598 (432613 to 494703)	1256677 (1082671 to 1437837)	263.1 (246.6 to 282)	734.7 (633 to 840.6)
60 to 64	15273 (14164 to 16410)	35295 (30261 to 39672)	9.9 (9.2 to 10.7)	24.1 (20.7 to 27.1)	395425 (366725 to 424846)	915132 (784758 to 1028627)	256.8 (238.2 to 276)	625.4 (536.3 to 703)
65 to 69	13688 (12699 to 14778)	29275 (24383 to 33101)	11.6 (10.7 to 12.5)	27.2 (22.6 to 30.7)	293831 (272595 to 317253)	629630 (524501 to 711971)	248.7 (230.7 to 268.5)	584.8 (487.2 to 661.3)
70 to 74	11066 (10234 to 12025)	23192 (19363 to 26089)	13.2 (12.2 to 14.3)	31.7 (26.5 to 35.7)	190582 (176232 to 207083)	400500 (334311 to 450465)	226.6 (209.6 to 246.2)	547.4 (457 to 615.7)
75 to 79	10037 (9221 to 10952)	20561 (16831 to 22931)	15.4 (14.2 to 16.8)	40 (32.7 to 44.6)	133144 (122315 to 145263)	273970 (224236 to 305506)	204.3 (187.7 to 222.9)	533 (436.2 to 594.3)
80 to 84	7857 (7268 to 8474)	15650 (12786 to 17448)	18.6 (17.2 to 20.1)	51.6 (42.1 to 57.5)	76597 (70860 to 82607)	153499 (125320 to 171155)	181.4 (167.8 to 195.6)	505.8 (412.9 to 563.9)
85 to 89	5638 (5279 to 6070)	9477 (7752 to 10475)	22.4 (21 to 24.2)	64.4 (52.7 to 71.2)	38656 (36193 to 41621)	65477 (53547 to 72400)	153.9 (144.1 to 165.7)	444.9 (363.9 to 492)
90 to 94	2483 (2324 to 2665)	3309 (2651 to 3613)	24.3 (22.8 to 26.1)	72.6 (58.2 to 79.3)	11625 (10877 to 12476)	15631 (12518 to 17072)	113.9 (106.6 to 122.2)	342.9 (274.6 to 374.5)
95 plus	727 (677 to 779)	646 (532 to 711)	29.2 (27.2 to 31.3)	80.1 (65.9 to 88.1)	2193 (2043 to 2351)	2005 (1653 to 2204)	88.1 (82 to 94.4)	248.4 (204.7 to 273)

SR Table 5. List of 195 countries and territories and their corresponding 3 letter identifiers used in the GBD study

Location Name	ISO
Afghanistan	AFG
Albania	ALB
Algeria	DZA
American Samoa	ASM
Andorra	AND
Angola	AGO
Antigua and Barbuda	ATG
Argentina	ARG
Armenia	ARM
Australia	AUS
Austria	AUT
Azerbaijan	AZE
Bahrain	BHR
Bangladesh	BGD
Barbados	BRB
Belarus	BLR
Belgium	BEL
Belize	BLZ
Benin	BEN
Bermuda	BMU
Bhutan	BTN
Bolivia	BOL
Bosnia and Herzegovina	BIH
Botswana	BWA
Brazil	BRA
Brunei	BRN
Bulgaria	BGR
Burkina Faso	BFA
Burundi	BDI
Cambodia	KHM
Cameroon	CMR
Canada	CAN
Cape Verde	CPV
Central African Republic	CAF
Chad	TCD
Chile	CHL

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China	CHN
Colombia	COL
Comoros	COM
Congo	COG
Costa Rica	CRI
Cote d'Ivoire	CIV
Croatia	HRV
Cuba	CUB
Cyprus	CYP
Czech Republic	CZE
Democratic Republic of the Congo	COD
Denmark	DNK
Djibouti	DJI
Dominica	DMA
Dominican Republic	DOM
Ecuador	ECU
Egypt	EGY
El Salvador	SLV
Equatorial Guinea	GNQ
Eritrea	ERI
Estonia	EST
Ethiopia	ETH
Federated States of Micronesia	FSM
Fiji	FJI
Finland	FIN
France	FRA
Gabon	GAB
Georgia	GEO
Germany	DEU
Ghana	GHA
Greece	GRC
Greenland	GRL
Grenada	GRD
Guam	GUM
Guatemala	GTM
Guinea	GIN
Guinea-Bissau	GNB

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Guyana	GUY
Haiti	HTI
Honduras	HND
Hungary	HUN
Iceland	ISL
India	IND
Indonesia	IDN
Iran	IRN
Iraq	IRQ
Ireland	IRL
Israel	ISR
Italy	ITA
Jamaica	JAM
Japan	JPN
Jordan	JOR
Kazakhstan	KAZ
Kenya	KEN
Kiribati	KIR
Kuwait	KWT
Kyrgyzstan	KGZ
Laos	LAO
Latvia	LVA
Lebanon	LBN
Lesotho	LSO
Liberia	LBR
Libya	LBY
Lithuania	LTU
Luxembourg	LUX
Macedonia	MKD
Madagascar	MDG
Malawi	MWI
Malaysia	MYS
Maldives	MDV
Mali	MLI
Malta	MLT
Marshall Islands	MHL
Mauritania	MRT

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Mauritius	MUS
Mexico	MEX
Moldova	MDA
Mongolia	MNG
Montenegro	MNE
Morocco	MAR
Mozambique	MOZ
Myanmar	MMR
Namibia	NAM
Nepal	NPL
Netherlands	NLD
New Zealand	NZL
Nicaragua	NIC
Niger	NER
Nigeria	NGA
North Korea	PRK
Northern Mariana Islands	MNP
Norway	NOR
Oman	OMN
Pakistan	PAK
Palestine	PSE
Panama	PAN
Papua New Guinea	PNG
Paraguay	PRY
Peru	PER
Philippines	PHL
Poland	POL
Portugal	PRT
Puerto Rico	PRI
Qatar	QAT
Romania	ROU
Russia	RUS
Rwanda	RWA
Saint Lucia	LCA
Saint Vincent and the Grenadines	VCT
Samoa	WSM
Sao Tome and Principe	STP

SR Table 5. List of 195 countries and territories and their corresponding 3 letter identifiers used in the GBD study

Saudi Arabia	SAU
Senegal	SEN
Serbia	SRB
Seychelles	SYC
Sierra Leone	SLE
Singapore	SGP
Slovakia	SVK
Slovenia	SVN
Solomon Islands	SLB
Somalia	SOM
South Africa	ZAF
South Korea	KOR
South Sudan	SSD
Spain	ESP
Sri Lanka	LKA
Sudan	SDN
Suriname	SUR
Swaziland	SWZ
Sweden	SWE
Switzerland	CHE
Syria	SYR
Taiwan	TWN
Tajikistan	TJK
Tanzania	TZA
Thailand	THA
The Bahamas	BHS
The Gambia	GMB
Timor-Leste	TLS
Togo	TGO
Tonga	TON
Trinidad and Tobago	TTO
Tunisia	TUN
Turkey	TUR
Turkmenistan	TKM
Uganda	UGA
Ukraine	UKR
United Arab Emirates	ARE

