

Supplementary Materials

**The global burden of type 2 diabetes in adolescents and young adults, 1990-2019:
systematic analysis of the Global Burden of Disease Study**

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Supplementary Methods

1. Data sources

All data used in this study were extracted from the Global Health Data Exchange (<http://ghdx.healthdata.org/gbd-results-tool>) including (1) global age- and sex- specific incidence, mortality, DALYs numbers and crude rates (per 100,000 persons) from 1990 to 2019; (2) Regional age- and sex- specific incidence, mortality, DALYs numbers and crude rates from 1990 to 2019 by SDI categories; (3) National age- and sex- specific incidence, mortality, DALYs numbers and crude rates from 1990 to 2019; (4) GBD world standard population in 2017; (5) Age- and sex- specific type 2 diabetes DALYs numbers and crude rates attributable to risk factors (level 4).

2. Estimation of type 2 diabetes non-fatal burdens in GBD 2019

In the GBD 2019, overall diabetes was defined as fasting plasma glucose ≥ 126 mg/dL (7 mmol/L), or reporting to be on treatment for diabetes. Type 1 diabetes was defined as cases diagnosed by physicians and identified through a diabetic registry or hospital records.

DisMod MR-2.1, a Bayesian meta-regression tool was used to estimate nonfatal burdens of diabetes. It allows evaluation of all available data on burdens for a disease, enforcing consistency between epidemiological parameters (details on page 459-461, Appendix 1 of reference 1). In the GBD 2019, only about 20% of them reported diabetes types. Even the type information was available, diagnostic criteria in the methodological sections were not sufficiently specific and not consistent across data sources. Therefore, the nonfatal burdens of type 2 diabetes were not estimated directly, but indirectly by subtracting the estimation of type 1 diabetes from total diabetes.

To incorporate all available data sources to estimate nonfatal burdens of diabetes, data that reported diabetes diagnosed by other measures of blood glucose (glycated hemoglobin A1c, oral glucose tolerance test, post prandial glucose test) were also included for the estimation of overall diabetes. For type 1 diabetes, data that reported type 1 diabetes, juvenile-onset diabetes, and insulin-dependent diabetes were all included. Considering the case definitions were not totally consistent between data sources, adjustment was applied in the modelling procedure. For example, majority of the data sources on type 1 diabetes in the GBD 2019 were identified through diabetic registry, hospital discharge data review, physician interview, or insulin use, which was considered as the reference method. For the other data sources that used alternative ascertainment techniques (e.g., pharmacy reports, diabetic camps, school reports), they were collapsed and the estimates were adjusted to the reference method in the modeling procedure. Details can be seen on the page 1103-1113, Appendix 1 of the reference 1.¹

3. Estimation of type 2 diabetes fatal burdens in GBD 2019

In the GBD 2019, the Cause of Death Ensemble model (CODEm) was used for fatal burdens estimation of 193 causes including diabetes. This model is an ensemble predictive model, a weighted combination of wide variety of individual models with the highest out-of-sample predictive validity and has been shown to outperform techniques using only a single model both in CoD estimation and in more general prediction applications.

To incorporate all available data, the data source of type 2 diabetes mortality estimation consisted of two parts: one directly from ICD-10 vital registration data, and the other one indirectly from the estimation of proportion of unspecified diabetes deaths that are type 2 diabetes deaths. When estimating the fraction of unspecified diabetes deaths that was type 1 and type 2, a regression model was developed by GBD 2019. To make this model more reliable, data from 703 country-years were used to inform the regression, because these country-years had more than 50% of the deaths typed to type 1 or type 2 and at least 70% of type-specific deaths in people >25 years were coded to type 2. Age and age-standardized obesity prevalence were also included in the model as covariates. Then, all of these data were input into CODEm to estimate type 2 diabetes mortality. A great number of covariates were included in the model such as age-standardized mean fasting plasma glucose, age-standardized prevalence of diabetes, education years per capita, lag-distributed income per capita, mean BMI, mean cholesterol, mean systolic blood pressure, prevalence of obesity, age- and sex-specific summary exposure variable for low fruit, energy-adjusted grams of sugar, age- and sex-specific summary exposure variable for low vegetables, healthcare access and quality index and age- and sex-specific summary exposure variable for alcohol use, all of which are associated with type 2 diabetes mortality based on existing evidence. Details can be seen on the page 345-354, Appendix 1 of the reference 1.¹

4. Estimation of type 2 diabetes burdens attributable to risk factor in GBD 2019

Population attributable fraction (PAF) represents the proportion of outcomes that would decrease in a given population and time if exposed to a counterfactual level of the theoretical minimum risk exposure level (TMREL). Attributable burden is the reduction in current disease burden that would have been possible if population-level exposure of risk factor(s) had shifted to an alternative or counterfactual distribution of risk exposure. It was estimated by multiplying the total burdens of a specific outcome by the PAF. In GBD 2019, there were 6 steps to estimate attributable burdens: (1) inclusion of risk–outcome pairs in the analysis; (2) estimation of relative risk as a function of exposure; (3) estimation of exposure levels and distributions; (4) determination of the TMREL, the level of exposure with minimum risk; (5) computation of PAF and attributable burden and (6) estimation of mediation of different risk factors through other risk factors to compute the burden attributable to various combinations of risk factors. Details has been published elsewhere.² GBD 2019 has estimated 17 attributable risk factors (level 4) for type 2 diabetes DALYs among people aged

15-39 years old. Because the protective effect of moderate alcohol consumption on type 2 diabetes remains debatable,³ and high fasting plasma glucose is considered to be the risk factor that has 100% PAF for diabetes in GBD 2019,² we excluded these two risk factors in our analysis. Overall, There were 15 attributable risk factors for early-onset type 2 diabetes included. Definitions of these attributable risk factors are listed as follows:

- 1) High body-mass index (BMI) was defined as BMI greater than 25 kg/m² for adults (ages 20+) and being overweight or obese based on International Obesity Task Force standards for children (ages 1–19).
- 2) Smoking was defined as current smokers (defined as individuals who currently use any smoked tobacco product on a daily or occasional basis) and former smokers (defined as individuals who quit using all smoked tobacco products for at least six months, where possible, or according to the definition used by the survey).
- 3) Secondhand smoke exposure was defined as current exposure to secondhand tobacco smoke at home, at work, or in other public places. Only non-smokers were considered to be exposed to secondhand smoke.
- 4) Diet low in fruit was defined as average daily consumption (in grams per day) of less than 310-340 grams of fruit including fresh, frozen, cooked, canned, or dried fruit, excluding fruit juices and salted or pickled fruits.
- 5) Diet low in whole grains was defined as average daily consumption (in grams per day) of less than 140-160 grams of whole grains (bran, germ, and endosperm in their natural proportion) from breakfast cereals, bread, rice, pasta, biscuits, muffins, tortillas, pancakes, and other sources.
- 6) Diet low in nuts and seeds was defined as average daily consumption (in grams per day) of less than 10-19 grams of nuts and seeds, including tree nuts and seeds and peanuts.
- 7) Diet low in fiber was defined as average daily consumption (in grams per day) of less than 21-22 grams of fiber from all sources including fruits, vegetables, grains, legumes, and pulses.
- 8) Diet high in red meat was defined as any intake (in grams per day) of red meat including beef, pork, lamb, and goat but excluding poultry, fish, eggs, and all processed meats.
- 9) Diet high in processed meat was defined as any intake (in grams per day) of meat preserved by smoking, curing, salting, or addition of chemical preservatives.
- 10) Diet high in sugar-sweetened beverages was defined as any intake (in grams per day) of beverages with ≥ 50 kcal per 226.8 gram serving, including carbonated beverages, sodas, energy drinks, fruit drinks, but excluding 100% fruit and vegetable juices.
- 11) Only adults older than 25 years of age were measured for physical activity. Frequency, duration and intensity of activity were used to calculate total metabolic equivalent-minutes per week. MET (Metabolic Equivalent) is the ratio of the working metabolic rate to the resting metabolic rate. One MET is equivalent to 1 kcal/kg/hour and is equal to the energy cost of sitting

quietly. A MET is also defined as the oxygen uptake in ml/kg/min with one MET equal to the oxygen cost of sitting quietly, around 3.5 ml/kg/min.

- 12) High temperature (heat) exposure was defined as exposure to temperatures warmer than TMREL and low temperature (cold) was defined as temperatures colder than this TMREL.
- 13) Exposure to ambient particulate matter pollution was defined as the population-weighted annual average mass concentration of particles with an aerodynamic diameter less than 2.5 micrometers (PM_{2.5}) in a cubic meter of air. This measurement was reported in µg/m³.
- 14) Exposure to household air pollution from solid fuels was estimated from both the proportion of individuals using solid cooking fuels and the level of PM_{2.5} air pollution exposure for these individuals. Solid fuels in GBD's analysis included coal, wood, charcoal, dung, and agricultural residues.

5.Socio-demographic index (SDI)

The SDI is a summary indicator of a country's lag-distributed income per capita, average years of schooling, and the fertility rate in females under age 25 years, which is calculated by rescaling each component by selected health indicators to obtain a value between 0.005 to 1, then taking the geometric mean of those rescaled values and multiplying by 100. It is used to capture background social and economic conditions that shape health outcomes in a given location, with higher values indicating more socioeconomically developed. When determining quintiles for analysis, country-level estimates of SDI for the year 2019, excluding countries with populations less than 1 million, were used to calculate the cutoff values. Finally, the 204 countries and territories covered in the GBD 2019 were divided into five SDI quintiles (low, low-middle, middle, high-middle, and high). Details can be seen on the page 1431-1433, Appendix 1 of the reference 1.¹

6.Uncertainty interval (UI)

In GBD 2019, uncertainty is propagated throughout all the modelling processes by calculating 1000 values for each incidence, mortality and DALY estimate and performing aggregations across causes and locations at the level of each of the 1000 values for all intermediate steps in the process. The lower and upper bounds of the 95% UI are the 25th and 975th values of the ordered 1000 values.

Reference:

1. Vos T, Lim SS, Abbafati C, et al. Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *The Lancet* 2020;396(10258):1204–22. doi: 10.1016/s0140-6736(20)30925-9
2. Collaborators GBDRF. Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *Lancet* 2020;396(10258):1223–49. doi: 10.1016/S0140-6736(20)30752-2
3. Knott C, Bell S, Britton A. Alcohol Consumption and the Risk of Type 2 Diabetes: A Systematic Review and Dose-Response Meta-analysis of More Than 1.9 Million Individuals From 38 Observational Studies. *Diabetes Care* 2015;38(9):1804–12. doi: 10.2337/dc15-0710

Supplementary Table 1 Early-onset type 2 diabetes burden globally, by SDI categories and GBD regions from 1990 to 2019												
Categories	Both sexes				Women				Men			
	Rates in 1990 (95% CI)	Rates in 2019 (95% CI)	AAPC, % (95% CI)	<i>P</i>	Rates in 1990 (95% CI)	Rates in 2019 (95% CI)	AAPC, % (95% CI)	<i>P</i>	Rates in 1990 (95% CI)	Rates in 2019 (95% CI)	AAPC, % (95% CI)	<i>P</i>
Age-standardized incidence												
Global	117.22 (117.07, 117.36)	183.36 (183.21, 183.51)	1.55 (1.48, 1.61)	<0.001	104.67 (104.47, 104.86)	160.82 (160.62, 161.03)	1.49 (1.44, 1.53)	<0.001	129.46 (129.25, 129.68)	205.53 (205.30, 205.76)	1.60 (1.56, 1.64)	<0.001
High SDI	102.43 (102.09, 102.77)	181.46 (181.02, 181.91)	1.99 (1.87, 2.12)	<0.001	84.44 (84.00, 84.89)	158.27 (157.67, 158.88)	2.16 (1.94, 2.38)	<0.001	119.95 (119.43, 120.47)	203.09 (202.43, 203.74)	1.82 (1.59, 2.06)	<0.001
High-middle SDI	114.81 (114.51, 115.12)	174.67 (174.32, 175.03)	1.46 (1.39, 1.53)	<0.001	100.71 (100.31, 101.12)	147.69 (147.22, 148.16)	1.33 (1.27, 1.39)	<0.001	128.46 (128.01, 128.91)	200.00 (199.48, 200.52)	1.54 (1.46, 1.62)	<0.001
Middle SDI	125.00 (124.74, 125.26)	189.37 (189.10, 189.65)	1.44 (1.35, 1.52)	<0.001	114.28 (113.92, 114.64)	167.11 (166.74, 167.48)	1.32 (1.25, 1.39)	<0.001	135.40 (135.02, 135.79)	211.49 (211.08, 211.90)	1.55 (1.45, 1.64)	<0.001
Low-middle SDI	123.71 (123.37, 124.06)	201.17 (200.84, 201.50)	1.67 (1.59, 1.75)	<0.001	112.70 (112.24, 113.17)	175.57 (175.14, 176.01)	1.51 (1.38, 1.64)	<0.001	134.46 (133.95, 134.96)	226.81 (226.32, 227.31)	1.79 (1.69, 1.90)	<0.001
Low SDI	101.22 (100.75, 101.70)	151.20 (150.82, 151.58)	1.38 (1.34, 1.42)	<0.001	93.89 (93.25, 94.53)	139.49 (138.98, 140.00)	1.36 (1.32, 1.39)	<0.001	108.81 (108.12, 109.51)	163.35 (162.79, 163.92)	1.40 (1.36, 1.44)	<0.001
Andean Latin America	63.62 (62.30, 64.96)	107.98 (106.71, 109.27)	1.84 (1.80, 1.88)	<0.001	63.36 (61.53, 65.24)	106.00 (104.22, 107.8)	1.78 (1.71, 1.84)	<0.001	63.90 (62.01, 65.83)	110.06 (108.24, 111.90)	1.90 (1.84, 1.97)	<0.001
Australasia	55.66 (54.08, 57.28)	99.84 (97.93, 101.78)	1.96 (1.66, 2.27)	<0.001	53.00 (50.82, 55.24)	95.42 (92.78, 98.12)	2.03 (1.90, 2.15)	<0.001	58.37 (56.08, 60.73)	104.52 (101.75, 107.34)	1.91 (1.39, 2.42)	<0.001
Caribbean	158.53 (156.45, 160.64)	237.21 (234.98, 239.47)	1.40 (1.37, 1.43)	<0.001	158.76 (155.87, 161.69)	252.50 (249.25, 255.77)	1.60 (1.57, 1.63)	<0.001	158.61 (155.61, 161.65)	221.96 (218.89, 225.07)	1.16 (1.12, 1.20)	<0.001
Central Asia	102.21 (101.02, 103.42)	176.09 (174.77, 177.42)	1.90 (1.84, 1.96)	<0.001	103.22 (101.53, 104.93)	183.69 (181.77, 185.62)	2.01 (1.84, 2.19)	<0.001	101.28 (99.59, 102.99)	168.69 (166.88, 170.53)	1.81 (1.59, 2.02)	<0.001
Central Europe	120.35 (119.36, 121.34)	186.02 (184.66, 187.39)	1.51 (1.46, 1.56)	<0.001	97.51 (96.24, 98.79)	147.38 (145.64, 149.14)	1.42 (1.32, 1.51)	<0.001	142.67 (141.17, 144.18)	223.09 (221.02, 225.17)	1.55 (1.50, 1.60)	<0.001
Central Latin America	175.41 (174.37, 176.45)	272.28 (271.26, 273.30)	1.56 (1.32, 1.80)	<0.001	171.65 (170.22, 173.09)	261.97 (260.58, 263.38)	1.45 (1.37, 1.52)	<0.001	179.47 (177.96, 180.99)	283.75 (282.26, 285.25)	1.59 (1.46, 1.71)	<0.001
Central Sub-Saharan Africa	102.80 (101.35, 104.26)	151.22 (150.12, 152.32)	1.34 (1.31, 1.38)	<0.001	95.00 (93.04, 96.98)	138.54 (137.05, 140.05)	1.32 (1.23, 1.40)	<0.001	110.72 (108.60, 112.87)	164.08 (162.46, 165.72)	1.37 (1.32, 1.42)	<0.001
East Asia	132.05 (131.75, 132.36)	199.23 (198.85, 199.62)	1.42 (1.24, 1.61)	<0.001	110.95 (110.55, 111.35)	150.25 (149.77, 150.73)	1.04 (0.74, 1.34)	<0.001	151.86 (151.41, 152.32)	245.77 (245.18, 246.36)	1.67 (1.53, 1.82)	<0.001
Eastern Europe	88.55 (87.93, 89.17)	111.64 (110.87, 112.41)	0.82 (0.77, 0.88)	<0.001	82.86 (82.01, 83.71)	103.70 (102.66, 104.76)	0.78 (0.74, 0.81)	<0.001	94.24 (93.35, 95.14)	119.50 (118.39, 120.62)	0.85 (0.73, 0.96)	<0.001
Eastern Sub-Saharan Africa	74.62 (73.95, 75.30)	92.27 (91.79, 92.75)	0.72 (0.71, 0.74)	<0.001	76.68 (75.73, 77.64)	90.25 (89.58, 90.92)	0.55 (0.52, 0.58)	<0.001	72.40 (71.46, 73.36)	94.34 (93.65, 95.04)	0.92 (0.88, 0.95)	<0.001
High-income Asia Pacific	97.62 (96.88, 98.37)	140.88 (139.89, 141.88)	1.27 (1.15, 1.38)	<0.001	70.15 (69.26, 71.06)	110.30 (109.03, 111.58)	1.57 (1.52, 1.62)	<0.001	124.36 (123.18, 125.54)	169.50 (167.99, 171.01)	1.08 (0.89, 1.27)	<0.001
High-income North America	120.45	183.97	1.46	<0.001	103.44	173.20	1.78	<0.001	137.70	195.16	1.21	<0.001

	(119.83, 121.07)	(183.23, 184.72)	(1.17, 1.76)		(102.63, 104.26)	(172.17, 174.23)	(1.63, 1.92)		(136.77, 138.63)	(194.09, 196.25)	(0.94, 1.49)	
North Africa and Middle East	217.66 (216.83, 218.5)	410.30 (409.53, 411.08)	2.23 (2.17, 2.29)	<0.001	221.34 (220.13, 222.56)	411.46 (410.33, 412.59)	2.17 (2.1, 2.24)	<0.001	214.19 (213.03, 215.35)	409.33 (408.25, 410.40)	2.27 (2.23, 2.32)	<0.001
Oceania	309.24 (302.31, 316.29)	535.88 (529.66, 542.16)	1.91 (1.82, 2.00)	<0.001	261.22 (252.09, 270.61)	463.59 (455.37, 471.93)	2.00 (1.93, 2.06)	<0.001	354.97 (344.66, 365.54)	605.89 (596.61, 615.29)	1.89 (1.73, 2.04)	<0.001
South Asia	287.10 (286.57, 287.63)	470.41 (469.91, 470.91)	1.67 (1.53, 1.81)	<0.001	252.48 (251.77, 253.20)	393.79 (393.14, 394.44)	1.51 (1.42, 1.60)	<0.001	319.35 (318.56, 320.13)	544.65 (543.89, 545.40)	1.84 (1.79, 1.89)	<0.001
Southeast Asia	98.60 (98.15, 99.06)	150.21 (149.76, 150.67)	1.46 (1.35, 1.57)	<0.001	99.75 (99.11, 100.39)	148.83 (148.18, 149.48)	1.39 (1.28, 1.49)	<0.001	97.46 (96.82, 98.11)	151.58 (150.94, 152.23)	1.55 (1.42, 1.69)	<0.001
Southern Latin America	67.23 (66.06, 68.42)	134.92 (133.51, 136.34)	2.47 (2.31, 2.63)	<0.001	64.93 (63.32, 66.57)	130.02 (128.07, 131.99)	2.45 (2.34, 2.56)	<0.001	69.65 (67.95, 71.38)	140.09 (138.06, 142.15)	2.50 (2.25, 2.76)	<0.001
Southern Sub-Saharan Africa	92.94 (91.60, 94.29)	123.80 (122.62, 124.99)	0.99 (0.96, 1.02)	<0.001	104.37 (102.41, 106.37)	137.95 (136.19, 139.73)	0.95 (0.90, 1.00)	<0.001	80.68 (78.89, 82.50)	109.57 (107.99, 111.16)	1.05 (1.03, 1.08)	<0.001
Tropical Latin America	120.99 (120.12, 121.87)	147.54 (146.75, 148.33)	0.68 (0.61, 0.74)	<0.001	115.99 (114.8, 117.20)	139.73 (138.65, 140.81)	0.63 (0.55, 0.71)	<0.001	126.23 (124.95, 127.52)	155.55 (154.41, 156.70)	0.70 (0.63, 0.77)	<0.001
Western Europe	78.55 (78.10, 79.01)	171.22 (170.51, 171.92)	2.71 (2.51, 2.90)	<0.001	65.54 (64.95, 66.14)	143.87 (142.95, 144.80)	2.72 (2.63, 2.82)	<0.001	91.34 (90.65, 92.03)	197.82 (196.77, 198.87)	2.66 (2.49, 2.84)	<0.001
Western Sub-Saharan Africa	53.85 (53.28, 54.42)	80.18 (79.75, 80.62)	1.35 (1.19, 1.51)	<0.001	53.48 (52.68, 54.28)	79.03 (78.43, 79.63)	1.32 (1.22, 1.43)	<0.001	54.23 (53.42, 55.06)	81.50 (80.86, 82.14)	1.40 (1.36, 1.45)	<0.001
Age-standardized DALY												
Global	106.34 (106.20, 106.48)	149.61 (149.47, 149.75)	1.19 (1.05, 1.33)	<0.001	103.53 (103.33, 103.72)	139.15 (138.96, 139.34)	1.03 (0.95, 1.12)	<0.001	109.06 (108.85, 109.26)	159.96 (159.76, 160.16)	1.34 (1.24, 1.43)	<0.001
High SDI	60.92 (60.66, 61.18)	107.84 (107.50, 108.17)	2.01 (1.95, 2.06)	<0.001	54.41 (54.06, 54.77)	98.14 (97.68, 98.60)	2.07 (1.94, 2.19)	<0.001	67.30 (66.92, 67.69)	116.89 (116.40, 117.37)	1.91 (1.77, 2.05)	<0.001
High-middle SDI	87.25 (86.99, 87.52)	115.83 (115.56, 116.11)	1.02 (0.95, 1.09)	<0.001	80.97 (80.61, 81.33)	100.54 (100.17, 100.91)	0.79 (0.67, 0.91)	<0.001	93.34 (92.95, 93.72)	130.30 (129.90, 130.71)	1.16 (1.04, 1.28)	<0.001
Middle SDI	126.30 (126.04, 126.57)	162.40 (162.15, 162.66)	0.88 (0.72, 1.05)	<0.001	121.69 (121.32, 122.07)	147.74 (147.40, 148.08)	0.68 (0.42, 0.94)	<0.001	130.68 (130.30, 131.07)	177.09 (176.72, 177.46)	1.06 (0.90, 1.23)	<0.001
Low-middle SDI	122.72 (122.38, 123.07)	174.20 (173.89, 174.51)	1.21 (1.09, 1.32)	<0.001	127.43 (126.93, 127.93)	166.02 (165.59, 166.44)	0.90 (0.82, 0.99)	<0.001	118.08 (117.60, 118.56)	182.46 (182.02, 182.91)	1.48 (1.41, 1.55)	<0.001
Low SDI	128.56 (128.02, 129.11)	157.81 (157.41, 158.21)	0.70 (0.65, 0.76)	<0.001	131.02 (130.25, 131.79)	156.22 (155.67, 156.78)	0.60 (0.53, 0.67)	<0.001	126.06 (125.3, 126.83)	159.56 (158.99, 160.13)	0.79 (0.75, 0.83)	<0.001
Andean Latin America	78.47 (76.97, 79.98)	112.03 (110.73, 113.35)	1.24 (1.00, 1.48)	<0.001	83.18 (81.04, 85.36)	110.69 (108.87, 112.53)	0.88 (0.63, 1.12)	<0.001	73.54 (71.47, 75.67)	113.61 (111.74, 115.49)	1.53 (1.34, 1.72)	<0.001
Australasia	32.09 (30.89, 33.31)	50.24 (48.91, 51.61)	1.49 (1.16, 1.82)	<0.001	30.95 (29.30, 32.67)	50.05 (48.18, 51.97)	1.62 (1.38, 1.86)	<0.001	33.25 (31.53, 35.03)	50.51 (48.62, 52.46)	1.36 (0.89, 1.83)	<0.001
Caribbean	237.68 (235.07, 240.31)	293.15 (290.66, 295.66)	0.73 (0.62, 0.84)	<0.001	280.82 (276.90, 284.80)	337.48 (333.73, 341.26)	0.64 (0.50, 0.79)	<0.001	192.60 (189.20, 196.05)	248.13 (244.87, 251.43)	0.89 (0.77, 1.01)	<0.001
Central Asia	81.48 (80.40, 82.57)	132.15 (131.01, 133.3)	1.71 (1.65, 1.76)	<0.001	86.07 (84.51, 87.65)	142.00 (140.33, 143.69)	1.74 (1.67, 1.82)	<0.001	76.88 (75.38, 78.40)	122.57 (121.03, 124.13)	1.63 (1.47, 1.78)	<0.001
Central Europe	78.94	103.95	0.93	<0.001	68.54	87.01	0.78	<0.001	89.17	120.25	1.02	<0.001

