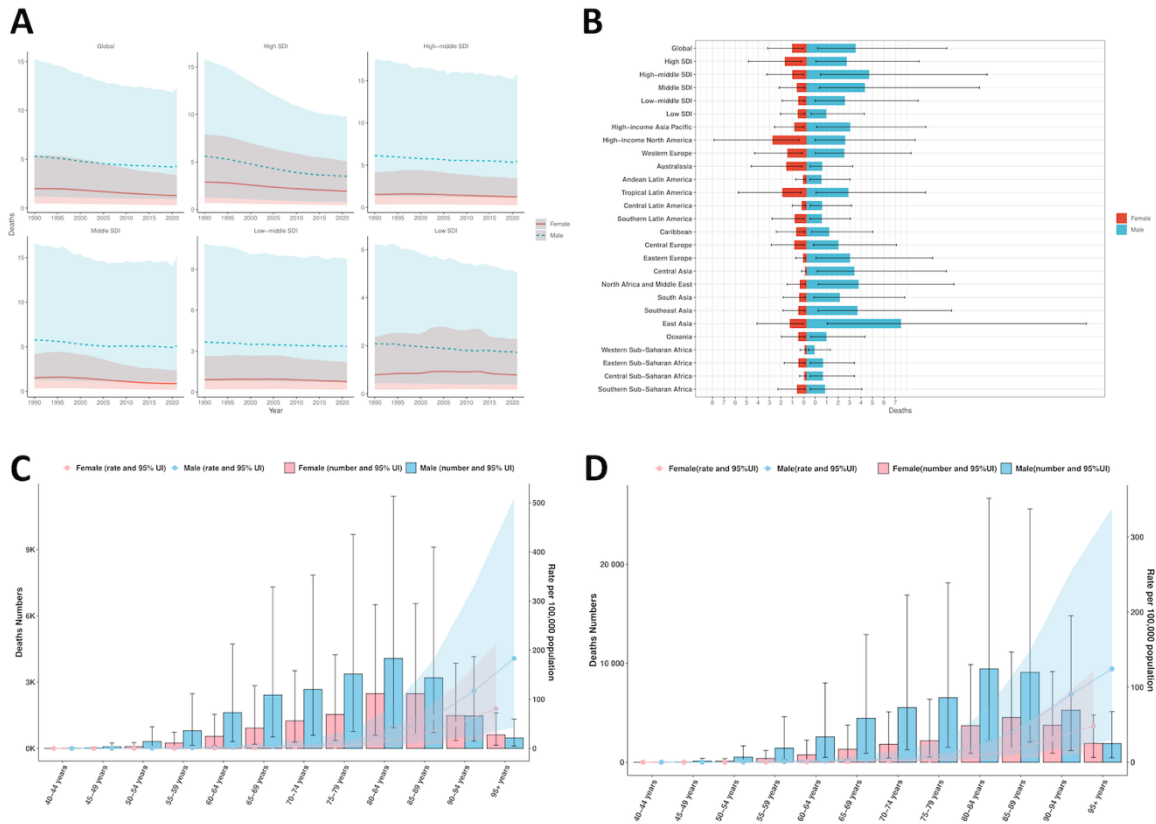
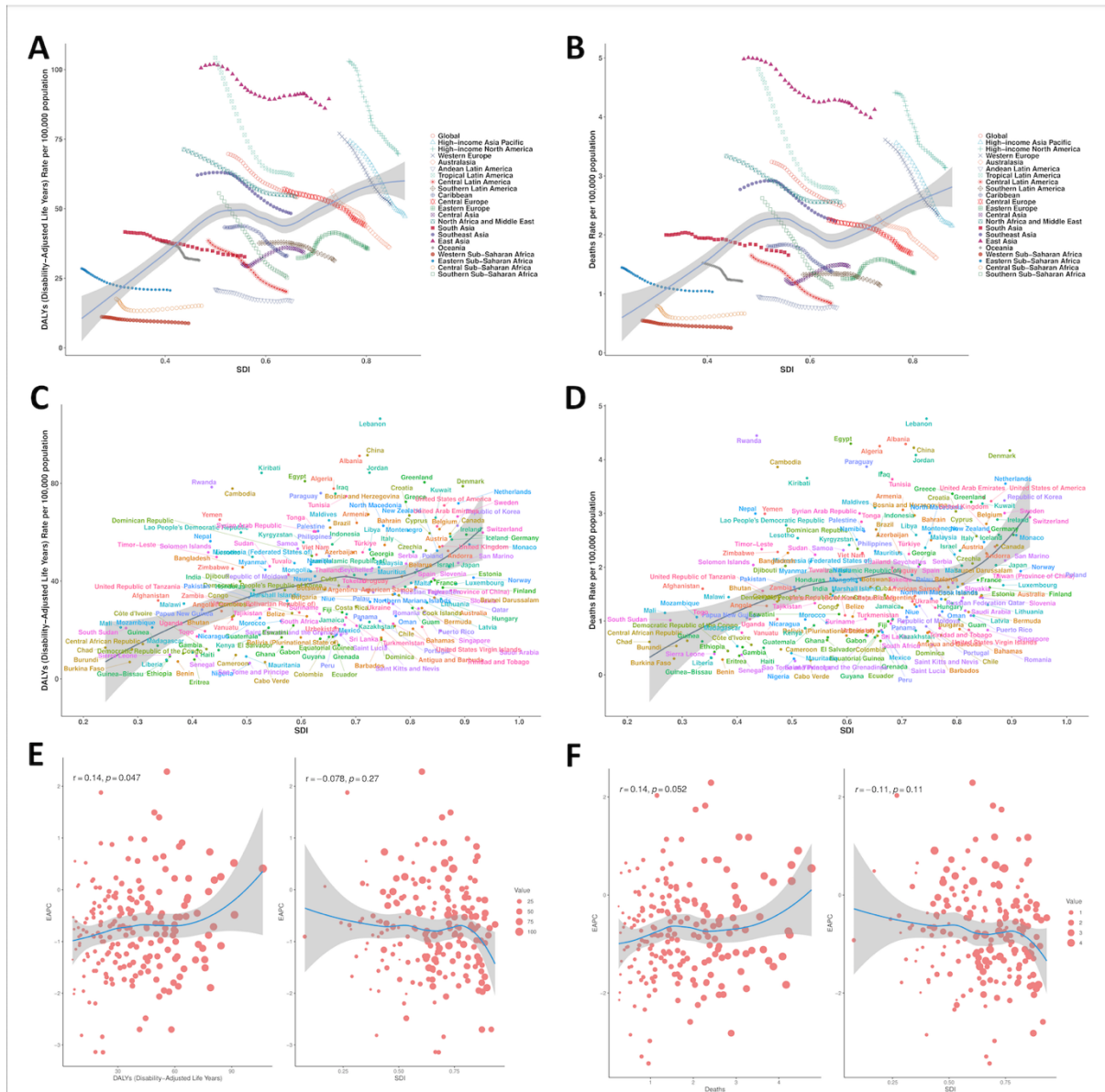


Supplementary file Figure S1. Temporal trends of age-standardised mortality rates (ASMR) (A) and age-standardised disability-adjusted life year rate (ASDR) (B) for dementia attributable to smoking from 1990 to 2021 at the global level and across five sociodemographic index (SDI) regions, based on the Global Burden of Disease (GBD) 2021 study. ASMR (C) and ASDR (D) in 1990 and 2021 at the global level, across five SDI regions and 21 GBD regions. Estimated annual percentage changes (EAPC) in ASMR (E) and ASDR (F) from 1990 to 2021 at the global level and across 21 GBD regions.

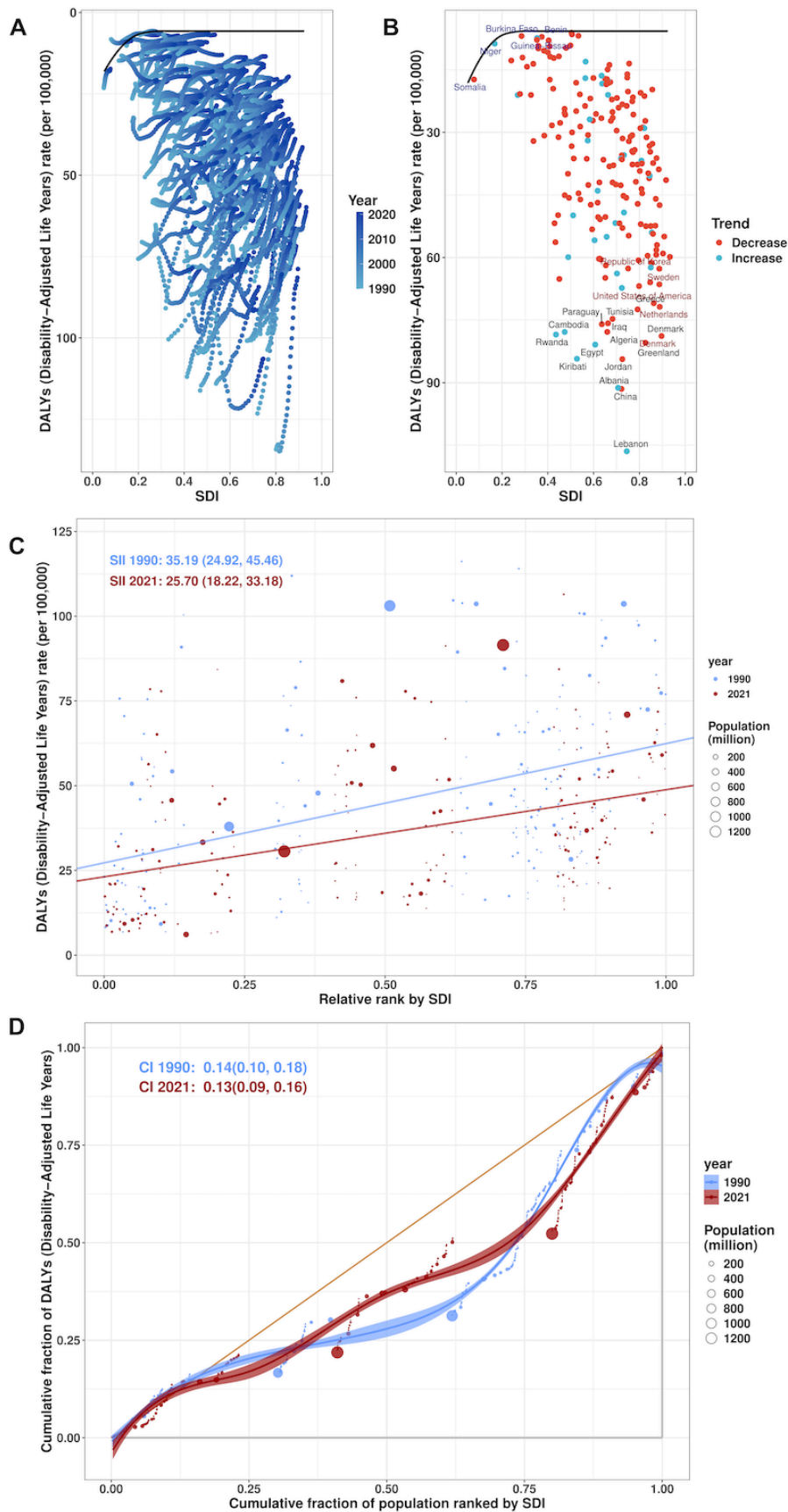
Supplementary file Figure S2. Global map of dementia mortality attributable to smoking in 204 countries and territories, based on the Global Burden of Disease (GBD) 2021 study. (A) Number of deaths in 2021; (B) distribution of age-standardised mortality rates (ASMR) in 2021; (C) estimated annual percentage changes (EAPC) in ASMR from 1990 to 2021.