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United Kingdom	GBR
United States	USA
Uruguay	URY
Uzbekistan	UZB
Vanuatu	VUT
Venezuela	VEN
Vietnam	VNM
Virgin Islands, U.S.	VIR
Yemen	YEM
Zambia	ZMB
Zimbabwe	ZWE

Authors

Heather M Orpana, Adjunct Professor, Researcher[1,2;] Laurie B Marczak, Scientific Publications Manager[3]; Megha Arora, Publications Officer[3]; Nooshin Abbasi, Researcher[4]; Rizwan Suliankatchi Abdulkader, Lecturer[5]; Zegeye Abebe, Researcher[6]; Haftom Niguse Abraha, Lecturer, Clinical Pharmacist[7,8]; Mohsen Afarideh, Research Collaborator[9]; Mahdi Afshari, Associate Professor[10]; Alireza Ahmadi, Assistant Professor[11]; Amani Nidhal Aichour, Medical Student[12]; Ibtihel Aichour, Medical Student[12]; Miloud Taki Eddine Aichour, Veterinarian[13]; Nadia Akseer, Senior Research Associate[14]; Rajaa M Al-Raddadi, Assistant Professor[15]; Fares Alahdab, Assistant Professor[16]; Ala'a Alkerwi, Principal Investigator[17]; Peter Allebeck, Professor, Secretary General[18,19]; Nelson Alvis-Guzman, Professor Titular, Professor Titular[20,21]; Nahla Hamed Anber, Researcher, Biochemistry Fellow[22,23]; Mina Anjomshoa, PhD Student, Researcher[24,25]; Carl Abelardo T Antonio, Assistant Professor, PhD Student[26,27]; Amit Arora, Senior Lecturer[28,29]; Krishna K Aryal, Deputy Team Leader[30]; Solomon Weldegebreal Asgedom, Assistant Professor[31]; Ashish Awasthi, Assistant Professor, Assistant Professor[32,33]; Beatriz Paulina Ayala Quintanilla, Doctor, Researcher[34,35]; Hamid Badali, Associate Professor[36]; Suzanne Lyn Barker-Collo, Professor[37]; Till Winfried Bärnighausen, Director, Professor[38,39]; Shahrzad Bazargan-Hejazi, Professor, Adjunct Professor[40,41]; Corina Benjet, Researcher[41,42]; Isabela M Bensenor, Associate Professor[43]; Noami Berfeld, Research Assistant[44]; Mircea Beuran, Director[45]; Zulfiqar A Bhutta, Co-Director, Director[46,47]; Belete Biadgo, Assistant Professor[48]; Nigus Bililign, Lecturer[49]; Guilherme Borges, Researcher[50]; Rohan Borschmann, Senior Research Fellow, Senior Research Fellow[51,52]; Alexandra Brazinova, Associate Professor[53]; Nicholas J K Breitborde, Associate Professor, Associate Professor[54,55]; Traolach Brugha, Clinical Professor[56]; Zahid A Butt, Post-Doctoral Research Fellow, Visiting Associate Professor[57,58] ; Juan J Carrero, Associate Professor[59]; Félix Carvalho, Professor[60]; Deborah Carvalho Malta, Associate Professor[61]; Carlos A Castañeda-Orjuela, Director, PhD Student[62,63]; Ferrán Catalá-López, Senior scientist, Affiliate Investigator[64,65] ; Liliana G Ciobanu, PhD Student, Research Associate[66,67]; Berihun Assefa Dachew, Assistant Professor, PhD Student[68,69]; Lalit Dandona, Professor, Professor[34,3]; Rakhi Dandona, Professor, Clinical Professor[33,3]; Paul I Dargan, Consultant Physician, Professor of Clinical Toxicology[70,71]; Ahmad Daryani, Professor[72]; Dragos Virgil Davitoiu, Lecturer, Consultant Surgeon[73,74]; Kairat Davletov, Director[75]; Louisa Degenhardt, Professor, Affiliate Professor[77,3]; Gebre Teklemariam Demoz, Lecturer, Researcher[77,78]; Don C Des Jarlais, Professor[79]; Samath Dhamminda Dharmaratne, Associate Professor, Affiliate Assistant Professor[80,3]; Shirin Djalalinia, Assistant Professor[81]; Linh Doan, Researcher[82]; David Teye Doku, Senior Lecturer, Adjunct Professor[83,84]; Manisha Dubey, Food and Nutrition Security Analysis Expert[85]; Ziad El-Khatib, Associate Professor[86]; Sharareh Eskandarieh, Researcher[87]; Alireza Esteghamati, Professor[88]; Sadaf Esteghamati, Research Collaborator[89]; Andre Faro, Professor[90]; Farshad Farzadfar, Associate Professor[91]; Wubalem Fekadu, Assistant Professor, PhD student[92,93]; Eduarda Fernandes, Associate Professor[94]; Alize J Ferrari, Researcher[69,95]; Irina Filip, Adult Psychiatrist, Lecturer[96,97]; Florian Fischer, Assistant Professor[98]; Kyle J. Foreman, Director of Data Science[3]; Takeshi Fukumoto, Researcher, Doctor[99,100]; Abadi Kahsu Gebre, Lecturer[101]; Giuseppe Grosso, Researcher, Assistant Professor[102,103]; Rahul Gupta, Chief Health Officer/Commissioner of Public Health, Adjunct Professor[104,105]; Juanita A Haagsma, Assistant Professor[106]; Hassan Haghparast Bidgoli, Assistant Professor[107]; Arvin Haj-Mirzaian, Researcher, Doctor[108,109]; Samer Hamidi, Professor[110]; Graeme J Hankey, Professor, Consultant Neurologist[111,112]; Josep Maria Haro, Director, Associate Professor[113,114]; Hamid Yimam Hassen, Lecturer, Student[115,116]; Simon I Hay, Professor, Professor[3,117]; Behnam Heidari, Research Collaborator[88]; Delia Hendrie, Lecturer[118]; Enayatollah Homaie Rad, Researcher[119]; Seyed Mostafa Hosseini, Professor[120]; Sorin Hostiuc, Associate Professor, Assistant Professor[121,122]; Seyed Sina Naghibi Irvani, Researcher[91,123]; Sheikh