	(78.16, 79.73)	(102.98, 104.93)	(0.77, 1.08)		(67.50, 69.59)	(85.74, 88.30)	(0.63, 0.94)		(88.01, 90.35)	(118.80, 121.72)	(0.93, 1.11)	
Central Latin America	231.52 (230.30, 232.76)	290.87 (289.82, 291.94)	0.79 (0.58, 1.00)	<0.001	227.98 (226.29, 229.67)	280.87 (279.42, 282.32)	0.70 (0.47, 0.92)	<0.001	235.36 (233.57, 237.16)	302.16 (300.62, 303.72)	0.87 (0.63, 1.10)	<0.001
Central Sub-Saharan Africa	164.82 (162.93, 166.73)	181.34 (180.09, 182.60)	0.30 (0.21, 0.39)	<0.001	143.14 (140.67, 145.65)	155.35 (153.72, 156.99)	0.30 (0.14, 0.46)	<0.001	187.15 (184.27, 190.05)	207.85 (205.95, 209.76)	0.38 (0.28, 0.49)	<0.001
East Asia	88.89 (88.64, 89.14)	121.12 (120.84, 121.40)	1.09 (0.75, 1.43)	<0.001	76.11 (75.77, 76.45)	90.37 (90.02, 90.72)	0.67 (0.37, 0.98)	<0.001	100.81 (100.44, 101.19)	150.70 (150.26, 151.14)	1.45 (1.21, 1.69)	<0.001
Eastern Europe	57.18 (56.69, 57.66)	65.50 (64.96, 66.06)	0.48 (0.35, 0.61)	<0.001	54.24 (53.58, 54.92)	59.95 (59.20, 60.70)	0.35 (0.22, 0.48)	<0.001	60.16 (59.46, 60.86)	71.09 (70.29, 71.91)	0.64 (0.48, 0.80)	<0.001
Eastern Sub-Saharan Africa	142.58 (141.61, 143.55)	129.01 (128.41, 129.60)	-0.35 (-0.46, -0.25)	<0.001	145.79 (144.42, 147.16)	116.48 (115.69, 117.26)	-0.78 (-0.83, -0.72)	<0.001	139.16 (137.78, 140.54)	142.44 (141.55, 143.34)	0.06 (-0.05, 0.17)	0.263
High-income Asia Pacific	53.66 (53.11, 54.21)	76.97 (76.27, 77.68)	1.24 (1.06, 1.42)	<0.001	42.31 (41.62, 43.01)	64.55 (63.62, 65.49)	1.47 (1.27, 1.66)	<0.001	64.72 (63.88, 65.57)	88.62 (87.58, 89.67)	1.07 (0.85, 1.28)	<0.001
High-income North America	65.17 (64.72, 65.62)	104.66 (104.10, 105.22)	1.65 (1.49, 1.80)	<0.001	61.35 (60.74, 61.97)	105.99 (105.19, 106.79)	1.90 (1.76, 2.04)	<0.001	69.11 (68.46, 69.77)	103.48 (102.69, 104.27)	1.40 (1.20, 1.60)	<0.001
North Africa and Middle East	204.13 (203.30, 204.97)	298.62 (297.96, 299.28)	1.34 (1.25, 1.43)	<0.001	227.14 (225.88, 228.40)	312.85 (311.87, 313.84)	1.13 (1.04, 1.22)	<0.001	182.32 (181.22, 183.43)	285.59 (284.70, 286.49)	1.58 (1.51, 1.64)	<0.001
Oceania	457.16 (448.37, 466.09)	719.43 (712.06, 726.86)	1.57 (1.47, 1.68)	<0.001	364.82 (353.61, 376.30)	602.77 (593.23, 612.43)	1.74 (1.61, 1.87)	<0.001	545.18 (531.79, 558.84)	836.40 (825.18, 847.75)	1.47 (1.38, 1.56)	<0.001
South Asia	236.66 (236.17, 237.15)	361.33 (360.89, 361.77)	1.42 (1.29, 1.56)	<0.001	242.78 (242.07, 243.48)	343.73 (343.13, 344.34)	1.17 (0.93, 1.41)	<0.001	230.78 (230.11, 231.46)	378.57 (377.94, 379.21)	1.70 (1.44, 1.96)	<0.001
Southeast Asia	188.64 (188.00, 189.28)	199.81 (199.28, 200.34)	0.23 (0.13, 0.33)	<0.001	184.62 (183.73, 185.51)	186.86 (186.14, 187.58)	0.06 (-0.04, 0.17)	0.243	192.80 (191.88, 193.72)	212.56 (211.80, 213.32)	0.38 (0.21, 0.54)	<0.001
Southern Latin America	47.39 (46.41, 48.40)	78.76 (77.69, 79.84)	1.78 (1.67, 1.89)	<0.001	52.99 (51.53, 54.49)	81.59 (80.06, 83.14)	1.47 (1.23, 1.71)	<0.001	41.69 (40.36, 43.04)	75.98 (74.50, 77.50)	2.10 (1.87, 2.33)	<0.001
Southern Sub-Saharan Africa	157.11 (155.33, 158.90)	177.29 (175.88, 178.72)	0.43 (-0.39, 1.26)	0.301	169.37 (166.81, 171.97)	162.29 (160.38, 164.22)	-0.07 (-0.81, 0.68)	0.863	143.87 (141.42, 146.35)	192.31 (190.22, 194.41)	0.96 (0.51, 1.41)	<0.001
Tropical Latin America	170.11 (169.06, 171.17)	141.08 (140.32, 141.84)	-0.63 (-0.77, -0.48)	<0.001	165.31 (163.87, 166.76)	132.28 (131.25, 133.32)	-0.76 (-0.93, -0.59)	<0.001	175.31 (173.78, 176.86)	150.28 (149.17, 151.40)	-0.53 (-0.65, -0.40)	<0.001
Western Europe	50.61 (50.25, 50.97)	100.61 (100.09, 101.13)	2.41 (2.27, 2.54)	<0.001	44.88 (44.40, 45.37)	87.61 (86.92, 88.31)	2.38 (2.13, 2.63)	<0.001	56.27 (55.73, 56.81)	113.45 (112.68, 114.22)	2.40 (2.20, 2.59)	<0.001
Western Sub-Saharan Africa	80.77 (80.07, 81.48)	108.57 (108.05, 109.08)	1.01 (0.95, 1.07)	<0.001	90.33 (89.28, 91.39)	118.69 (117.95, 119.44)	0.95 (0.88, 1.02)	<0.001	71.22 (70.29, 72.16)	97.41 (96.70, 98.12)	1.07 (0.94, 1.21)	<0.001
Age-standardized mortality												
Global	0.74 (0.72, 0.75)	0.77 (0.76, 0.78)	0.18 (0.11, 0.25)	<0.001	0.74 (0.72, 0.75)	0.72 (0.71, 0.73)	-0.06 (-0.13, 0.01)	0.102	0.73 (0.72, 0.75)	0.83 (0.81, 0.84)	0.43 (0.28, 0.59)	<0.001
High SDI	0.34 (0.32, 0.36)	0.28 (0.26, 0.30)	-0.66 (-0.99, -0.33)	<0.001	0.32 (0.29, 0.35)	0.25 (0.23, 0.27)	-0.86 (-1.07, -0.65)	<0.001	0.36 (0.33, 0.39)	0.31 (0.28, 0.33)	-0.56 (-0.84, -0.28)	<0.001
High-middle SDI	0.44 (0.42, 0.46)	0.37 (0.35, 0.38)	-0.59 (-0.76, -0.43)	<0.001	0.41 (0.39, 0.44)	0.31 (0.29, 0.33)	-0.99 (-1.33, -0.65)	<0.001	0.46 (0.44, 0.49)	0.42 (0.40, 0.45)	-0.35 (-0.60, -0.10)	0.007
Middle SDI	0.95	0.94	0.01	0.942	0.91	0.82	-0.34	<0.001	0.98	1.06	0.31	<0.001

	(0.93, 0.97)	(0.92, 0.96)	(-0.16, 0.17)		(0.88, 0.94)	(0.79, 0.85)	(-0.49, -0.18)		(0.95, 1.02)	(1.03, 1.09)	(0.16, 0.46)	
Low-middle SDI	0.90 (0.87, 0.93)	0.98 (0.95, 1.00)	0.31 (0.04, 0.57)	0.024	0.99 (0.94, 1.03)	0.94 (0.91, 0.97)	-0.16 (-0.35, 0.03)	0.097	0.81 (0.77, 0.85)	1.02 (0.98, 1.05)	0.81 (0.46, 1.16)	<0.001
Low SDI	1.12 (1.07, 1.17)	1.03 (1.00, 1.07)	-0.27 (-0.33, -0.20)	<0.001	1.18 (1.11, 1.25)	1.06 (1.01, 1.11)	-0.36 (-0.47, -0.24)	<0.001	1.06 (0.99, 1.13)	1.01 (0.96, 1.06)	-0.16 (-0.34, 0.01)	0.070
Andean Latin America	0.74 (0.60, 0.91)	0.82 (0.71, 0.94)	0.36 (-0.14, 0.87)	0.160	0.81 (0.61, 1.05)	0.78 (0.63, 0.95)	-0.44 (-0.74, -0.14)	0.004	0.67 (0.49, 0.91)	0.86 (0.71, 1.04)	0.87 (0.51, 1.23)	<0.001
Australasia	0.18 (0.10, 0.30)	0.17 (0.10, 0.28)	-0.20 (-0.53, 0.14)	0.258	0.17 (0.07, 0.35)	0.15 (0.07, 0.31)	-0.39 (-0.73, -0.04)	0.027	0.20 (0.09, 0.39)	0.19 (0.09, 0.37)	-0.06 (-0.66, 0.55)	0.852
Caribbean	2.01 (1.77, 2.26)	1.89 (1.69, 2.10)	-0.20 (-0.44, 0.05)	0.121	2.47 (2.12, 2.87)	2.13 (1.84, 2.45)	-0.50 (-0.81, -0.19)	0.002	1.52 (1.23, 1.86)	1.65 (1.39, 1.94)	0.31 (-0.25, 0.88)	0.281
Central Asia	0.29 (0.23, 0.37)	0.52 (0.45, 0.60)	2.01 (1.58, 2.44)	<0.001	0.29 (0.21, 0.40)	0.53 (0.43, 0.65)	2.03 (1.67, 2.39)	<0.001	0.29 (0.21, 0.40)	0.51 (0.42, 0.62)	1.89 (1.29, 2.50)	<0.001
Central Europe	0.31 (0.26, 0.36)	0.18 (0.14, 0.23)	-1.82 (-2.10, -1.54)	<0.001	0.27 (0.21, 0.34)	0.15 (0.10, 0.22)	-1.99 (-2.29, -1.68)	<0.001	0.35 (0.28, 0.43)	0.21 (0.16, 0.29)	-1.78 (-2.16, -1.40)	<0.001
Central Latin America	2.00 (1.88, 2.11)	1.90 (1.82, 1.99)	-0.14 (-0.51, 0.24)	0.480	1.85 (1.70, 2.01)	1.57 (1.46, 1.68)	-0.55 (-1.12, 0.03)	0.061	2.15 (1.98, 2.33)	2.27 (2.13, 2.41)	0.27 (-0.12, 0.66)	0.169
Central Sub-Saharan Africa	1.61 (1.43, 1.81)	1.23 (1.12, 1.33)	-0.98 (-1.06, -0.89)	<0.001	1.34 (1.11, 1.61)	0.97 (0.84, 1.11)	-1.15 (-1.24, -1.06)	<0.001	1.89 (1.61, 2.2)	1.49 (1.33, 1.66)	-0.89 (-1.05, -0.73)	<0.001
East Asia	0.31 (0.29, 0.32)	0.27 (0.25, 0.28)	-0.30 (-0.71, 0.11)	0.150	0.25 (0.23, 0.27)	0.16 (0.15, 0.18)	-1.52 (-2.45, -0.59)	0.001	0.36 (0.34, 0.38)	0.37 (0.35, 0.39)	0.16 (-0.44, 0.77)	0.601
Eastern Europe	0.14 (0.11, 0.16)	0.17 (0.14, 0.20)	0.85 (-0.02, 1.72)	0.056	0.11 (0.08, 0.14)	0.14 (0.10, 0.18)	0.90 (0.14, 1.68)	0.021	0.17 (0.13, 0.21)	0.21 (0.16, 0.26)	0.81 (-0.16, 1.78)	0.103
Eastern Sub-Saharan Africa	1.51 (1.41, 1.61)	1.01 (0.95, 1.06)	-1.39 (-1.55, -1.23)	<0.001	1.55 (1.41, 1.69)	0.83 (0.76, 0.90)	-2.14 (-2.25, -2.03)	<0.001	1.47 (1.33, 1.62)	1.20 (1.11, 1.28)	-0.71 (-0.86, -0.55)	<0.001
High-income Asia Pacific	0.34 (0.29, 0.38)	0.15 (0.12, 0.18)	-2.82 (-3.29, -2.34)	<0.001	0.29 (0.23, 0.35)	0.13 (0.09, 0.18)	-2.76 (-3.28, -2.23)	<0.001	0.38 (0.32, 0.45)	0.17 (0.12, 0.22)	-2.89 (-3.34, -2.44)	<0.001
High-income North America	0.48 (0.44, 0.52)	0.43 (0.39, 0.46)	-0.39 (-0.80, 0.01)	0.057	0.47 (0.42, 0.53)	0.38 (0.34, 0.43)	-0.73 (-1.06, -0.39)	<0.001	0.50 (0.44, 0.55)	0.47 (0.42, 0.53)	-0.16 (-0.70, 0.38)	0.563
North Africa and Middle East	1.39 (1.32, 1.46)	1.17 (1.13, 1.21)	-0.59 (-0.77, -0.41)	<0.001	1.67 (1.56, 1.78)	1.34 (1.28, 1.41)	-0.73 (-0.95, -0.52)	<0.001	1.13 (1.04, 1.22)	1.01 (0.96, 1.07)	-0.4 (-0.66, -0.15)	0.002
Oceania	4.83 (3.95, 5.84)	7.11 (6.39, 7.89)	1.32 (1.16, 1.48)	<0.001	3.65 (2.59, 5.00)	5.77 (4.87, 6.8)	1.62 (1.32, 1.92)	<0.001	5.95 (4.62, 7.57)	8.46 (7.36, 9.68)	1.17 (0.99, 1.34)	<0.001
South Asia	1.28 (1.25, 1.32)	1.55 (1.52, 1.58)	0.70 (0.27, 1.14)	0.001	1.42 (1.37, 1.47)	1.55 (1.51, 1.59)	0.29 (-0.12, 0.70)	0.160	1.16 (1.11, 1.21)	1.56 (1.52, 1.60)	1.13 (0.36, 1.91)	0.004
Southeast Asia	2.25 (2.18, 2.32)	1.99 (1.94, 2.04)	-0.39 (-0.60, -0.17)	<0.001	2.14 (2.05, 2.24)	1.75 (1.68, 1.82)	-0.68 (-0.84, -0.51)	<0.001	2.35 (2.25, 2.46)	2.23 (2.15, 2.31)	-0.13 (-0.39, 0.12)	0.300
Southern Latin America	0.44 (0.35, 0.55)	0.36 (0.29, 0.44)	-0.69 (-1.06, -0.33)	<0.001	0.50 (0.37, 0.67)	0.38 (0.29, 0.51)	-0.95 (-1.42, -0.48)	<0.001	0.38 (0.26, 0.53)	0.34 (0.25, 0.46)	-0.37 (-0.76, 0.01)	0.057
Southern Sub-Saharan Africa	1.68 (1.50, 1.88)	1.56 (1.43, 1.70)	-0.22 (-1.47, 1.04)	0.730	1.73 (1.48, 2.01)	1.14 (0.99, 1.31)	-1.37 (-3.00, 0.29)	0.105	1.63 (1.37, 1.91)	1.98 (1.77, 2.20)	0.58 (-0.09, 1.26)	0.090

Tropical Latin America	1.73 (1.62, 1.84)	0.95 (0.89, 1.01)	-2.01 (-2.31, -1.71)	<0.001	1.64 (1.50, 1.79)	0.89 (0.80, 0.98)	-2.07 (-2.21, -1.93)	<0.001	1.82 (1.67, 1.98)	1.01 (0.92, 1.11)	-1.96 (-2.20, -1.72)	<0.001
Western Europe	0.18 (0.16, 0.2)	0.1 (0.09, 0.12)	-1.92 (-2.21, -1.63)	<0.001	0.16 (0.13, 0.19)	0.09 (0.07, 0.11)	-1.95 (-2.25, -1.66)	<0.001	0.2 (0.17, 0.23)	0.12 (0.09, 0.14)	-1.91 (-2.35, -1.46)	<0.001
Western Sub-Saharan Africa	0.81 (0.74, 0.88)	0.96 (0.91, 1.00)	0.61 (0.45, 0.77)	<0.001	0.97 (0.87, 1.09)	1.14 (1.07, 1.22)	0.56 (0.39, 0.73)	<0.001	0.65 (0.56, 0.74)	0.75 (0.69, 0.81)	0.50 (0.28, 0.72)	<0.001

Estimates are for individuals aged 15–39 years. Values in parentheses are 95% uncertainty intervals (UIs) or confidence intervals (CIs). Rates are reported per 100000 person-years. Bold within the table means the average annual percent change (AAPC) is statistically significant ($P\leq0.05$). UI=uncertainty interval. CI=confidence interval. AAPC=average annual percent change. SDI=Socio-demographic Index. DALY=disability-adjusted life year. $P=P$ value for the significant test of AAPC.

Supplementary Table 2 Age-specific AAPC of early-onset type 2 diabetes burden from 1990 to 2019 globally and by SDI categories																					
Location	Sex	15 to 19				20 to 24				25 to 29				30 to 34				35 to 39			
		Rates in 1990 (95% UI)	Rates in 2019 (95% UI)	AAPC, % (95% CI)	<i>P</i>	Rates in 1990 (95% UI)	Rates in 2019 (95% UI)	AAPC, % (95% CI)	<i>P</i>	Rates in 1990 (95% UI)	Rates in 2019 (95% UI)	AAPC, % (95% CI)	<i>P</i>	Rates in 1990 (95% UI)	Rates in 2019 (95% UI)	AAPC, % (95% CI)	<i>P</i>	Rates in 1990 (95% UI)	Rates in 2019 (95% UI)	AAPC, % (95% CI)	<i>P</i>
Age-specific incidence rate																					
Global	Men	51.4 (32.54, 74.31)	80.69 (52.33, 114.41)	1.63 (1.51, 1.75)	<0.001	94.68 (62.23, 132.69)	149.11 (98.70, 208.27)	1.57 (1.49, 1.66)	<0.001	121.71 (80.23, 169.51)	201.46 (137.07, 275.02)	1.75 (1.70, 1.80)	<0.001	166.89 (116.07, 222.91)	267.80 (187.04, 357.20)	1.63 (1.53, 1.73)	<0.001	233.46 (170.65, 309.42)	360.80 (268.35, 464.31)	1.50 (1.40, 1.61)	<0.001
	Women	52.23 (33.88, 74.39)	79.33 (52.49, 111.23)	1.42 (1.18, 1.67)	<0.001	83.90 (56.25, 117.05)	127.20 (85.11, 177.63)	1.45 (1.29, 1.62)	<0.001	98.77 (64.33, 139.42)	156.53 (105.08, 217.87)	1.59 (1.51, 1.67)	<0.001	127.83 (86.68, 174.35)	198.17 (135.30, 269.65)	1.51 (1.48, 1.54)	<0.001	174.41 (122.43, 235.11)	263.86 (186.77, 350.87)	1.42 (1.39, 1.46)	<0.001
High SDI	Men	32.60 (17.31, 50.72)	71.05 (42.13, 104.25)	2.72 (2.51, 2.93)	<0.001	61.61 (35.05, 92.91)	126.86 (76.91, 186)	2.49 (2.21, 2.78)	<0.001	99.91 (63.83, 141.33)	186.56 (122.48, 257.43)	2.17 (1.99, 2.35)	<0.001	171.25 (119.74, 224.39)	277.47 (194.31, 365.34)	1.69 (1.48, 1.89)	<0.001	261.33 (190.05, 337.68)	390.95 (297.03, 501.66)	1.40 (1.26, 1.53)	<0.001
	Women	35.54 (20.57, 52.66)	79.60 (50.77, 112.05)	2.88 (2.77, 2.98)	<0.001	55.90 (33.70, 81.65)	112.49 (71.19, 160.73)	2.46 (2.29, 2.63)	<0.001	70.01 (41.75, 102.46)	139.70 (88.96, 196.93)	2.42 (2.30, 2.54)	<0.001	110.19 (74.08, 148.77)	202.53 (139.70, 273.91)	2.12 (2.01, 2.22)	<0.001	165.64 (114.95, 222.36)	280.49 (203.33, 367.04)	1.84 (1.72, 1.96)	<0.001
High-middle SDI	Men	48.37 (29.32, 72.09)	71.93 (43.89, 105.96)	1.57 (1.43, 1.72)	<0.001	103.10 (68.20, 144.62)	163.57 (109.82, 228.83)	1.68 (1.51, 1.86)	<0.001	130.19 (85.86, 180.39)	216.17 (143.82, 296.68)	1.77 (1.65, 1.90)	<0.001	164.07 (111.85, 221.88)	256.55 (177.19, 350.73)	1.53 (1.38, 1.68)	<0.001	215.35 (153.92, 288.69)	319.61 (234.11, 419.88)	1.31 (1.08, 1.55)	<0.001
	Women	47.02 (28.84, 68.93)	66.04 (41.30, 96.17)	1.24 (0.92, 1.55)	<0.001	88.20 (59.26, 121.97)	129.81 (87.28, 180.75)	1.40 (1.17, 1.63)	<0.001	100.90 (65.33, 140.72)	153.26 (98.61, 213.53)	1.45 (1.38, 1.53)	<0.001	120.98 (79.56, 168.12)	177.99 (117.09, 248.69)	1.32 (1.24, 1.39)	<0.001	158.78 (109.74, 216.78)	229.27 (158.71, 314.28)	1.24 (1.10, 1.39)	<0.001
Middle SDI	Men	58.08 (37.33, 83.89)	83.70 (54.29, 117.74)	1.36 (1.24, 1.49)	<0.001	109.75 (74.37, 153.33)	161.89 (111.51, 223.22)	1.35 (1.16, 1.54)	<0.001	132.20 (87.18, 185.00)	210.36 (144.65, 282.94)	1.63 (1.49, 1.77)	<0.001	167.69 (114.64, 226.06)	270.44 (190.47, 356.23)	1.63 (1.53, 1.73)	<0.001	228.38 (162.87, 310.96)	362.76 (270.51, 465.00)	1.51 (1.03, 1.99)	<0.001
	Women	57.38 (37.92, 81.15)	79.23 (52.65, 111.12)	1.09 (0.76, 1.43)	<0.001	95.43 (65.07, 132.59)	134.96 (92.39, 186.28)	1.22 (0.92, 1.52)	<0.001	110.28 (71.53, 154.57)	163.55 (110.85, 225.29)	1.36 (1.29, 1.44)	<0.001	137.99 (93.50, 186.57)	204.32 (141.01, 275.93)	1.32 (1.14, 1.49)	<0.001	184.55 (127.54, 251.36)	275.60 (196.24, 362.62)	1.33 (1.07, 1.58)	<0.001
Low-middle SDI	Men	54.13 (35.04, 76.87)	89.05 (58.30, 126.45)	1.74 (1.68, 1.80)	<0.001	89.29 (58.49, 126.15)	152.43 (99.07, 215.84)	1.86 (1.80, 1.93)	<0.001	119.49 (79.77, 168.32)	210.01 (142.29, 290.59)	1.94 (1.86, 2.02)	<0.001	175.99 (124.12, 232.94)	300.16 (211.84, 396.98)	1.82 (1.66, 1.98)	<0.001	256.86 (189.40, 336.35)	420.97 (310.50, 551.90)	1.70 (1.46, 1.94)	<0.001
	Women	57.54 (38.12, 80.82)	89.67 (60.23, 124.58)	1.54 (1.48, 1.61)	<0.001	82.87 (55.20, 115.84)	133.47 (89.19, 187.16)	1.65 (1.58, 1.73)	<0.001	104.16 (69.79, 145.20)	168.80 (114.97, 233.76)	1.64 (1.58, 1.70)	<0.001	141.38 (97.26, 189.08)	219.34 (151.19, 295.41)	1.51 (1.44, 1.58)	<0.001	193.30 (138.32, 259.13)	289.67 (205.70, 386.70)	1.38 (1.07, 1.70)	<0.001
Low SDI	Men	49.76 (31.51, 70.70)	74.92 (49.40, 104.75)	1.43 (1.39, 1.47)	<0.001	76.45 (49.15, 108.65)	121.21 (79.87, 170.47)	1.59 (1.55, 1.63)	<0.001	101.54 (67.67, 141.33)	158.02 (107.66, 217.55)	1.53 (1.49, 1.57)	<0.001	140.74 (96.89, 188.82)	208.86 (145.11, 280.24)	1.35 (1.28, 1.41)	<0.001	192.16 (137.77, 254.22)	277.10 (201.47, 368.77)	1.25 (1.18, 1.31)	<0.001
	Women	51.43 (33.72, 71.64)	73.63 (49.58, 101.73)	1.25 (1.20, 1.29)	<0.001	70.94 (46.48, 100.69)	110.13 (73.08, 155.05)	1.53 (1.43, 1.63)	<0.001	86.58 (56.70, 120.92)	136.26 (91.73, 189.98)	1.58 (1.49, 1.67)	<0.001	114.64 (78.98, 155.26)	171.26 (115.83, 233.96)	1.39 (1.32, 1.47)	<0.001	158.14 (112.43, 207.14)	223.32 (156.02, 299.49)	1.19 (1.11, 1.27)	<0.001
Age-specific DALY rate																					
Global	Men	20.79 (15.03, 28.13)	29.12 (20.66, 40.31)	1.19 (0.82, 1.56)	<0.001	44.29 (30.64, 62.08)	63.75 (44.30, 90.64)	1.30 (1.21, 1.39)	<0.001	79.40 (55.09, 112.52)	119.79 (80.84, 171.01)	1.45 (1.33, 1.56)	<0.001	164.85 (125.79, 214.76)	239.63 (174.18, 320.04)	1.31 (1.21, 1.40)	<0.001	264.91 (202.98, 339.26)	390.24 (291.53, 513.97)	1.36 (1.28, 1.44)	<0.001
	Women	31.88 (23.58, 45.96)	37.74 (27.86, 51.66)	0.59 (0.41, 0.78)	<0.001	52.58 (38.49, 72.06)	68.28 (48.75, 96.34)	0.90 (0.79, 1.02)	<0.001	87.65 (64.17, 118.72)	117.98 (83.56, 163.80)	1.04 (0.88, 1.21)	<0.001	142.51 (107.16, 186.30)	189.26 (136.73, 258.40)	0.99 (0.90, 1.08)	<0.001	225.75 (169.68, 290.73)	314.71 (234.68, 413.26)	1.16 (1.11, 1.22)	<0.001
High SDI	Men	4.63 (2.76, 8.58)	11.92 (4.56, 22.69)	3.35 (3.18, 3.52)	<0.001	14.92 (8.38, 26.23)	37.95 (20.97, 62.60)	3.25 (3.09, 3.42)	<0.001	38.28 (22.67, 60.35)	84.81 (50.81, 132.82)	2.75 (2.64, 2.87)	<0.001	105.55 (76.17, 144.32)	178.30 (121.04, 254.54)	1.82 (1.71, 1.94)	<0.001	195.76 (143.14, 260.10)	306.20 (212.78, 424.41)	1.54 (1.42, 1.66)	<0.001
	Women	7.57 (5.40, 11.22)	14.94 (7.07, 26.39)	2.42 (2.16, 2.68)	<0.001	20.89 (13.78, 31.50)	42.74 (25.33, 66.65)	2.52 (2.37, 2.67)	<0.001	42.35 (27.97, 62.52)	80.56 (50.02, 121.29)	2.26 (2.11, 2.40)	<0.001	82.04 (58.25, 112.18)	145.47 (97.54, 207.63)	2.01 (1.89, 2.12)	<0.001	134.17 (96.15, 179.56)	232.55 (159.83, 323.99)	1.90 (1.77, 2.03)	<0.001
High-middle SDI	Men	11.80 (8.06, 16.86)	12.95 (8.24, 20.12)	0.39 (0.06, 0.72)	0.020	35.53 (23.84, 52.43)	47.44 (30.44, 72.14)	1.10 (1.01, 1.20)	<0.001	71.74 (47.49, 106.05)	106.34 (66.45, 159.94)	1.38 (1.21, 1.56)	<0.001	140.90 (100.72, 191.09)	199.39 (135.36, 279.96)	1.25 (1.13, 1.36)	<0.001	232.76 (171.62, 307.90)	321.92 (226.65, 443.48)	1.14 (1.06, 1.22)	<0.001