Supplementary file Figure S3. Temporal trends and distributions of deaths from dementia attributable to smoking, by region, age, and sex, based on the Global Burden of Disease (GBD) 2021 study. (A) Temporal trend of age-standardised mortality rates (ASMR) from 1990 to 2021 at the global level and across 21 GBD regions. (B) Distribution of ASMR by sex across 21 GBD regions in 2021. (C) Deaths and ASMR in 1990 by age group and sex. (D) Deaths and ASMR in 2021 by age group and sex. Error bars represent 95% uncertainty intervals (UIs) for deaths; shading represents 95% UIs for rates.



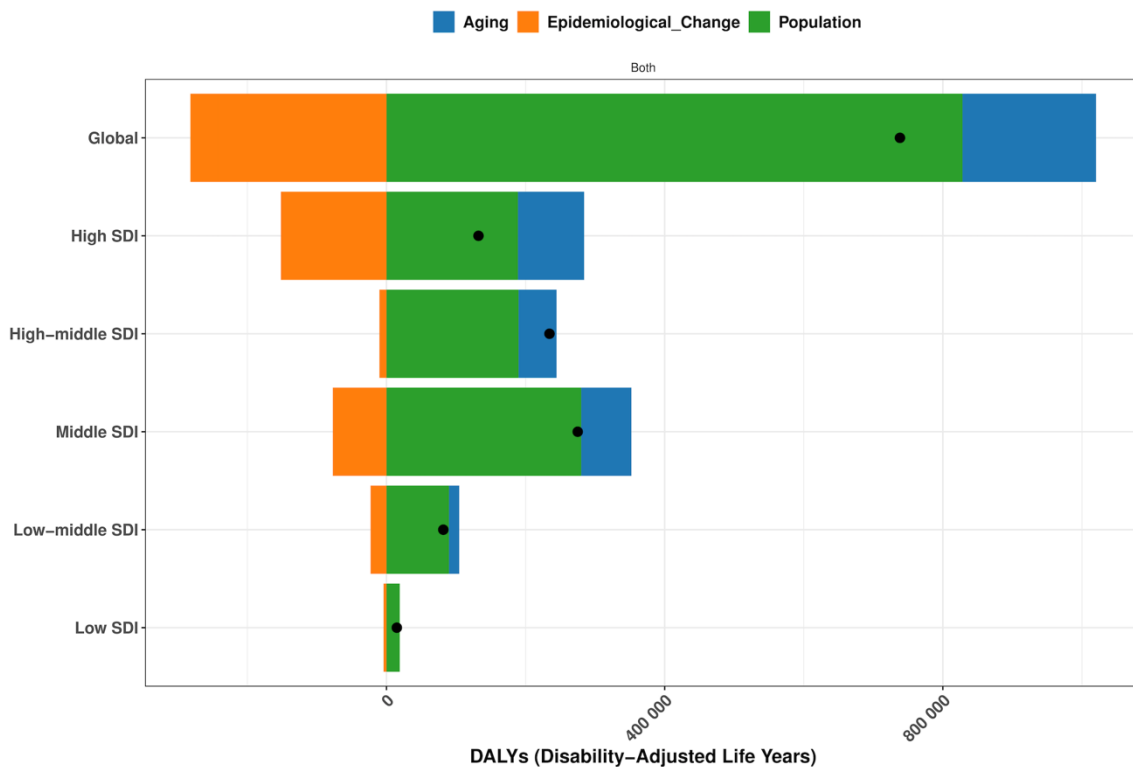
Supplementary file Figure S4. Distribution of age-standardised disability-adjusted life year rates (ASDR) and age-standardised mortality rates (ASMR) for dementia attributable to smoking across sociodemographic index (SDI) levels, based on the Global Burden of Disease (GBD) 2021 study. (A–B) Global and 21 GBD regions from 1990 to 2021; (C–D) 204 countries or territories in 2021. (E–F) Correlation of estimated annual percentage changes (EAPC) with age-standardised rates (ASRs) (left) and SDI (right) in 204 countries and territories in 2021.



Supplementary file Figure S5. Frontier analysis and health inequality assessment of dementia burden attributable to smoking across sociodemographic index (SDI) levels from 1990 to 2021,

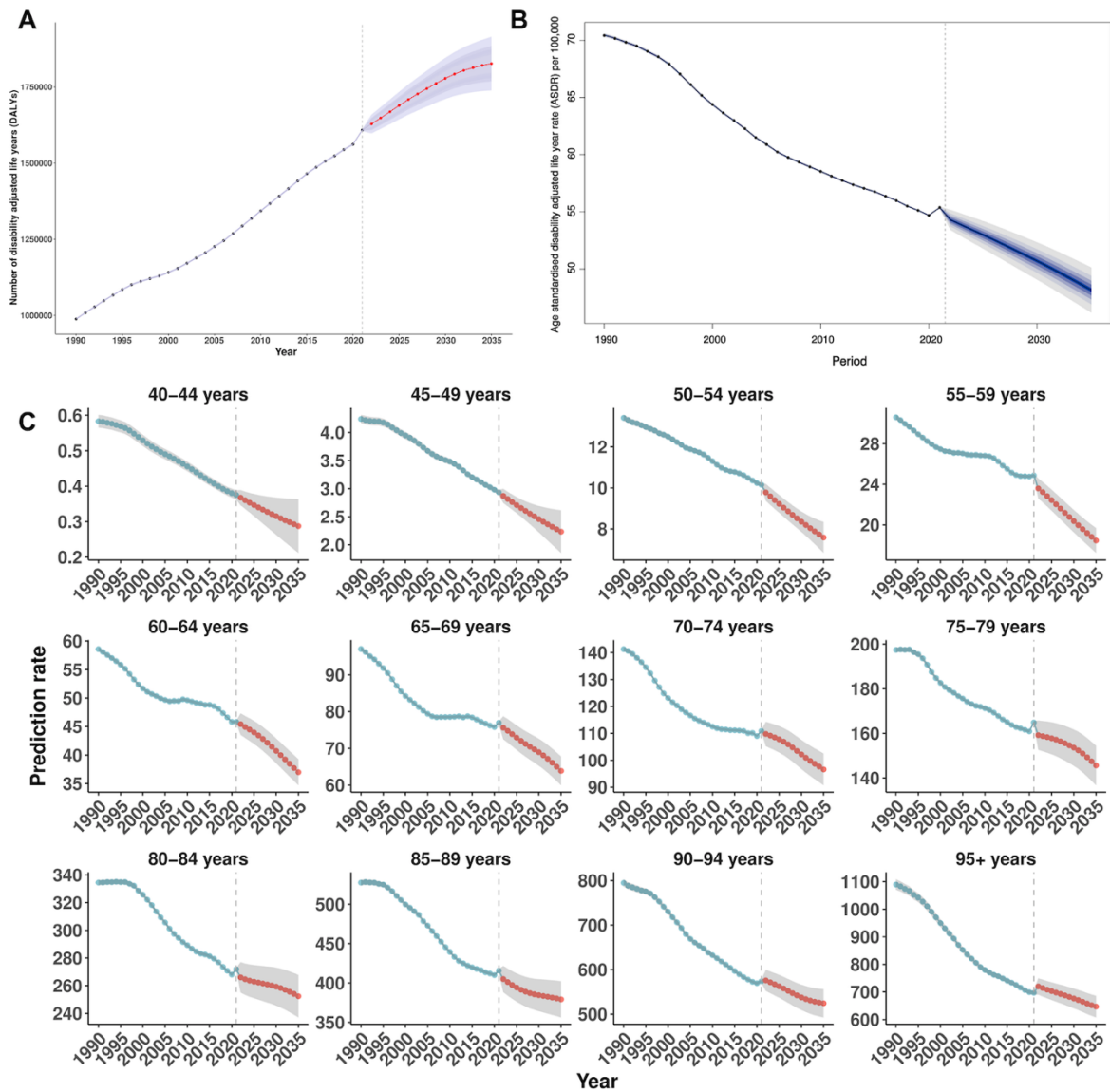
based on the Global Burden of Disease (GBD) 2021 study.

(A) Frontier analysis of age-standardised disability-adjusted life year rate (ASDR) for countries and regions at different development levels from 1990 to 2021, with the efficiency frontier delineated in solid black. Each dot represents a country or region, and the gradient from light to dark blue reflects the combined trajectory of SDI and ASDR over time. (B) Frontier analysis of ASDR for Alzheimer’s disease and other dementias attributable to smoking by 2021 SDI values. The top fifteen countries with the largest effective gaps are marked in black. Examples of frontier countries with low SDI (<0.5) and minimal effective gaps are shown in blue, while countries with high SDI (>0.85) but substantial gaps are highlighted in red. (C) Slope index of inequality (SII) showing the association between SDI and ASDR across 204 countries and territories, with population-weighted data points. (D) Concentration curves illustrating socioeconomic inequality by comparing the distribution of ASDR with the equality line, with concentration index values reflecting the degree of deviation.

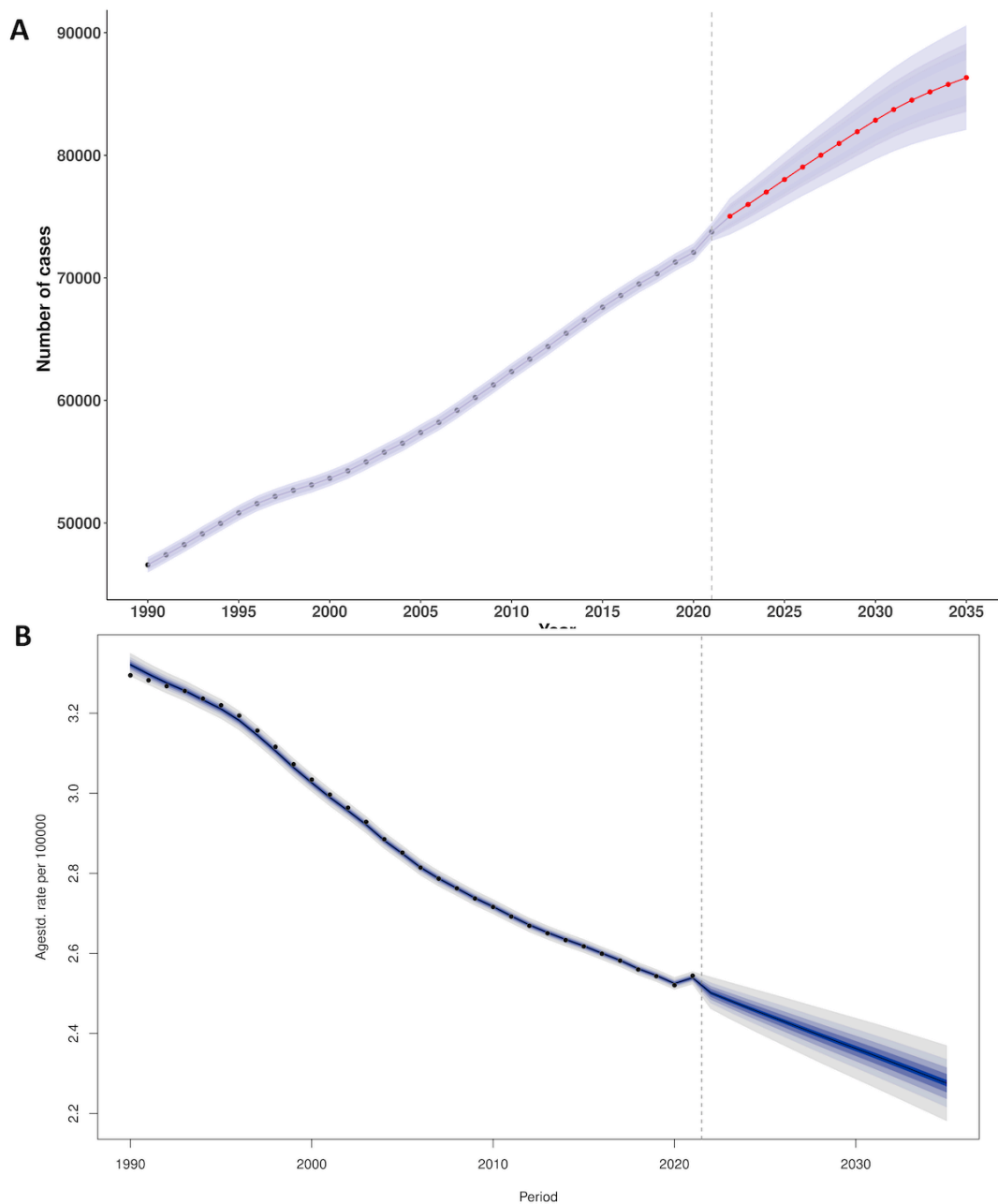


Supplementary file Figure S6. Contributions of population ageing, population growth, and epidemiological changes to the trend in dementia disability-adjusted life years (DALYs) attributable to smoking from 1990 to 2021, based on the Global Burden of Disease (GBD) 2021 study. Black dots represent the total change contributed by all three components. A positive

value for each component indicates an increase in DALYs, whereas a negative value indicates a reduction.