Mohammed Shariful Islam, Senior Research Fellow, Honorary Senior Lecturer[124,125]; Mihajlo Jakovljevic, Professor, Visiting Research Fellow[126,127]; Spencer James, Researcher[3]; Achala Upendra Jayatilleke, Lecturer, Lecturer[128,129]; Ravi Prakash Jha, PhD Student[130]; Jost B Jonas, Clinical Professor[131,132]; Jacek Jerzy Jozwiak, Professor[133]; Rajendra Kadel, Researcher[134]; Amaha Kahsay, Lecturer[135]; Amir Kasaeian, Assistant Professor of Biostatistics[136,137]; Getachew Mullu Kassa, Lecturer[138]; Norito Kawakami, Professor[139]; Adane Teshome Kefale, Lecturer[140]; Grant Rodgers Kemp, Editorial Coordinator[3]; Yousef Saleh Khader, Professor[141]; Morteza Abdullatif Khafaie, Associate Professor[142]; Ibrahim A Khalil, Senior Associate[3]; Ejaz Ahmad Khan, Associate Professor[143]; Muhammad Ali Khan, Assistant Professor, Research Fellow[144,145]; Muhammad Shahzeb Khan, Doctor, Researcher[146,147]; Young-Ho Khang, Director, Professor[148,149]; Jagdish Khubchandani, Associate Professor[150]; Aliasghar A Kiadaliri, Associate Researcher[151]; Christian Kieling, Associate Professor, Researcher[152,153]; Young-Eun Kim, Research Professor[154]; Adnan Kisa, Professor, Professor[155,156]; Ann Kristin Skrindo Knudsen, Researcher, Associate Professor[157,158]; Yoshihiro Kokubo, Doctor[159]; Ai Koyanagi, Researcher[114]; Varsha Sarah Krish, Data Analyst[3]; Barthelemy Kuate Defo, Professor, Professor[160,161]; G Anil Kumar, Researcher[162]; Manasi Kumar, Lecturer, Researcher[163,164]; Prabhat Lamichhane, Lecturer[165]; Justin J Lang, Researcher[166]; Arman Latifi, Assistant Professor[167]; Paul H Lee, Assistant Professor[168]; Janni Leung, Research Fellow[169]; Lee-Ling Lim, Lecturer, PhD Student[170,171]; Alan D Lopez, Professor[52,3;] Stefan Lorkowski, Professor, Professor[172,173]; Paulo A Lotufo, Clinical Professor[174]; Rafael Lozano, Professor[3,117]; Raimundas Lunevicius, Doctor[175]; P A Mahesh, Professor[176]; Marek Majdan, Associate Professor[177]; Reza Majdzadeh, Professor, Professor[178,179]; Reza Malekzadeh, Director, Professor[180,91;] Ana-Laura Manda, Doctor[181]; Mohammad Ali Mansournia, Associate Professor[182]; Lorenzo Giovanni Mantovani, Associate Professor[183]; Joemer C Maravilla, PhD Student[184]; Jose Martinez-Raga, Doctor[185,186]; Manu Raj Mathur, Associate Professor[162]; Pallab K Maulik, Director, Associate Professor[187,188]; John J McGrath, Professor[189,190]; Ravi Mehrotra, Clinical Professor[191]; Tesfa Mekonen, Assistant Professor[92]; Walter Mendoza, Program Analyst[192] ; Tuomo J Meretoja, Adjunct Professor[193,194]; Tomislav Mestrovic, Laboratory Director, Assistant Professor[195,196]; Ted R Miller, Researcher, Adjunct Professor[197,118;] GK Mini, Researcher, Associate Professor[198,199]; Erkin M Mirrakhimov, Clinical Professor, Doctor[200,201]; Philip B Mitchell, Professor[202]; Babak Moazen, PhD Student, Researcher[203]; Karzan Abdulmuhsin Mohammad, Lecturer[204,205]; Moslem Mohammadi, Associate Professor[206]; Shafiu Mohammed, Associate Professor, Research Associate[207,203;] Ali H Mokdad, Professor, Associate Chair for Collaboration[3,117]; Lorenzo Monasta, Researcher[208]; Mahmood Moosazadeh, Assistant Professor[209]; Ghobad Moradi, Associate Professor of Epidemiology[210,211]; Maziar Moradi-Lakeh, Professor[212]; Mehdi Moradinazar, Assistant Professor[213]; Ilais Moreno Velásquez, Researcher[214]; Naho Morisaki, Researcher[215]; Shane Douglas Morrison, Doctor[216]; Marilita M Moschos, Associate Professor[217,218]; Seyyed Meysam Mousavi, PhD Student[25]; Ghulam Mustafa, Assistant Professor, Chairperson[219,220]; Gabriele Nagel, Associate Professor[221]; Aliya Naheed, Associate Professor[222]; Gurudatta Naik, Researcher[223]; Farid Najafi, Professor[224]; Ionut Negoi, Doctor, Lecturer[45,181]; Ruxandra Irina Negoi, Associate Professor[225,226]; Huong Lan Thi Nguyen, Research Manager[227]; Long Hoang Nguyen, Director[228]; Molly R Nixon, Scientific Publications Manager[3]; Richard Ofori-Asenso, PhD Student[229,230]; Felix Akpojene Ogbo, Lecturer[231]; In-Hwan Oh, Associate Professor[232]; Andrew T Olagunju, Lecturer, PhD Student[233,234]; Tinuke O Olagunju, Graduate Student[235]; Simon Øverland, Director, Professor[236,158;] Mayowa Ojo Owolabi, Professor[237]; Songhomitra Panda-Jonas, Doctor[131]; Charles D H Parry, Director, Professor[238,239]; Sanghamitra Pati, Director[240]; Scott B Patten, Professor[241,242]; George C Patton, Professor, Researcher[243,244]; Max Petzold, Director[245]; Michael R Phillips, Professor[246]; Oleguer Plana-Ripoll, Researcher[190]; Maarten J Postma, Professor[247,248]; Akram