	Women	17.82 (12.97, 24.11)	15.87 (10.94, 23.55)	-0.38 (-0.71, -0.04)	0.027	39.47 (28.31, 55.87)	44.83 (29.73, 68.86)	0.51 (0.26, 0.76)	<0.001	70.69 (49.67, 100.05)	88.08 (56.76, 131.05)	0.82 (0.62, 1.03)	<0.001	115.74 (83.19, 156.74)	144.98 (97.33, 208.76)	0.83 (0.68, 0.98)	<0.001	180.16 (130.40, 240.68)	234.50 (162.33, 323.42)	0.92 (0.83, 1.01)	<0.001
Middle SDI	Men	22.94 (16.96, 30.18)	28.20 (20.39, 38.67)	0.71 (0.38, 1.04)	<0.001	53.49 (38.34, 74.52)	70.32 (50.17, 98.76)	1.00 (0.85, 1.14)	<0.001	100.77 (72.63, 137.35)	135.63 (95.94, 189.79)	1.08 (0.86, 1.30)	<0.001	200.39 (156.11, 256.83)	260.98 (193.59, 344.08)	0.93 (0.76, 1.10)	<0.001	310.02 (242.03, 389.48)	438.54 (335.6,0 565.71)	1.23 (1.08, 1.38)	<0.001
	Women	34.25 (26.88, 44.99)	35.19 (26.50, 47.25)	0.11 (-0.06, 0.28)	0.207	60.55 (45.55, 80.21)	70.33 (51.65, 97.91)	0.53 (0.34, 0.71)	<0.001	102.81 (77.13, 135.24)	122.49 (88.51, 169.25)	0.65 (0.49, 0.81)	<0.001	172.72 (132.33, 222.31)	201.99 (147.96, 274.11)	0.55 (0.40, 0.71)	<0.001	265.41 (204.09, 338.10)	344.62 (259.75, 448.44)	0.94 (0.83, 1.04)	<0.001
Low-middle SDI	Men	25.72 (17.28, 35.52)	36.50 (26.32, 50.51)	1.14 (0.73, 1.55)	<0.001	50.21 (33.93, 70.27)	72.84 (50.92, 102.27)	1.32 (1.24, 1.40)	<0.001	82.52 (56.88, 117.87)	129.15 (87.94, 184.91)	1.57 (1.52, 1.62)	<0.001	178.67 (133.84, 230.96)	276.64 (205.93, 362.02)	1.50 (1.34, 1.65)	<0.001	283.98 (209.11, 370.15)	445.85 (328.66, 582.91)	1.51 (1.40, 1.62)	<0.001
	Women	46.19 (31.38, 78.26)	50.58 (37.06, 70.90)	0.26 (0.02, 0.50)	0.035	65.11 (44.49, 99.21)	82.30 (58.18, 114.41)	0.80 (0.68, 0.93)	<0.001	106.87 (76.11, 154.95)	141.61 (101.04, 195.46)	0.98 (0.91, 1.06)	<0.001	172.33 (125.02, 233.59)	224.26 (163.30, 302.65)	0.90 (0.81, 0.99)	<0.001	273.38 (199.74, 362.40)	368.45 (272.23, 484.19)	1.02 (0.89, 1.15)	<0.001
Low SDI	Men	38.55 (26.01, 51.80)	39.44 (27.66, 54.17)	0.08 (-0.04, 0.21)	0.200	57.77 (38.20, 80.79)	68.29 (46.52, 95.64)	0.57 (0.47, 0.67)	<0.001	82.72 (55.89, 115.67)	113.41 (77.08, 159.89)	1.10 (1.02, 1.17)	<0.001	190.51 (144.51, 244.38)	245.64 (184.23, 318.90)	0.86 (0.79, 0.94)	<0.001	291.09 (218.10, 373.03)	370.83 (276.60, 485.69)	0.83 (0.75, 0.92)	<0.001
	Women	46.31 (31.60, 71.55)	48.14 (35.82, 66.17)	0.13 (0.01, 0.26)	0.036	66.28 (46.36, 97.12)	76.91 (55.68, 106.49)	0.52 (0.44, 0.59)	<0.001	106.92 (76.30, 153.32)	131.47 (96.95, 177.16)	0.72 (0.62, 0.81)	<0.001	161.34 (117.54, 218.12)	202.60 (148.25, 271.95)	0.78 (0.70, 0.86)	<0.001	303.69 (229.17, 399.24)	357.76 (270.86, 459.10)	0.56 (0.52, 0.61)	<0.001
Age-specific mortality rate																					
Global	Men	0.18 (0.13, 0.22)	0.21 (0.17, 0.26)	0.54 (0.36, 0.72)	<0.001	0.26 (0.20, 0.33)	0.29 (0.24, 0.37)	0.39 (0.25, 0.54)	<0.001	0.39 (0.30, 0.46)	0.42 (0.36, 0.50)	0.28 (-0.01, 0.57)	0.057	1.19 (1.01, 1.33)	1.29 (1.15, 1.47)	0.28 (0.18, 0.38)	<0.001	1.86 (1.56, 2.07)	2.16 (1.92, 2.43)	0.56 (0.38, 0.75)	<0.001
	Women	0.30 (0.23, 0.46)	0.29 (0.24, 0.39)	-0.14 (-0.38, 0.10)	0.244	0.37 (0.29, 0.54)	0.36 (0.30, 0.47)	-0.07 (-0.20, 0.05)	0.250	0.56 (0.43, 0.81)	0.53 (0.44, 0.68)	-0.14 (-0.39, 0.10)	0.254	0.97 (0.78, 1.30)	0.86 (0.75, 1.02)	-0.40 (-0.48, -0.33)	<0.001	1.64 (1.38, 2.12)	1.71 (1.49, 1.96)	0.18 (0.05, 0.31)	0.007
High SDI	Men	0.03 (0.02, 0.04)	0.02 (0.02, 0.03)	-0.81 (-0.99, -0.63)	<0.001	0.05 (0.04, 0.08)	0.06 (0.04, 0.09)	0.08 (-0.29, 0.46)	0.670	0.10 (0.07, 0.15)	0.11 (0.08, 0.16)	0.25 (-0.07, 0.58)	0.131	0.64 (0.49, 0.81)	0.52 (0.43, 0.69)	-0.73 (-1.07, -0.39)	<0.001	1.11 (0.82, 1.38)	0.94 (0.76, 1.21)	-0.58 (-0.92, -0.23)	0.001
	Women	0.07 (0.05, 0.09)	0.04 (0.03, 0.06)	-1.63 (-2.09, -1.16)	<0.001	0.13 (0.10, 0.16)	0.09 (0.07, 0.13)	-1.39 (-1.60, -1.19)	<0.001	0.23 (0.15, 0.28)	0.15 (0.12, 0.22)	-1.34 (-1.64, -1.03)	<0.001	0.51 (0.38, 0.62)	0.41 (0.33, 0.52)	-0.75 (-1.05, -0.45)	<0.001	0.73 (0.54, 0.90)	0.62 (0.49, 0.78)	-0.57 (-0.87, -0.27)	<0.001
High-middle SDI	Men	0.08 (0.06, 0.10)	0.07 (0.06, 0.08)	-0.62 (-1.34, 0.09)	0.089	0.15 (0.11, 0.18)	0.14 (0.11, 0.16)	-0.24 (-0.80, 0.33)	0.413	0.24 (0.18, 0.28)	0.22 (0.19, 0.26)	-0.16 (-0.59, 0.28)	0.473	0.72 (0.58, 0.82)	0.65 (0.57, 0.75)	-0.38 (-0.78, 0.02)	0.062	1.27 (1.03, 1.44)	1.17 (1.03, 1.35)	-0.24 (-0.45, -0.04)	0.019
	Women	0.16 (0.12, 0.20)	0.11 (0.09, 0.14)	-1.20 (-1.38, -1.01)	<0.001	0.23 (0.18, 0.28)	0.16 (0.14, 0.20)	-1.06 (-1.30, -0.82)	<0.001	0.32 (0.25, 0.40)	0.23 (0.19, 0.28)	-1.27 (-2.00 -0.53)	0.001	0.56 (0.45, 0.66)	0.39 (0.33, 0.45)	-1.15 (-1.53, -0.77)	<0.001	0.88 (0.74, 1.03)	0.72 (0.61, 0.83)	-0.66 (-0.98, -0.34)	<0.001
Middle SDI	Men	0.19 (0.15, 0.23)	0.20 (0.17, 0.26)	0.31 (0.11, 0.51)	0.002	0.32 (0.27, 0.39)	0.36 (0.30, 0.45)	0.39 (0.07, 0.72)	0.018	0.58 (0.48, 0.67)	0.59 (0.51, 0.69)	0.06 (-0.30, 0.43)	0.734	1.60 (1.38, 1.78)	1.54 (1.38, 1.76)	-0.16 (-0.55, 0.24)	0.437	2.50 (2.14, 2.76)	2.94 (2.61, 3.31)	0.67 (0.43, 0.92)	<0.001
	Women	0.32 (0.26, 0.42)	0.28 (0.24, 0.34)	-0.53 (-0.79, -0.27)	<0.001	0.43 (0.35, 0.55)	0.38 (0.33, 0.47)	-0.37 (-0.60, -0.14)	0.001	0.67 (0.53, 0.88)	0.56 (0.47, 0.68)	-0.62 (-1.08, -0.15)	0.010	1.27 (1.05, 1.58)	1.00 (0.85, 1.17)	-0.85 (-1.11, -0.58)	<0.001	2.08 (1.72, 2.59)	2.09 (1.76, 2.44)	0.09 (-0.16, 0.33)	0.484
Low-middle SDI	Men	0.22 (0.14, 0.31)	0.26 (0.19, 0.34)	0.39 (-0.43, 1.22)	0.354	0.32 (0.20, 0.45)	0.34 (0.25, 0.46)	0.29 (-0.24, 0.82)	0.284	0.41 (0.27, 0.57)	0.47 (0.37, 0.59)	0.55 (0.05, 1.05)	0.030	1.35 (0.99, 1.72)	1.72 (1.41, 2.05)	0.85 (0.54, 1.17)	<0.001	1.98 (1.46, 2.51)	2.57 (2.15, 3.05)	0.98 (0.46, 1.50)	<0.001
	Women	0.44 (0.28, 0.85)	0.39 (0.29, 0.58)	-0.44 (-0.77, -0.11)	0.010	0.48 (0.32, 0.87)	0.45 (0.34, 0.66)	-0.22 (-0.61, 0.18)	0.276	0.76 (0.50, 1.39)	0.73 (0.55, 1.04)	-0.02 (-0.21, 0.18)	0.869	1.29 (0.90, 2.13)	1.15 (0.92, 1.48)	-0.37 (-0.54, -0.19)	<0.001	2.19 (1.61, 3.35)	2.18 (1.78, 2.70)	-0.04 (-0.21, 0.14)	0.678
Low SDI	Men	0.39 (0.25, 0.53)	0.32 (0.23, 0.43)	-0.74 (-0.89, -0.60)	<0.001	0.45 (0.26, 0.67)	0.38 (0.25, 0.54)	-0.62 (-0.76, -0.48)	<0.001	0.48 (0.29, 0.70)	0.47 (0.34, 0.64)	-0.06 (-0.17, 0.05)	0.314	1.72 (1.27, 2.16)	1.75 (1.37, 2.21)	0.03 (-0.10, 0.15)	0.662	2.51 (1.82, 3.24)	2.38 (1.85, 3.04)	-0.15 (-0.42, 0.13)	0.303
	Women	0.46 (0.31, 0.79)	0.41 (0.31, 0.57)	-0.39 (-0.56, -0.21)	<0.001	0.54 (0.36, 0.95)	0.49 (0.36, 0.71)	-0.37 (-0.48, -0.25)	<0.001	0.85 (0.57, 1.48)	0.78 (0.58, 1.12)	-0.28 (-0.43, -0.13)	<0.001	1.27 (0.90, 2.02)	1.16 (0.88, 1.58)	-0.30 (-0.38, -0.22)	<0.001	3.04 (2.20, 4.53)	2.70 (2.11, 3.42)	-0.42 (-0.52, -0.31)	<0.001

Estimates are for individuals aged 15–39 years. Values in parentheses are 95% confidence intervals (CIs). Bold within the table means the average annual percent change (AAPC) is statistically significant ($P\leq0.05$). AAPC=average annual percent change. CI=confidence interval. SDI=Socio-demographic Index. DALY=disability-adjusted life year. $P=P$ -value for the significant test of AAPC.

Supplementary Table 3 Early-onset type 2 diabetes burden by different countries, regions and territories from 1990 to 2019

Categories	Age-standardized incidence rate				Age-standardized DALY rate				Age-standardized mortality rate			
	Rates in 1990 (95% UI)	Rates in 2019 (95% UI)	AAPC, % (95% CI)	<i>P</i>	Rates in 1990 (95% UI)	Rates in 2019 (95% UI)	AAPC, % (95% CI)	<i>P</i>	Rates in 1990 (95% UI)	Rates in 2019 (95% UI)	AAPC, % (95% CI)	<i>P</i>
Afghanistan	148.88 (144.44, 153.45)	283.40 (280.47, 286.36)	2.24 (2.23, 2.26)	<0.001	164.32 (159.44, 169.34)	241.99 (239.11, 244.90)	1.37 (1.25, 1.49)	<0.001	1.32 (0.91, 1.86)	1.39 (1.18, 1.63)	0.24 (-0.02, 0.50)	0.072
Albania	65.29 (61.05, 69.76)	111.08 (104.55, 117.93)	1.84 (1.80, 1.88)	<0.001	39.86 (36.50, 43.47)	60.75 (55.88, 65.93)	1.48 (1.24, 1.73)	<0.001	0.10 (0.01, 0.49)	0.09 (0.00, 0.59)	-0.51 (-1.58, 0.57)	0.352
Algeria	114.87 (112.64, 117.13)	214.95 (212.81, 217.12)	2.18 (2.07, 2.30)	<0.001	91.22 (89.16, 93.31)	139.09 (137.41, 140.79)	1.46 (1.23, 1.68)	<0.001	0.44 (0.30, 0.61)	0.35 (0.27, 0.45)	-0.73 (-1.09, -0.36)	<0.001
American Samoa	498.73 (403.14, 611.41)	951.31 (817.23, 1102.31)	2.27 (2.13, 2.40)	<0.001	435.62 (343.79, 545.25)	774.21 (649.49, 916.64)	2.01 (1.86, 2.17)	<0.001	2.51 (0.00, 28.01)	3.93 (0.02, 30.58)	1.61 (1.16, 2.06)	<0.001
Andorra	59.43 (33.39, 100.42)	125.28 (85.54, 178.95)	2.61 (2.58, 2.64)	<0.001	36.46 (17.40, 70.68)	70.45 (43.31, 111.10)	2.30 (2.26, 2.35)	<0.001	0.07 (0.00, 20.56)	0.05 (0.00, 19.35)	-1.00 (-1.20, -0.79)	<0.001
Angola	107.66 (104.33, 111.08)	152.28 (149.91, 154.68)	1.19 (1.12, 1.27)	<0.001	166.14 (161.87, 170.49)	183.56 (180.85, 186.29)	0.35 (-0.03, 0.74)	0.070	1.54 (1.15, 2.02)	1.25 (1.04, 1.50)	-0.69 (-1.31, -0.06)	0.031
Antigua and Barbuda	165.15 (118.71, 224.40)	237.47 (189.25, 294.66)	1.26 (1.24, 1.28)	<0.001	230.18 (173.99, 299.24)	267.55 (216.64, 327.33)	0.46 (-0.02, 0.95)	0.062	1.83 (0.00, 19.99)	1.44 (0.00, 14.42)	-1.00 (-1.24, -0.75)	<0.001
Argentina	67.16 (65.70, 68.64)	139.03 (137.30, 140.78)	2.55 (2.52, 2.58)	<0.001	52.90 (51.61, 54.22)	85.05 (83.70, 86.41)	1.65 (1.54, 1.76)	<0.001	0.54 (0.42, 0.69)	0.42 (0.33, 0.53)	-0.85 (-1.15, -0.54)	<0.001
Armenia	98.49 (93.42, 103.76)	169.51 (162.14, 177.18)	1.89 (1.80, 1.97)	<0.001	78.46 (73.94, 83.18)	120.24 (114.27, 126.50)	1.49 (1.21, 1.78)	<0.001	0.32 (0.10, 0.78)	0.43 (0.15, 1.09)	1.04 (-0.01, 2.10)	0.051
Australia	55.85 (54.12, 57.63)	99.38 (97.32, 101.46)	1.92 (1.55, 2.29)	<0.001	32.84 (31.52, 34.20)	48.65 (47.24, 50.09)	1.32 (0.89, 1.75)	<0.001	0.18 (0.10, 0.31)	0.16 (0.09, 0.28)	-0.25 (-0.66, 0.16)	0.226
Austria	49.74 (47.25, 52.33)	96.32 (92.78, 99.97)	2.30 (2.27, 2.33)	<0.001	32.20 (30.22, 34.30)	54.41 (51.87, 57.06)	1.81 (1.63, 2.00)	<0.001	0.15 (0.04, 0.38)	0.13 (0.04, 0.37)	-0.56 (-1.58, 0.47)	0.286
Azerbaijan	101.16 (97.60, 104.82)	175.04 (171.16, 178.99)	1.90 (1.86, 1.94)	<0.001	90.66 (87.22, 94.20)	133.79 (130.46, 137.19)	1.33 (0.91, 1.75)	<0.001	0.43 (0.23, 0.76)	0.55 (0.35, 0.83)	0.72 (-0.23, 1.67)	0.137