Supplementary file Figure S7. Global trends in dementia burden attributable to smoking from 1990 to 2035 using the Bayesian age–period–cohort (BAPC) model, based on the Global Burden of Disease (GBD) 2021 study: projected disability-adjusted life years (DALYs) (A), age-standardised disability-adjusted life year rate (ASDR) (B), and ASDR by age group among individuals aged 40 years and older (C). The shaded areas represent the 95% confidence intervals (CIs).



Supplementary file Figure S8. Global trends of deaths (A) and age-standardised mortality rates (ASMR) (B) for dementia attributable to smoking from 1990 to 2035 using the Bayesian age–period–cohort (BAPC) model, based on the Global Burden of Disease (GBD) 2021 study. The shaded areas represent the 95% confidence intervals (CIs).

Table S1. Global deaths and disability-adjusted life years (DALYs) for Alzheimer’s disease and other dementias attributable to smoking, 1990–2021, based on the Global Burden of Disease (GBD) 2021 study.

Location	1990		2021	
	Deaths	DALYs	Deaths	DALYs
Global	32165(7167, 90875)	794915(328160, 1832306)	67176(15334, 188054)	1533214(635494, 3540712)
Sex				
Male	20500(4491, 59321)	532606(218597, 1249854)	46755(10329, 134861)	1110023(455152, 2610152)
Female	11665(2688, 31740)	262310(108907, 587292)	20420(4810, 54048)	423191(174998, 938675)
Sociodemographic Index				
Low SDI	560(120, 1649)	15215(6187, 36017)	1216(263, 3650)	30072(11697, 72762)
Low-middle SDI	2734(599, 8145)	71967(29724, 171906)	6466(1418, 18767)	153657(60635, 359920)
Middle SDI	7296(1585, 20848)	195493(79072, 452313)	19215(4233, 56316)	470385(193113, 1110523)
High-middle SDI	7881(1719, 22241)	200798(81328, 463649)	18463(4114, 52435)	435096(178933, 1005900)
High SDI	13666(3109, 37832)	310666(130615, 702662)	21771(5108, 59270)	442915(183731, 995724)
GBD region				
Andean Latin America	53(11, 156)	1262(503, 2977)	141(30, 408)	3188(1275, 7443)
Australasia	173(39, 486)	4412(1851, 9949)	337(78, 938)	7016(2816, 16008)
Caribbean	131(27, 385)	3466(1454, 7889)	258(56, 740)	6059(2530, 13803)
Central Asia	161(35, 469)	4360(1806, 9853)	300(64, 887)	8070(3328, 18795)
Central Europe	947(201, 2744)	26911(11210, 60890)	1350(294, 3798)	33947(14360, 76632)
Central Latin America	337(73, 979)	8966(3848, 20171)	655(144, 1865)	16187(6719, 36591)
Central Sub-Saharan Africa	31(6, 97)	964(372, 2414)	72(15, 213)	2170(782, 5238)
East Asia	8275(1752, 23209)	218922(85070, 511412)	25333(5531, 74332)	611761(248099, 1437419)
Eastern Europe	993(208, 2885)	28706(11945, 65340)	1647(351, 4803)	43178(17488, 99434)
Eastern Sub-Saharan Africa	181(39, 528)	4798(1906, 11467)	340(74, 976)	8554(3275, 20523)
High-income Asia Pacific	1982(444, 5668)	45858(18362, 107246)	4738(1101, 12601)	87434(35167, 194159)
High-income North America	5457(1230, 15094)	125527(52921, 285762)	7774(1778, 21207)	164284(67856, 371859)
North Africa and Middle East	1184(256, 3369)	30637(12599, 69931)	2664(586, 7587)	66397(27256, 152854)
Oceania	9(2, 26)	299(116, 712)	20(4, 59)	661(257, 1567)
South Asia	2128(449, 6485)	55864(22839, 134870)	5664(1225, 16651)	129918(49628, 307774)
Southeast Asia	1510(325, 4342)	40981(17306, 93086)	3542(784, 10170)	89722(36338, 211686)
Southern Latin America	185(39, 536)	5659(2339, 12669)	351(75, 1018)	9343(3772, 21209)

Southern Sub-Saharan Africa	168(37, 483)	4087(1664, 9384)	151(31, 445)	4104(1588, 9706)
Tropical Latin America	1028(224, 2951)	26318(10366, 61161)	2220(509, 6217)	52048(20766, 120267)
Western Europe	7135(1620, 19756)	154412(64716, 350463)	9444(2227, 25151)	184594(76702, 411312)
Western Sub-Saharan Africa	98(20, 281)	2506(972, 5941)	175(37, 527)	4580(1722, 11342)

SDI, Sociodemographic index.

Table 22. Number of disability adjusted life years (DALYs) from working attributable dementia across 204 countries and territories in 2021.