Pourshams, Clinical Professor[180]; Hossein Poustchi, Associate Professor[180]; Mostafa Qorbani, Assistant Professor[249]; Amir Radfar, Researcher, Board Member[250,251]; Anwar Rafay, Assistant Professor[252]; Alireza Rafiei, Professor of Immunology[253,254]; Fakher Rahim, Assistant Professor, Director[255,256]; Afarin Rahimi-Movaghar, Clinical Professor[257]; Vafa Rahimi-Movaghar, Clinical Professor[258]; Muhammad Aziz Rahman, Senior Lecturer[165,259]; Rajesh Kumar Rai, Senior Research Scientist, Research Associate[260,261]; Shahab Rezaeian, Assistant Professor[213]; Leonardo Roever, Clinical Epidemiologist[262]; Luca Ronfani, Medical Director[208]; Gholamreza Roshandel, Assistant Professor[180,263]; Ali Rostami, Assistant Professor[264]; Perminder S Sachdev, Professor, Director[202,265]; Hosein Safari, Assistant Professor[266]; Saeid Safiri, Assistant Professor[267]; Payman Salamati, Professor[258,268]; Yahya Salimi, Assistant Professor[269]; Joshua A Salomon, Professor[270]; Abdallah M Samy, Lecturer[271]; Itamar S Santos, Associate Professor[272]; Milena M Santric-Milicevic, Professor[273]; Benn Sartorius, Professor, Affiliate Professor[274,117;] Shahabeddin Sarvi, Associate Professor[72]; Maheswar Satpathy, Assistant Professor, Executive Director[275,276]; Monika Sawhney, Associate Professor[277]; David C Schwebel, Professor[278]; Sadaf G Sepanlou, Assistant Professor[91,180]; Masood Ali Shaikh, Independent Consultant[279]; Mehdi Sharif, Professor[280]; Kenji Shibuya, Director[281]; Mika Shigematsu, Researcher[282]; Rahman Shiri, Adjunct Professor[283]; Ivy Shiue, Researcher[284,285]; Soraya Siabani, Assistant Professor, Honorary Research Fellow[286,287]; Tariq J Siddiqi, Doctor[147]; Inga Dora Sigfusdottir, Professor, Professor[288,289]; João Pedro Silva, Research Associate[60]; Jasvinder A. Singh, Professor, Professor[223,290]; Adauto Martins Soares Filho, Epidemiologist, PhD Student[291,292]; Soheila Sobhani, Researcher[293]; Dan J Stein, Professor, Researcher[294,295]; Murray B Stein, Professor, Staff Psychiatrist[296,297]; Mu'awiyyah Babale Sufiyan, Lecturer, Consultant[298,299]; Bruno F Sunguya, Lecturer, Lecturer[300,301]; Rafael Tabarés-Seisdedos, Clinical Professor, Principal Investigator[185,302]; Karen M Tabb, Assistant Professor[303]; Mohammad Tavakkoli, Assistant Professor[80]; Arash Tehrani-Banihashemi, Assistant Professor, Vice Chancellor of Research[304,305]; Mohamad-Hani Temsah, Assistant Professor, Assistant Professor[306,307]; Roman Topor-Madry, Director, President[308,309]; Bach Xuan Tran, Associate Professor, Associate Professor[310,311]; Khanh Bao Tran, Researcher[312,313]; Irfan Ullah, Researcher, Assistant Professor[314,315]; Jurgen Unutzer, Professor, Adjunct Professor[316,317]; Muhammad Shariq Usman, Student[318]; Olalekan A Uthman, Associate Professor[319]; Pascual R Valdez, Adjunct Professor, Doctor[320,321]; Tommi Juhani Vasankari, Director[322]; Cintia Vasconcelos, Technologist[323]; Vasily Vlassov, Professor[324]; Theo Vos, Professor[3,117]; Isidora S Vujcic, Assistant Professor[325]; Yasir Waheed, Assistant Professor[326]; Yuan-Pang Wang, Associate Researcher[327]; Elisabete Weiderpass, Professor[328,329]; Andrea Werdecker, Researcher[330,331]; Ronny Westerman, Researcher[330]; Harvey A Whiteford, Professor, Affiliate Professor[332,333]; Grant M A Wyper, Researcher, PhD Student[334,335]; Mehdi Yaseri, Researcher[120,336]; Ebrahim M Yimer, Lecturer[337]; Engida Yisma, Lecturer[338]; Naohiro Yonemoto, Assistant Professor[339]; Seok-Jun Yoon, Doctor, Professor[154,340]; Marcel Yotebieng, Assistant Professor[341,342]; Mahmoud Yousefifard, Assistant Professor[343]; Chuanhua Yu, Adjunct Professor[344,345]; Zoubida Zaidi, Professor[346,347]; Mohammad Zamani, Medical Student[348]; ; Christopher J L Murray, Professor/Institute Director, Chair/Professor[3,117]; Mohsen Naghavi, Professor, Professor[3,117].

Affiliations

1 Applied Research Division, Public Health Agency of Canada, Ottawa, ON, Canada.

2 School of Psychology, University of Ottawa, ON, Canada.

3 Institute for Health Metrics and Evaluation, University of Washington, Seattle, WA, USA.

4 Montreal Neuroimaging Center, McGill University, Montreal, QC, Canada.

5 Department of Statistics, Manomaniam Sundaranar University, Tirunelveli, India.

6 Human Nutrition Department, University of Gondar, Gondar, Ethiopia.

7 Clinical Pharmacy Unit, Mekelle University, Mekelle, Ethiopia.

8 Ayder Comprehensive Specialized Hospital, Mekelle University, Mekelle, Ethiopia.

9 Endocrinology and Metabolism Research Center, Tehran University of Medical Sciences, Tehran, Iran.

10 Zabol University of Medical Sciences, Zabol, Iran.

11 Department of Anesthesiology, Kermanshah University of Medical Sciences, Kermanshah, Iran.

12 University Ferhat Abbas of Setif, Setif, Algeria.

13 Higher National School of Veterinary Medicine, Algiers, Algeria.

14 The Hospital for Sick Children, University of Toronto, Toronto, ON, Canada.

15 Department of Family and Community Medicine, King Abdulaziz University, Jeddah, Saudi Arabia.

16 Evidence Based Practice Center, Mayo Clinic Foundation for Medical Education and Research, Rochester, MN, USA.

17 Department of Population Health, Luxembourg Institute of Health, Strassen, Luxembourg.

18 Department of Public Health Sciences, Karolinska Institutet, Stockholm, Sweden.

19 Swedish Research Council for Health, Working Life, and Welfare, Stockholm, Sweden.

20 Research Group on Health Economics, University of Cartagena, Cartagena, Colombia.

21 Research Group in Hospital Management and Health Policies, University of the Coast, Barranquilla, Colombia.

22 Mansoura University, Mansoura, Egypt.

23 Faculty of Medicine, Mansoura University, Mamnsoura, Egypt.

24 Social Determinants of Health Research Center, Rafsanjan University of Medical Sciences, Rafsanjhan, Iran.

25 Department of Health Management and Economics, Tehran University of Medical Sciences, Tehran, Iran.

26 Department of Health Policy and Administration, University of the Philippines Manila, Manila, Philippines.

27 Department of Applied Social Sciences, Hong Kong Polytechnic University, Hong Kong, China.

28 School of Science and Health, Western Sydney University, Sydney, NSW, Australia.

29 Oral Health Services, Sydney Local Health District, Sydney, NSW, Australia.

30 Monitoring Evaluation and Operational Research Project, Abt Associates Nepal, Lalitpur, Nepal.

31 School of Pharmacy, Mekelle University, Mekelle, Ethiopia.

32 Indian Institute of Public Health, Gandhinagar, India.

33 Public Health Foundation of India, Gurugram, India.

34 The Judith Lumley Centre, La Trobe, University, Melbourne, VIC, Australia.

35 General Office for Research and Technological Transfer, Peruvian National Institute of Health, Lima, Peru.

36 Department of Medical Mycology, Mazandaran University of Medical Sciences, Sari, Iran.

37 School of Psychology, University of Auckland, Auckland, New Zealand.

38 Institute of Public Health, Heidelberg, University, Heidelberg, Germany.

39 Department of Global Health, Harvard University, Boston, MA, USA.

40 Department of Psychiatry, Charles R. Drew University of Medicine and Science, Los Angeles, CA, USA.

41 Department of Psychiatry and Biobehavioral Sciences, University of California Los Angeles, Los Angeles, CA, USA.

42 Department of Epidemiology and Psychosocial Research, Ramón de la Fuente Muñiz National Institute of Psychiatry, Mexico City, Mexico.

