

SUPPLEMENTARY TABLES

Table S1. Age-standardized death rates per 100,000 population for diabetes mellitus by type, Ethiopia and its regions/city administrations, 2023.

Regions and City Administrations	All DM (Type 1 and 2) Rate (95% UI)	Type 1 DM Rate (95% UI)	Type 2 DM Rate (95% UI)
Ethiopia (national)	37.2 (26.0 – 52.4)	0.6 (0.4 – 0.9)	36.6 (25.5 – 51.6)
South West	48.9 (31.4 – 70.6)	1.0 (0.6 – 1.5)	47.9 (30.6 – 69.4)
Harari	45.9 (30.2 – 64.4)	0.7 (0.4 – 1.2)	45.2 (29.6 – 63.4)
Afar	44.6 (30.6 – 65.0)	1.0 (0.6 – 1.6)	43.6 (29.7 – 64.0)
Sidama	44.4 (28.7 – 64.4)	0.8 (0.5 – 1.2)	43.6 (27.9 – 63.3)
Addis Ababa	43.3 (30.1 – 59.9)	0.6 (0.4 – 1.0)	42.7 (29.6 – 59.0)
Gambella	41.4 (27.0 – 59.1)	0.6 (0.4 – 1.1)	40.7 (26.6 – 58.2)
Dire Dawa	40.8 (28.7 – 57.0)	0.6 (0.4 – 0.9)	40.2 (28.3 – 56.3)
Oromia	37.3 (26.2 – 50.7)	0.6 (0.4 – 0.9)	36.8 (25.9 – 50.1)
Southern Nations, Nationalities, and Peoples	36.7 (25.3 – 51.5)	0.7 (0.4 – 1.1)	36.0 (24.9 – 50.9)
Benishangul-Gumuz	35.5 (24.7 – 49.8)	0.7 (0.5 – 1.1)	34.7 (24.3 – 49.0)
Tigray	34.1 (23.4 – 48.6)	0.6 (0.3 – 0.9)	33.6 (23.0 – 47.6)
Amhara	35.2 (24.7 – 50.6)	0.5 (0.3 – 0.8)	34.7 (24.3 – 49.9)
Somali	35.2 (23.4 – 51.2)	0.7 (0.4 – 1.1)	34.5 (22.9 – 50.6)

UI: uncertainty interval.

Table S2. Age-standardized DALYs rates per 100,000 population for diabetes mellitus by region, Ethiopia, 2023.

Regions and city administrations	All DM (Type 1 & 2) DALYs rate (95% UI)	Type 1 DM DALYs rate (95% UI)	Type 2 DM DALYs rate (95% UI)
Ethiopia (national)	1124.2 (855.5, 1429.2)	40.7 (27.6, 59.0)	1083.5 (820.3, 1379.3)
South West	1450.6 (1012.2, 1981.7)	66.6 (43.2, 96.8)	1384.1 (949.8, 1899)
Sidama	1436.9 (1051.9, 1932.5)	53.0 (34.2, 77.5)	1383.9 (1007.2, 1862.5)
Harari	1368.6 (986, 1752.8)	45.6 (29.3, 68.7)	1322.9 (951.9, 1693.4)
Addis Ababa	1364.2 (1026.2, 1767.9)	38.2 (23.9, 59.6)	1326.0 (996.2, 1726.1)
Afar	1342.1 (1025.9, 1762.5)	64.8 (42.0, 95.5)	1277.2 (978.9, 1683.5)
Gambella	1205.2 (884.1, 1581.3)	41.6 (26.4, 63.8)	1163.6 (852.6, 1523.1)
Dire Dawa	1202.7 (891.3, 1561.7)	39.4 (25.1, 61.2)	1163.3 (857.7, 1505.5)
Southern Nations, Nationalities, and Peoples	1162.9 (868.3, 1458.9)	46.6 (31.2, 69.5)	1116.3 (834.0, 1404.3)
Benishangul-Gumuz	1113.7 (849.7, 1452.4)	47.4 (32.0, 67.9)	1066.3 (814.2, 1388.7)
Oromia	1108.3 (851.6, 1375.8)	36.9 (25.3, 53.8)	1071.4 (821.7, 1338.4)
Tigray	1058.3 (783.7, 1364.4)	37.3 (23.8, 56.3)	1021.1 (760.2, 1317.2)
Amhara	1032.8 (779.1, 1327.0)	35.2 (23.5, 52.4)	997.6 (747.4, 1289.2)
Somali	1008.2 (743.9, 1326.6)	45.9 (30.3, 68.0)	962.3 (702.3, 1284.2)

UI: uncertainty interval.