Bahamas	154.67 (132.54, 179.63)	253.50 (228.75, 280.25)	1.71 (1.65, 1.76)	<0.001	223.35 (196.01, 253.58)	321.58 (293.78, 351.37)	1.22 (0.90, 1.54)	<0.001	1.89 (0.23, 7.11)	2.20 (0.51, 6.22)	0.43 (-0.52, 1.40)	0.376
Bahrain	124.62 (111.55, 139.05)	249.37 (236.74, 262.59)	2.41 (2.38, 2.44)	<0.001	115.64 (103.05, 129.58)	216.09 (205.12, 227.62)	2.17 (1.88, 2.47)	<0.001	0.75 (0.08, 3.31)	1.24 (0.53, 2.67)	1.75 (0.99, 2.51)	<0.001
Bangladesh	116.84 (115.75, 117.94)	162.61 (161.65, 163.59)	1.12 (0.97, 1.27)	<0.001	136.16 (134.98, 137.36)	149.15 (148.21, 150.08)	0.35 (0.16, 0.55)	<0.001	1.05 (0.95, 1.16)	0.71 (0.65, 0.78)	-1.28 (-1.66, -0.89)	<0.001
Barbados	158.43 (135.72, 183.92)	228.87 (200.25, 260.55)	1.28 (1.25, 1.30)	<0.001	246.34 (217.81, 277.63)	308.11 (275.21, 344.02)	0.73 (0.23, 1.23)	0.004	2.13 (0.32, 7.21)	2.19 (0.32, 7.70)	-0.01 (-1.08, 1.08)	0.991
Belarus	93.67 (90.74, 96.68)	109.90 (106.36, 113.56)	0.55 (0.49, 0.60)	<0.001	68.20 (65.74, 70.73)	62.89 (60.39, 65.49)	-0.26 (-0.51, -0.01)	0.038	0.29 (0.15, 0.51)	0.14 (0.04, 0.37)	-2.57 (-3.75, -1.37)	<0.001
Belgium	64.89 (62.36, 67.50)	123.97 (120.34, 127.69)	2.25 (2.20, 2.30)	<0.001	44.50 (42.45, 46.63)	75.79 (73.07, 78.60)	1.83 (1.76, 1.91)	<0.001	0.14 (0.05, 0.33)	0.08 (0.02, 0.25)	-2.01 (-2.35, -1.66)	<0.001
Belize	113.85 (89.35, 143.56)	201.25 (180.61, 223.67)	1.99 (1.96, 2.02)	<0.001	178.36 (146.43, 215.62)	320.03 (293.40, 348.48)	2.01 (1.55, 2.47)	<0.001	1.55 (0.03, 10.02)	2.79 (0.85, 6.80)	1.84 (1.30, 2.39)	<0.001
Benin	59.32 (55.54, 63.29)	102.28 (99.31, 105.32)	1.90 (1.73, 2.06)	<0.001	80.15 (75.73, 84.76)	132.56 (129.13, 136.07)	1.75 (1.65, 1.85)	<0.001	0.70 (0.35, 1.28)	1.03 (0.75, 1.38)	1.33 (1.05, 1.60)	<0.001
Bermuda	98.00 (63.86, 146.41)	147.12 (97.00, 216.4)	1.41 (1.37, 1.45)	<0.001	110.44 (74.92, 159.75)	139.09 (92.48, 204.10)	0.80 (0.65, 0.96)	<0.001	0.60 (0.00, 21.15)	0.37 (0.00, 26.8)	-2.03 (-2.26, -1.79)	<0.001
Bhutan	111.68 (98.20, 126.64)	178.16 (164.45, 192.74)	1.64 (1.56, 1.72)	<0.001	100.09 (86.99, 114.71)	135.88 (123.90, 148.72)	1.06 (0.98, 1.14)	<0.001	0.53 (0.02, 3.01)	0.49 (0.04, 2.00)	-0.27 (-0.51, -0.03)	0.031
Bolivia (Plurinational State of)	79.49 (75.85, 83.26)	118.72 (115.63, 121.88)	1.34 (1.07, 1.60)	<0.001	116.14 (111.66, 120.75)	119.00 (115.88, 122.18)	0.06 (-0.02, 0.13)	0.132	1.22 (0.80, 1.79)	0.88 (0.63, 1.20)	-1.12 (-1.26, -0.97)	<0.001
Bosnia and Herzegovina	102.81 (98.37, 107.40)	189.01 (180.95, 197.36)	2.12 (2.08, 2.16)	<0.001	66.26 (62.71, 69.96)	131.34 (124.76, 138.20)	2.34 (2.19, 2.48)	<0.001	0.24 (0.07, 0.58)	0.63 (0.25, 1.35)	3.25 (2.57, 3.92)	<0.001
Botswana	84.19 (75.92, 93.18)	123.91 (117.34, 130.78)	1.34 (1.31, 1.37)	<0.001	116.99 (106.98, 127.72)	179.68 (171.77, 187.86)	1.51 (1.34, 1.68)	<0.001	1.03 (0.30, 2.61)	1.61 (0.95, 2.59)	1.60 (1.31, 1.88)	<0.001

Brazil	121.89 (121.00, 122.79)	148.16 (147.36, 148.96)	0.66 (0.60, 0.72)	<0.001	172.16 (171.09, 173.23)	141.11 (140.34, 141.88)	-0.67 (-0.80, -0.54)	<0.001	1.76 (1.65, 1.87)	0.94 (0.88, 1.01)	-2.14 (-2.45, -1.84)	<0.001
Brunei Darussalam	249.09 (222.04, 278.62)	349.03 (324.35, 375.25)	1.17 (1.13, 1.20)	<0.001	303.71 (273.61, 336.30)	279.05 (257.33, 302.27)	-0.31 (-0.56, -0.06)	0.015	3.05 (0.78, 8.23)	1.96 (0.56, 5.19)	-1.62 (-2.65, -0.58)	0.002
Bulgaria	112.02 (108.29, 115.85)	167.81 (162.32, 173.46)	1.37 (1.27, 1.47)	<0.001	92.58 (89.23, 96.01)	106.97 (102.83, 111.25)	0.50 (0.22, 0.78)	<0.001	0.55 (0.32, 0.89)	0.35 (0.15, 0.75)	-1.44 (-1.90, -0.98)	<0.001
Burkina Faso	67.47 (64.46, 70.59)	102.79 (100.55, 105.07)	1.46 (1.43, 1.48)	<0.001	100.41 (96.69, 104.24)	139.96 (137.30, 142.65)	1.17 (1.03, 1.30)	<0.001	0.99 (0.65, 1.45)	1.21 (0.97, 1.48)	0.72 (0.48, 0.97)	<0.001
Burundi	81.43 (77.47, 85.55)	92.30 (89.46, 95.22)	0.42 (0.39, 0.46)	<0.001	161.53 (155.73, 167.50)	132.71 (129.19, 136.30)	-0.69 (-0.86, -0.52)	<0.001	1.73 (1.18, 2.48)	1.06 (0.76, 1.43)	-1.74 (-2.23, -1.26)	<0.001
Cabo Verde	63.82 (49.59, 81.39)	124.53 (111.07, 139.21)	2.33 (2.30, 2.36)	<0.001	59.00 (44.92, 76.55)	116.48 (103.46, 130.72)	2.37 (2.14, 2.60)	<0.001	0.27 (0.00, 5.37)	0.56 (0.03, 2.60)	2.96 (2.40, 3.52)	<0.001
Cambodia	77.19 (74.31, 80.17)	161.52 (158.57, 164.51)	2.60 (2.47, 2.74)	<0.001	190.11 (185.48, 194.84)	175.49 (172.40, 178.62)	-0.26 (-0.37, -0.15)	<0.001	2.45 (1.95, 3.06)	1.38 (1.11, 1.68)	-1.95 (-2.07, -1.83)	<0.001
Cameroon	53.88 (51.43, 56.43)	92.27 (90.50, 94.07)	1.78 (1.45, 2.11)	<0.001	95.16 (91.88, 98.54)	156.56 (154.22, 158.92)	1.71 (1.57, 1.85)	<0.001	1.06 (0.74, 1.47)	1.60 (1.37, 1.85)	1.45 (1.24, 1.65)	<0.001
Canada	29.25 (28.30, 30.23)	79.22 (77.66, 80.80)	3.46 (3.31, 3.61)	<0.001	9.13 (8.61, 9.68)	32.75 (31.77, 33.75)	4.45 (3.90, 5.01)	<0.001	0.14 (0.08, 0.22)	0.12 (0.07, 0.20)	-0.45 (-0.94, 0.04)	0.069
Central African Republic	123.37 (116.40, 130.67)	187.91 (181.85, 194.14)	1.46 (1.43, 1.49)	<0.001	194.52 (185.37, 204.01)	237.20 (230.12, 244.45)	0.66 (0.56, 0.76)	<0.001	1.90 (1.09, 3.11)	1.79 (1.22, 2.55)	-0.25 (-0.62, 0.12)	0.188
Chad	57.90 (54.51, 61.45)	96.40 (93.69, 99.18)	1.77 (1.75, 1.79)	<0.001	78.70 (74.72, 82.85)	128.14 (124.96, 131.38)	1.72 (1.46, 1.99)	<0.001	0.69 (0.37, 1.19)	1.05 (0.78, 1.38)	1.54 (1.05, 2.04)	<0.001
Chile	75.36 (73.08, 77.69)	132.58 (129.90, 135.30)	2.05 (1.70, 2.39)	<0.001	39.47 (37.79, 41.20)	67.92 (66.03, 69.85)	1.93 (1.56, 2.30)	<0.001	0.22 (0.11, 0.39)	0.21 (0.12, 0.35)	-0.18 (-1.03, 0.68)	0.680
China	132.72 (132.41, 133.03)	200.60 (200.21, 200.99)	1.43 (1.24, 1.62)	<0.001	88.45 (88.19, 88.70)	121.21 (120.92, 121.50)	1.12 (0.79, 1.45)	<0.001	0.30 (0.28, 0.31)	0.26 (0.25, 0.28)	-0.44 (-1.11, 0.22)	0.191
Colombia	138.80 (136.80, 140.83)	209.42 (207.38, 211.48)	1.43 (1.37, 1.49)	<0.001	159.25 (157.07, 161.45)	185.52 (183.60, 187.46)	0.52 (0.29, 0.74)	<0.001	1.12 (0.94, 1.32)	0.62 (0.52, 0.75)	-2.01 (-2.56, -1.45)	<0.001

Comoros	66.71 (54.36, 81.28)	83.14 (72.92, 94.44)	0.74 (0.70, 0.78)	<0.001	115.84 (98.52, 135.48)	117.60 (105.13, 131.17)	0.04 (-1.07, 1.15)	0.949	1.12 (0.08, 5.08)	0.92 (0.15, 2.99)	-0.65 (-2.92, 1.67)	0.579
Congo	131.01 (123.38, 139.01)	164.87 (159.38, 170.50)	0.79 (0.76, 0.83)	<0.001	237.51 (226.71, 248.71)	201.39 (195.27, 207.65)	-0.56 (-1.01, -0.10)	0.016	2.57 (1.55, 4.03)	1.48 (1.00, 2.11)	-1.94 (-2.69, -1.18)	<0.001
Cook Islands	265.48 (160.29, 417.61)	538.60 (366.48, 764.68)	2.46 (2.44, 2.49)	<0.001	377.26 (246.17, 555.88)	536.41 (363.55, 763.68)	1.25 (1.03, 1.46)	<0.001	3.96 (0.00, 67.99)	4.02 (0.00, 74.57)	0.07 (-0.33, 0.47)	0.743
Costa Rica	121.03 (114.95, 127.37)	224.86 (218.23, 231.64)	2.15 (2.12, 2.19)	<0.001	114.53 (108.51, 120.81)	186.98 (181.01, 193.11)	1.69 (1.47, 1.91)	<0.001	0.57 (0.22, 1.21)	0.45 (0.20, 0.87)	-0.77 (-1.23, -0.30)	0.001
Côte d'Ivoire	62.15 (59.79, 64.58)	101.64 (99.71, 103.60)	1.71 (1.69, 1.72)	<0.001	90.69 (87.82, 93.63)	137.19 (134.93, 139.48)	1.49 (1.33, 1.65)	<0.001	0.87 (0.61, 1.21)	1.15 (0.95, 1.37)	1.02 (0.77, 1.26)	<0.001
Croatia	109.15 (104.51, 113.95)	172.54 (165.68, 179.65)	1.58 (1.54, 1.63)	<0.001	65.29 (61.79, 68.94)	93.68 (88.83, 98.77)	1.24 (1.15, 1.33)	<0.001	0.14 (0.03, 0.46)	0.10 (0.01, 0.53)	-1.45 (-2.09, -0.80)	<0.001
Cuba	179.48 (175.51, 183.53)	227.11 (222.26, 232.04)	0.78 (0.53, 1.02)	<0.001	202.84 (198.62, 207.14)	205.93 (201.37, 210.57)	0.06 (-0.04, 0.16)	0.259	1.22 (0.91, 1.60)	0.41 (0.23, 0.68)	-3.77 (-4.27, -3.26)	<0.001
Cyprus	62.54 (54.05, 72.02)	114.80 (105.56, 124.78)	2.11 (2.08, 2.14)	<0.001	43.15 (36.19, 51.10)	64.44 (58.16, 71.40)	1.38 (1.21, 1.55)	<0.001	0.20 (0.00, 1.70)	0.10 (0.00, 1.37)	-2.42 (-3.45, -1.37)	<0.001
Czechia	141.14 (137.37, 144.98)	251.37 (245.99, 256.86)	2.00 (1.92, 2.08)	<0.001	79.35 (76.60, 82.18)	136.42 (132.68, 140.26)	1.88 (1.82, 1.94)	<0.001	0.10 (0.03, 0.27)	0.10 (0.02, 0.31)	-0.21 (-0.72, 0.30)	0.416
Democratic People's Republic of Korea	111.54 (109.25, 113.88)	172.98 (170.43, 175.56)	1.52 (1.48, 1.55)	<0.001	112.09 (109.73, 114.48)	131.89 (129.71, 134.10)	0.55 (0.52, 0.59)	<0.001	0.75 (0.57, 0.97)	0.51 (0.39, 0.67)	-1.27 (-1.36, -1.19)	<0.001
Democratic Republic of the Congo	97.60 (95.90, 99.32)	147.28 (145.96, 148.62)	1.44 (1.38, 1.51)	<0.001	155.80 (153.57, 158.05)	174.55 (173.05, 176.06)	0.37 (0.18, 0.55)	<0.001	1.52 (1.31, 1.77)	1.14 (1.02, 1.27)	-0.99 (-1.25, -0.74)	<0.001
Denmark	61.16 (57.73, 64.75)	115.27 (110.39, 120.32)	2.19 (2.15, 2.23)	<0.001	42.79 (39.96, 45.78)	68.69 (64.96, 72.58)	1.60 (1.26, 1.95)	<0.001	0.20 (0.06, 0.54)	0.18 (0.04, 0.52)	-0.59 (-1.62, 0.45)	0.264
Djibouti	68.32 (56.72, 81.77)	97.62 (89.22, 106.61)	1.23 (1.19, 1.28)	<0.001	106.06 (90.82, 123.24)	136.28 (126.41, 146.75)	0.86 (0.62, 1.11)	<0.001	0.95 (0.07, 4.25)	1.04 (0.36, 2.39)	0.36 (-0.21, 0.93)	0.214

Dominica	176.18 (129.55, 235.11)	324.38 (258.49, 402.04)	2.12 (1.95, 2.30)	<0.001	283.28 (221.56, 357.55)	396.55 (323.23, 481.61)	1.13 (0.84, 1.42)	<0.001	2.57 (0.01, 21.19)	2.68 (0.02, 19.78)	0.12 (-0.25, 0.50)	0.513
Dominican Republic	79.63 (76.37, 83.01)	154.51 (150.88, 158.20)	2.33 (2.28, 2.39)	<0.001	162.12 (157.34, 167.01)	267.00 (262.20, 271.86)	1.78 (1.56, 2.00)	<0.001	1.68 (1.23, 2.26)	2.54 (2.09, 3.06)	1.54 (1.15, 1.93)	<0.001
Ecuador	78.23 (75.41, 81.13)	131.86 (129.19, 134.58)	1.81 (1.76, 1.86)	<0.001	92.49 (89.36, 95.70)	157.56 (154.61, 160.54)	1.80 (1.37, 2.23)	<0.001	0.85 (0.57, 1.21)	1.35 (1.09, 1.65)	1.36 (0.60, 2.11)	<0.001
Egypt	73.17 (72.00, 74.36)	167.92 (166.66, 169.18)	2.90 (2.81, 2.99)	<0.001	78.51 (77.26, 79.77)	145.19 (144.01, 146.37)	2.18 (1.93, 2.43)	<0.001	0.68 (0.57, 0.81)	0.86 (0.77, 0.96)	1.00 (0.41, 1.60)	0.001
El Salvador	116.86 (112.02, 121.87)	241.43 (235.31, 247.66)	2.53 (2.46, 2.61)	<0.001	140.21 (134.68, 145.93)	267.54 (260.97, 274.24)	2.24 (2.01, 2.46)	<0.001	0.98 (0.56, 1.59)	1.87 (1.35, 2.52)	2.08 (1.56, 2.62)	<0.001
Equatorial Guinea	112.94 (95.89, 132.29)	156.54 (146.49, 167.15)	1.13 (1.11, 1.15)	<0.001	184.71 (162.18, 209.60)	196.08 (184.25, 208.50)	0.23 (0.06, 0.39)	0.007	1.84 (0.29, 6.22)	1.46 (0.60, 3.01)	-0.76 (-1.14, -0.38)	<0.001
Eritrea	84.82 (79.33, 90.61)	110.98 (107.03, 115.06)	0.92 (0.89, 0.95)	<0.001	143.61 (136.12, 151.42)	160.18 (155.24, 165.24)	0.39 (0.22, 0.56)	<0.001	1.44 (0.78, 2.46)	1.32 (0.91, 1.87)	-0.31 (-0.63, 0.02)	0.066
Estonia	104.28 (96.20, 112.89)	151.43 (140.10, 163.58)	1.28 (1.21, 1.34)	<0.001	60.77 (54.77, 67.28)	85.17 (77.11, 94.01)	1.14 (1.00, 1.28)	<0.001	0.08 (0.00, 0.88)	0.11 (0.00, 1.49)	1.38 (0.32, 2.46)	0.011
Eswatini	84.60 (73.66, 96.81)	135.43 (125.22, 146.28)	1.66 (1.52, 1.79)	<0.001	137.53 (123.25, 153.11)	269.32 (254.67, 284.62)	2.34 (1.95, 2.72)	<0.001	1.38 (0.32, 4.00)	3.06 (1.68, 5.15)	2.66 (1.93, 3.41)	<0.001
Ethiopia	90.24 (88.82, 91.67)	73.40 (72.57, 74.25)	-0.80 (-1.13, -0.46)	<0.001	197.73 (195.55, 199.94)	99.30 (98.28, 100.32)	-2.36 (-2.52, -2.20)	<0.001	2.26 (2.03, 2.51)	0.76 (0.67, 0.86)	-3.67 (-3.87, -3.48)	<0.001
Fiji	323.46 (303.65, 344.27)	592.16 (567.34, 617.79)	2.09 (2.03, 2.15)	<0.001	440.40 (416.68, 465.14)	789.04 (760.51, 818.37)	1.99 (1.51, 2.47)	<0.001	4.53 (2.42, 7.79)	8.10 (5.45, 11.59)	1.98 (1.22, 2.76)	<0.001
Finland	113.71 (108.96, 118.63)	203.24 (196.50, 210.18)	2.02 (1.97, 2.06)	<0.001	67.82 (64.30, 71.50)	128.52 (123.36, 133.86)	2.22 (2.09, 2.36)	<0.001	0.23 (0.07, 0.60)	0.11 (0.01, 0.45)	-2.41 (-2.90, -1.92)	<0.001
France	36.39 (35.60, 37.18)	73.66 (72.48, 74.86)	2.45 (2.34, 2.57)	<0.001	22.27 (21.67, 22.89)	35.97 (35.17, 36.79)	1.67 (1.52, 1.82)	<0.001	0.12 (0.08, 0.18)	0.09 (0.06, 0.15)	-1.05 (-1.91, -0.17)	0.019
Gabon	116.49 (105.50, 128.39)	167.44 (158.10, 177.21)	1.26 (1.21, 1.30)	<0.001	224.31 (208.42, 241.12)	224.54 (213.48, 236.05)	-0.08 (-0.2, 0.03)	0.161	2.50 (1.09, 4.96)	1.83 (0.96, 3.19)	-1.18 (-1.37, -1.00)	<0.001

Gambia	50.73 (43.36, 59.09)	89.42 (83.18, 96.04)	1.98 (1.95, 2.00)	<0.001	65.96 (57.44, 75.47)	110.94 (103.87, 118.38)	1.84 (1.55, 2.13)	<0.001	0.58 (0.07, 2.35)	0.86 (0.35, 1.80)	1.46 (0.91, 2.01)	<0.001
Georgia	192.23 (186.68, 197.91)	294.36 (285.69, 303.27)	1.41 (1.17, 1.64)	<0.001	143.62 (138.83, 148.54)	199.90 (192.90, 207.14)	1.14 (0.87, 1.41)	<0.001	0.32 (0.13, 0.66)	0.47 (0.19, 1.06)	1.21 (-0.40, 2.85)	0.143
Germany	103.23 (102.09, 104.39)	191.46 (189.78, 193.15)	2.11 (1.95, 2.27)	<0.001	67.15 (66.25, 68.06)	113.41 (112.17, 114.66)	1.79 (1.62, 1.96)	<0.001	0.19 (0.14, 0.24)	0.10 (0.07, 0.15)	-2.09 (-2.91, -1.26)	<0.001
Ghana	66.07 (63.88, 68.31)	113.04 (111.22, 114.89)	1.86 (1.72, 1.99)	<0.001	107.08 (104.26, 109.96)	150.04 (147.92, 152.19)	1.18 (1.06, 1.30)	<0.001	1.13 (0.86, 1.46)	1.26 (1.07, 1.47)	0.38 (0.12, 0.63)	0.004
Greece	60.10 (57.65, 62.62)	132.69 (128.52, 136.96)	2.77 (2.73, 2.81)	<0.001	40.31 (38.33, 42.38)	82.08 (79.00, 85.26)	2.49 (2.38, 2.60)	<0.001	0.12 (0.04, 0.30)	0.08 (0.01, 0.28)	-1.64 (-2.09, -1.2)	<0.001
Greenland	36.74 (17.32, 72.39)	91.37 (55.26, 144.33)	3.23 (3.05, 3.41)	<0.001	40.88 (20.18, 77.66)	51.34 (25.60, 94.41)	0.88 (0.55, 1.22)	<0.001	0.65 (0.00, 23.06)	0.33 (0.00, 23.1)	-2.37 (-2.66, -2.08)	<0.001
Grenada	189.14 (144.08, 244.62)	283.72 (233.51, 341.99)	1.40 (1.37, 1.43)	<0.001	360.53 (295.57, 436.06)	365.15 (306.92, 431.55)	0.01 (-0.29, 0.30)	0.967	3.73 (0.13, 20.64)	2.70 (0.07, 15.62)	-1.13 (-1.65, -0.61)	<0.001
Guam	209.82 (175.62, 248.95)	366.51 (319.63, 418.49)	1.96 (1.91, 2.01)	<0.001	186.83 (154.34, 224.32)	308.75 (265.06, 357.68)	1.77 (1.51, 2.03)	<0.001	0.84 (0.00, 8.10)	1.21 (0.01, 9.00)	1.27 (0.22, 2.32)	0.017
Guatemala	123.93 (119.75, 128.24)	279.87 (276.07, 283.70)	2.84 (2.81, 2.87)	<0.001	153.62 (148.80, 158.55)	393.89 (389.27, 398.55)	3.25 (2.57, 3.93)	<0.001	1.18 (0.79, 1.69)	3.70 (3.26, 4.19)	3.90 (2.80, 5.00)	<0.001
Guinea	49.13 (46.11, 52.31)	87.77 (85.02, 90.60)	2.02 (1.99, 2.06)	<0.001	82.19 (78.26, 86.28)	136.14 (132.67, 139.68)	1.77 (1.59, 1.95)	<0.001	0.87 (0.51, 1.40)	1.29 (0.97, 1.68)	1.40 (1.08, 1.72)	<0.001
Guinea-Bissau	71.02 (62.26, 80.74)	112.61 (105.12, 120.52)	1.58 (1.54, 1.62)	<0.001	133.10 (120.97, 146.19)	182.85 (173.12, 193.00)	1.12 (1.05, 1.19)	<0.001	1.48 (0.48, 3.61)	1.82 (0.97, 3.14)	0.77 (0.64, 0.89)	<0.001
Guyana	214.89 (198.96, 231.82)	336.13 (315.88, 357.37)	1.54 (1.50, 1.59)	<0.001	380.06 (358.22, 402.93)	502.05 (476.70, 528.42)	0.94 (0.53, 1.36)	<0.001	3.88 (1.96, 6.94)	4.40 (2.33, 7.60)	0.45 (-0.48, 1.39)	0.346
Haiti	199.98 (194.27, 205.82)	286.33 (281.77, 290.96)	1.23 (1.20, 1.27)	<0.001	429.10 (420.56, 437.78)	358.20 (353.05, 363.41)	-0.61 (-0.80, -0.41)	<0.001	4.61 (3.76, 5.60)	2.35 (1.95, 2.81)	-2.23 (-2.57, -1.89)	<0.001
Honduras	164.87 (158.56, 171.37)	272.91 (267.79, 278.11)	1.74 (1.69, 1.79)	<0.001	204.80 (197.55, 212.27)	242.45 (237.49, 247.49)	0.57 (0.38, 0.77)	<0.001	1.54 (0.97, 2.33)	0.85 (0.58, 1.20)	-1.98 (-2.66, -1.30)	<0.001