43 Department of Internal Medicine, University of São Paulo, São Paulo, Brazil.

44 Public Health Agency of Canada, Ottawa, ON, Canada.

45 Emergency Hospital of Bucharest, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania.

46 The Hospital for Sick Children, University of Toronto, Toronto, ON, Canada.

47 Center of Excellence in Women and Child Health, Aga Khan University, Karachi, Pakistan.

48 Department of Clinical Chemistry, University of Gondar, Gondar, Ethiopia.

49 Department of Midwifery, Woldia University, Woldia, Ethiopia.

50 Department of Epidemiology and Psychosocial Research, Ramón de la Fuente Muñiz National Institute of Psychiatry, Mexico City, Mexico.

51 Centre for Adolescent Health, Murdoch Childrens Research Institute, Melbourne, VIC, Australia.

52 School of Population and Global Health, University of Melbourne, Melbourne, VIC, Australia.

53 Institute of Epidemiology, Comenius University, Bratislava, Slovakia.

54 Psychiatry and Behavioral Health Department, Ohio State University, Columbus, OH, USA.

55 Department of Psychology, Ohio State University, Columbus, OH, USA.

56 Department of Health Sciences, University of Leicester, Leicester, UK.

57 School of Population and Public Health, University of British Columbia, Vancouver, BC, Canada.

58 Al Shifa School of Public Health, Al Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

59 Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden.

60 Applied Molecular Biosciences Unit, University of Porto, Porto, Portugal.

61 Department of Maternal and Child Nursing and Public Health, Federal University of Minas Gerais, Belo Horizonte, Brazil.