Age group	Territory Name	Country Name	2021 DALYs (th)	Number
All ages	Albania	Albania's disease and other demen	706,007503	706,007503
All ages	Algeria	Albania's disease and other demen	1312,788665	1312,788665
All ages	American Samoa	Albania's disease and other demen	6708,608988	6708,608988
All ages	Andorra	Albania's disease and other demen	5,31229374	5,31229374
All ages	Angola	Albania's disease and other demen	18,48723777	18,48723777
All ages	Antigua and Barbuda	Albania's disease and other demen	808,155909	808,155909
All ages	Argentina	Albania's disease and other demen	6,74443058	6,74443058
All ages	Armenia	Albania's disease and other demen	6748,989995	6748,989995
All ages	Australia	Albania's disease and other demen	943,733989	943,733989
All ages	Austria	Albania's disease and other demen	54125,432181	54125,432181
All ages	Azerbaijan	Albania's disease and other demen	3587,930727	3587,930727
All ages	Bahamas	Albania's disease and other demen	1455,348499	1455,348499
All ages	Bahrain	Albania's disease and other demen	45,20464445	45,20464445
All ages	Bangladesh	Albania's disease and other demen	109,1859774	109,1859774
All ages	Barbados	Albania's disease and other demen	17971,45122	17971,45122
All ages	Belarus	Albania's disease and other demen	28,3077895	28,3077895
All ages	Belgium	Albania's disease and other demen	2321,303474	2321,303474
All ages	Belize	Albania's disease and other demen	5306,254645	5306,254645
All ages	Benin	Albania's disease and other demen	21,50416565	21,50416565
All ages	Bermuda	Albania's disease and other demen	106,009084	106,009084
All ages	Bhutan	Albania's disease and other demen	14,56002094	14,56002094
All ages	Bolivia (Plurinational State of)	Albania's disease and other demen	45,20464445	45,20464445
All ages	Bonaire	Albania's disease and other demen	456,2071981	456,2071981
All ages	Bosnia and Herzegovina	Albania's disease and other demen	1436,239974	1436,239974
All ages	Botswana	Albania's disease and other demen	139,705929	139,705929
All ages	Brazil	Albania's disease and other demen	5066,68515	5066,68515
All ages	Brunei Darussalam	Albania's disease and other demen	33,3679811	33,3679811
All ages	Bulgaria	Albania's disease and other demen	1645,161391	1645,161391
All ages	Burkina Faso	Albania's disease and other demen	179,972578	179,972578
All ages	Burundi	Albania's disease and other demen	153,7610051	153,7610051
All ages	Cabo Verde	Albania's disease and other demen	10,0242481	10,0242481
All ages	Cambodia	Albania's disease and other demen	2456,241943	2456,241943
All ages	Cameroon	Albania's disease and other demen	315,128109	315,128109
All ages	Canada	Albania's disease and other demen	33303,39145	33303,39145
All ages	Central African Republic	Albania's disease and other demen	71,3833808	71,3833808
All ages	Chad	Albania's disease and other demen	1864,276409	1864,276409
All ages	Chile	Albania's disease and other demen	1884,456128	1884,456128
All ages	China	Albania's disease and other demen	60201,01798	60201,01798
All ages	Colombia	Albania's disease and other demen	1020,710504	1020,710504
All ages	Comoros	Albania's disease and other demen	32,215851	32,215851
All ages	Congo	Albania's disease and other demen	174,364804	174,364804
All ages	Cook Islands	Albania's disease and other demen	2,99159269	2,99159269
All ages	Costa Rica	Albania's disease and other demen	352,228933	352,228933
All ages	Croatia	Albania's disease and other demen	2162,68055	2162,68055
All ages	Cuba	Albania's disease and other demen	2621,474041	2621,474041
All ages	Cyprus	Albania's disease and other demen	413,565455	413,565455
All ages	Czechia	Albania's disease and other demen	3954,226216	3954,226216
All ages	Côte d'Ivoire	Albania's disease and other demen	332,3127184	332,3127184
All ages	Democratic People's Republic of Korea	Albania's disease and other demen	3774,031408	3774,031408
All ages	Democratic Republic of Congo	Albania's disease and other demen	1043,274062	1043,274062
All ages	Denmark	Albania's disease and other demen	3541,378956	3541,378956
All ages	Djibouti	Albania's disease and other demen	35,6892539	35,6892539
All ages	Dominica	Albania's disease and other demen	4,8898121	4,8898121
All ages	Dominican Republic	Albania's disease and other demen	1601,424979	1601,424979
All ages	Ecuador	Albania's disease and other demen	792,5627279	792,5627279
All ages	Egypt	Albania's disease and other demen	1029,33486	1029,33486
All ages	El Salvador	Albania's disease and other demen	103,490848	103,490848
All ages	Equatorial Guinea	Albania's disease and other demen	22,0289437	22,0289437
All ages	Eritrea	Albania's disease and other demen	56,8228698	56,8228698
All ages	Estonia	Albania's disease and other demen	384,777289	384,777289
All ages	Eswatini	Albania's disease and other demen	75,3022737	75,3022737
All ages	Ethiopia	Albania's disease and other demen	1108,241713	1108,241713
All ages	Fiji	Albania's disease and other demen	64,7652047	64,7652047
All ages	Finland	Albania's disease and other demen	1705,314421	1705,314421
All ages	France	Albania's disease and other demen	21153,2094	21153,2094
All ages	Gabon	Albania's disease and other demen	48,21789209	48,21789209
All ages	Gambia	Albania's disease and other demen	32,8473204	32,8473204
All ages	Ghana	Albania's disease and other demen	106,202657	106,202657
All ages	Germany	Albania's disease and other demen	4446,01215	4446,01215
All ages	Ghana	Albania's disease and other demen	508,198781	508,198781
All ages	Greece	Albania's disease and other demen	7051,371409	7051,371409
All ages	Greenland	Albania's disease and other demen	16,5912267	16,5912267
All ages	Grenada	Albania's disease and other demen	4,97822299	4,97822299
All ages	Guam	Albania's disease and other demen	21,51890951	21,51890951
All ages	Guatemala	Albania's disease and other demen	692,6714499	692,6714499
All ages	Guinea	Albania's disease and other demen	212,438323	212,438323
All ages	Guinea-Bissau	Albania's disease and other demen	14,21286253	14,21286253
All ages	Guyana	Albania's disease and other demen	31,9482726	31,9482726
All ages	Haiti	Albania's disease and other demen	216,170144	216,170144
All ages	Honduras	Albania's disease and other demen	654,490472	654,490472
All ages	Hungary	Albania's disease and other demen	252,396474	252,396474
All ages	Iceland	Albania's disease and other demen	322,1822086	322,1822086
All ages	India	Albania's disease and other demen	9834,85186	9834,85186
All ages	Indonesia	Albania's disease and other demen	2381,87866	2381,87866
All ages	Iran (Islamic Republic of)	Albania's disease and other demen	9751,682428	9751,682428
All ages	Iraq	Albania's disease and other demen	4090,339782	4090,339782
All ages	Ireland	Albania's disease and other demen	1646,917382	1646,917382
All ages	Israel	Albania's disease and other demen	1930,08867	1930,08867
All ages	Italy	Albania's disease and other demen	29262,67149	29262,67149
All ages	Jamaica	Albania's disease and other demen	287,2161259	287,2161259
All ages	Japan	Albania's disease and other demen	68,2049033	68,2049033
All ages	Jordan	Albania's disease and other demen	1491,519055	1491,519055
All ages	Kazakhstan	Albania's disease and other demen	131,651709	131,651709
All ages	Kenya	Albania's disease and other demen	1056,806723	1056,806723
All ages	Kiribati	Albania's disease and other demen	15,5182948	15,5182948
All ages	Korea	Albania's disease and other demen	475,3182452	475,3182452
All ages	Kyrgyzstan	Albania's disease and other demen	70,292512	70,292512
All ages	Laos People's Democratic Republic	Albania's disease and other demen	696,4308977	696,4308977
All ages	Latvia	Albania's disease and other demen	432,6195013	432,6195013
All ages	Lebanon	Albania's disease and other demen	1291,512123	1291,512123
All ages	Lesotho	Albania's disease and other demen	128,547233	128,547233
All ages	Lithuania	Albania's disease and other demen	46,9064646	46,9064646
All ages	Libya	Albania's disease and other demen	740,271191	740,271191
All ages	Lithuania	Albania's disease and other demen	696,693004	696,693004
All ages	Luxembourg	Albania's disease and other demen	146,3638935	146,3638935
All ages	Madagascar	Albania's disease and other demen	354,848072	354,848072
All ages	Malawi	Albania's disease and other demen	573,246204	573,246204
All ages	Malaysia	Albania's disease and other demen	351,262626	351,262626
All ages	Maldives	Albania's disease and other demen	58,2324215	58,2324215
All ages	Mali	Albania's disease and other demen	423,362152	423,362152
All ages	Malta	Albania's disease and other demen	137,4474088	137,4474088
All ages	Marshall Islands	Albania's disease and other demen	2,657162843	2,657162843
All ages	Martinique	Albania's disease and other demen	58,1282785	58,1282785
All ages	Mauritius	Albania's disease and other demen	251,7082207	251,7082207
All ages	Mexico	Albania's disease and other demen	7064,788511	7064,788511
All ages	Micronesia (Federated States of)	Albania's disease and other demen	10,18132482	10,18132482
All ages	Moldova	Albania's disease and other demen	20,823346	20,823346
All ages	Mongolia	Albania's disease and other demen	272,693343	272,693343
All ages	Montenegro	Albania's disease and other demen	199,205699	199,205699
All ages	Morocco	Albania's disease and other demen	2499,80879	2499,80879
All ages	Mozambique	Albania's disease and other demen	151,3461264	151,3461264
All ages	Myanmar	Albania's disease and other demen	5923,784735	5923,784735
All ages	Namibia	Albania's disease and other demen	146,2327171	146,2327171
All ages	Nauru	Albania's disease and other demen	0,64367973	0,64367973
All ages	Nepal	Albania's disease and other demen	1349,844945	1349,844945
All ages	Netherlands	Albania's disease and other demen	9399,82832	9399,82832
All ages	New Zealand	Albania's disease and other demen	1196,338225	1196,338225
All ages	Nicaragua	Albania's disease and other demen	366,993204	366,993204
All ages	Niger	Albania's disease and other demen	145,064217	145,064217
All ages	Nigeria	Albania's disease and other demen	1489,115125	1489,115125
All ages	Niue	Albania's disease and other demen	0,22487273	0,22487273
All ages	North Macedonia	Albania's disease and other demen	607,3081999	607,3081999
All ages	North Mariana Islands	Albania's disease and other demen	5,3830978	5,3830978
All ages	Norway	Albania's disease and other demen	1138,490341	1138,490341
All ages	Oman	Albania's disease and other demen	122,7979196	122,7979196
All ages	Pakistan	Albania's disease and other demen	10207,761577	10207,761577
All ages	Palau	Albania's disease and other demen	1,99011012	1,99011012
All ages	Pakistan	Albania's disease and other demen	395,147553	395,147553
All ages	Panama	Albania's disease and other demen	395,148944	395,148944
All ages	Papua New Guinea	Albania's disease and other demen	405,049263	405,049263
All ages	Paraguay	Albania's disease and other demen	1351,561248	1351,561248
All ages	Peru	Albania's disease and other demen	1948,799368	1948,799368
All ages	Philippines	Albania's disease and other demen	1229,208369	1229,208369
All ages	Poland	Albania's disease and other demen	11161,02085	11161,02085
All ages	Portugal	Albania's disease and other demen	2092,202098	2092,202098
All ages	Porto Rico	Albania's disease and other demen	748,0887778	748,0887778
All ages	Qatar	Albania's disease and other demen	78,4379539	78,4379539
All ages	Republic of Korea	Albania's disease and other demen	1964,64115	1964,64115
All ages	Republic of Moldova	Albania's disease and other demen	728,581609	728,581609
All ages	Romania	Albania's disease and other demen	3921,331516	3921,331516
All ages	Russian Federation	Albania's disease and other demen	30294,43101	30294,43101
All ages	Rwanda	Albania's disease and other demen	1074,426336	1074,426336
All ages	Saint Kitts and Nevis	Albania's disease and other demen	2,65103701	2,65103701
All ages	Saint Lucia	Albania's disease and other demen	14,2529746	14,2529746
All ages	Saint Vincent and the Grenadines	Albania's disease and other demen	4,528991182	4,528991182
All ages	Samoa	Albania's disease and other demen	207,784274	207,784274
All ages	San Marino	Albania's disease and other demen	14,4021458	14,4021458
All ages	Sao Tome and Principe	Albania's disease and other demen	2,18236154	2,18236154
All ages	Saudi Arabia	Albania's disease and other demen	1305,145333	1305,145333
All ages	Senegal	Albania's disease and other demen	224,789582	224,789582
All ages	Serbia	Albania's disease and other demen	2677,08979	2677,08979
All ages	Seychelles	Albania's disease and other demen	15,6389281	15,6389281
All ages	Sierra Leone	Albania's disease and other demen	108,272448	108,272448
All ages	Singapore	Albania's disease and other demen	564,188812	564,188812
All ages	Slovakia	Albania's disease and other demen	1211,31295	1211,31295
All ages	Slovenia	Albania's disease and other demen	614,8246135	614,8246135
All ages	Solomon Islands	Albania's disease and other demen	48,4012185	48,4012185
All ages	Somalia	Albania's disease and other demen	233,4054199	233,4054199
All ages	South Africa	Albania's disease and other demen	2991,32981	2991,32981
All ages	South Sudan	Albania's disease and other demen	192,674444	192,674444
All ages	Spain	Albania's disease and other demen	13721,94	13721,94
All ages	Sri Lanka	Albania's disease and other demen	1775,166043	1775,166043
All ages	Sudan	Albania's disease and other demen	2297,807991	2297,807991
All ages	Suriname	Albania's disease and other demen	54,3758446	54,3758446
All ages	Sweden	Albania's disease and other demen	1616,510262	1616,510262
All ages	Switzerland	Albania's disease and other demen	4289,452971	4289,452971
All ages	Syrian Arab Republic	Albania's disease and other demen	1924,591943	1924,591943
All ages	Taiwan (Province of China)	Albania's disease and other demen	5485,409593	5485,409593
All ages	Tajikistan	Albania's disease and other demen	426,1492937	426,1492937
All ages	Thailand	Albania's disease and other demen	15621,96499	15621,96499
All ages	Timor-Leste	Albania's disease and other demen	122,3318979	122,3318979
All ages	Togo	Albania's disease and other demen	179,5718955	179,5718955
All ages	Toniga	Albania's disease and other demen	0,188885057	0,188885057
All ages	Tonga	Albania's disease and other demen	15,2447039	15,2447039
All ages	Trinidad and Tobago	Albania's disease and other demen	45,9128115	45,9128115
All ages	Tunisia	Albania's disease and other demen	2973,187354	2973,187354
All ages	Turkey	Albania's disease and other demen	15189,13441	15189,13441
All ages	Turkmenistan	Albania's disease and other demen	290,0000008	290,0000008
All ages	Tuvalu	Albania's disease and other demen	1,31411542	1,31411542
All ages	Uganda	Albania's disease and other demen	681,795909	681,795909
All ages	Ukraine	Albania's disease and other demen	8324,271007	8324,271007
All ages	United Arab Emirates	Albania's disease and other demen	Number	Number
All ages	United Kingdom	Albania's disease and other demen	2701,105646	2701,105646
All ages	United States of America	Albania's disease and other demen		

Table S2. Age-standardized mortality rates (ASMR) from smoking-attributable dementia across 204 countries and territories in 2021.