Hungary	126.34 (122.79, 129.98)	183.82 (179.04, 188.71)	1.30 (1.21, 1.39)	<0.001	83.81 (81.02, 86.68)	103.35 (99.90, 106.91)	0.73 (0.50, 0.96)	<0.001	0.27 (0.14, 0.49)	0.17 (0.06, 0.41)	-1.57 (-2.42, -0.71)	<0.001
Iceland	59.76 (45.87, 76.63)	137.46 (117.41, 160.18)	2.91 (2.87, 2.94)	<0.001	35.30 (24.89, 48.71)	79.16 (64.51, 96.45)	2.82 (2.77, 2.87)	<0.001	0.04 (0.00, 3.92)	0.04 (0.00, 3.83)	-0.29 (-0.91, 0.34)	0.365
India	143.27 (142.86, 143.69)	239.42 (239.03, 239.82)	1.73 (1.58, 1.88)	<0.001	110.49 (110.12, 110.86)	167.34 (167.01, 167.67)	1.40 (1.12, 1.69)	<0.001	0.56 (0.53, 0.58)	0.58 (0.56, 0.60)	0.16 (-0.65, 0.97)	0.702
Indonesia	94.74 (94.03, 95.45)	152.13 (151.39, 152.87)	1.74 (1.34, 2.13)	<0.001	188.00 (186.99, 189.02)	229.06 (228.16, 229.96)	0.70 (0.54, 0.86)	<0.001	2.34 (2.23, 2.46)	2.60 (2.50, 2.69)	0.40 (0.23, 0.56)	<0.001
Iran (Islamic Republic of)	100.18 (98.78, 101.59)	176.09 (174.76, 177.44)	2.05 (1.34, 2.77)	<0.001	68.12 (66.93, 69.33)	114.07 (113.05, 115.10)	1.88 (1.46, 2.30)	<0.001	0.22 (0.15, 0.29)	0.35 (0.30, 0.42)	1.73 (1.38, 2.08)	<0.001
Iraq	180.76 (177.33, 184.23)	261.77 (259.39, 264.17)	1.30 (1.18, 1.41)	<0.001	276.97 (272.63, 281.37)	246.16 (243.78, 248.56)	-0.43 (-0.53, -0.32)	<0.001	2.84 (2.41, 3.32)	1.60 (1.41, 1.80)	-1.93 (-2.12, -1.74)	<0.001
Ireland	44.61 (41.11, 48.33)	115.85 (110.68, 121.21)	3.34 (3.27, 3.41)	<0.001	31.57 (28.62, 34.75)	62.46 (58.83, 66.28)	2.41 (2.25, 2.58)	<0.001	0.10 (0.01, 0.48)	0.07 (0.00, 0.38)	-1.36 (-2.11, -0.61)	<0.001
Israel	59.50 (56.07, 63.10)	116.12 (112.45, 119.89)	2.31 (1.84, 2.79)	<0.001	36.66 (33.96, 39.52)	75.95 (72.99, 78.99)	2.50 (2.11, 2.90)	<0.001	0.14 (0.02, 0.44)	0.15 (0.05, 0.36)	0.26 (-0.70, 1.22)	0.602
Italy	91.73 (90.45, 93.02)	131.34 (129.61, 133.10)	1.18 (0.93, 1.44)	<0.001	51.68 (50.72, 52.65)	70.16 (68.94, 71.39)	1.06 (0.80, 1.33)	<0.001	0.19 (0.13, 0.25)	0.09 (0.05, 0.14)	-2.76 (-3.35, -2.16)	<0.001
Jamaica	131.73 (124.30, 139.52)	236.80 (228.09, 245.77)	2.02 (1.96, 2.09)	<0.001	149.02 (140.83, 157.60)	288.04 (278.36, 297.99)	2.38 (1.96, 2.81)	<0.001	0.85 (0.33, 1.79)	1.86 (1.16, 2.84)	2.96 (1.78, 4.15)	<0.001
Japan	91.62 (90.74, 92.51)	130.10 (128.89, 131.31)	1.25 (1.15, 1.36)	<0.001	41.78 (41.19, 42.37)	66.58 (65.75, 67.41)	1.64 (1.50, 1.78)	<0.001	0.17 (0.13, 0.21)	0.07 (0.04, 0.10)	-3.06 (-3.45, -2.67)	<0.001
Jordan	117.46 (111.45, 123.72)	202.71 (198.74, 206.75)	1.90 (1.74, 2.05)	<0.001	121.67 (115.30, 128.33)	139.68 (136.33, 143.08)	0.53 (0.21, 0.84)	0.001	1.02 (0.52, 1.84)	0.42 (0.26, 0.66)	-3.02 (-3.65, -2.39)	<0.001
Kazakhstan	128.02 (125.34, 130.74)	203.47 (200.19, 206.80)	1.63 (1.48, 1.78)	<0.001	95.10 (92.79, 97.46)	138.59 (135.94, 141.28)	1.31 (1.20, 1.42)	<0.001	0.23 (0.13, 0.38)	0.34 (0.22, 0.51)	1.17 (0.28, 2.07)	0.010
Kenya	57.00 (55.29, 58.74)	86.24 (84.96, 87.53)	1.44 (1.40, 1.49)	<0.001	82.19 (80.03, 84.39)	112.33 (110.82, 113.85)	1.08 (1.02, 1.14)	<0.001	0.73 (0.54, 0.97)	0.85 (0.72, 0.99)	0.50 (0.36, 0.64)	<0.001

Kiribati	394.24 (325.13, 474.55)	669.57 (598.19, 747.33)	1.85 (1.78, 1.93)	<0.001	698.37 (601.61, 806.73)	1096.36 (1002.89, 1196.32)	1.56 (1.48, 1.64)	<0.001	8.39 (1.17, 29.64)	12.64 (4.53, 28.08)	1.42 (1.32, 1.53)	<0.001
Kuwait	175.96 (167.42, 184.87)	305.73 (298.24, 313.40)	1.89 (1.83, 1.95)	<0.001	134.62 (127.23, 142.39)	198.86 (193.36, 204.52)	1.42 (1.24, 1.60)	<0.001	0.60 (0.21, 1.48)	0.29 (0.11, 0.72)	-2.57 (-3.78, -1.35)	<0.001
Kyrgyzstan	84.88 (80.59, 89.35)	132.25 (127.91, 136.70)	1.55 (1.51, 1.59)	<0.001	73.71 (69.65, 77.96)	94.38 (90.68, 98.19)	0.86 (0.74, 0.99)	<0.001	0.36 (0.13, 0.80)	0.29 (0.12, 0.60)	-0.70 (-1.42, 0.02)	0.056
Lao People's Democratic Republic	123.86 (118.12, 129.82)	191.29 (186.42, 196.26)	1.50 (1.48, 1.52)	<0.001	266.92 (258.30, 275.77)	232.25 (226.82, 237.77)	-0.46 (-0.59, -0.34)	<0.001	3.22 (2.33, 4.34)	2.03 (1.55, 2.61)	-1.58 (-1.76, -1.39)	<0.001
Latvia	104.71 (98.43, 111.30)	146.81 (137.35, 156.85)	1.17 (1.13, 1.21)	<0.001	73.23 (68.05, 78.71)	104.57 (96.93, 112.76)	1.21 (0.75, 1.68)	<0.001	0.28 (0.05, 0.89)	0.53 (0.12, 1.68)	2.38 (0.69, 4.10)	0.006
Lebanon	121.67 (115.24, 128.38)	215.36 (209.17, 221.71)	2.00 (1.88, 2.13)	<0.001	99.32 (93.37, 105.54)	148.08 (143.11, 153.21)	1.39 (1.32, 1.46)	<0.001	0.40 (0.11, 1.02)	0.28 (0.10, 0.64)	-1.20 (-1.33, -1.08)	<0.001
Lesotho	68.44 (62.03, 75.37)	133.26 (125.91, 140.93)	2.33 (2.25, 2.41)	<0.001	87.35 (79.97, 95.27)	214.75 (205.32, 224.51)	3.15 (2.82, 3.47)	<0.001	0.70 (0.20, 1.82)	2.17 (1.32, 3.38)	4.04 (3.77, 4.31)	<0.001
Liberia	74.75 (68.15, 81.83)	120.56 (115.62, 125.66)	1.64 (1.59, 1.68)	<0.001	99.94 (92.33, 108.02)	147.67 (142.14, 153.37)	1.32 (1.17, 1.47)	<0.001	0.85 (0.29, 1.94)	1.10 (0.67, 1.7)	0.81 (0.57, 1.05)	<0.001
Libya	137.42 (131.39, 143.68)	264.34 (258.67, 270.11)	2.27 (2.23, 2.31)	<0.001	96.15 (90.92, 101.60)	166.29 (161.90, 170.79)	1.90 (1.73, 2.07)	<0.001	0.32 (0.09, 0.83)	0.37 (0.20, 0.66)	0.46 (-0.48, 1.40)	0.342
Lithuania	96.84 (91.82, 102.08)	123.70 (116.55, 131.23)	0.83 (0.75, 0.91)	<0.001	57.44 (53.57, 61.52)	71.88 (66.52, 77.62)	0.77 (0.41, 1.13)	<0.001	0.13 (0.01, 0.52)	0.19 (0.02, 0.88)	1.08 (-0.42, 2.60)	0.160
Luxembourg	54.46 (43.27, 68.07)	141.46 (126.16, 158.33)	3.34 (3.27, 3.42)	<0.001	38.07 (29.16, 49.34)	76.49 (65.92, 88.57)	2.40 (2.26, 2.54)	<0.001	0.11 (0.00, 3.81)	0.07 (0.00, 2.52)	-1.52 (-2.13, -0.92)	<0.001
Madagascar	71.75 (69.19, 74.39)	96.40 (94.44, 98.40)	0.99 (0.82, 1.16)	<0.001	146.66 (142.84, 150.55)	129.65 (127.37, 131.97)	-0.46 (-0.84, -0.08)	0.018	1.58 (1.21, 2.05)	0.97 (0.78, 1.20)	-1.64 (-2.07, -1.20)	<0.001
Malawi	82.31 (79.23, 85.49)	116.18 (113.65, 118.76)	1.20 (1.15, 1.26)	<0.001	144.01 (139.74, 148.38)	151.84 (148.83, 154.91)	0.18 (0.04, 0.33)	0.010	1.39 (0.99, 1.89)	1.01 (0.78, 1.30)	-1.07 (-1.38, -0.76)	<0.001

Malaysia	131.59 (128.93, 134.29)	191.90 (189.61, 194.22)	1.36 (1.10, 1.63)	<0.001	132.23 (129.54, 134.97)	149.34 (147.31, 151.38)	0.49 (0.34, 0.63)	<0.001	0.98 (0.76, 1.25)	0.56 (0.44, 0.7)	-1.95 (-2.55, -1.36)	<0.001
Maldives	86.18 (65.37, 112.24)	135.95 (122.02, 151.43)	1.57 (1.50, 1.63)	<0.001	131.24 (104.04, 163.88)	114.77 (102.73, 128.29)	-0.42 (-0.60, -0.23)	<0.001	1.40 (0.02, 9.93)	0.49 (0.03, 3.32)	-3.50 (-4.06, -2.93)	<0.001
Mali	57.26 (54.45, 60.19)	89.54 (87.35, 91.79)	1.55 (1.53, 1.57)	<0.001	98.78 (95.07, 102.61)	128.26 (125.58, 130.99)	0.94 (0.72, 1.15)	<0.001	1.04 (0.69, 1.51)	1.13 (0.89, 1.42)	0.29 (-0.07, 0.66)	0.114
Malta	93.66 (78.37, 111.25)	156.94 (136.80, 179.61)	1.80 (1.77, 1.82)	<0.001	69.42 (56.62, 84.47)	100.32 (85.26, 117.78)	1.30 (1.22, 1.39)	<0.001	0.22 (0.00, 3.55)	0.23 (0.00, 4.27)	0.27 (-0.07, 0.61)	0.123
Marshall Islands	511.82 (406.26, 637.74)	1001.70 (878.10, 1137.98)	2.34 (2.06, 2.62)	<0.001	492.59 (385.86, 620.50)	915.12 (797.36, 1045.54)	2.17 (2.00, 2.34)	<0.001	3.27 (0.00, 33.50)	5.87 (0.36, 26.69)	2.05 (1.83, 2.26)	<0.001
Mauritania	43.69 (38.91, 48.92)	61.10 (57.14, 65.27)	1.15 (1.11, 1.19)	<0.001	82.58 (75.96, 89.65)	86.85 (82.07, 91.85)	0.20 (-0.15, 0.55)	0.255	0.96 (0.38, 2.05)	0.79 (0.40, 1.42)	-0.54 (-0.66, -0.41)	<0.001
Mauritius	174.65 (163.24, 186.67)	328.45 (312.46, 345.08)	2.14 (1.60, 2.69)	<0.001	171.27 (159.88, 183.28)	377.48 (360.52, 395.06)	2.80 (2.30, 3.30)	<0.001	1.29 (0.49, 2.79)	3.43 (2.00, 5.54)	3.45 (2.61, 4.30)	<0.001
Mexico	215.03 (213.42, 216.65)	314.83 (313.27, 316.38)	1.39 (0.97, 1.80)	<0.001	304.28 (302.30, 306.26)	345.11 (343.48, 346.74)	0.44 (0.22, 0.67)	<0.001	2.84 (2.65, 3.04)	2.49 (2.35, 2.63)	-0.29 (-0.78, 0.20)	0.244
Micronesia (Federated States of)	256.97 (207.77, 314.83)	565.06 (493.30, 644.73)	2.81 (2.54, 3.07)	<0.001	436.91 (369.78, 512.97)	813.29 (724.21, 910.51)	2.18 (2.09, 2.26)	<0.001	5.11 (0.48, 20.54)	8.67 (1.91, 24.95)	1.82 (1.70, 1.94)	<0.001
Monaco	58.11 (20.07, 143.79)	130.39 (67.86, 228.84)	2.83 (2.79, 2.87)	<0.001	34.88 (8.57, 110.48)	75.78 (31.75, 155.83)	2.71 (2.68, 2.75)	<0.001	0.04 (0.00, 61.46)	0.07 (0.00, 44.45)	1.84 (1.63, 2.06)	<0.001
Mongolia	54.72 (49.66, 60.20)	91.26 (86.33, 96.43)	1.80 (1.75, 1.85)	<0.001	50.03 (45.04, 55.46)	79.01 (74.53, 83.71)	1.63 (1.44, 1.81)	<0.001	0.28 (0.04, 1.08)	0.48 (0.19, 1.05)	1.95 (1.38, 2.52)	<0.001
Montenegro	125.88 (112.44, 140.50)	196.96 (178.85, 216.51)	1.55 (1.50, 1.60)	<0.001	82.86 (72.06, 94.84)	113.52 (100.18, 128.25)	1.07 (0.80, 1.35)	<0.001	0.25 (0.00, 2.00)	0.20 (0.00, 2.34)	-1.21 (-2.65, 0.24)	0.102
Morocco	100.57 (98.56, 102.60)	209.16 (206.84, 211.51)	2.56 (2.54, 2.59)	<0.001	73.13 (71.38, 74.92)	136.28 (134.41, 138.17)	2.17 (2.10, 2.25)	<0.001	0.26 (0.16, 0.39)	0.33 (0.25, 0.44)	0.80 (0.43, 1.17)	<0.001

Mozambique	72.43 (69.89, 75.03)	118.97 (116.85, 121.12)	1.73 (1.70, 1.75)	<0.001	123.19 (119.79, 126.67)	185.91 (183.12, 188.73)	1.44 (1.36, 1.53)	<0.001	1.19 (0.88, 1.58)	1.60 (1.35, 1.89)	1.05 (0.90, 1.21)	<0.001
Myanmar	137.60 (135.78, 139.45)	194.89 (193.05, 196.75)	1.20 (1.10, 1.30)	<0.001	313.89 (311.07, 316.73)	287.16 (284.92, 289.42)	-0.31 (-0.47, -0.15)	<0.001	4.12 (3.80, 4.46)	3.07 (2.84, 3.31)	-1.01 (-1.26, -0.77)	<0.001
Namibia	80.53 (72.72, 89.01)	104.51 (98.21, 111.12)	0.93 (0.87, 0.99)	<0.001	96.13 (87.38, 105.57)	116.80 (110.02, 123.89)	0.73 (0.46, 1.00)	<0.001	0.71 (0.16, 2.09)	0.72 (0.28, 1.51)	0.07 (-0.37, 0.52)	0.747
Nauru	262.48 (127.24, 483.44)	517.02 (326.47, 781.72)	2.36 (2.32, 2.39)	<0.001	491.56 (293.35, 774.97)	822.66 (571.35, 1148.77)	1.78 (1.68, 1.88)	<0.001	6.04 (0.00, 115.63)	9.37 (0.00, 111.31)	1.52 (1.38, 1.66)	<0.001
Nepal	112.21 (109.69, 114.78)	205.04 (202.51, 207.60)	2.12 (1.91, 2.32)	<0.001	104.70 (102.24, 107.22)	162.23 (159.93, 164.54)	1.54 (1.45, 1.62)	<0.001	0.57 (0.40, 0.79)	0.52 (0.39, 0.66)	-0.36 (-0.56, -0.16)	<0.001
Netherlands	61.62 (59.68, 63.62)	104.90 (102.17, 107.69)	1.85 (1.78, 1.92)	<0.001	37.89 (36.38, 39.44)	60.95 (58.91, 63.05)	1.65 (1.54, 1.77)	<0.001	0.14 (0.06, 0.28)	0.08 (0.02, 0.21)	-1.99 (-2.51, -1.46)	<0.001
New Zealand	54.64 (50.82, 58.67)	101.83 (96.67, 107.19)	2.16 (2.04, 2.28)	<0.001	28.27 (25.55, 31.21)	59.94 (56.02, 64.06)	2.58 (2.37, 2.79)	<0.001	0.21 (0.04, 0.62)	0.23 (0.05, 0.65)	0.38 (-0.21, 0.97)	0.206
Nicaragua	145.77 (139.26, 152.52)	249.64 (243.76, 255.63)	1.87 (1.84, 1.91)	<0.001	167.31 (160.06, 174.80)	228.90 (223.23, 234.69)	0.96 (0.79, 1.14)	<0.001	1.18 (0.64, 2.00)	1.01 (0.66, 1.47)	-0.85 (-1.41, -0.29)	0.003
Niger	29.87 (27.74, 32.13)	63.87 (61.98, 65.81)	2.63 (2.34, 2.93)	<0.001	62.39 (59.32, 65.60)	94.68 (92.35, 97.06)	1.49 (1.38, 1.59)	<0.001	0.77 (0.47, 1.22)	0.90 (0.69, 1.16)	0.55 (0.34, 0.76)	<0.001
Nigeria	49.30 (48.51, 50.09)	61.78 (61.21, 62.35)	0.72 (0.52, 0.91)	<0.001	70.31 (69.36, 71.27)	78.18 (77.54, 78.83)	0.36 (0.22, 0.49)	<0.001	0.70 (0.61, 0.80)	0.70 (0.64, 0.77)	-0.01 (-0.18, 0.15)	0.864
Niue	372.80 (72.57, 1138.88)	767.93 (218.70, 1955.90)	2.54 (2.50, 2.58)	<0.001	426.55 (91.95, 1230.56)	714.23 (190.65, 1880.54)	1.80 (1.64, 1.96)	<0.001	3.65 (0, 525.28)	4.57 (0.00, 741.09)	0.80 (0.54, 1.06)	<0.001
North Macedonia	112.30 (105.17, 119.79)	187.71 (178.55, 197.28)	1.78 (1.75, 1.82)	<0.001	66.18 (60.75, 71.97)	105.41 (98.79, 112.43)	1.62 (1.54, 1.70)	<0.001	0.14 (0.01, 0.73)	0.21 (0.02, 0.98)	1.43 (0.69, 2.17)	<0.001
Northern Mariana Islands	244.87 (186.07, 317.93)	443.49 (330.24, 587.23)	2.07 (2.01, 2.13)	<0.001	246.45 (188.35, 318.57)	374.92 (264.99, 517.70)	1.47 (1.30, 1.63)	<0.001	1.66 (0, 22.7)	1.82 (0.00, 46.94)	0.20 (-0.21, 0.62)	0.337
Norway	110.69 (105.64, 115.93)	154.16 (148.48, 160.02)	1.12 (1.04, 1.20)	<0.001	67.68 (63.78, 71.78)	89.74 (85.52, 94.14)	0.95 (0.75, 1.16)	<0.001	0.12 (0.02, 0.47)	0.08 (0.01, 0.39)	-1.46 (-1.92, -1.00)	<0.001

Oman	109.88 (102.79, 117.35)	178.33 (173.20, 183.61)	1.68 (1.57, 1.79)	<0.001	74.29 (68.48, 80.48)	115.82 (111.93, 119.85)	1.56 (1.39, 1.72)	<0.001	0.25 (0.03, 0.93)	0.27 (0.11, 0.66)	0.46 (-0.16, 1.08)	0.147
Pakistan	152.40 (151.11, 153.69)	233.37 (232.33, 234.41)	1.50 (1.40, 1.61)	<0.001	141.78 (140.52, 143.06)	263.06 (261.94, 264.18)	2.16 (2.03, 2.29)	<0.001	0.84 (0.74, 0.94)	2.05 (1.95, 2.15)	3.17 (2.91, 3.43)	<0.001
Palau	298.87 (183.63, 461.49)	626.27 (445.71, 859.18)	2.59 (2.54, 2.64)	<0.001	365.62 (234.74, 544.38)	707.65 (521.39, 943.99)	2.28 (2.03, 2.52)	<0.001	3.37 (0.00, 65.56)	6.16 (0.00, 79.3)	2.07 (1.67, 2.47)	<0.001
Palestine	113.95 (105.73, 122.70)	188.73 (182.61, 195.02)	1.75 (1.72, 1.78)	<0.001	106.05 (97.84, 114.81)	143.85 (138.34, 149.54)	1.05 (0.88, 1.22)	<0.001	0.72 (0.20, 1.89)	0.71 (0.38, 1.24)	-0.03 (-0.32, 0.27)	0.845
Panama	118.40 (111.57, 125.56)	218.68 (211.46, 226.08)	2.14 (2.12, 2.17)	<0.001	110.74 (103.99, 117.84)	198.82 (191.92, 205.92)	2.09 (1.84, 2.34)	<0.001	0.47 (0.14, 1.21)	0.76 (0.39, 1.33)	1.70 (1.00, 2.41)	<0.001
Papua New Guinea	313.49 (304.71, 322.48)	528.01 (520.90, 535.20)	1.80 (1.66, 1.94)	<0.001	479.67 (468.28, 491.28)	698.83 (690.44, 707.30)	1.32 (1.19, 1.45)	<0.001	5.15 (4.02, 6.5)	6.78 (5.97, 7.66)	0.90 (0.72, 1.07)	<0.001
Paraguay	84.28 (79.65, 89.13)	129.29 (125.20, 133.47)	1.37 (0.77, 1.98)	<0.001	87.01 (82.21, 92.03)	140.17 (135.89, 144.55)	1.66 (1.28, 2.04)	<0.001	0.59 (0.26, 1.16)	1.17 (0.81, 1.64)	2.57 (1.70, 3.44)	<0.001
Peru	52.31 (50.73, 53.92)	92.07 (90.47, 93.69)	2.01 (1.88, 2.13)	<0.001	61.15 (59.41, 62.93)	86.69 (85.14, 88.26)	1.33 (0.75, 1.91)	<0.001	0.56 (0.40, 0.75)	0.53 (0.42, 0.67)	-0.03 (-0.83, 0.78)	0.942
Philippines	97.80 (96.55, 99.06)	126.90 (125.86, 127.96)	0.88 (0.83, 0.93)	<0.001	314.05 (311.77, 316.34)	201.10 (199.77, 202.43)	-1.48 (-1.98, -0.98)	<0.001	4.07 (3.81, 4.34)	2.19 (2.05, 2.33)	-2.11 (-2.55, -1.66)	<0.001
Poland	140.21 (138.34, 142.11)	208.79 (206.39, 211.21)	1.36 (1.31, 1.42)	<0.001	90.64 (89.19, 92.11)	113.53 (111.86, 115.22)	0.75 (0.38, 1.13)	<0.001	0.38 (0.29, 0.49)	0.18 (0.12, 0.27)	-2.51 (-2.87, -2.16)	<0.001
Portugal	89.08 (86.09, 92.15)	162.79 (158.31, 167.38)	2.08 (1.97, 2.20)	<0.001	75.28 (72.52, 78.11)	104.62 (101.16, 108.17)	1.13 (0.91, 1.35)	<0.001	0.39 (0.22, 0.65)	0.19 (0.07, 0.42)	-2.47 (-3.71, -1.21)	<0.001
Puerto Rico	176.55 (169.62, 183.68)	285.30 (275.57, 295.29)	1.66 (1.61, 1.72)	<0.001	186.76 (179.59, 194.14)	276.84 (267.36, 286.59)	1.34 (1.11, 1.57)	<0.001	1.04 (0.57, 1.74)	1.01 (0.52, 1.78)	-0.27 (-0.97, 0.43)	0.446
Qatar	145.03 (130.36, 161.32)	279.54 (271.64, 287.75)	2.30 (2.22, 2.39)	<0.001	111.27 (98.97, 125.15)	166.85 (161.22, 172.79)	1.35 (1.21, 1.49)	<0.001	0.46 (0.02, 3.48)	0.36 (0.13, 1.15)	-0.76 (-1.74, 0.24)	0.138
Republic of Korea	105.17 (103.77, 106.59)	150.73 (148.94, 152.53)	1.15 (0.72, 1.57)	<0.001	77.03 (75.82, 78.26)	89.32 (88.01, 90.65)	0.47 (0.21, 0.72)	<0.001	0.70 (0.59, 0.83)	0.29 (0.22, 0.38)	-3.05 (-3.54, -2.55)	<0.001