62 Colombian National Health Observatory, National Institute of Health, Bogota, Colombia.

63 Epidemiology and Public Health Evaluation Group, National University of Colombia, Bogota, Colombia.

64 Department of Health Planning and Economics, Institute of Health Carlos III, Madrid, Spain.

65 Clinical Epidemiology Program, Ottawa Hospital Research Institute, Ottawa, ON, Canada.

66 Adelaide Medical School, University of Adelaide, Adelaide, SA, Australia.

67 School of Pharmacy and Medical Sciences, University of South Australia, Adelaide, SA, Australia.

68 Institute of Public Health, University of Gondar, Gondar, Ethiopia.

69 School of Public Health, The University of Queensland, Brisbane, QLD, Australia.

70 Clinical Toxicology Service, Guy's and St. Thomas' NHS Foundation Trust, London, UK.

71 Faculty of Life Sciences and Medicine, King's College London, London, UK.

72 Toxoplasmosis Research Center, Mazandaran University of Medical Sciences, Sari, Iran.

73 Department of General Surgery, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania.

74 Department of Surgery, Clinical Emergency Hospital Sf. Pantelimon, Bucharest, Romania.

75 Department of Epidemiology, Kazakh National Medical University, Almaty, Kazakhstan.

76 National Drug and Alcohol Research Centre, University of New South Wales, Sydney, NSW, Australia.

77 Department of Clinical Pharmacy, Aksum University, Aksum, Ethiopia.

78 Addis Ababa University, Addis Ababa, Ethiopia.

79 Department of Psychiatry and Behavioral Sciences, New York Medical College, Valhalla, NY, USA.

80 Department of Community Medicine, University of Peradeniya, Peradeniya, Sri Lanka.

81 Deputy of Research and Technology, Ministry of Health and Medical Education, Tehran, Iran.

82 Center of Excellence in Health Service Management, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam.

83 Department of Population and Health, University of Cape Coast, Cape Coast, Ghana.

84 Faculty of Social Sciences, Health Sciences, University of Tampere, Tampere, Finland.

85 United Nations World Food Programme, New Delhi, India.

86 Department of Public Health Sciences, Karolinska Institutet, Stockholm, Sweden.

87 Multiple Sclerosis Research Center, Tehran University of Medical Sciences, Tehran, Iran.

88 Endocrinology and Metabolism Research Center, Tehran University of Medical Sciences, Tehran, Iran.

89 Endocrine Research Center, Tehran University of Medical Sciences, Tehran, Iran.

90 Department of Psychology, Federal University of Sergipe, Sao Cristovao, Brazil.

91 Non-communicable Diseases Research Center, Tehran University of Medical Sciences, Tehran, Iran.

92 Department of Psychiatry, Bahir Dar University, Bahir Dar, Ethiopia.

93 Department of Psychiatry, Addis Ababa University, Addis Ababa, Ethiopia.

94 REQUIMTE/LAQV, University of Porto, Porto, Portugal.

95 Queensland Centre for Mental Health Research, Brisbane, QLD, Australia.

96 Psychiatry Department, Kaiser Permanente, Fontana, CA, USA.

97 Department of Health Sciences, A.T. Still University, Mesa, AZ, USA.

98 Department of Public Health Medicine, Bielefeld University, Bielefeld, Germany.

99 Gene Expression & Regulation Program, Cancer Institute (W.I.A.), Philadelphia, PA, USA.

100 Department of Dermatology, Kobe University, Kobe, Japan.

101 School of Pharmacy, Mekelle University, Mekelle, Ethiopia.

102 Integrated Tumor Registry, Vittorio Emanuele University Hospital Polyclinic, Catania, Italy.

103 Department of Biomedical and Biotechnological Sciences, University of Catania, Catania, Italy.

104 West Virginia Bureau for Public Health, Charleston, WV, USA.

105 Department of Health Policy, Management & Leadership, West Virginia University, Morgantown, WV, USA.

106 Department of Public Health, Erasmus University Medical Center, Rotterdam, Netherlands.

107 Institute for Global Health, University College London, London, UK.

108 Department of Pharmacology, Tehran University of Medical Sciences, Tehran, Iran.

109 Obesity Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

110 School of Health and Environmental Studies, Hamdan Bin Mohammed Smart University, Dubai, United Arab Emirates.

111 School of Medicine, University of Western Australia, Perth, WA, Australia.

112 Neurology Department, Sir Charles Gairdner Hospital, Perth, WA, Australia.

113 Biomedical Research Networking Center for Mental Health Network (CiberSAM), Madrid, Spain.

114 Research and Development Unit, San Juan de Dios Sanitary Park, Barcelona, Spain.

115 Public Health Department, Mizan-Tepi University, Teppi, Ethiopia.

116 Unit of Epidemiology and Social Medicine, University Hospital Antwerp, Wilrijk, Belgium.

117 Department of Health Metrics Sciences, University of Washington, Seattle, WA, USA.

118 School of Public Health, Curtin, Bentley, WA, Australia.

119 Guilan Road Trauma Research Center, Guilan University of Medical Sciences, Rasht, Iran.

120 Department of Epidemiology and Biostatistics, Tehran University of Medical Sciences, Tehran, Iran.

121 Department of Legal Medicine and Bioethics, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania.

122 Clinical Legal Medicine, National Institute of Legal Medicine Mina Minovici, Bucharest, Romania.

123 Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

124 Institute for Physical Activity and Nutrition, Deakin University, Burwood, VIC, Australia.

125 Sydney Medical School, University of Sydney, Sydney, NSW, Australia.

126 Medical Sciences Department, University of Kragujevac, Kragujevac, Serbia.

127 Division of Health Economics, Lund University, Lund, Sweden.

128 Institute of Medicine, University of Colombo, Colombo, Sri Lanka.

129 Faculty of Graduate Studies, University of Colombo, Colombo, Sri Lanka.

130 Department of Community Medicine, Banaras Hindu University, Varanasi, India.

131 Department of Ophthalmology, Heidelberg University, Mannheim, Germany.

132 Beijing Institute of Ophthalmology, Beijing Tongren Hospital, Beijing, China.

133 Faculty of Medicine and Health Sciences, University of Opole, Opole, Poland.

134 Personal Social Services Research Unit, London School of Economics and Political Science, London, UK.

135 Department of Nutrition and Dietetics, Mekelle University, Mekelle, Ethiopia.

136 Hematology-Oncology and Stem Cell Transplantation Research Center, Tehran University of Medical Sciences, Tehran, Iran.

137 Hematologic Malignancies Research Center, Tehran University of Medical Sciences, Tehran, Iran.

138 College of Health Sciences, Debre Markos University, Debre Markos, Ethiopia.

139 Department of Mental Health, University of Tokyo, Tokyo, Japan.

140 Pharmacy Department, Mizan-Tepi University, Teppi, Ethiopia.

141 Department of Public Health and Community Medicine, Jordan University of Science and Technology, Ramtha, Jordan.

142 Department of Public Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

143 Epidemiology and Biostatistics Department, Health Services Academy, Islamabad, Pakistan.

144 Division of Gastroenterology & Hepatology, University of Alabama at Birmingham, Birmingham, Alabama.

145 University of Tennessee, Knoxville, Tennessee.

146 Department of Internal Medicine, John H. Stroger, Jr. Hospital of Cook County, Chicago, IL, USA.

147 Department of Internal Medicine, Dow University of Health Sciences, Karachi, Pakistan.

148 Department of Health Policy and Management, Seoul National University, Seoul, South Korea.

149 Institute of Health Policy and Management, Seoul National University, Seoul, South Korea.

150 Department of Nutrition and Health Sciences, Ball State University, Muncie, IN, USA.

151 Clinical Epidemiology Unit, Lund University, Lund, Sweden.

152 Department of Psychiatry, Federal University of Rio Grande do Sul, Porto Alegre, Brazil.

153 Child & Adolescent Psychiatry Division, Clinical Hospital, Porto Alegre, Brazil.

154 Department of Preventive Medicine, Korea University, Seoul, South Korea.

155 Department of Health Management and Health Economics, University of Oslo, Oslo, Norway.

156 Department of Global Community Health and Behavioral Sciences, Tulane University, New Orleans, LA, USA.

157 Center for Disease Burden, Norwegian Institute of Public Health, Bergen, Norway.

158 Department of Psychosocial Science, University of Bergen, Bergen, Norway.

159 Department of Preventive Cardiology, National Cerebral and Cardiovascular Center, Suita, Japan.

160 Department of Demography, University of Montreal, Montreal, QC, Canada.

161 Department of Social and Preventive Medicine, University of Montreal, Montreal, QC, Canada.

162 Public Health Foundation of India, Gurugram, India.

163 Department of Psychiatry, University of Nairobi, Nairobi, Kenya.

164 Department of Psychology, University College London, London, UK.

165 School of Medicine, Deakin University, Geelong, VIC, Australia.

166 Health Promotion and Chronic Disease Prevention Branch, Public Health Agency of Canada, Ottawa, ON, Canada.

167 Department of Public Health, Maragheh University of Medical Sciences, Maragheh, Iran.

168 School of Nursing, Hong Kong Polytechnic University, Hong Kong, China.

169 Center for Youth Substance Abuse Research, The University of Queensland, Brisbane, QLD, Australia.

170 Department of Medicine, Department of Medicine, Kuala Lumpur, Malaysia.

171 Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong, China.

172 Institute of Nutrition, Friedrick Schiller University Jena, Jena, Germany.

173 Competence Cluster for Nutrition and Cardiovascular Health (nutriCARD), Jena, Germany.

174 Department of Medicine, University of São Paulo, São Paulo, Brazil.

175 Department of General Surgery, Aintree University Hospital NHS Foundation Trust, Liverpool, UK.

176 Department of Pulmonary Medicine, JSS Academy of Higher Education and Research, Mysore, India.

177 Department of Public Health, Trnava University, Trnava, Slovakia.

178 Community-Based Participatory-Research (CBPR) Center, Tehran University of Medical Sciences, Tehran, Iran.

179 Knowledge Utilization Research Center (KURC), Tehran University of Medical Sciences, Tehran, Iran.

180 Digestive Diseases Research Institute, Tehran University of Medical Sciences, Tehran, Iran.

181 Surgery Department, Emergency Hospital of Bucharest, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania.

182 Department of Epidemiology, Tehran University of Medical Sciences, Tehran, Iran.

183 School of Medicine and Surgery, University of Milan Bicocca, Monza, Italy.

184 Institute for Social Science Research, The University of Queensland, Brisbane, Australia.

185 Department of Medicine, University of Valencia, Valencia, Spain.

186 Psychiatry Department, University Hospital Doctor Peset, Valencia, Spain.

187 Research Department, The George Institute for Global Health, New Delhi, India.

188 School of Medicine, University of New South Wales, Sydney, NSW, Australia.

189 Queensland Brain Institute, The University of Queensland, Brisbane, QLD, Australia.

190 National Centre for Register-based Research, Aarhus University, Aarhus, Denmark.

191 Preventive Oncology, National Institute of Cancer Prevention and Research, Noida, India.

192 Peru Country Office, United Nations Population Fund, Lima, Peru.

193 Breast Surgery Unit, Helsinki University Hospital, Helsinki, Finland.

194 University of Helsinki, Helsinki, Finland.

195 Clinical Microbiology and Parasitology Unit, Dr. Zora Profozic Polyclinic, Zagreb, Croatia.

196 University Centre Varazdin, University North, Varazdin, Croatia.

197 Pacific Institute for Research & Evaluation, Calverton, MD, USA.

198 Achutha Menon Centre for Health Science Studies, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, India.

199 Global Institute of Public Health, Ananthapuri Hospitals and Research Institute, Trivandrum, India.

200 Faculty of General Medicine, Kyrgyz State Medical Academy, Bishkek, Kyrgyzstan.

201 Department of Atherosclerosis and Coronary Heart Disease, National Center of Cardiology and Internal Disease, Bishkek, Kyrgyzstan.