Table S3. Age-standardized YLDs rates per 100,000 population for all forms of diabetes mellitus, Type 1 diabetes mellitus (DM1), and Type 2 diabetes mellitus (DM2), by region and city administration, Ethiopia, 2023.

Regions and City Administrations	All DM YLDs (95% UI)	DM1 YLDs (95% UI)	DM2 YLDs (95% UI)
Sidama	400.1 (278.2, 547.5)	2.4 (1.6, 3.4)	397.7 (276.7, 544.2)
Southern Nations, Nationalities, and Peoples	327.3 (226.8, 451.2)	2.4 (1.6, 3.4)	324.9 (225.2, 448.2)
Addis Ababa	327.3 (229.3, 455.5)	2.4 (1.6, 3.6)	324.8 (227.7, 452.0)
Harari	317.6 (222.3, 438.5)	2.4 (1.5, 3.4)	315.2 (220.9, 435.3)
Afar	311.1 (217.6, 428.6)	2.4 (1.5, 3.4)	308.7 (216.1, 425.6)
South West	311.0 (215.6, 435.5)	2.4 (1.5, 3.4)	308.6 (214.1, 432.5)
Benishangul-Gumuz	303.5 (210.6, 413.4)	2.4 (1.5, 3.4)	301.1 (209.1, 410.5)
Dire Dawa	298.9 (208.0, 406.4)	2.4 (1.5, 3.4)	296.5 (206.2, 403.4)
Ethiopia (national)	295.7 (207.1, 407.1)	2.4 (1.5, 3.4)	293.3 (205.6, 404.3)
Gambella	289.7 (200.8, 402.7)	2.4 (1.5, 3.6)	287.3 (199.2, 399.6)
Oromia	289.2 (200.4, 402.5)	2.4 (1.5, 3.4)	286.9 (198.7, 399.1)
Tigray	300.0 (206.2, 416.4)	2.4 (1.5, 3.5)	297.6 (204.7, 413.5)
Amhara	275.5 (193.6, 389.3)	2.4 (1.5, 3.5)	273.2 (192.0, 386.3)
Somali	218.8 (153.0, 300.2)	2.4 (1.5, 3.3)	216.4 (151.4, 297.1)

UI: uncertainty interval.

Table S4. Age-standardized Years of Life Lost (YLL) rates per 100,000 populations for all forms of diabetes mellitus and Type 2 Diabetes Mellitus in Ethiopia, 2023.

Region/City Administration	All DM YLLs rate (95% UI)	Type 1 DM YLLs rate (95% UI)	Type 2 DM YLLs rate (95% UI)
Ethiopia	828.5 (574.0, 1146.8)	38.3 (25.4, 56.6)	790.2 (551.2, 1101.0)
South West	1139.6 (740.5, 1641.1)	64.2 (40.8, 94.9)	1075.5 (691.8, 1561.1)
Harari	1051.0 (694.2, 1454.6)	43.2 (27.2, 66.0)	1007.7 (663.8, 1393.4)
Addis Ababa	1036.9 (739.2, 1433.0)	35.8 (21.9, 57.7)	1001.2 (707.6, 1382.0)
Sidama	1036.8 (691.2, 1487.0)	50.6 (32.0, 74.9)	986.2 (645.7, 1415.0)
Afar	1031.0 (736.4, 1449.5)	62.5 (39.7, 93.3)	968.6 (679.6, 1387.7)
Gambella	915.5 (618.9, 1293.1)	39.2 (24.4, 61.5)	876.3 (594.0, 1248.5)
Dire Dawa	903.8 (621.3, 1262.4)	37.0 (23.3, 58.1)	866.8 (591.2, 1205.5)
Southern Nations, Nationalities, and Peoples	835.6 (576.7, 1142.9)	44.2 (29.0, 66.9)	791.4 (540.7, 1083.2)
Oromia	819.1 (589.4, 1088.5)	34.5 (22.9, 51.1)	784.6 (562.0, 1047.2)
Benishangul-Gumuz	810.2 (573.8, 1118.0)	45.1 (29.5, 65.1)	765.2 (541.1, 1062.5)
Somali	789.4 (536.1, 1129.7)	43.5 (28.0, 65.4)	745.9 (507.0, 1080.1)
Tigray	758.3 (516.7, 1080.0)	34.9 (21.9, 53.7)	723.4 (492.0, 1027.2)
Amhara	757.3 (518.0, 1079.4)	32.8 (21.0, 50.2)	724.5 (498.5, 1035.7)