Republic of Moldova	123.87 (118.79, 129.12)	165.80 (159.19, 172.66)	1.04 (0.81, 1.27)	<0.001	90.87 (86.62, 95.29)	99.64 (94.77, 104.74)	0.31 (0.06, 0.56)	0.015	0.38 (0.15, 0.81)	0.25 (0.06, 0.76)	-1.52 (-2.44, -0.60)	0.001
Romania	96.28 (94.21, 98.39)	137.10 (134.13, 140.12)	1.20 (1.10, 1.30)	<0.001	70.27 (68.53, 72.05)	78.94 (76.79, 81.15)	0.39 (0.21, 0.56)	<0.001	0.38 (0.26, 0.54)	0.18 (0.09, 0.33)	-2.55 (-3.28, -1.81)	<0.001
Russian Federation	79.67 (78.96, 80.38)	100.11 (99.24, 100.98)	0.82 (0.72, 0.93)	<0.001	48.88 (48.34, 49.42)	55.83 (55.23, 56.44)	0.48 (0.28, 0.68)	<0.001	0.09 (0.07, 0.12)	0.13 (0.10, 0.16)	1.28 (-0.25, 2.84)	0.101
Rwanda	82.85 (79.35, 86.46)	82.92 (80.46, 85.45)	-0.02 (-0.09, 0.06)	0.679	174.68 (169.41, 180.09)	116.23 (113.24, 119.28)	-1.42 (-1.60, -1.24)	<0.001	1.97 (1.44, 2.64)	0.91 (0.67, 1.23)	-2.64 (-3.04, -2.24)	<0.001
Saint Kitts and Nevis	184.75 (124.98, 264.42)	238.98 (180.27, 311.53)	0.87 (0.81, 0.94)	<0.001	283.88 (207.08, 380.70)	237.76 (179.89, 309.28)	-0.46 (-0.74, -0.18)	0.001	2.71 (0.00, 30.81)	1.03 (0.00, 20.11)	-3.16 (-4.31, -2.00)	<0.001
Saint Lucia	239.61 (198.75, 287.06)	337.95 (295.84, 384.58)	1.19 (1.14, 1.24)	<0.001	376.90 (323.21, 437.42)	411.16 (364.90, 461.88)	0.29 (0.15, 0.43)	<0.001	3.40 (0.26, 15.16)	2.71 (0.30, 10.59)	-0.85 (-1.11, -0.59)	<0.001
Saint Vincent and the Grenadines	204.65 (163.35, 254.18)	311.97 (260.85, 370.31)	1.46 (1.43, 1.49)	<0.001	375.71 (316.67, 443.24)	443.27 (381.93, 511.79)	0.61 (0.02, 1.20)	0.044	3.78 (0.24, 18.19)	3.60 (0.26, 15.59)	-0.10 (-1.19, 1.00)	0.853
Samoa	270.56 (229.44, 317.56)	499.67 (450.64, 552.83)	2.14 (2.08, 2.21)	<0.001	299.38 (253.44, 351.60)	503.15 (452.23, 558.38)	1.80 (1.75, 1.85)	<0.001	2.45 (0.10, 12.82)	3.72 (0.64, 11.94)	1.43 (1.27, 1.58)	<0.001
San Marino	60.84 (20.92, 138.76)	130.40 (70.55, 222.17)	2.67 (2.64, 2.70)	<0.001	36.87 (8.26, 104.90)	76.62 (33.61, 151.91)	2.56 (2.51, 2.61)	<0.001	0.06 (0.00, 43.90)	0.09 (0.00, 39.49)	1.60 (1.39, 1.81)	<0.001
Sao Tome and Principe	63.89 (40.34, 97.52)	102.34 (81.66, 126.82)	1.64 (1.61, 1.67)	<0.001	52.81 (31.03, 85.09)	83.43 (64.66, 106.06)	1.57 (1.42, 1.71)	<0.001	0.18 (0.00, 14.01)	0.21 (0.00, 5.33)	0.68 (-0.16, 1.54)	0.114
Saudi Arabia	157.89 (154.77, 161.06)	292.40 (289.98, 294.83)	2.09 (1.63, 2.55)	<0.001	128.17 (125.32, 131.07)	197.25 (195.35, 199.16)	1.47 (1.26, 1.67)	<0.001	0.84 (0.62, 1.11)	0.69 (0.58, 0.82)	-0.68 (-0.97, -0.38)	<0.001
Senegal	84.94 (81.31, 88.71)	128.89 (125.94, 131.91)	1.41 (1.32, 1.50)	<0.001	105.80 (101.69, 110.04)	150.33 (147.08, 153.64)	1.18 (0.84, 1.53)	<0.001	0.81 (0.49, 1.27)	0.99 (0.75, 1.30)	0.84 (0.44, 1.24)	<0.001
Serbia	127.44 (123.76, 131.20)	181.84 (177.04, 186.76)	1.24 (1.20, 1.28)	<0.001	78.85 (76.02, 81.78)	99.39 (95.94, 102.94)	0.78 (0.66, 0.90)	<0.001	0.25 (0.12, 0.48)	0.17 (0.06, 0.41)	-1.47 (-1.75, -1.19)	<0.001

Seychelles	113.58 (78.03, 161.05)	270.30 (222, 326.82)	3.04 (2.95, 3.14)	<0.001	90.76 (58.45, 135.49)	205.73 (164.72, 254.82)	2.96 (2.75, 3.17)	<0.001	0.37 (0.00, 16.88)	0.83 (0.00, 13.02)	3.05 (1.78, 4.34)	<0.001
Sierra Leone	31.06 (28.07, 34.30)	61.42 (58.72, 64.21)	2.38 (2.34, 2.42)	<0.001	53.10 (49.16, 57.28)	105.57 (101.99, 109.24)	2.41 (2.20, 2.62)	<0.001	0.59 (0.25, 1.22)	1.10 (0.76, 1.54)	2.15 (1.84, 2.46)	<0.001
Singapore	162.29 (155.99, 168.80)	203.94 (197.94, 210.12)	0.71 (0.49, 0.93)	<0.001	81.17 (76.74, 85.80)	112.47 (108.43, 116.68)	1.12 (0.93, 1.30)	<0.001	0.36 (0.12, 0.84)	0.06 (0.00, 0.40)	-6.08 (-6.82, -5.32)	<0.001
Slovakia	97.91 (93.75, 102.23)	145.45 (140.14, 150.94)	1.37 (1.34, 1.41)	<0.001	56.59 (53.50, 59.81)	75.49 (71.89, 79.26)	0.99 (0.92, 1.06)	<0.001	0.14 (0.03, 0.42)	0.06 (0.00, 0.40)	-2.66 (-3.24, -2.08)	<0.001
Slovenia	94.06 (87.47, 101.04)	148.67 (139.35, 158.53)	1.62 (1.52, 1.71)	<0.001	53.25 (48.43, 58.45)	79.12 (72.78, 85.97)	1.39 (1.34, 1.44)	<0.001	0.08 (0.00, 0.70)	0.07 (0.00, 0.98)	-0.64 (-1.28, 0.00)	0.051
Solomon Islands	284.41 (253.98, 317.78)	556.27 (527.39, 586.36)	2.34 (2.30, 2.37)	<0.001	601.62 (553.84, 652.56)	1156.89 (1113.96, 1201.07)	2.27 (2.17, 2.37)	<0.001	7.77 (3.21, 15.93)	14.82 (10.31, 20.65)	2.23 (2.09, 2.36)	<0.001
Somalia	78.26 (74.73, 81.93)	109.55 (107.12, 112.02)	1.16 (1.14, 1.18)	<0.001	144.08 (139.22, 149.06)	162.83 (159.74, 165.97)	0.44 (0.35, 0.52)	<0.001	1.50 (1.05, 2.10)	1.34 (1.07, 1.66)	-0.37 (-0.62, -0.12)	0.003
South Africa	97.47 (95.88, 99.09)	120.44 (119.06, 121.83)	0.72 (0.67, 0.77)	<0.001	173.83 (171.65, 176.03)	169.01 (167.39, 170.63)	-0.08 (-1.08, 0.94)	0.884	1.97 (1.74, 2.22)	1.52 (1.37, 1.68)	-0.86 (-2.36, 0.65)	0.261
South Sudan	64.73 (61.28, 68.34)	93.11 (89.69, 96.64)	1.26 (1.24, 1.29)	<0.001	103.31 (98.70, 108.09)	118.91 (114.92, 123.02)	0.52 (0.30, 0.75)	<0.001	0.96 (0.56, 1.55)	0.80 (0.50, 1.21)	-0.64 (-1.08, -0.20)	0.004
Spain	71.35 (69.99, 72.74)	147.10 (145.02, 149.21)	2.56 (2.29, 2.83)	<0.001	48.99 (47.85, 50.16)	89.89 (88.37, 91.45)	2.13 (1.98, 2.29)	<0.001	0.20 (0.13, 0.29)	0.07 (0.03, 0.13)	-3.65 (-4.02, -3.27)	<0.001
Sri Lanka	110.18 (107.77, 112.63)	228.39 (225.12, 231.70)	2.55 (2.43, 2.68)	<0.001	114.97 (112.48, 117.50)	221.86 (218.67, 225.09)	2.34 (1.96, 2.73)	<0.001	0.83 (0.63, 1.07)	1.40 (1.16, 1.68)	1.95 (0.65, 3.28)	0.003
Sudan	108.54 (106.07, 111.06)	216.11 (213.83, 218.4)	2.42 (2.35, 2.49)	<0.001	75.57 (73.45, 77.74)	132.53 (130.70, 134.38)	1.96 (1.81, 2.10)	<0.001	0.31 (0.19, 0.49)	0.34 (0.25, 0.44)	0.26 (0.16, 0.36)	<0.001
Suriname	184.32 (163.03, 207.84)	327.16 (303.43, 352.27)	2.00 (1.95, 2.04)	<0.001	251.90 (225.92, 280.22)	388.48 (362.63, 415.72)	1.59 (0.43, 2.77)	0.007	1.91 (0.33, 6.38)	2.40 (0.80, 5.56)	0.90 (-1.24, 3.07)	0.413
Sweden	83.73 (80.50, 87.07)	130.46 (126.57, 134.45)	1.54 (1.47, 1.60)	<0.001	55.87 (53.26, 58.57)	74.46 (71.62, 77.40)	1.02 (0.91, 1.13)	<0.001	0.25 (0.11, 0.51)	0.15 (0.05, 0.36)	-1.82 (-2.23, -1.42)	<0.001

Switzerland	64.21 (61.23, 67.31)	120.94 (116.92, 125.08)	2.20 (2.07, 2.33)	<0.001	40.19 (37.89, 42.60)	66.40 (63.60, 69.31)	1.74 (1.63, 1.86)	<0.001	0.14 (0.04, 0.40)	0.07 (0.01, 0.29)	-2.62 (-3.20, -2.03)	<0.001
Syrian Arab Republic	132.35 (128.84, 135.94)	195.44 (191.35, 199.61)	1.35 (1.24, 1.47)	<0.001	148.54 (144.72, 152.44)	142.01 (138.50, 145.60)	-0.13 (-0.31, 0.05)	0.166	1.16 (0.85, 1.56)	0.52 (0.33, 0.79)	-2.61 (-3.20, -2.02)	<0.001
Taiwan (Province of China)	112.53 (110.39, 114.71)	142.51 (139.96, 145.09)	0.77 (0.67, 0.87)	<0.001	93.74 (91.80, 95.71)	100.12 (98.08, 102.21)	0.23 (0.09, 0.36)	0.001	0.42 (0.30, 0.58)	0.37 (0.25, 0.52)	-0.43 (-1.13, 0.28)	0.232
Tajikistan	104.42 (99.86, 109.16)	188.81 (184.54, 193.15)	2.07 (2.02, 2.12)	<0.001	97.18 (92.65, 101.88)	160.74 (156.76, 164.80)	1.81 (1.62, 1.99)	<0.001	0.56 (0.27, 1.05)	0.90 (0.63, 1.26)	1.80 (0.99, 2.62)	<0.001
Thailand	94.97 (93.77, 96.19)	143.33 (141.86, 144.82)	1.44 (0.88, 2.00)	<0.001	116.57 (115.21, 117.94)	152.76 (151.27, 154.25)	1.06 (0.57, 1.55)	<0.001	1.10 (0.97, 1.24)	1.16 (1.04, 1.30)	0.35 (-0.37, 1.08)	0.342
Timor-Leste	74.39 (64.95, 84.90)	141.86 (131.04, 153.41)	2.27 (2.22, 2.33)	<0.001	127.83 (115.12, 141.62)	139.79 (128.66, 151.67)	0.35 (-0.04, 0.74)	0.078	1.39 (0.38, 3.67)	0.91 (0.24, 2.50)	-1.38 (-2.07, -0.69)	<0.001
Togo	42.25 (38.64, 46.14)	67.15 (64.26, 70.14)	1.63 (1.51, 1.76)	<0.001	70.18 (65.49, 75.13)	98.22 (94.71, 101.85)	1.22 (0.94, 1.50)	<0.001	0.76 (0.35, 1.47)	0.93 (0.62, 1.35)	0.72 (0.13, 1.30)	0.016
Tokelau	250.09 (14.56, 1242.23)	490.40 (72.38, 1708.69)	2.35 (2.31, 2.39)	<0.001	323.59 (29.43, 1368.2)	526.51 (81.54, 1777.61)	1.70 (1.65, 1.75)	<0.001	3.07 (0.00, 826.66)	4.19 (0.00, 895.59)	1.04 (0.84, 1.24)	<0.001
Tonga	252.14 (199.10, 316.20)	435.54 (369.88, 509.82)	1.89 (1.85, 1.92)	<0.001	282.02 (222.43, 353.34)	426.70 (360.10, 502.21)	1.46 (1.33, 1.58)	<0.001	2.40 (0.01, 20.00)	3.08 (0.09, 17.04)	0.89 (0.71, 1.07)	<0.001
Trinidad and Tobago	213.44 (200.63, 226.88)	300.85 (286.35, 315.95)	1.19 (1.11, 1.27)	<0.001	270.35 (255.75, 285.59)	326.21 (311.60, 341.39)	0.61 (0.12, 1.10)	0.014	2.26 (1.11, 4.11)	2.14 (1.13, 3.82)	-0.18 (-1.28, 0.93)	0.744
Tunisia	116.90 (113.12, 120.79)	226.13 (221.81, 230.53)	2.31 (2.22, 2.41)	<0.001	74.55 (71.45, 77.75)	141.74 (138.42, 145.11)	2.25 (2.16, 2.33)	<0.001	0.18 (0.06, 0.43)	0.24 (0.12, 0.43)	0.80 (0.63, 0.98)	<0.001
Turkey	96.29 (95.01, 97.57)	140.23 (138.99, 141.48)	1.35 (0.94, 1.77)	<0.001	106.57 (105.21, 107.95)	98.12 (97.10, 99.14)	-0.24 (-0.58, 0.09)	0.158	0.89 (0.77, 1.03)	0.28 (0.23, 0.34)	-3.92 (-4.29, -3.56)	<0.001
Turkmenistan	96.78 (91.73, 102.06)	190.35 (184.43, 196.42)	2.38 (2.33, 2.43)	<0.001	81.92 (77.17, 86.90)	156.15 (150.81, 161.64)	2.30 (2.00, 2.6)	<0.001	0.37 (0.12, 0.90)	0.69 (0.38, 1.16)	2.28 (1.39, 3.18)	<0.001

Tuvalu	272.77 (129.28, 508.01)	525.16 (337.03, 784.10)	2.28 (2.22, 2.35)	<0.001	402.37 (220.42, 675.48)	627.54 (415.41, 911.90)	1.54 (1.47, 1.61)	<0.001	4.23 (0.00, 117.12)	5.72 (0.00, 100.88)	1.05 (0.91, 1.19)	<0.001
Uganda	80.48 (78.14, 82.89)	120.36 (118.56, 122.19)	1.40 (1.35, 1.45)	<0.001	118.50 (115.48, 121.58)	158.73 (156.55, 160.95)	0.98 (0.79, 1.17)	<0.001	0.99 (0.73, 1.32)	1.10 (0.92, 1.30)	0.28 (-0.10, 0.66)	0.151
Ukraine	109.78 (108.32, 111.26)	141.65 (139.77, 143.55)	0.88 (0.83, 0.93)	<0.001	77.13 (75.93, 78.34)	92.74 (91.32, 94.18)	0.68 (0.35, 1.02)	<0.001	0.22 (0.16, 0.29)	0.30 (0.22, 0.40)	0.95 (-0.82, 2.74)	0.295
United Arab Emirates	113.91 (107.39, 120.82)	216.69 (211.43, 222.07)	2.26 (2.13, 2.39)	<0.001	79.16 (73.94, 84.74)	132.84 (129.48, 136.32)	1.80 (1.67, 1.93)	<0.001	0.29 (0.06, 1.07)	0.31 (0.17, 0.60)	0.23 (-0.16, 0.62)	0.245
United Kingdom	94.18 (92.88, 95.50)	346.95 (344.51, 349.41)	4.61 (4.16, 5.07)	<0.001	63.00 (61.94, 64.07)	208.79 (206.97, 210.63)	4.26 (3.94, 4.57)	<0.001	0.19 (0.14, 0.26)	0.13 (0.09, 0.18)	-1.35 (-1.79, -0.91)	<0.001
United Republic of Tanzania	50.06 (48.57, 51.59)	82.77 (81.52, 84.03)	1.77 (1.61, 1.93)	<0.001	101.25 (99.03, 103.51)	124.06 (122.48, 125.65)	0.74 (0.53, 0.94)	<0.001	1.13 (0.91, 1.4)	1.03 (0.89, 1.19)	-0.34 (-0.55, -0.14)	0.001
United States of America	130.53 (129.85, 131.21)	195.31 (194.50, 196.12)	1.39 (1.08, 1.70)	<0.001	71.39 (70.89, 71.89)	112.47 (111.86, 113.08)	1.57 (1.43, 1.72)	<0.001	0.52 (0.48, 0.57)	0.46 (0.42, 0.50)	-0.39 (-0.80, 0.02)	0.061
United States Virgin Islands	139.44 (104.97, 181.92)	247.44 (195.01, 310.05)	2.01 (1.95, 2.07)	<0.001	179.90 (140.53, 227.20)	249.10 (197.32, 310.85)	1.09 (0.84, 1.33)	<0.001	1.29 (0.00, 12.66)	1.05 (0.00, 15.12)	-0.77 (-1.19, -0.36)	<0.001
Uruguay	27.90 (24.89, 31.16)	88.76 (83.57, 94.20)	4.07 (4.00, 4.14)	<0.001	27.36 (24.39, 30.60)	50.39 (46.52, 54.51)	2.01 (1.87, 2.15)	<0.001	0.43 (0.13, 1.02)	0.36 (0.11, 0.90)	-0.70 (-1.03, -0.36)	<0.001
Uzbekistan	89.08 (87.03, 91.18)	170.53 (168.40, 172.69)	2.30 (2.18, 2.43)	<0.001	67.37 (65.54, 69.24)	128.84 (126.99, 130.72)	2.27 (2.06, 2.49)	<0.001	0.23 (0.13, 0.36)	0.55 (0.43, 0.68)	3.21 (2.70, 3.72)	<0.001
Vanuatu	247.99 (208.07, 293.71)	478.06 (438.53, 520.35)	2.29 (2.26, 2.32)	<0.001	248.21 (206.87, 295.59)	484.34 (443.42, 528.11)	2.33 (2.18, 2.49)	<0.001	1.72 (0.02, 11.05)	3.64 (0.94, 9.67)	2.63 (2.25, 3.01)	<0.001
Venezuela (Bolivarian Republic of)	127.22 (124.70, 129.79)	211.92 (209.18, 214.68)	1.76 (1.67, 1.86)	<0.001	156.53 (153.68, 159.42)	234.01 (231.16, 236.88)	1.37 (0.98, 1.76)	<0.001	1.23 (0.99, 1.51)	1.38 (1.17, 1.62)	0.40 (-0.77, 1.59)	0.500
Viet Nam	77.86 (76.79, 78.94)	115.03 (113.99, 116.07)	1.35 (1.19, 1.51)	<0.001	102.42 (101.16, 103.70)	119.21 (118.18, 120.26)	0.51 (0.40, 0.62)	<0.001	1.00 (0.88, 1.14)	0.87 (0.78, 0.97)	-0.53 (-0.64, -0.42)	<0.001

Yemen	80.92 (78.21, 83.71)	143.83 (141.72, 145.96)	1.98 (1.85, 2.11)	<0.001	57.74 (55.39, 60.16)	91.01 (89.31, 92.73)	1.62 (1.47, 1.78)	<0.001	0.24 (0.12, 0.46)	0.27 (0.18, 0.38)	0.38 (0.06, 0.71)	0.020
Zambia	81.15 (77.69, 84.74)	104.31 (101.93, 106.74)	0.85 (0.83, 0.88)	<0.001	149.35 (144.35, 154.48)	164.29 (161.18, 167.45)	0.32 (0.12, 0.51)	0.001	1.54 (1.06, 2.16)	1.46 (1.18, 1.79)	-0.18 (-0.36, 0.01)	0.067
Zimbabwe	80.58 (77.60, 83.65)	137.31 (134.32, 140.34)	1.85 (1.74, 1.97)	<0.001	106.52 (103.09, 110.04)	194.59 (191.04, 198.19)	2.12 (1.85, 2.39)	<0.001	0.75 (0.49, 1.10)	1.44 (1.16, 1.78)	2.32 (1.61, 3.03)	<0.001

Estimates are for individuals aged 15–39 years. Values in parentheses are 95% uncertainty intervals (UIs) or confidence intervals (CIs). Rates are reported per 100000 persons. Bold within the table means the average annual percent change (AAPC) is statistically significant ($P\leq0.05$). UI=uncertainty interval. CI=confidence interval. AAPC=average annual percent change. DALY=disability-adjusted life year. P = P -value for the significant test of AAPC

Supplementary Table 4 Age-standardized DALY rates and proportional early-onset type 2 diabetes DALY burden by Socio-demographic Index, in 2019, for both sexes combined

Attributable risk factor	High SDI		High-middle SDI		Middle SDI		Low-middle SDI		Low SDI	
	Age-standardized DALY rate (95%CI)	Proportion %	Age-standardized DALY rate (95%CI)	Proportion %	Age-standardized DALY rate (95%CI)	Proportion %	Age-standardized DALY rate (95%CI)	Proportion %	Age-standardized DALY rate (95%CI)	Proportion %
Low temperature	1.40 (1.36, 1.44)	1.30	1.13 (1.10, 1.16)	0.98	1.64 (1.61, 1.66)	1.01	1.43 (1.41, 1.46)	0.82	1.49 (1.46, 1.53)	0.95
High temperature	0.25 (0.23, 0.27)	0.23	0.31 (0.29, 0.32)	0.26	1.12 (1.10, 1.14)	0.69	2.05 (2.02, 2.09)	1.18	1.81 (1.77, 1.86)	1.15
Household air pollution from solid fuels	0.07 (0.06, 0.08)	0.07	1.92 (1.89, 1.96)	1.66	6.77 (6.71, 6.82)	4.17	18.54 (18.44, 18.65)	10.64	27.22 (27.05, 27.40)	17.25
Ambient particulate matter pollution	13.06 (12.94, 13.18)	12.11	20.37 (20.26, 20.49)	17.59	26.32 (26.21, 26.42)	16.21	19.71 (19.60, 19.82)	11.32	10.46 (10.35, 10.57)	6.63
Low physical activity	9.86 (9.75, 9.96)	9.14	5.53 (5.47, 5.59)	4.77	6.73 (6.68, 6.79)	4.15	5.22 (5.17, 5.28)	3.00	4.33 (4.26, 4.40)	2.74
Secondhand smoke	8.59 (8.50, 8.69)	7.97	11.24 (11.15, 11.33)	9.70	15.45 (15.37, 15.54)	9.52	16.21 (16.11, 16.31)	9.30	12.96 (12.84, 13.08)	8.21
Smoking	13.72 (13.59, 13.84)	12.72	13.91 (13.81, 14.01)	12.01	14.06 (13.98, 14.14)	8.66	10.64 (10.56, 10.72)	6.11	7.08 (6.98, 7.17)	4.48
Diet low in nuts and seeds	1.85 (1.80, 1.89)	1.71	2.31 (2.27, 2.35)	2.00	3.40 (3.36, 3.43)	2.09	4.81 (4.75, 4.86)	2.76	3.24 (3.18, 3.31)	2.06
Diet low in fiber	3.48 (3.42, 3.55)	3.23	3.25 (3.20, 3.30)	2.81	5.11 (5.06, 5.16)	3.15	6.32 (6.26, 6.38)	3.63	4.47 (4.40, 4.54)	2.83
Diet high in sugar-sweetened beverages	10.21 (10.10, 10.32)	9.47	5.74 (5.68, 5.80)	4.96	6.87 (6.82, 6.93)	4.23	5.01 (4.96, 5.07)	2.88	3.78 (3.71, 3.84)	2.39

Diet low in whole grains	5.51 (5.43, 5.59)	5.11	6.32 (6.26, 6.39)	5.46	7.74 (7.68, 7.79)	4.76	8.29 (8.22, 8.36)	4.76	8.61 (8.51, 8.71)	5.46
Diet high in processed meat	13.99 (13.87, 14.12)	12.98	7.40 (7.33, 7.47)	6.39	6.09 (6.04, 6.14)	3.75	7.16 (7.09, 7.23)	4.11	8.06 (7.97, 8.16)	5.11
Diet high in red meat	11.96 (11.84, 12.07)	11.09	11.29 (11.21, 11.38)	9.75	10.24 (10.17, 10.30)	6.30	5.47 (5.42, 5.53)	3.14	4.80 (4.73, 4.88)	3.04
Diet low in fruits	6.65 (6.56, 6.73)	6.16	6.83 (6.76, 6.90)	5.90	10.52 (10.46, 10.59)	6.48	15.56 (15.46, 15.66)	8.93	13.56 (13.43, 13.68)	8.59
High body-mass index	91.03 (90.72, 91.35)	84.42	85.31 (85.07, 85.55)	73.65	119.13 (118.91, 119.35)	73.36	105.44 (105.19, 105.69)	60.53	82.18 (81.88, 82.48)	52.08

Rates are expressed per 100000 persons. DALY=disability-adjusted life year. SDI=Socio-demographic Index.