202 School of Psychiatry, University of New South Wales, Sydney, NSW, Australia.

203 Institute of Public Health, Heidelberg, University, Heidelberg, Germany.

204 Department of Biology, Salahaddin University, Erbil, Iraq.

205 ISHIK University, Erbil, Iraq.

206 Department of Physiology and Pharmacology, Mazandaran University of Medical Sciences, Sari, Iran.

207 Health Systems and Policy Research Unit, Ahmadu Bello University, Zaria, Nigeria.

208 Clinical Epidemiology and Public Health Research Unit, Burlo Garofolo Institute for Maternal and Child Health, Trieste, Italy.

209 Health Sciences Research Center, Mazandaran University of Medical Sciences, Sari, Iran.

210 Social Determinants of Health Research, Kurdistan University of Medical Sciences, Sanandaj, Iran.

211 Department of Epidemiology and Biostatistics, Kurdistan University of Medical Sciences, Sanandaj, Iran.

212 Preventive Medicine and Public Health Research Center, Iran University of Medical Sciences, Tehran, Iran.

213 Research Center for Environmental Determinants of Health, Kermanshah University of Medical Sciences, Kermanshah, Iran.

214 Gorgas Memorial Institute for Health Studies, Panama City, Panama.

215 Department of Social Medicine, National Center for Child Health and Development, Setagaya, Japan.

216 Department of Surgery, University of Washington, Seattle, WA, USA.

217 Department of Ophthalmology, University of Athens, Athens, Greece.

218 Biomedical Research Foundation, Academy of Athens, Athens, Greece.

219 Pediatrics Department, Nishtar Medical University, Multan, Pakistan.

220 Pediatrics & Pediatric Pulmonology, Institute of Mother & Child Care, Multan, Pakistan.

221 Institute of Epidemiology and Medical Biometry, Ulm University, Ulm, Germany.

222 Initiative for Non Communicable Diseases, International Centre for Diarrhoeal Disease Research, Dhaka, Bangladesh.

223 Department of Epidemiology, University of Alabama at Birmingham, Birmingham, AL, USA.

224 Department of Epidemiology & Biostatistics, Kermanshah University of Medical Sciences, Kermanshah, Iran.

225 Anatomy and Embryology Department, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania.

226 Department of Cardiology, Cardio-Aid, Bucharest, Romania.

227 Institute for Global Health Innovations, Duy Tan University, Hanoi, Vietnam.

228 Center for Excellence in Behavioral Health, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam.

229 Centre of Cardiovascular Research and Education in Therapeutics, Monash University, Melbourne, VIC, Australia.

230 Independent Consultant, Accra, Ghana.

231 Translational Health Research Institute, Western Sydney University, Penrith, NSW, Australia.

232 Department of Preventive Medicine, Kyung Hee University, Seoul, South Korea.

233 Department of Psychiatry, University of Lagos, Lagos, Nigeria.

234 Department of Psychiatry, University of Adelaide, Adelaide, SA, Australia.

235 Department of Pathology and Molecular Medicine, McMaster University, Hamilton, ON, Canada.

236 Division of Mental and Physical Health, Norwegian Institute of Public Health, Bergen, Norway.

237 Institute for Advanced Medical Research and Training, University of Ibadan, Ibadan, Nigeria.

238 Alcohol, Tobacco, & Other Drug Use Research Unit, Medical Research Council South Africa, Cape Town, South Africa.

239 Department of Psychiatry, Stellenbosch University, Cape Town, South Africa.

240 Regional Medical Research Centre, Indian Council of Medical Research, Bhubaneswar, India.

241 Community Health Sciences, University of Calgary, Calgary, AB, Canada.

242 Department of Psychiatry, University of Calgary, Calgary, AB, Canada.

243 Department of Paediatrics, University of Melbourne, Melbourne, VIC, Australia.

244 Population Health Group, Murdoch Childrens Research Institute, Melbourne, VIC, Australia.

245 Swedish National Data Service, Gothenburg, Sweden.

246 Shanghai Mental Health Center, Shanghai Jiao Tong University, Shanghai, China.

247 Department of Pharmacy, University of Groningen, Groningen, Netherlands.

248 Department of Economics and Business, University of Groningen, Groningen, Netherlands.

249 Non-communicable Diseases Research Center, Alborz University of Medical Sciences, Karaj, Iran.

250 A.T. Still University, Mesa, AZ, USA.

251 Medichem, Barcelona, Spain.

252 Department of Epidemiology & Biostatistics, Contech School of Public Health, Lahore, Pakistan.

253 Department of Immunology, Mazandaran University of Medical Sciences, Sari, Iran.

254 Molecular and Cell Biology Research Center, Mazandaran University of Medical Sciences, Sari, Iran.

255 Thalassemia and Hemoglobinopathy Research Center, Health Research Institute, Ahvaz, Iran.

256 Endocrinology and Metabolism Molecular-Cellular Sciences Institute, Metabolomics and Genomics Research Center, Tehran, Iran.