UI: uncertainty interval.

Table S5. Age-standardized DALYs (per 100,000 population) attributable to risk factors for all forms of diabetes mellitus and type 2 diabetes in Ethiopia, 2023.

Risk factor	DALYs – All forms of DM (95% UI)	DALYs – Type 2 DM (95% UI)
Metabolic risks	1124.19 (855.56, 1429.17)	1083.46 (820.31, 1379.28)
High fasting plasma glucose	1124.19 (855.56, 1429.17)	1083.46 (820.31, 1379.28)
High body-mass index	264.1 (104.08, 455.04)	264.1 (104.08, 455.04)
Environmental/occupational risks	241.73 (152.79, 354.38)	240.03 (151.4, 352.52)
Low physical activity	41.3 (17.18, 69.19)	41.3 (17.18, 69.19)
Tobacco	36.27 (21.64, 56.02)	36.27 (21.64, 56.02)
Diet low in fruits	114.88 (22.51, 197.65)	114.88 (22.51, 197.65)
Diet high in processed meat	28.21 (9.89, 55.19)	28.21 (9.89, 55.19)
Diet high in sugar-sweetened beverages	8.4 (1.59, 23.12)	8.4 (1.59, 23.12)
Diet low in whole grains	0.7 (0.02, 2.04)	0.7 (0.02, 2.04)
Diet low in fiber	0.23 (0, 1.12)	0.23 (0, 1.12)

UI: uncertainty interval.

Table S6. Age-standardized risk-attributable death rates for diabetes mellitus (all forms and type 2), Ethiopia (per 100,000 population).

Risk factor	All forms of DM Point estimate (95% UI)	Type 2 DM (DM2) Point estimate (95% UI)
Metabolic risks	37.21 (25.99, 52.45)	36.59 (25.51, 51.58)
High fasting plasma glucose	37.21 (25.99, 52.45)	36.59 (25.51, 51.58)
High body-mass index	6.89 (2.53, 13.32)	6.89 (2.53, 13.32)
Environmental/occupational risks	8.63 (5.24, 13.50)	8.61 (5.22, 13.46)
Diet low in fruits	3.94 (0.84, 6.78)	3.94 (0.84, 6.78)
Diet low in vegetables	4.03 (-1.48, 9.72)	4.03 (-1.48, 9.72)
Tobacco	1.02 (0.58, 1.64)	1.02 (0.58, 1.64)
Low physical activity	1.58 (0.59, 2.77)	1.58 (0.59, 2.77)
Diet high in processed meat	0.90 (0.29, 1.72)	0.90 (0.29, 1.72)
Diet high in red meat	0.33 (-0.05, 0.95)	0.33 (-0.05, 0.95)
Diet high in sugar-sweetened beverages	0.25 (0.04, 0.74)	0.25 (0.04, 0.74)
Diet low in whole grains	0.02 (0.00, 0.07)	0.02 (0.00, 0.07)
Diet low in fiber	0.01 (0.00, 0.04)	0.01 (0.00, 0.04)
High alcohol use	-0.43 (-0.82, -0.10)	-0.43 (-0.82, -0.10)

UI: uncertainty interval.