Supplementary Table 5 Global age-specific DALY rates and proportional DALY burden of early-onset type 2 diabetes by age group, in 2019, for both sexes combined

Attributable risk factor	15 to 19		20 to 24		25 to 29		30 to 34		35 to 39	
	Age-specific DALY rate (95% UI)	Proportion %	Age-specific DALY rate (95% UI)	Proportion %	Age-specific DALY rate (95% UI)	Proportion %	Age-specific DALY rate (95% UI)	Proportion %	Age-specific DALY rate (95% UI)	Proportion %
Low temperature	0.47 (0.04, 0.97)	1.40	0.68 (0.20, 1.23)	1.03	0.96 (0.33, 1.66)	0.81	2.14 (0.87, 3.52)	1.00	3.39 (1.51, 5.36)	0.96
High temperature	0.58 (-0.05, 1.67)	1.73	0.63 (0.10, 1.54)	0.95	0.83 (0.12, 2.25)	0.70	1.61 (0.24, 4.44)	0.75	2.47 (0.39, 6.88)	0.70
Household air pollution from solid fuels	NA	NA	NA	NA	9.22 (5.38, 14.78)	7.75	15.31 (8.96, 23.67)	7.14	24.49 (14.34, 37.51)	6.94
Ambient particulate matter pollution	NA	NA	NA	NA	16.68 (10.03, 25.58)	14.03	30.77 (19.38, 45.2)	14.33	49.77 (31.58, 73.62)	14.11
Low physical activity	NA	NA	NA	NA	5.31 (1.5, 13.02)	4.47	9.19 (2.87, 22.3)	4.28	15.86 (5.2, 37.52)	4.50
Secondhand smoke	NA	NA	NA	NA	13.03 (4.79, 23.25)	10.96	20.62 (7.59, 35.49)	9.61	32.33 (11.79, 54.37)	9.17
Smoking	NA	NA	NA	NA	NA	NA	21.34 (14.64, 29.79)	9.94	37.34 (26.18, 50.78)	10.58
Diet low in nuts and seeds	NA	NA	NA	NA	3.01 (0.82, 6.12)	2.53	5.09 (1.38, 10.28)	2.37	7.81 (2.01, 15.65)	2.21
Diet low in fiber	NA	NA	0	NA	4.07 (1.84, 7.11)	3.42	7.29 (3.13, 12.41)	3.40	11.58 (5.03, 19.49)	3.28
Diet high in sugar-sweetened beverages	NA	NA	NA	NA	5.70 (3.00, 9.09)	4.80	9.64 (5.25, 14.75)	4.49	14.99 (8.44, 22.11)	4.25

Diet low in whole grains	NA	NA	NA	NA	6.43 (2.19, 11.26)	5.41	11.33 (3.75, 19.29)	5.28	18.16 (6.01, 30.06)	5.15
Diet high in processed meat	NA	NA	NA	NA	6.66 (3.99, 10.34)	5.60	11.93 (7.36, 17.50)	5.56	19.41 (11.87, 27.66)	5.50
Diet high in red meat	NA	NA	NA	NA	7.30 (4.02, 12.01)	6.14	13.77 (7.93, 21.31)	6.42	22.28 (12.84, 34.89)	6.32
Diet low in fruits	NA	NA	NA	NA	9.31 (5.30, 14.90)	7.83	16.63 (9.83, 26.06)	7.75	26.47 (16.19, 40.80)	7.50
High body-mass index	NA	NA	33.23 (15.83, 56.23)	50.35	74.64 (40.49, 117.61)	62.78	146.05 (88.18, 210.30)	68.04	254.28 (172.35, 357.31)	72.08

Rates are expressed per 100000 persons. DALY=disability-adjusted life year. NA=not applicable. The total DALY used to calculate proportion can be seen in Supplementary Table 2.

Supplementary Table 6 Global age-standardized DALY rates and proportional early-onset type 2 diabetes DALY burden by sex in 2019

Attributable risk factors	Women		Men	
	Age-standardized DALY rate (95%CI)	Proportion %	Age-standardized DALY rate (95%CI)	Proportion %
Low temperature	1.32 (1.30, 1.34)	0.95	1.59 (1.57, 1.61)	0.99
High temperature	1.20 (1.18, 1.22)	0.86	1.16 (1.14, 1.18)	0.73
Household air pollution from solid fuels	10.59 (10.54, 10.65)	7.61	9.65 (9.60, 9.70)	6.03
Ambient particulate matter pollution	16.84 (16.77, 16.91)	12.10	23.19 (23.11, 23.27)	14.50
Low physical activity	7.05 (7.01, 7.09)	5.07	5.48 (5.44, 5.52)	3.42
Secondhand smoke	17.12 (17.05, 17.19)	12.30	10.19 (10.14, 10.24)	6.37
Smoking	3.24 (3.21, 3.28)	2.33	21.45 (21.37, 21.52)	13.41
Diet low in nuts and seeds	2.99 (2.96, 3.02)	2.15	3.58 (3.55, 3.61)	2.24
Diet low in fiber	4.38 (4.34, 4.41)	3.15	5.08 (5.04, 5.11)	3.17
Diet high in sugar-sweetened beverages	5.92 (5.88, 5.96)	4.26	6.60 (6.55, 6.64)	4.12
Diet low in whole grains	6.70 (6.66, 6.74)	4.81	8.11 (8.06, 8.16)	5.07
Diet high in processed meat	7.57 (7.53, 7.62)	5.44	8.09 (8.04, 8.14)	5.06
Diet high in red meat	7.78 (7.73, 7.83)	5.59	10.07 (10.01, 10.12)	6.29
Diet low in fruits	9.92 (9.87, 9.98)	7.13	11.68 (11.62, 11.73)	7.30
High body-mass index	96.36 (96.20, 96.52)	69.25	106.01 (105.84, 106.17)	66.27

Rates are expressed per 100000 persons. DALY=disability-adjusted life year. The total DALY used to calculate proportion can be seen in Supplementary Table 1.

Supplementary Table 7 Proportion of attributable risk factors of early-onset type 2 diabetes DALY burden in 1990 and 2019 for women																								
Attributable risk factor	Global				High SDI				High-middle SDI				Middle SDI				Low-middle SDI				Low SDI			
	1990		2019		1990		2019		1990		2019		1990		2019		1990		2019		1990		2019	
	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %
Low temperature	1.75 (1.73, 1.78)	1.69	1.32 (1.30, 1.34)	0.95	1.83 (1.77, 1.90)	3.37	1.26 (1.20, 1.31)	1.28	1.59 (1.54, 1.64)	1.96	0.90 (0.86, 0.93)	0.89	2.02 (1.97, 2.06)	1.66	1.38 (1.35, 1.41)	0.93	1.37 (1.32, 1.43)	1.08	1.38 (1.34, 1.42)	0.83	1.80 (1.71, 1.89)	1.37	1.66 (1.60, 1.71)	1.06
High temperature	0.51 (0.49, 0.52)	0.49	1.20 (1.18, 1.22)	0.86	0.11 (0.09, 0.13)	0.20	0.23 (0.21, 0.25)	0.23	0.14 (0.13, 0.16)	0.17	0.28 (0.26, 0.31)	0.28	0.50 (0.48, 0.53)	0.41	1.04 (1.01, 1.07)	0.70	1.09 (1.05, 1.14)	0.86	2.08 (2.03, 2.13)	1.25	0.92 (0.85, 0.98)	0.70	2.03 (1.96, 2.09)	1.30
Household air pollution from solid fuels	15.04 (14.96, 15.12)	14.53	10.59 (10.54, 10.65)	7.61	0.67 (0.63, 0.71)	1.23	0.07 (0.06, 0.09)	0.08	7.15 (7.04, 7.26)	8.83	1.92 (1.87, 1.98)	1.91	17.39 (17.23, 17.54)	14.29	6.88 (6.81, 6.96)	4.66	26.44 (26.20, 26.69)	20.75	19.11 (18.96, 19.27)	11.51	32.85 (32.44, 33.27)	25.07	28.44 (28.19, 28.69)	18.20
Ambient particulate matter pollution	7.14 (7.08, 7.19)	6.90	16.84 (16.77, 16.91)	12.10	7.02 (6.88, 7.15)	12.89	10.92 (10.76, 11.08)	11.13	8.59 (8.47, 8.72)	10.61	16.63 (16.48, 16.79)	16.55	9.11 (9.00, 9.22)	7.48	22.44 (22.30, 22.58)	15.19	4.00 (3.90, 4.09)	3.14	16.51 (16.36, 16.65)	9.94	2.51 (2.40, 2.63)	1.91	8.82 (8.68, 8.96)	5.64
Low physical activity	4.80 (4.76, 4.85)	4.64	7.05 (7.01, 7.09)	5.07	4.72 (4.61, 4.83)	8.68	11.98 (11.82, 12.15)	12.21	4.50 (4.41, 4.59)	5.56	6.24 (6.15, 6.34)	6.21	5.32 (5.24, 5.41)	4.37	7.31 (7.23, 7.39)	4.95	4.74 (4.63, 4.84)	3.72	5.80 (5.72, 5.88)	3.49	3.85 (3.71, 4.00)	2.94	5.04 (4.93, 5.15)	3.23
Secondhand smoke	14.05 (13.98, 14.13)	13.57	17.12 (17.05, 17.19)	12.30	5.85 (5.73, 5.97)	10.75	8.86 (8.72, 9.00)	9.03	11.92 (11.77, 12.07)	14.72	14.16 (14.02, 14.31)	14.09	18.37 (18.21, 18.52)	15.09	20.27 (20.14, 20.40)	13.72	17.55 (17.35, 17.75)	13.77	20.55 (20.39, 20.71)	12.38	12.39 (12.13, 12.64)	9.45	15.2 (15.01, 15.38)	9.73
Smoking	3.96 (3.92, 4.00)	3.82	3.24 (3.21, 3.28)	2.33	7.36 (7.23, 7.50)	13.53	8.12 (7.98, 8.25)	8.27	5.11 (5.01, 5.21)	6.31	4.47 (4.39, 4.55)	4.45	2.80 (2.74, 2.87)	2.30	2.09 (2.05, 2.13)	1.42	2.18 (2.11, 2.26)	1.71	1.90 (1.85, 1.95)	1.14	1.64 (1.54, 1.74)	1.25	1.77 (1.71, 1.84)	1.13
Diet low in nuts and seeds	2.24 (2.21, 2.27)	2.17	2.99 (2.96, 3.02)	2.15	0.94 (0.89, 0.99)	1.72	1.48 (1.42, 1.54)	1.51	1.69 (1.64, 1.75)	2.09	1.96 (1.91, 2.01)	1.95	2.55 (2.49, 2.61)	2.09	3.07 (3.02, 3.12)	2.08	3.44 (3.35, 3.53)	2.70	4.53 (4.46, 4.61)	2.73	2.63 (2.51, 2.75)	2.01	3.05 (2.97, 3.13)	1.95
Diet low in fiber	3.92 (3.88, 3.96)	3.78	4.38 (4.34, 4.41)	3.15	2.19 (2.11, 2.26)	4.02	3.20 (3.11, 3.29)	3.26	2.73 (2.66, 2.80)	3.37	2.88 (2.82, 2.95)	2.87	4.66 (4.58, 4.74)	3.83	4.60 (4.54, 4.67)	3.12	5.82 (5.71, 5.94)	4.57	5.95 (5.87, 6.04)	3.59	3.71 (3.57, 3.85)	2.83	4.39 (4.29, 4.49)	2.81
Diet high in sugar-sweetened beverages	3.65 (3.61, 3.69)	3.52	5.92 (5.88, 5.96)	4.26	3.92 (3.82, 4.02)	7.21	9.83 (9.68, 9.98)	10.02	3.17 (3.10, 3.25)	3.92	5.38 (5.29, 5.46)	5.35	4.31 (4.24, 4.39)	3.54	6.43 (6.35, 6.50)	4.35	3.11 (3.03, 3.20)	2.44	4.85 (4.77, 4.93)	2.92	3.08 (2.95, 3.21)	2.35	3.66 (3.57, 3.75)	2.34

Diet low in whole grains	4.81 (4.77, 4.86)	4.65	6.70 (6.66, 6.74)	4.81	2.58 (2.50, 2.66)	4.74	4.82 (4.71, 4.93)	4.91	4.54 (4.45, 4.63)	5.61	5.39 (5.30, 5.48)	5.36	5.36 (5.28, 5.45)	4.41	6.83 (6.75, 6.91)	4.62	5.45 (5.34, 5.56)	4.28	7.65 (7.56, 7.75)	4.61	6.58 (6.40, 6.77)	5.03	8.44 (8.30, 8.58)	5.40
Diet high in processed meat	4.71 (4.67, 4.76)	4.55	7.57 (7.53, 7.62)	5.44	7.31 (7.18, 7.45)	13.44	13.09 (12.91, 13.26)	13.34	4.76 (4.67, 4.85)	5.88	6.92 (6.82, 7.02)	6.88	3.22 (3.16, 3.29)	2.65	5.71 (5.64, 5.78)	3.86	4.15 (4.05, 4.25)	3.26	7.38 (7.28, 7.47)	4.44	6.14 (5.96, 6.32)	4.69	8.42 (8.29, 8.56)	5.39
Diet high in red meat	5.39 (5.35, 5.44)	5.21	7.78 (7.73, 7.83)	5.59	6.27 (6.14, 6.40)	11.52	10.77 (10.62, 10.93)	10.98	6.44 (6.34, 6.55)	7.96	9.38 (9.26, 9.50)	9.33	5.93 (5.84, 6.02)	4.87	8.72 (8.63, 8.81)	5.90	3.08 (3.00, 3.17)	2.42	5.06 (4.98, 5.14)	3.05	3.58 (3.45, 3.72)	2.73	4.83 (4.73, 4.93)	3.09
Diet low in fruits	8.52 (8.46, 8.58)	8.23	9.92 (9.87, 9.98)	7.13	3.80 (3.70, 3.90)	6.98	6.01 (5.89, 6.13)	6.13	6.19 (6.08, 6.29)	7.64	5.83 (5.74, 5.92)	5.80	9.67 (9.55, 9.78)	7.94	9.47 (9.38, 9.56)	6.41	12.76 (12.59, 12.93)	10.01	14.33 (14.20, 14.46)	8.63	10.96 (10.72, 11.2)	8.36	13.23 (13.06, 13.41)	8.47
High body-mass index	46.60 (46.46, 46.74)	45.01	96.36 (96.20, 96.52)	69.25	39.39 (39.09, 39.70)	72.40	84.28 (83.84, 84.71)	85.87	43.17 (42.90, 43.45)	53.32	72.54 (72.22, 72.86)	72.15	58.27 (58.00, 58.54)	47.88	110.94 (110.64, 111.24)	75.09	38.13 (37.84, 38.42)	29.92	105.60 (105.24, 105.95)	63.61	43.46 (43.00, 43.93)	33.17	89.85 (89.41, 90.29)	57.51

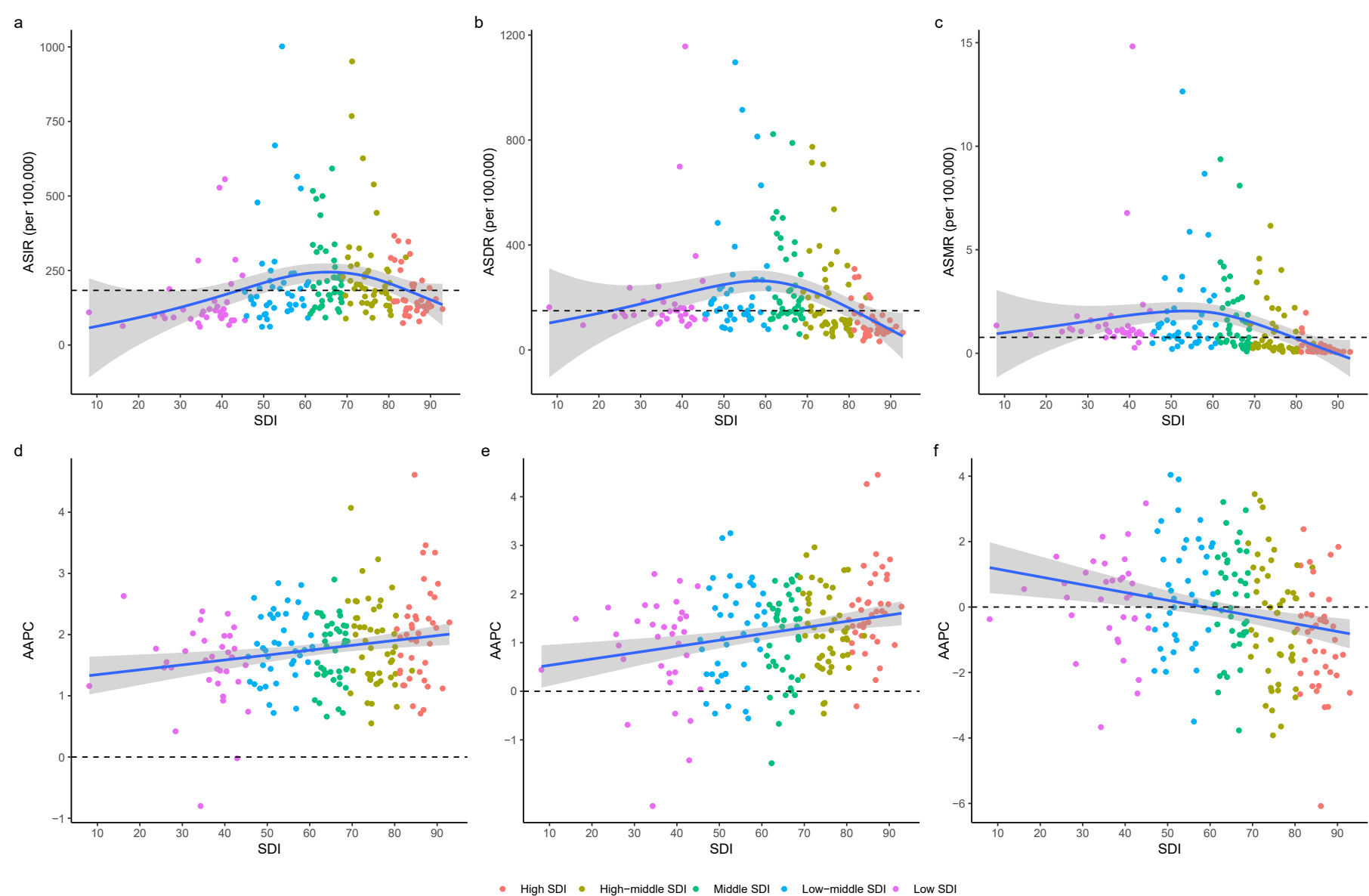
Rates are expressed per 100000 persons. DALY=disability-adjusted life-year. SDI=Socio-demographic Index. ASDR=age-standardized DALY rate. The total DALY used to calculate proportion can be seen in Supplementary Table 1.

Supplementary Table 8 Proportion of attributable risk factors of early-onset type 2 diabetes DALY burden in 1990 and 2019 for men

Attributable risk factor	Global				High SDI				High-middle SDI				Middle SDI				Low-middle SDI				Low SDI			
	1990		2019		1990		2019		1990		2019		1990		2019		1990		2019		1990		2019	
	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %	ASDR (95%CI)	Proportion %
Low temperature	1.83 (1.80, 1.85)	1.68	1.59 (1.57, 1.61)	0.99	2.07 (2.00, 2.14)	3.07	1.53 (1.48, 1.59)	1.31	1.83 (1.77, 1.88)	1.96	1.35 (1.31, 1.40)	1.04	2.05 (2.01, 2.10)	1.57	1.90 (1.86, 1.94)	1.07	1.26 (1.21, 1.31)	1.07	1.49 (1.45, 1.53)	0.82	1.60 (1.51, 1.68)	1.27	1.33 (1.28, 1.38)	0.83
High temperature	0.42 (0.41, 0.43)	0.39	1.16 (1.14, 1.18)	0.73	0.09 (0.07, 0.10)	0.13	0.27 (0.24, 0.29)	0.23	0.12 (0.11, 0.14)	0.13	0.33 (0.31, 0.35)	0.25	0.50 (0.48, 0.53)	0.39	1.21 (1.17, 1.24)	0.68	0.85 (0.81, 0.89)	0.72	2.03 (1.98, 2.07)	1.11	0.62 (0.57, 0.68)	0.49	1.60 (1.54, 1.65)	1.00
Household air pollution from solid fuels	14.19 (14.11, 14.26)	13.01	9.65 (9.60, 9.70)	6.03	0.70 (0.66, 0.75)	1.04	0.07 (0.06, 0.08)	0.06	7.68 (7.56, 7.79)	8.23	1.93 (1.87, 1.98)	1.48	17.29 (17.15, 17.44)	13.23	6.65 (6.57, 6.72)	3.75	23.49 (23.26, 23.72)	19.89	17.97 (17.82, 18.12)	9.85	28.99 (28.60, 29.39)	23.00	25.96 (25.72, 26.21)	16.27
Ambient particulate matter pollution	9.73 (9.67, 9.80)	8.92	23.19 (23.11, 23.27)	14.50	9.53 (9.38, 9.68)	14.16	15.06 (14.88, 15.24)	12.89	11.56 (11.42, 11.70)	12.38	23.91 (23.73, 24.09)	18.35	12.36 (12.23, 12.48)	9.46	30.19 (30.03, 30.35)	17.05	5.38 (5.27, 5.49)	4.56	22.92 (22.75, 23.09)	12.56	3.80 (3.66, 3.95)	3.02	12.18 (12.01, 12.35)	7.63
Low physical activity	3.03 (2.99, 3.07)	2.78	5.48 (5.44, 5.52)	3.42	2.19 (2.11, 2.26)	3.25	7.87 (7.74, 8.00)	6.73	3.38 (3.31, 3.46)	3.63	4.86 (4.78, 4.94)	3.73	3.41 (3.34, 3.47)	2.61	6.16 (6.08, 6.23)	3.48	2.90 (2.82, 2.99)	2.46	4.65 (4.57, 4.72)	2.55	2.47 (2.36, 2.59)	1.96	3.59 (3.50, 3.68)	2.25
Secondhand smoke	7.30 (7.24, 7.35)	6.69	10.19 (10.14, 10.24)	6.37	5.85 (5.73, 5.97)	8.69	8.35 (8.22, 8.48)	7.14	6.52 (6.41, 6.62)	6.98	8.47 (8.37, 8.58)	6.50	8.14 (8.04, 8.24)	6.23	10.65 (10.56, 10.75)	6.02	7.73 (7.60, 7.86)	6.55	11.85 (11.73, 11.97)	6.50	8.14 (7.93, 8.35)	6.45	10.64 (10.48, 10.8)	6.67
Smoking	19.98 (19.89, 20.07)	18.32	21.45 (21.37, 21.52)	13.41	16.39 (16.18, 16.59)	24.35	18.94 (18.74, 19.15)	16.21	20.62 (20.43, 20.82)	22.09	22.86 (22.69, 23.04)	17.55	24.77 (24.58, 24.95)	18.95	26.00 (25.85, 26.15)	14.68	17.54 (17.34, 17.75)	14.86	19.39 (19.23, 19.55)	10.63	11.72 (11.46, 11.98)	9.30	12.60 (12.42, 12.78)	7.90
Diet low in nuts and seeds	2.57 (2.53, 2.60)	2.35	3.58 (3.55, 3.61)	2.24	1.36 (1.31, 1.42)	2.03	2.19 (2.13, 2.26)	1.88	2.19 (2.12, 2.25)	2.34	2.65 (2.59, 2.71)	2.03	2.93 (2.87, 2.99)	2.24	3.72 (3.67, 3.78)	2.10	3.46 (3.38, 3.55)	2.93	5.08 (5.00, 5.16)	2.78	2.73 (2.61, 2.86)	2.17	3.45 (3.36, 3.54)	2.16
Diet low in fiber	4.28 (4.24, 4.32)	3.92	5.08 (5.04, 5.11)	3.17	2.79 (2.71, 2.87)	4.14	3.75 (3.66, 3.84)	3.21	3.24 (3.16, 3.31)	3.47	3.60 (3.53, 3.67)	2.76	5.30 (5.21, 5.38)	4.05	5.62 (5.55, 5.69)	3.17	5.46 (5.35, 5.58)	4.63	6.69 (6.60, 6.78)	3.67	3.68 (3.54, 3.82)	2.92	4.55 (4.45, 4.66)	2.85