257 Iranian National Center for Addiction Studies (INCAS), Tehran University of Medical Sciences, Tehran, Iran.

258 Sina Trauma and Surgery Research Center, Tehran University of Medical Sciences, Tehran, Iran.

259 Austin Clinical School of Nursing, La Trobe University, Heidelberg, VIC, Australia.

260 Society for Health and Demographic Surveillance, Suri, India.

261 Department of Economics, University of Goettingen, Göttingen, Germany.

262 Department of Clinical Research, Federal University of Uberlândia, Uberlândia, Brazil.

263 Golestan Research Center of Gastroenterology and Hepatology, Golestan University of Medical Sciences, Gorgan, Iran.

264 Infectious Diseases and Tropical Medicine Research Center, Babol University of Medical Sciences, Babol, Iran.

265 Neuropsychiatric Institute, Prince of Wales Hospital, Randwick, Australia.

266 Department of Neurosurgery, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

267 Managerial Epidemiology Research Center, Maragheh University of Medical Sciences, Maragheh, Iran.

268 School of Health and Policy Management, York University, Toronto, ON, Canada.

269 Social Development and Health Promotion Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran.

270 Center for Health Policy & Center for Primary Care and Outcomes Research, Stanford University, Stanford, CA, USA.

271 Department of Entomology, Ain Shams University, Cairo, Egypt.

272 Department of Internal Medicine, University of São Paulo, São Paulo, Brazil.

273 Centre School of Public Health and Health Management, University of Belgrade, Belgrade, Serbia.

274 Department of Public Health Medicine, University of KwaZulu-Natal, Durban, South Africa.

275 UGC Centre of Advanced Study in Psychology, Utkal University, Bhubaneswar, India.

276 Udyam-Global Association for Sustainable Development, Bhubaneswar, India.

277 Department of Public Health Sciences, University of North Carolina at Charlotte, Charlotte, NC, USA.

278 Department of Psychology, University of Alabama at Birmingham, Birmingham, AL, USA.

279 Independent Consultant, Karachi, Pakistan.

280 Department of Basic Sciences, Islamic Azad University, Sari, Iran.

281 Department of Global Health Policy, University of Tokyo, Tokyo, Japan.

282 National Institute of Infectious Diseases, Tokyo, Japan.

283 Finnish Institute of Occupational Health, Helsinki, Finland.

284 Institute of Medical Epidemiology, Martin Luther University Halle-Wittenberg, Halle, Germany.

285 Alzheimer Scotland Dementia Research Centre, University of Edinburgh, Edinburgh, Scotland.

286 Imam Ali Cardiovascular Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran.

287 School of Health, University of Technology Sydney, Sydney, NSW, Australia.

288 Department of Psychology, Reykjavik University, Reykjavik, Iceland.

289 Department of Health and Behavior Studies, Columbia University, New York City, NY, USA.

290 Department of Medicine, University of Alabama at Birmingham, Birmingham, AL, USA.

291 Department of Diseases and Noncommunicable Diseases and Health Promotion, Federal Ministry of Health, Brasilia, Brazil.

292 Collective Health, University of Brasilia, Brasilia, Brazil.

293 Students' Scientific Research Center, Tehran University of Medical Sciences, Tehran, Iran.

294 Department of Psychiatry and Mental Health, University of Cape Town, Cape Town, South Africa.

295 South African Medical Research Council, Cape Town, South Africa.

296 Departments of Psychiatry and Family Medicine & Public Health, University of California San Diego, La Jolla, CA, USA.

297 VA San Diego Healthcare System, San Diego, CA, USA.

298 Community Medicine Department, Ahmadu Bello University, Zaria, Nigeria.

299 Community Medicine, Ahmadu Bello University Teaching Hospital, Zaria, Nigeria.

300 Department of Community Health, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania.

301 Implementation Science Tanzania, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania.

302 Carlos III Health Institute, Biomedical Research Networking Center for Mental Health Network (CiberSAM), Madrid, Spain.

303 School of Social Work, University of Illinois, Urbana, IL, USA.

304 Preventive Medicine and Public Health Research Center, Iran University of Medical Sciences, Tehran, Iran.

305 Department of Community Medicine, Iran University of Medical Sciences, Tehran, Iran.

306 Department of Pediatrics, King Saud University, Riyadh, Saudi Arabia.

307 College of Medicine, Alfaisal University, Riyadh, Saudi Arabia.

308 Institute of Public Health, Jagiellonian University Medical College, Krakow, Poland.

309 Agency for Health Technology Assessment and Tariff System, Warszawa, Poland.

310 Department of Health Economics, Hanoi Medical University, Hanoi, Vietnam.

311 Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD, USA.

312 Molecular Medicine and Pathology, University of Auckland, Auckland, New Zealand.

313 Clinical Hematology and Toxicology, Military Medical University, Hanoi, Vietnam.

314 TB Culture Laboratory, Mufti Mehmood Memorial Teaching Hospital, Dera Ismail Khan, Pakistan.

315 Gomal Center of Biochemistry and Biotechnology, Gomal University, Dera Ismail Khan, Pakistan.

316 Department of Psychiatry and Behavioral Sciences, University of Washington, Seattle, WA, USA.

317 Health Services and Global Health, University of Washington, Seattle, WA, Washington.

318 Department of Internal Medicine, Dow University of Health Sciences, Karachi, Pakistan.

319 Division of Health Sciences, University of Warwick, Coventry, UK.

320 Argentine Society of Medicine, Buenos Aires, Argentina.

321 Velez Sarsfield Hospital, Buenos Aires, Argentina.

322 UKK Institute, Tampere, Finland.

323 Department of Surveillance of Noncommunicable Diseases and Diseases and Health Promotion, Ministry of Health, Brasilia, Brazil.

324 Department of Health Care Administration and Economy, National Research University Higher School of Economics, Moscow, Russia.

325 Institute of Epidemiology, University of Belgrade, Belgrade, Serbia.

326 Foundation University Medical College, Foundation University, Rawalpindi, Pakistan.

327 Department of Psychiatry, University of São Paulo, São Paulo, Brazil.

328 Department of Research, Cancer Registry of Norway Institute for Population Based Cancer Research, Oslo, Norway.

329 Department of Medical Epidemiology and Biostatistics, Karolinska Institute, Stockholm, Sweden.

330 Competence Center Mortality-Follow-Up, Federal Institute for Population Research, Wiesbaden, Germany.

331 Independent Consultant, Staufenberg, Germany.

332 Population Mental Health, The University of Queensland, Brisbane, QLD, Australia.

333 Institute for Health Metrics and Evaluation, University of Washington, Seattle, WA, USA.

334 Information Services Division, National Health Service Scotland, Edinburgh, UK.

335 Institute of Pharmacy and Biomedical Sciences, University of Strathclyde, Glasgow, UK.

336 Ophthalmic Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

337 Department of Pharmacology and Toxicology, Mekelle University, Mekelle, Ethiopia.

338 Department of Nursing and Midwifery, Addis Ababa University, Addis Ababa, Ethiopia.

339 Department of Psychopharmacology, National Center of Neurology and Psychiatry, Tokyo, Japan.

340 The National Mental Health and Welfare Commission, Seoul, South Korea.

341 Division of Epidemiology, Ohio State University, Columbus, OH, USA.

342 School of Public Health, University of Kinshasa, Kinshasa, Democratic Republic of the Congo.

343 Physiology Research Center, Iran University of Medical Sciences, Tehran, Iran.

344 Department of Epidemiology and Biostatistics, Wuhan University, Wuhan, China.

345 Global Health Institute, Wuhan University, Wuhan, China.

346 Department of Epidemiology, University Hospital of Setif, Setif, Algeria.

347 Department of General Medicine, University Ferhat Abbas of Setif, Setif, Algeria.

348 Student Research Committee, Babol University of Medical Sciences, Babol, Iran.