age_name	location_name	country_name	rate	2021-ASMR_Rate
All ages	Abkhazistan	Alzheimer's disease and other dementias	Rate	1.600710229
All ages	Albania	Alzheimer's disease and other dementias	Rate	4.20244343
All ages	Algeria	Alzheimer's disease and other dementias	Rate	4.21867611
All ages	American Samoa	Alzheimer's disease and other dementias	Rate	1.46371343
All ages	Andorra	Alzheimer's disease and other dementias	Rate	2.181884845
All ages	Angola	Alzheimer's disease and other dementias	Rate	1.18317322
All ages	Antigua and Barbuda	Alzheimer's disease and other dementias	Rate	0.80073635
All ages	Argentina	Alzheimer's disease and other dementias	Rate	1.508828921
All ages	Armenia	Alzheimer's disease and other dementias	Rate	3.56584977
All ages	Australia	Alzheimer's disease and other dementias	Rate	1.463198413
All ages	Austria	Alzheimer's disease and other dementias	Rate	2.258451772
All ages	Azerbaijan	Alzheimer's disease and other dementias	Rate	2.778228294
All ages	Bahamas	Alzheimer's disease and other dementias	Rate	0.850770794
All ages	Bahrain	Alzheimer's disease and other dementias	Rate	2.50456953
All ages	Bangladesh	Alzheimer's disease and other dementias	Rate	2.267687744
All ages	Barbados	Alzheimer's disease and other dementias	Rate	0.724454428
All ages	Belize	Alzheimer's disease and other dementias	Rate	1.627987476
All ages	Belgium	Alzheimer's disease and other dementias	Rate	2.880736224
All ages	Belize	Alzheimer's disease and other dementias	Rate	1.682449377
All ages	Benin	Alzheimer's disease and other dementias	Rate	0.883003928
All ages	Bermuda	Alzheimer's disease and other dementias	Rate	1.588874849
All ages	Bhutan	Alzheimer's disease and other dementias	Rate	1.362505505
All ages	Bolivia (Plurinational State of)	Alzheimer's disease and other dementias	Rate	0.729917708
All ages	Bosnia and Herzegovina	Alzheimer's disease and other dementias	Rate	2.863679481
All ages	Botswana	Alzheimer's disease and other dementias	Rate	1.623250505
All ages	Brazil	Alzheimer's disease and other dementias	Rate	2.703114025
All ages	Burkina Faso	Alzheimer's disease and other dementias	Rate	1.600252144
All ages	Burundi	Alzheimer's disease and other dementias	Rate	1.355462131
All ages	Burkina Faso	Alzheimer's disease and other dementias	Rate	0.300293321
All ages	Cabo Verde	Alzheimer's disease and other dementias	Rate	0.57732
All ages	Cambodia	Alzheimer's disease and other dementias	Rate	0.71012729
All ages	Cameroon	Alzheimer's disease and other dementias	Rate	1.864035154
All ages	Canada	Alzheimer's disease and other dementias	Rate	0.473097354
All ages	Central African Republic	Alzheimer's disease and other dementias	Rate	2.4881742
All ages	Chad	Alzheimer's disease and other dementias	Rate	0.633470589
All ages	Chile	Alzheimer's disease and other dementias	Rate	0.62292224
All ages	China	Alzheimer's disease and other dementias	Rate	2.72913878
All ages	Colombia	Alzheimer's disease and other dementias	Rate	4.226276723
All ages	Comoros	Alzheimer's disease and other dementias	Rate	0.724813608
All ages	Congo	Alzheimer's disease and other dementias	Rate	1.930416313
All ages	Cook Islands	Alzheimer's disease and other dementias	Rate	1.2913568
All ages	Costa Rica	Alzheimer's disease and other dementias	Rate	1.461097249
All ages	Croatia	Alzheimer's disease and other dementias	Rate	1.44858484
All ages	Cuba	Alzheimer's disease and other dementias	Rate	3.038156579
All ages	Cuba	Alzheimer's disease and other dementias	Rate	1.402279769
All ages	Cyprus	Alzheimer's disease and other dementias	Rate	2.37822624
All ages	Czechia	Alzheimer's disease and other dementias	Rate	2.07101226
All ages	Cote d'Ivoire	Alzheimer's disease and other dementias	Rate	0.65771268
All ages	Democratic People's Republic of Korea	Alzheimer's disease and other dementias	Rate	1.699138048
All ages	Democratic Republic of Congo	Alzheimer's disease and other dementias	Rate	0.44538415
All ages	Denmark	Alzheimer's disease and other dementias	Rate	4.16913662
All ages	Dominica	Alzheimer's disease and other dementias	Rate	2.02511678
All ages	Dominican Republic	Alzheimer's disease and other dementias	Rate	0.635509311
All ages	Dominican Republic	Alzheimer's disease and other dementias	Rate	2.1424712
All ages	Dominican Republic	Alzheimer's disease and other dementias	Rate	0.83001229
All ages	Egypt	Alzheimer's disease and other dementias	Rate	4.98825295
All ages	El Salvador	Alzheimer's disease and other dementias	Rate	0.645382107
All ages	Equatorial Guinea	Alzheimer's disease and other dementias	Rate	0.806657896
All ages	Eritrea	Alzheimer's disease and other dementias	Rate	0.52423788
All ages	Estonia	Alzheimer's disease and other dementias	Rate	1.477987212
All ages	Eswatini	Alzheimer's disease and other dementias	Rate	1.17771789
All ages	Ethiopia	Alzheimer's disease and other dementias	Rate	0.246221613
All ages	Fiji	Alzheimer's disease and other dementias	Rate	0.993793816
All ages	Finland	Alzheimer's disease and other dementias	Rate	1.621843213
All ages	France	Alzheimer's disease and other dementias	Rate	1.712776882
All ages	Gabon	Alzheimer's disease and other dementias	Rate	1.937880562
All ages	Gambia	Alzheimer's disease and other dementias	Rate	0.514631745
All ages	Germany	Alzheimer's disease and other dementias	Rate	2.853378796
All ages	Germany	Alzheimer's disease and other dementias	Rate	2.601804231
All ages	Ghana	Alzheimer's disease and other dementias	Rate	0.66664227
All ages	Ghana	Alzheimer's disease and other dementias	Rate	3.166171876
All ages	Grenada	Alzheimer's disease and other dementias	Rate	0.21462076
All ages	Guatemala	Alzheimer's disease and other dementias	Rate	0.50201408
All ages	Guam	Alzheimer's disease and other dementias	Rate	1.023414466
All ages	Guatemala	Alzheimer's disease and other dementias	Rate	0.819230734
All ages	Guinea	Alzheimer's disease and other dementias	Rate	0.21818826
All ages	Guinea-Bissau	Alzheimer's disease and other dementias	Rate	0.2133085
All ages	Guyana	Alzheimer's disease and other dementias	Rate	0.697057302
All ages	Haiti	Alzheimer's disease and other dementias	Rate	0.62622247
All ages	Honduras	Alzheimer's disease and other dementias	Rate	1.60652786
All ages	Hungary	Alzheimer's disease and other dementias	Rate	1.338708
All ages	Iceland	Alzheimer's disease and other dementias	Rate	2.60208142
All ages	India	Alzheimer's disease and other dementias	Rate	1.5383775
All ages	Indonesia	Alzheimer's disease and other dementias	Rate	2.60208142
All ages	Iran (Islamic Republic of)	Alzheimer's disease and other dementias	Rate	1.91372999
All ages	Ireland	Alzheimer's disease and other dementias	Rate	3.7595946
All ages	Ireland	Alzheimer's disease and other dementias	Rate	2.885370919
All ages	Israel	Alzheimer's disease and other dementias	Rate	2.30516599
All ages	Italy	Alzheimer's disease and other dementias	Rate	2.08116613
All ages	Jamaica	Alzheimer's disease and other dementias	Rate	1.039358324
All ages	Japan	Alzheimer's disease and other dementias	Rate	0.688182512
All ages	Jordan	Alzheimer's disease and other dementias	Rate	4.083819727
All ages	Kazakhstan	Alzheimer's disease and other dementias	Rate	0.82372709
All ages	Kenya	Alzheimer's disease and other dementias	Rate	0.86661597
All ages	Kiribati	Alzheimer's disease and other dementias	Rate	3.63790224
All ages	Korea	Alzheimer's disease and other dementias	Rate	3.18252045
All ages	Kyrgyzstan	Alzheimer's disease and other dementias	Rate	2.413654284
All ages	Laos	Alzheimer's disease and other dementias	Rate	1.81884949
All ages	Lao People's Democratic Republic	Alzheimer's disease and other dementias	Rate	1.09954009
All ages	Laticia	Alzheimer's disease and other dementias	Rate	4.76216577
All ages	Latvia	Alzheimer's disease and other dementias	Rate	1.5415326
All ages	Lebanon	Alzheimer's disease and other dementias	Rate	1.62426087