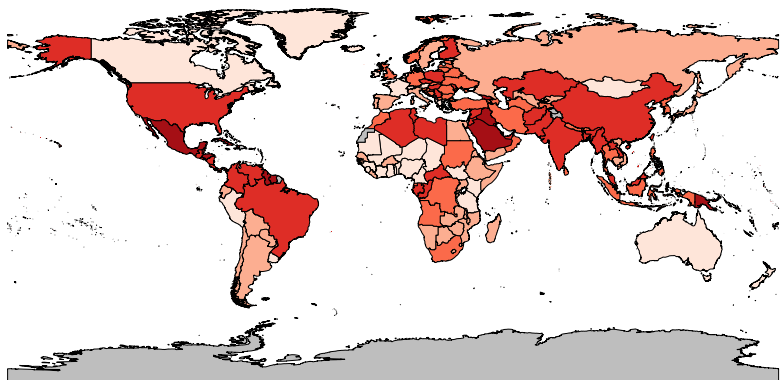
Diet high in sugar-sweetened beverages	4.03 (3.99, 4.07)	3.69	6.60 (6.55, 6.64)	4.12	4.38 (4.28, 4.48)	6.50	10.57 (10.42, 10.72)	9.04	3.63 (3.55, 3.71)	3.89	6.09 (6.00, 6.18)	4.67	4.86 (4.79, 4.94)	3.72	7.32 (7.24, 7.40)	4.13	3.08 (3.00, 3.17)	2.61	5.17 (5.09, 5.25)	2.84	3.19 (3.06, 3.32)	2.53	3.90 (3.81, 4.00)	2.44
Diet low in whole grains	5.47 (5.42, 5.52)	5.01	8.11 (8.06, 8.16)	5.07	3.45 (3.35, 3.54)	5.12	6.15 (6.04, 6.27)	5.26	5.46 (5.37, 5.56)	5.85	7.21 (7.11, 7.31)	5.53	6.19 (6.10, 6.28)	4.74	8.64 (8.55, 8.73)	4.88	5.60 (5.49, 5.71)	4.74	8.92 (8.82, 9.03)	4.89	6.55 (6.36, 6.74)	5.19	8.79 (8.64, 8.93)	5.51
Diet high in processed meat	4.99 (4.95, 5.04)	4.58	8.09 (8.04, 8.14)	5.06	9.14 (9, 9.29)	13.58	14.84 (14.66, 15.02)	12.70	5.08 (4.99, 5.18)	5.45	7.85 (7.75, 7.96)	6.03	3.31 (3.25, 3.38)	2.53	6.47 (6.39, 6.54)	3.65	3.67 (3.58, 3.76)	3.10	6.94 (6.85, 7.03)	3.80	5.58 (5.41, 5.76)	4.43	7.69 (7.55, 7.82)	4.82
Diet high in red meat	6.38 (6.33, 6.43)	5.85	10.07 (10.01, 10.12)	6.29	8.02 (7.88, 8.16)	11.91	13.06 (12.89, 13.23)	11.17	7.83 (7.71, 7.95)	8.39	13.10 (12.97, 13.24)	10.06	6.93 (6.83, 7.02)	5.30	11.75 (11.65, 11.85)	6.63	3.18 (3.09, 3.26)	2.69	5.89 (5.81, 5.98)	3.23	3.46 (3.33, 3.60)	2.75	4.78 (4.67, 4.88)	2.99
Diet low in fruits	9.28 (9.22, 9.34)	8.51	11.68 (11.62, 11.73)	7.30	4.87 (4.76, 4.98)	7.24	7.24 (7.11, 7.36)	6.19	7.51 (7.39, 7.62)	8.04	7.77 (7.67, 7.88)	5.97	10.72 (10.60, 10.84)	8.20	11.57 (11.48, 11.67)	6.54	12.50 (12.33, 12.67)	10.59	16.79 (16.64, 16.93)	9.20	10.74 (10.50, 10.99)	8.52	13.90 (13.72, 14.08)	8.71
High body-mass index	44.01 (43.88, 44.14)	40.35	106.01 (105.84, 106.17)	66.27	45.48 (45.16, 45.81)	67.58	97.34 (96.89, 97.79)	83.27	45.99 (45.72, 46.27)	49.27	97.38 (97.02, 97.74)	74.73	52.43 (52.18, 52.69)	40.12	127.32 (127.00, 127.65)	71.90	29.27 (29.03, 29.53)	24.79	105.29 (104.94, 105.64)	57.71	33.18 (32.77, 33.60)	26.32	74.24 (73.83, 74.65)	46.53

Rates are expressed per 100000 persons. DALY=disability-adjusted life-year. SDI=Socio-demographic Index. ASDR=age-standardized DALY rate. The total DALY used to calculate proportion can be seen in Supplementary Table 1.

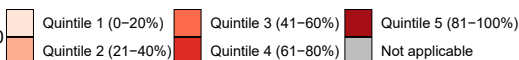


Supplementary Figure 1 Association between SDI and age-standardized incidence (a), DALY (b) and mortality (c) rates of early-onset type 2 diabetes in 2019 and corresponding AAPC (d, e, f) from 1990 to 2019. Dotted lines refer to the global level of rates (a, b, c) and zero (d, e, f) respectively. SDI=Socio-demographic Index. DALY=disability-adjusted-life-year.

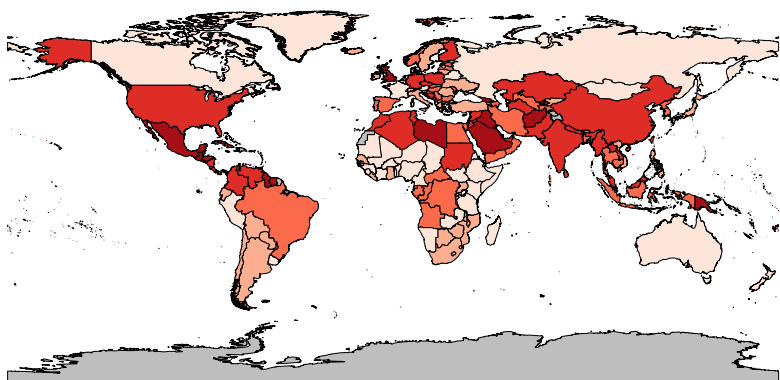
a



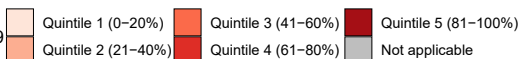
Age-standardized incidence quintile in 1990



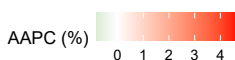
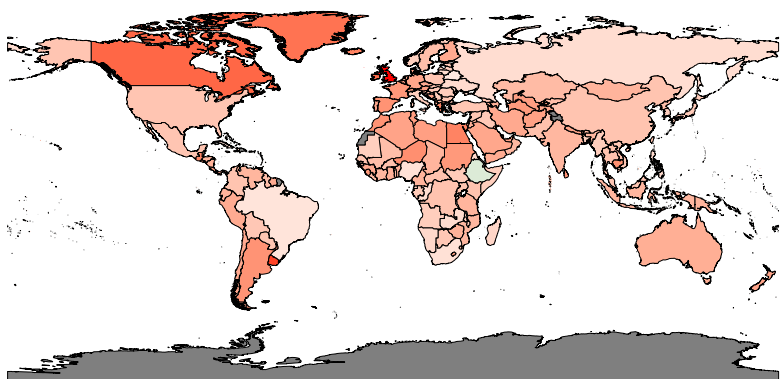
b



Age-standardized incidence quintile in 2019

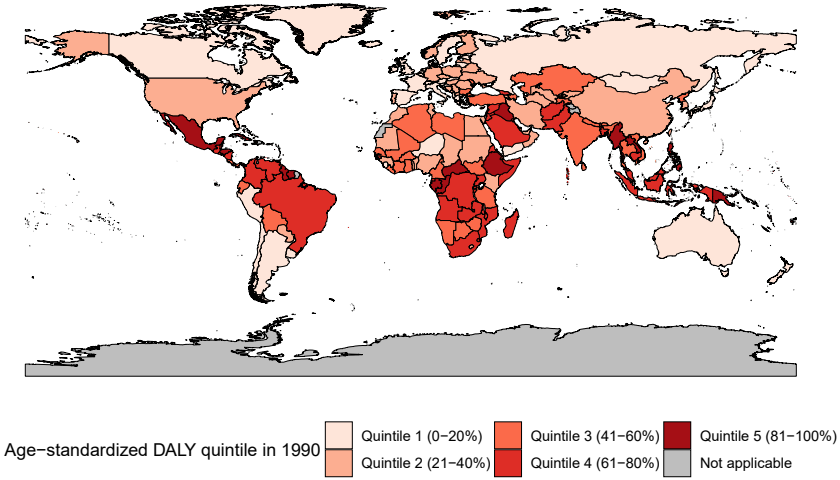


c

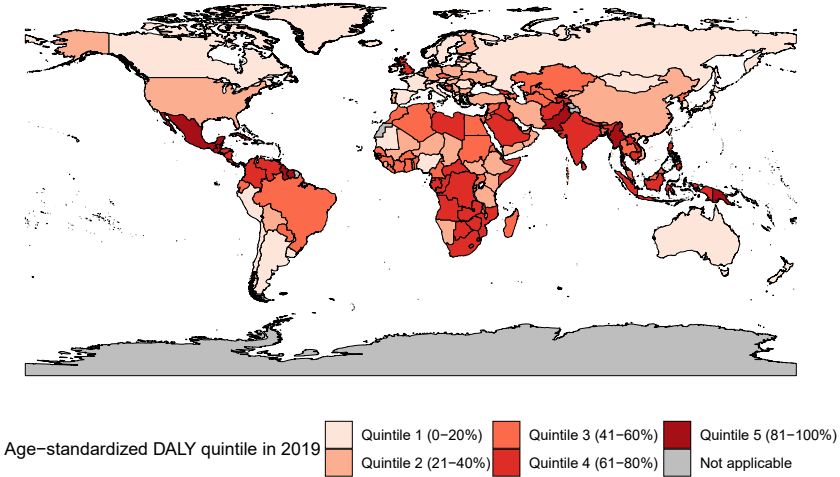


Supplementary Figure 2 Global map of age-standardized incidence rates of early-onset type 2 diabetes mellitus categorized by age-standardized incidence rate quintiles for both sexes combined in 1990 (a), 2019 (b) and corresponding AAPC from 1990 to 2019 for both sexes (c). AAPC=average annual percent change.

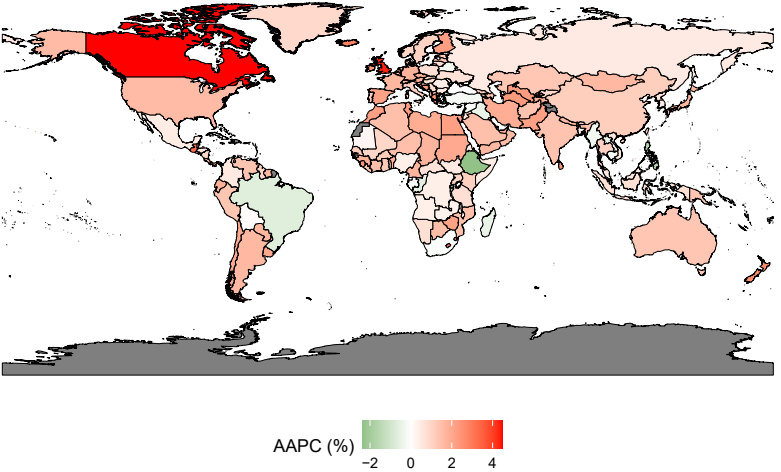
a



b

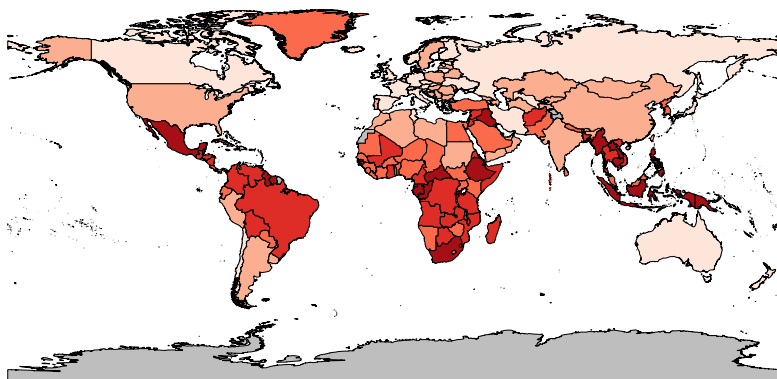


c



Supplementary Figure 3 Global map of age-standardized DALY rates of early-onset type 2 diabetes mellitus categorized by age-standardized DALY rate quintiles for both sexes combined in 1990 (a), 2019 (b) and corresponding AAPC from 1990 to 2019 for both sexes (c). AAPC=average annual percent change. DALY=disability-adjusted-life-year.

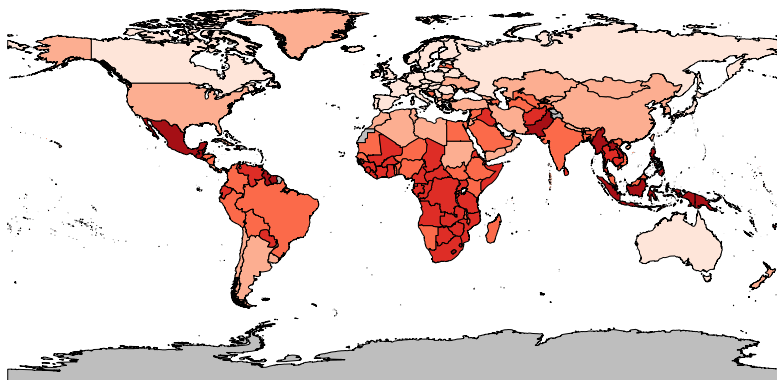
a



Age-standardized mortality quintile in 1990

Quintile 1 (0–20%)	Quintile 3 (41–60%)	Quintile 5 (81–100%)
Quintile 2 (21–40%)	Quintile 4 (61–80%)	Not applicable

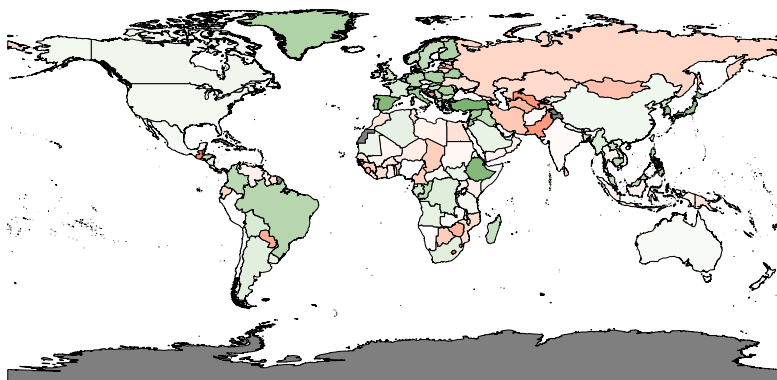
b



Age-standardized mortality quintile in 2019

Quintile 1 (0–20%)	Quintile 3 (41–60%)	Quintile 5 (81–100%)
Quintile 2 (21–40%)	Quintile 4 (61–80%)	Not applicable

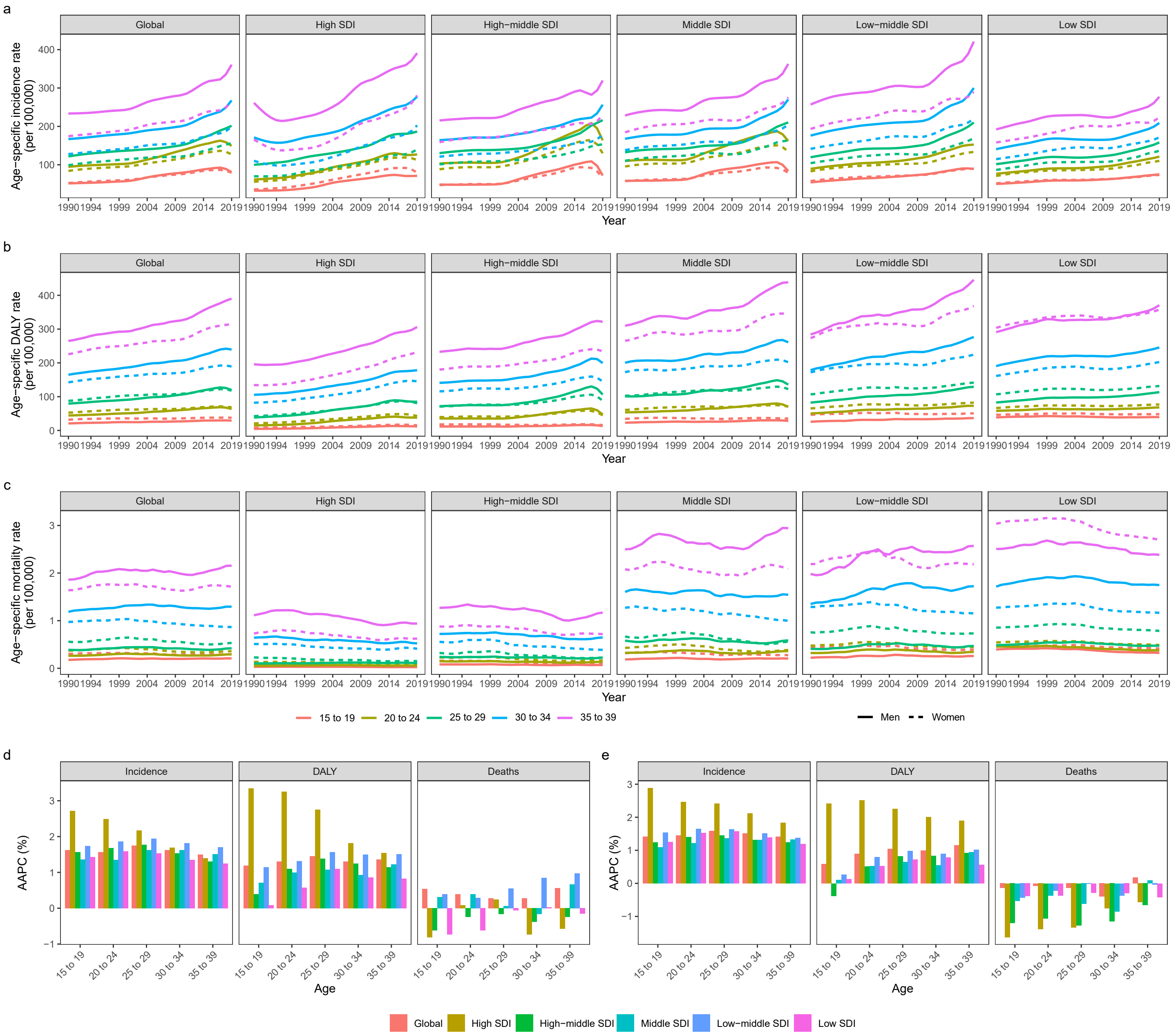
c



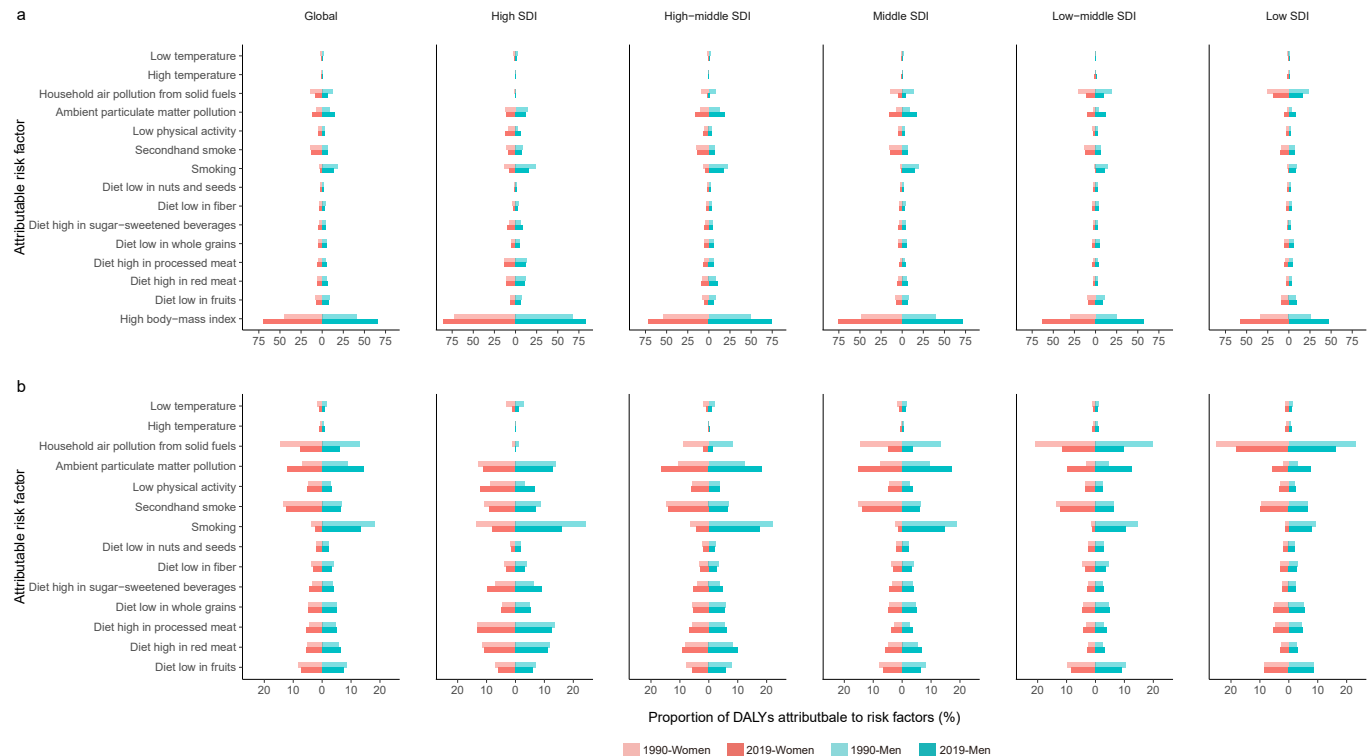
AAPC (%)

-6	-4	-2	0	2	4
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Supplementary Figure 4 Global map of age-standardized mortality rates of early-onset type 2 diabetes mellitus categorized by age-standardized mortality rate quintiles for both sexes combined in 1990 (a), 2019 (b) and corresponding AAPC from 1990 to 2019 for both sexes (c). AAPC=average annual percent change.



Supplementary Figure 5 The temporal trend of early-onset type 2 diabetes mellitus age-specific burden globally and by SDI categories from 1990 to 2019. Shown are the temporal trend of age-specific incidence (a), DALY (b) and mortality (c) globally and by SDI quintile from 1990 to 2019. Panel d & e show AAPC of age-specific incidence, DALY and mortality rates in different age groups in men and women respectively. SDI=Socio-demographic Index. AAPC=average annual percent change. DALY=disability-adjusted-life-year.



Supplementary Figure 6 Proportion of attributable risk factors of early-onset type 2 diabetes DALYs in 1990 and 2019 for men and women including (a) and not including (b) high body-mass index. DALYs=disability-adjusted life-years. SDI=Socio-demographic Index.