All ages	Lesotho	Alzheimer's disease and other dementias	Rate	2.607497335
All ages	Lithuania	Alzheimer's disease and other dementias	Rate	1.631034094
All ages	Luxembourg	Alzheimer's disease and other dementias	Rate	1.66571975
All ages	Madagascar	Alzheimer's disease and other dementias	Rate	0.513891229
All ages	Malawi	Alzheimer's disease and other dementias	Rate	1.444634402
All ages	Malaysia	Alzheimer's disease and other dementias	Rate	2.361883842
All ages	Maldives	Alzheimer's disease and other dementias	Rate	1.312731508
All ages	Mali	Alzheimer's disease and other dementias	Rate	1.120714248
All ages	Malta	Alzheimer's disease and other dementias	Rate	1.62426087
All ages	Marshall Islands	Alzheimer's disease and other dementias	Rate	1.472389905
All ages	Mauritania	Alzheimer's disease and other dementias	Rate	0.64020184
All ages	Mauritius	Alzheimer's disease and other dementias	Rate	1.66543946
All ages	Mexico	Alzheimer's disease and other dementias	Rate	0.79150687
All ages	Micronesia (Federated States of)	Alzheimer's disease and other dementias	Rate	1.657013935
All ages	Morocco	Alzheimer's disease and other dementias	Rate	2.09651022
All ages	Mongolia	Alzheimer's disease and other dementias	Rate	1.753815432
All ages	Montenegro	Alzheimer's disease and other dementias	Rate	2.188614103
All ages	Morocco	Alzheimer's disease and other dementias	Rate	0.64651006
All ages	Mozambique	Alzheimer's disease and other dementias	Rate	1.07111109
All ages	Myanmar	Alzheimer's disease and other dementias	Rate	2.06661872
All ages	Namibia	Alzheimer's disease and other dementias	Rate	2.111784029
All ages	Nauru	Alzheimer's disease and other dementias	Rate	1.76217815
All ages	Nepal	Alzheimer's disease and other dementias	Rate	0.827237917
All ages	Netherlands	Alzheimer's disease and other dementias	Rate	3.54672912
All ages	New Zealand	Alzheimer's disease and other dementias	Rate	2.46924887
All ages	Nicaragua	Alzheimer's disease and other dementias	Rate	1.02946377
All ages	Niger	Alzheimer's disease and other dementias	Rate	0.5099429
All ages	Nigeria	Alzheimer's disease and other dementias	Rate	0.28863483
All ages	Niue	Alzheimer's disease and other dementias	Rate	1.62784955
All ages	North Macedonia	Alzheimer's disease and other dementias	Rate	2.81781913
All ages	Northern Mariana Islands	Alzheimer's disease and other dementias	Rate	1.679959376
All ages	Norway	Alzheimer's disease and other dementias	Rate	4.76216577
All ages	Oman	Alzheimer's disease and other dementias	Rate	1.17039838
All ages	Pakistan	Alzheimer's disease and other dementias	Rate	1.62117486
All ages	Palaui	Alzheimer's disease and other dementias	Rate	1.45201476
All ages	Pakistan	Alzheimer's disease and other dementias	Rate	2.669991212
All ages	Pakistan	Alzheimer's disease and other dementias	Rate	1.07802402
All ages	Papua New Guinea	Alzheimer's disease and other dementias	Rate	1.60565825
All ages	Paraguay	Alzheimer's disease and other dementias	Rate	3.87951398
All ages	Peru	Alzheimer's disease and other dementias	Rate	0.82421888
All ages	Philippines	Alzheimer's disease and other dementias	Rate	2.302206424
All ages	Poland	Alzheimer's disease and other dementias	Rate	1.690818093
All ages	Portugal	Alzheimer's disease and other dementias	Rate	0.803516442
All ages	Puerto Rico	Alzheimer's disease and other dementias	Rate	1.91898925
All ages	Qatar	Alzheimer's disease and other dementias	Rate	1.41005007
All ages	Republic of Korea	Alzheimer's disease and other dementias	Rate	3.41476344
All ages	Republic of Moldova	Alzheimer's disease and other dementias	Rate	1.84210406
All ages	Romania	Alzheimer's disease and other dementias	Rate	1.60861465
All ages	Russian Federation	Alzheimer's disease and other dementias	Rate	1.373781648
All ages	Rwanda	Alzheimer's disease and other dementias	Rate	4.474743204
All ages	Saint Kitts and Nevis	Alzheimer's disease and other dementias	Rate	0.559520478
All ages	Saint Lucia	Alzheimer's disease and other dementias	Rate	0.71748353
All ages	Saint Vincent and the Grenadines	Alzheimer's disease and other dementias	Rate	0.72368566
All ages	Samoa	Alzheimer's disease and other dementias	Rate	2.1384798
All ages	San Marino	Alzheimer's disease and other dementias	Rate	2.124901637
All ages	Sao Tome and Principe	Alzheimer's disease and other dementias	Rate	0.55621817
All ages	Saudi Arabia	Alzheimer's disease and other dementias	Rate	1.93212084
All ages	Senegal	Alzheimer's disease and other dementias	Rate	0.71948141
All ages	Senegal	Alzheimer's disease and other dementias	Rate	1.70937145
All ages	Serbia	Alzheimer's disease and other dementias	Rate	2.65189485
All ages	Seychelles	Alzheimer's disease and other dementias	Rate	0.88928185
All ages	Sri Lanka	Alzheimer's disease and other dementias	Rate	0.832421536
All ages	Slovakia	Alzheimer's disease and other dementias	Rate	1.423711568
All ages	Slovenia	Alzheimer's disease and other dementias	Rate	1.19978084
All ages	Solomon Islands	Alzheimer's disease and other dementias	Rate	2.0421118
All ages	Somalia	Alzheimer's disease and other dementias	Rate	0.78822993
All ages	South Africa	Alzheimer's disease and other dementias	Rate	0.95421388
All ages	South Sudan	Alzheimer's disease and other dementias	Rate	1.0249199
All ages	Spain	Alzheimer's disease and other dementias	Rate	1.639648079
All ages	Si Lanka	Alzheimer's disease and other dementias	Rate	0.9685004174
All ages	Si Lanka	Alzheimer's disease and other dementias	Rate	2.123210041
All ages	Suriname	Alzheimer's disease and other dementias	Rate	1.697890406
All ages	Sweden	Alzheimer's disease and other dementias	Rate	3.02664845
All ages	Switzerland	Alzheimer's disease and other dementias	Rate	2.038720882
All ages	Sri Lanka	Alzheimer's disease and other dementias	Rate	3.02664845
All ages	Taiwan (Province of China)	Alzheimer's disease and other dementias	Rate	1.83809921
All ages	Taiwan	Alzheimer's disease and other dementias	Rate	1.33230295
All ages	Thailand	Alzheimer's disease and other dementias	Rate	1.994415079
All ages	Timor-Leste	Alzheimer's disease and other dementias	Rate	2.1384798
All ages	Togo	Alzheimer's disease and other dementias	Rate	0.71828969
All ages	Tokelau	Alzheimer's disease and other dementias	Rate	1.6250438
All ages	Tonga	Alzheimer's disease and other dementias	Rate	1.66504508
All ages	Trinidad and Tobago	Alzheimer's disease and other dementias	Rate	0.87675272
All ages	Turkey	Alzheimer's disease and other dementias	Rate	3.65092093
All ages	Turkey	Alzheimer's disease and other dementias	Rate	2.468097682
All ages	Turkmenistan	Alzheimer's disease and other dementias	Rate	1.612897896
All ages	Tuvalu	Alzheimer's disease and other dementias	Rate	1.78710576
All ages	Uganda	Alzheimer's disease and other dementias	Rate	1.13442482
All ages	Uganda	Alzheimer's disease and other dementias	Rate	1.247917279
All ages	United Arab Emirates	Alzheimer's disease and other dementias	Rate	3.290514341
All ages	United Kingdom	Alzheimer's disease and other dementias	Rate	1.60149929
All ages	United Republic of Tanzania	Alzheimer's disease and other dementias	Rate	1.56017099
All ages	United States of America	Alzheimer's disease and other dementias	Rate	3.219612388
All ages	United States Virgin Islands	Alzheimer's disease and other dementias	Rate	0.83478877
All ages	Uruguay	Alzheimer's disease and other dementias	Rate	1.372720999
All ages	Uzbekistan	Alzheimer's disease and other dementias	Rate	0.830212988
All ages	Venezuela	Alzheimer's disease and other dementias	Rate	1.60494763
All ages	Venezuela (Bolivarian Republic of)	Alzheimer's disease and other dementias	Rate	1.048420627
All ages	Viet Nam	Alzheimer's disease and other dementias	Rate	2.061410612
All ages	Yemen	Alzheimer's disease and other dementias	Rate	2.993680507
All ages	Zambia	Alzheimer's disease and other dementias	Rate	1.56230076
All ages	Zimbabwe	Alzheimer's disease and other dementias	Rate	2.88442012

Table S2. Age-standardized DALY rates (ASDR) from smoking-attributable dementia across 204 countries and territories in 2021.

age_name	location_name	country_name	2021_ASDR_Rate
All ages	Albanian	Alzheimer's disease and other dementias	32.0793931
All ages	Albania	Alzheimer's disease and other dementias	91.312806
All ages	Algeria	Alzheimer's disease and other dementias	77.8216238
All ages	American Samoa	Alzheimer's disease and other dementias	36.46671003
All ages	Andorra	Alzheimer's disease and other dementias	52.36888484
All ages	Angola	Alzheimer's disease and other dementias	27.7178132
All ages	Antigua and Barbuda	Alzheimer's disease and other dementias	20.51284869
All ages	Argentina	Alzheimer's disease and other dementias	35.49989881
All ages	Armenia	Alzheimer's disease and other dementias	63.82852468
All ages	Australia	Alzheimer's disease and other dementias	33.2759215
All ages	Austria	Alzheimer's disease and other dementias	53.8095775
All ages	Azerbaijan	Alzheimer's disease and other dementias	51.73521844
All ages	Bahamas	Alzheimer's disease and other dementias	20.49877474
All ages	Bahrain	Alzheimer's disease and other dementias	54.73537477
All ages	Bangladesh	Alzheimer's disease and other dementias	45.6886494
All ages	Barbados	Alzheimer's disease and other dementias	15.4484709
All ages	Belarus	Alzheimer's disease and other dementias	41.8378675
All ages	Belgium	Alzheimer's disease and other dementias	61.7269385
All ages	Belize	Alzheimer's disease and other dementias	25.5829311
All ages	Benin	Alzheimer's disease and other dementias	7.09145639
All ages	Bermuda	Alzheimer's disease and other dementias	28.8855319
All ages	Bhutan	Alzheimer's disease and other dementias	25.35140754
All ages	Bolivia (Plurinational State of)	Alzheimer's disease and other dementias	16.96212036
All ages	Bosnia and Herzegovina	Alzheimer's disease and other dementias	67.2862394
All ages	Botswana	Alzheimer's disease and other dementias	36.51625005
All ages	Brazil	Alzheimer's disease and other dementias	61.86578657
All ages	Burkina Faso	Alzheimer's disease and other dementias	37.4712179
All ages	Burundi	Alzheimer's disease and other dementias	34.4824544
All ages	Burkina Faso	Alzheimer's disease and other dementias	6.83264086
All ages	Burundi	Alzheimer's disease and other dementias	12.65913798
All ages	Cabo Verde	Alzheimer's disease and other dementias	6.83627802
All ages	Cambodia	Alzheimer's disease and other dementias	77.14702867
All ages	Cameroon	Alzheimer's disease and other dementias	9.73751024
All ages	Canada	Alzheimer's disease and other dementias	59.30657015
All ages	Central African Republic	Alzheimer's disease and other dementias	14.26183782
All ages	Chad	Alzheimer's disease and other dementias	12.76268337
All ages	Chile	Alzheimer's disease and other dementias	23.9297938
All ages	China	Alzheimer's disease and other dementias	91.49647848
All ages	Colombia	Alzheimer's disease and other dementias	18.4499884
All ages	Comoros	Alzheimer's disease and other dementias	25.78415311
All ages	Congo	Alzheimer's disease and other dementias	36.38197383
All ages	Cook Islands	Alzheimer's disease and other dementias	34.20911588
All ages	Costa Rica	Alzheimer's disease and other dementias	28.57889528
All ages	Croatia	Alzheimer's disease and other dementias	64.8425493
All ages	Cuba	Alzheimer's disease and other dementias	38.14062973
All ages	Cuba	Alzheimer's disease and other dementias	59.37787808
All ages	Czechia	Alzheimer's disease and other dementias	52.48642125
All ages	Cote d'Ivoire	Alzheimer's disease and other dementias	11.72824376
All ages	Cyprus	Alzheimer's disease and other dementias	36.31341361
All ages	Democratic People's Republic of Korea	Alzheimer's disease and other dementias	78.9394869
All ages	Democratic Republic of Congo	Alzheimer's disease and other dementias	35.9135175
All ages	Denmark	Alzheimer's disease and other dementias	16.04149995
All ages	Dominica	Alzheimer's disease and other dementias	50.5097131
All ages	Dominican Republic	Alzheimer's disease and other dementias	14.91181975
All ages	Dominican Republic	Alzheimer's disease and other dementias	80.8698287
All ages	Egypt	Alzheimer's disease and other dementias	16.99152964
All ages	El Salvador	Alzheimer's disease and other dementias	17.2145098
All ages	Equatorial Guinea	Alzheimer's disease and other dementias	7.89382712
All ages	Eritrea	Alzheimer's disease and other dementias	40.9904414
All ages	Estonia	Alzheimer's disease and other dementias	21.74726722
All ages	Ecuador	Alzheimer's disease and other dementias	9.24478138
All ages	Fiji	Alzheimer's disease and other dementias	37.2746808
All ages	Finland	Alzheimer's disease and other dementias	37.34517848
All ages	France	Alzheimer's disease and other dementias	39.78165565
All ages	Gabon	Alzheimer's disease and other dementias	16.40376014
All ages	Gambia	Alzheimer's disease and other dementias	11.82773147
All ages	Ghana	Alzheimer's disease and other dementias	49.2062256
All ages	Germany	Alzheimer's disease and other dementias	59.02841837
All ages	Ghana	Alzheimer's disease and other dementias	10.3287951
All ages	Greenland	Alzheimer's disease and other dementias	72.4297778
All ages	Greenland	Alzheimer's disease and other dementias	80.44404667
All ages	Grenada	Alzheimer's disease and other dementias	13.8211988
All ages	Guam	Alzheimer's disease and other dementias	28.8883755
All ages	Guatemala	Alzheimer's disease and other dementias	20.8893178
All ages	Guinea	Alzheimer's disease and other dementias	13.5599261
All ages	Guinea-Bissau	Alzheimer's disease and other dementias	7.34868071
All ages	Guyana	Alzheimer's disease and other dementias	17.17210662
All ages	Haiti	Alzheimer's disease and other dementias	13.7658974
All ages	Honduras	Alzheimer's disease and other dementias	36.25914211
All ages	Hungary	Alzheimer's disease and other dementias	37.6859033
All ages	Iceland	Alzheimer's disease and other dementias	56.99118409
All ages	India	Alzheimer's disease and other dementias	30.62391277
All ages	Indonesia	Alzheimer's disease and other dementias	55.04063178
All ages	Iran (Islamic Republic of)	Alzheimer's disease and other dementias	42.4978162
All ages	Ireland	Alzheimer's disease and other dementias	75.71718359
All ages	Ireland	Alzheimer's disease and other dementias	58.18939882
All ages	Israel	Alzheimer's disease and other dementias	43.24920114
All ages	Italy	Alzheimer's disease and other dementias	51.99029207
All ages	Jamaica	Alzheimer's disease and other dementias	26.48292184
All ages	Japan	Alzheimer's disease and other dementias	45.0266596
All ages	Jordan	Alzheimer's disease and other dementias	84.3527861
All ages	Kazakhstan	Alzheimer's disease and other dementias	21.56889429
All ages	Kenya	Alzheimer's disease and other dementias	18.093749
All ages	Kiribati	Alzheimer's disease and other dementias	84.2643178
All ages	Korea	Alzheimer's disease and other dementias	55.16191249
All ages	Kyrgyzstan	Alzheimer's disease and other dementias	55.80691999
All ages	Korea (People's Democratic Republic of)	Alzheimer's disease and other dementias	59.08083992
All ages	Korea	Alzheimer's disease and other dementias	31.20540211
All ages	Lebanon	Alzheimer's disease and other dementias	106.44024824
All ages	Lesotho	Alzheimer's disease and other dementias	49.8917322
All ages	Libya	Alzheimer's disease and other dementias	7.81735992
All ages	Lithuania	Alzheimer's disease and other dementias	52.91100427
All ages	Lithuania	Alzheimer's disease and other dementias	32.72090509
All ages	Luxembourg	Alzheimer's disease and other dementias	38.86217044
All ages	Madagascar	Alzheimer's disease and other dementias	10.3131616
All ages	Malawi	Alzheimer's disease and other dementias	30.7706232
All ages	Malaysia	Alzheimer's disease and other dementias	45.6689263
All ages	Maldives	Alzheimer's disease and other dementias	64.8693795
All ages	Mali	Alzheimer's disease and other dementias	21.0447707
All ages	Malta	Alzheimer's disease and other dementias	39.24846081
All ages	Marshall Islands	Alzheimer's disease and other dementias	31.95347259
All ages	Mauritania	Alzheimer's disease and other dementias	9.51471796
All ages	Mauritius	Alzheimer's disease and other dementias	42.88744778
All ages	Mexico	Alzheimer's disease and other dementias	18.51320891
All ages	Micronesia (Federated States of)	Alzheimer's disease and other dementias	47.31071921
All ages	Morocco	Alzheimer's disease and other dementias	54.97015663
All ages	Mongolia	Alzheimer's disease and other dementias	43.96235551
All ages	Montenegro	Alzheimer's disease and other dementias	60.6629735
All ages	Morocco	Alzheimer's disease and other dementias	23.6447892
All ages	Mozambique	Alzheimer's disease and other dementias	21.02825449
All ages	Myanmar	Alzheimer's disease and other dementias	44.60746246
All ages	Namibia	Alzheimer's disease and other dementias	46.8112546
All ages	Nauru	Alzheimer's disease and other dementias	43.99892029
All ages	Netherlands	Alzheimer's disease and other dementias	56.1298762
All ages	Netherlands	Alzheimer's disease and other dementias	71.4159802
All ages	New Zealand	Alzheimer's disease and other dementias	32.4998194
All ages	Nicaragua	Alzheimer's disease and other dementias	24.8972172
All ages	Niger	Alzheimer's disease and other dementias	8.70211332
All ages	Nigeria	Alzheimer's disease and other dementias	6.50714851
All ages	Niue	Alzheimer's disease and other dementias	31.4654682
All ages	North Macedonia	Alzheimer's disease and other dementias	42.62571027
All ages	Northern Mariana Islands	Alzheimer's disease and other dementias	34.7557718
All ages	Oman	Alzheimer's disease and other dementias	41.45882867
All ages	Oman	Alzheimer's disease and other dementias	25.7187074
All ages	Pakistan	Alzheimer's disease and other dementias	21.58844028
All ages	Palau	Alzheimer's disease and other dementias	31.1338694
All ages	Pakistan	Alzheimer's disease and other dementias	80.4777157
All ages	Pakistan	Alzheimer's disease and other dementias	24.0813491
All ages	Papua New Guinea	Alzheimer's disease and other dementias	28.3131287
All ages	Paraguay	Alzheimer's disease and other dementias	75.88218079
All ages	Peru	Alzheimer's disease and other dementias	17.58002403
All ages	Philippines	Alzheimer's disease and other dementias	50.28621795
All ages	Poland	Alzheimer's disease and other dementias	44.6076793
All ages	Poland	Alzheimer's disease and other dementias	23.5989712
All ages	Puerto Rico	Alzheimer's disease and other dementias	27.4833111
All ages	Qatar	Alzheimer's disease and other dementias	34.66552129
All ages	Republic of Korea	Alzheimer's disease and other dementias	62.17519393
All ages	Republic of Moldova	Alzheimer's disease and other dementias	35.4349809
All ages	Romania	Alzheimer's disease and other dementias	30.67629223
All ages	Russia Federation	Alzheimer's disease and other dementias	36.79594794
All ages	Rwanda	Alzheimer's disease and other dementias	78.46240997
All ages	Saint Kitts and Nevis	Alzheimer's disease and other dementias	13.49218299
All ages	Saint Lucia	Alzheimer's disease and other dementias	17.9789322
All ages	Saint Vincent and the Grenadines	Alzheimer's disease and other dementias	18.3092411
All ages	Samoa	Alzheimer's disease and other dementias	33.24059269
All ages	San Marino	Alzheimer's disease and other dementias	47.49379491
All ages	Sao Tome and Principe	Alzheimer's disease and other dementias	6.49110246
All ages	Saudi Arabia	Alzheimer's disease and other dementias	28.78378496
All ages	Senegal	Alzheimer's disease and other dementias	9.31664379
All ages	Senegal	Alzheimer's disease and other dementias	47.13841294
All ages	Serbia	Alzheimer's disease and other dementias	45.2182521
All ages	Serbia	Alzheimer's disease and other dementias	9.74434829
All ages	Seychelles	Alzheimer's disease and other dementias	37.12054935
All ages	Slovenia	Alzheimer's disease and other dementias	41.0058292
All ages	Singapore	Alzheimer's disease and other dementias	51.77961336
All ages	Solomon Islands	Alzheimer's disease and other dementias	17.31443753
All ages	South Africa	Alzheimer's disease and other dementias	22.11857067
All ages	South Sudan	Alzheimer's disease and other dementias	20.76884298
All ages	Spain	Alzheimer's disease and other dementias	37.69052775
All ages	Si Lanka	Alzheimer's disease and other dementias	21.74998989
All ages	Si Lanka	Alzheimer's disease and other dementias	46.08184512
All ages	Suriname	Alzheimer's disease and other dementias	26.5844653
All ages	Sweden	Alzheimer's disease and other dementias	66.43446106
All ages	Switzerland	Alzheimer's disease and other dementias	59.60832828
All ages	Syrian Arab Republic	Alzheimer's disease and other dementias	60.30951525
All ages	Taiwan (Province of China)	Alzheimer's disease and other dementias	36.36791611
All ages	Taiwan	Alzheimer's disease and other dementias	28.5949375
All ages	Thailand	Alzheimer's disease and other dementias	42.00117533
All ages	Timor-Leste	Alzheimer's disease and other dementias	49.83564862
All ages	Togo	Alzheimer's disease and other dementias	17.3621803
All ages	Tokelau	Alzheimer's disease and other dementias	37.8844815
All ages	Tonga	Alzheimer's disease and other dementias	60.27132098
All ages	Trinidad and Tobago	Alzheimer's disease and other dementias	22.5923862
All ages	Turkey	Alzheimer's disease and other dementias	74.70821967
All ages	Turkey	Alzheimer's disease and other dementias	51.79645092
All ages	Turkmenistan	Alzheimer's disease and other dementias	25.1165352
All ages	Tuvalu	Alzheimer's disease and other dementias	42.6808937
All ages	Uganda	Alzheimer's disease and other dementias	19.58416135
All ages	Uganda	Alzheimer's disease and other dementias	33.02710025
All ages	United Arab Emirates	Alzheimer's disease and other dementias	62.3920743
All ages	United Kingdom	Alzheimer's disease and other dementias	54.311881256
All ages	United Republic of Tanzania	Alzheimer's disease and other dementias	31.15089058
All ages	United States of America	Alzheimer's disease and other dementias	70.94448374
All ages	United States Virgin Islands	Alzheimer's disease and other dementias	21.2827786
All ages	Uruguay	Alzheimer's disease and other dementias	36.78173129
All ages	Uruguay	Alzheimer's disease and other dementias	21.00051407
All ages	Vanuatu	Alzheimer's disease and other dementias	24.58740501
All ages	Venezuela	Alzheimer's disease and other dementias	27.11405186
All ages	Viet Nam	Alzheimer's disease and other dementias	50.82530016
All ages	Yemen	Alzheimer's disease and other dementias	65.132321616
All ages	Zambia	Alzheimer's disease and other dementias	29.9952573
All ages	Zimbabwe	Alzheimer's disease and other dementias	45.06332734

Table B2. Estimated annual percentage change (EAPC) in age-standardized mortality rates (ASMR) from smoking-attributable diseases across 204 countries and territories from 1990 to 2021.

Location name	EAPC(ASMR)	95% CI
Algeria	0.17255322	0.170(0.8,0.42)
Algeria	0.15355324	0.153(0.2,0.70)
Algeria	-0.81012795	-0.811(0.05,-0.57)
American Samoa	-0.52020886	-0.54(0.0,-0.47)
Andorra	0.20258751	0.202(0.07,-0.08)
Angola	-0.045778016	-0.05(0.28,0.19)
Antigua and Barbuda	0.32887701	0.31(0.18,-0.28)
Argentina	-0.17453844	-0.17(0.30,-0.24)
Armenia	1.15617468	1.18(0.10,-1.17)
Australia	-1.87477319	-1.81(1.32,-1.05)
Austria	0.17063649	0.17(0.28,1.03)
Azerbaijan	1.82280975	1.82(1.1,-1.24)
Bahamas	0.16232688	0.16(0.09,-0.24)
Bahrain	0.89317176	0.89(1.41,-0.78)
Bangladesh	-0.218176874	-0.22(0.38,-0.06)
Barbados	0.278032854	0.27(0.09,-0.46)
Belarus	-0.227288781	-0.23(0.37,-0.09)
Belgium	-1.24743825	-1.25(0.54,-1.86)
Belize	-0.25188008	-0.25(0.34,-0.16)
Benin	-0.99122465	-0.99(1.23,-1.40)
Bermuda	0.3047424	0.30(0.15,-0.14)
Bhutan	0.33529155	0.34(0.30,0.37)
Bolivia (Plurinational State of)	0.45885179	0.42(0.15,-0.28)
Bosnia and Herzegovina	0.18785099	0.19(0.18,0.56)
Botswana	-1.13510384	-1.13(1.15,-1.03)
Brazil	-0.031057004	-0.03(0.22,-1.84)
Brunei Darussalam	1.678107154	1.68(1.16,-1.60)
Bulgaria	-1.52032392	-1.52(1.41,-1.43)
Burkina Faso	-0.76999884	-0.77(1.03,-0.51)
Burundi	1.79824832	1.78(2.15,-1.42)
Cabo Verde	-1.241179317	-1.24(1.42,-1.87)
Cambodia	0.26027837	0.26(0.09,-0.45)
Cameroon	-1.054860158	-1.05(1.12,-0.99)
Canada	-1.683378193	-1.68(1.15,-1.53)
Central African Republic	-1.31130317	-1.31(1.56,-1.07)
Chad	-0.4923217	-0.49(0.38,-0.41)
Chile	-1.024832398	-1.02(1.10,-0.94)
China	-0.74905696	-0.74(0.48,-0.65)
Colombia	-1.57779885	-1.58(1.48,-1.47)
Comoros	-0.34514838	-0.34(0.38,-0.13)
Congo	0.90202008	0.90(0.81,-1.2)
Cook Islands	0.95702294	0.96(1.0,-0.93)
Costa Rica	-1.2813191	-1.28(1.0,-1.56)
Croatia	-0.127363127	-0.13(0.29,0.24)
Cuba	1.44148849	1.44(1.57,-1.35)
Cyprus	-1.107427731	-1.11(1.20,-1.02)
Czechia	-0.60548846	-0.60(0.64,-0.57)
Côte d'Ivoire	-1.457437054	-1.46(1.69,-1.22)
Democratic People's Republic of Korea	-0.89266171	-0.89(0.97,-0.82)
Democratic Republic of the Congo	0.68483803	0.67(0.67,-0.77)
Denmark	-1.83197412	-1.83(0.85,-1.63)
Djibouti	0.00323422	0.01(0.37,-0.65)
Dominica	-0.50124832	-0.50(0.67,-0.33)
Dominican Republic	-0.84674777	-0.85(1.16,-0.40)
Ecuador	-2.269220713	-2.27(2.15,-2.19)
Egypt	0.28424207	0.28(0.18,0.39)
El Salvador	0.06070577	0.06(0.12,-0.17)
Equatorial Guinea	-1.26293299	-1.26(0.33,-0.20)
Eritrea	-0.36571313	-0.37(0.43,-0.33)
Estonia	0.63279058	0.64(0.38,0.90)
Eswatini	-1.24774077	-1.24(1.32,-1.17)
Ethiopia	0.65296575	0.65(0.39,0.92)
Fiji	-1.09520826	-1.10(1.27,-0.92)
Finland	-0.13186629	-0.13(0.44,0.07)
France	-1.38422003	-1.35(1.44,-1.28)
Gabon	0.01237011	0.01(0.10,-0.13)
Gambia	-1.78389325	-1.78(1.80,-1.68)
Ghana	1.74319318	1.74(1.61,-1.69)
Germany	-1.04212685	-1.04(1.22,-0.86)
Ghana	0.54143974	0.54(0.37,0.81)
Greece	-1.1304062	-1.13(1.19,-1.08)
Greenland	-0.71605077	-0.71(0.76,-0.67)
Grenada	1.47440219	1.48(1.66,-1.42)
Guam	-0.23245473	-0.23(0.29,-0.18)
Guatemala	0.06020248	0.06(0.02,-0.02)
Guinea	0.63247259	0.62(0.67,-0.57)
Guinea-Bissau	0.43209191	0.43(0.17,0.79)
Guyana	0.531028811	0.53(0.61,-0.43)
Haiti	0.44338864	0.44(0.36,-0.38)
Honduras	0.12788965	0.13(0.05,-0.20)
Hungary	-1.19644287	-1.20(1.21,-1.16)
Iceland	0.29039019	0.29(0.12,-0.14)
India	-0.46140324	-0.46(0.50,-0.34)
Indonesia	0.714817138	0.72(0.45,-0.08)
Iran (Islamic Republic of)	0.20914232	0.21(0.13,-0.29)
Iraq	-1.84326174	-1.84(1.30,-1.39)
Ireland	-2.81862361	-2.82(1.92,-2.71)
Israel	-1.49018910	-1.50(1.42,-1.37)
Italy	-1.78712210	-1.78(1.76,-1.79)
Jamaica	-1.024785082	-1.02(1.12,-0.93)
Japan	-1.83226073	-1.83(1.52,-1.75)
Jordan	-1.25149515	-1.25(1.33,-1.13)
Kazakhstan	-0.26112145	-0.26(0.43,-0.54)
Kempe	-2.33883298	-2.34(2.52,-2.16)
Kuwait	0.33889839	0.34(0.33,0.70)
Kuwait	-0.2494046	-0.26(0.40,-0.13)
Kyrgyzstan	1.29150533	1.29(1.27,1.62)
Laos (People's Democratic Republic)	0.521130945	0.52(0.44,-0.60)
Latvia	-0.67525662	-0.68(0.76,-0.59)
Lebanon	0.54384649	0.54(0.42,-0.83)
Leichto	0.727212456	0.72(0.63,0.83)
Liberia	1.19510306	1.19(1.15,-1.17)
Lithuania	-0.597451325	-0.60(0.69,-0.51)
Luxembourg	-1.153797921	-1.15(1.21,-1.10)
Luxembourg	-0.300516844	-0.30(0.42,-0.18)
Madagascar	-2.3544679	-2.35(3.25,-2.47)
Madagascar	0.71486039	0.71(0.76,-0.66)
Malaysia	-1.33420547	-1.33(1.46,-1.21)
Maldives	1.56203015	1.56(1.62,-1.50)
Mali	2.031404161	2.03(1.88,-1.18)
Mali	0.80130318	0.81(1.19,-1.68)
Marshall Islands	0.17108285	0.17(0.15,-0.19)
Mauritania	0.581099999	0.58(0.81,-0.81)
Mexico	-0.118741269	-0.12(0.54,-0.30)
Mexico	-1.295734311	-1.30(0.31,-0.38)
Moldova	0.47520634	0.48(0.41,-0.44)
Monaco	0.51328287	0.51(0.53,-0.48)
Mongolia	1.13189011	1.13(0.14,-1.13)
Montenegro	0.53847075	0.54(0.71,-0.34)
Morocco	2.05618823	2.06(2.16,-1.97)
Mozambique	-0.67011315	-0.67(0.80,-0.55)
Myanmar	-2.244232174	-2.24(2.36,-2.13)
Namibia	-1.200797197	-1.21(1.16,-1.25)
Nauru	-1.18496542	-1.18(1.13,-1.14)
Nepal	0.664587781	0.66(0.76,-0.57)
Netherlands	-0.44444465	-0.44(0.58,-0.33)
New Zealand	-0.61608076	-0.62(0.71,-0.54)
Nicaragua	0.005156379	0.00(0.19,-0.19)
Niger	0.48051466	0.48(0.39,-0.69)
Nigeria	-1.6214631	-1.62(1.66,-1.58)
Niue	-0.12203476	-0.12(0.16,-0.28)
North Macedonia	0.452208125	0.45(0.44,-0.77)
Northern Mariana Islands	-0.824145991	-0.82(0.87,-0.78)
Norway	-3.268377121	-3.27(2.66,-2.12)
Oman	-0.83424841	-0.83(0.96,-0.73)
Pakistan	0.61441238	0.61(0.77,-1.46)
Palau	-0.38041465	-0.38(0.42,-0.34)
Pakistan	-1.2807324	-1.28(1.41,-1.15)
Panama	-1.748467904	-1.77(1.91,-1.63)
Papua New Guinea	-0.64844314	-0.65(0.72,-0.57)
Paraguay	-1.46039666	-1.46(1.54,-1.38)
Peru	-0.31338463	-0.32(0.47,-0.15)
Philippines	-1.79379816	-1.79(1.82,-1.67)
Poland	-1.42550045	-1.43(1.50,-1.35)
Portugal	-1.803144001	-1.80(1.91,-1.69)
Puerto Rico	-0.808045117	-0.81(0.87,-0.75)
Qatar	-1.57142316	-1.56(1.31,-1.02)
Republic of Korea	1.930764188	1.93(1.79,-1.83)
Republic of Moldova	0.53948701	0.54(0.40,-0.63)
Romania	0.66629717	0.66(1.46,-1.47)
Russian Federation	1.13757208	1.14(0.75,-1.53)
Rwanda	0.90587497	0.91(0.81,-1.00)
Saint Kitts and Nevis	0.66273795	0.67(0.74,-0.59)
Saint Lucia	-1.10618916	-1.11(1.15,-0.98)
Saint Vincent and the Grenadines	0.06153712	0.06(0.00,-0.13)
Samoa	0.36888214	0.37(0.41,-0.40)
San Marino	0.85279898	0.86(0.92,-0.80)
Sao Tome and Principe	-0.23137406	-0.23(0.71,-0.13)
Saudi Arabia	0.32484844	0.32(0.15,-0.30)
Senegal	0.650299182	0.66(0.81,-0.50)
Senegal	0.54046077	0.54(0.51,-0.19)
Senegal	0.81826031	0.82(0.91,-0.72)
Senegal	-1.11712468	-1.12(1.20,-1.04)
Singapore	-1.67893698	-1.68(1.79,-1.56)
Slovakia	-0.68784235	-0.69(0.68,-0.54)
Slovakia	0.02416271	0.02(0.10,-0.16)
Solomon Islands	-0.17974522	-0.18(0.36,-0.00)
Somalia	0.92252949	0.92(0.96,-0.85)
South Africa	-1.43664108	-1.44(1.55,-1.32)
South Sudan	0.42002604	0.42(0.49,-0.38)
Spain	-1.15246384	-1.15(1.19,-1.11)
Sri Lanka	-2.97174785	-2.98(3.28,-2.68)
Sudan	-0.28535483	-0.29(0.31,-0.26)
Suriname	-1.09991717	-1.10(1.48,-1.52)
Sweden	-0.19750438	-0.20(0.25,-0.50)
Switzerland	-0.46599356	-0.47(0.53,-0.40)
Syrian Arab Republic	-1.17528915	-1.17(1.27,-1.08)
Taiwan (Province of China)	-1.36051671	-1.36(1.40,-1.19)
Tajikistan	-1.35041401	-1.35(1.51,-1.14)
Thailand	-1.73710304	-1.74(1.87,-1.61)
Timor-Leste	-0.40589806	-0.41(0.52,-0.20)
Togo	-1.736072115	-1.74(1.88,-1.60)
Tobago	-0.92164074	-0.92(0.98,-0.85)
Togo	0.7789432	0.78(0.84,-0.68)
Trinidad and Tobago	-0.94024533	-0.95(1.00,-0.89)
Tunisia	-1.16071835	-1.16(1.20,-1.13)
Turkey	-2.09937228	-2.10(2.40,-1.79)
Turkmenistan	-1.28234646	-1.28(1.40,-1.16)
Tuvalu	-0.08871619	-0.09(0.13,-0.24)
Uganda	-0.82103893	-0.82(1.07,-0.57)
Ukraine	-0.81103886	-0.81(1.05,-0.57)
United Arab Emirates	1.1767442	1.18(0.91,-1.16)
United Kingdom	-1.86429773	-1.86(1.98,-1.75)
United States of America	-1.62043889	-1.62(1.75,-1.49)
United States of America	-1.19704439	-1.20(1.21,-1.13)
United States Virgin Islands	-0.52075826	-0.52(0.61,-0.43)
Uruguay	0.27891385	0.28(0.13,-0.33)
Uzbekistan	0.714816408	0.71(0.51,-0.92)
Venezuela (Bolivarian Republic of)	-1.20732804	-1.21(1.31,-1.10)
Viet Nam	-1.84877175	-1.84(1.99,-1.69)
Viet Nam	-1.374870213	-1.37(1.50,-1.16)
Yemen	0.047744274	0.05(0.08,-0.02)
Zambia	-0.796509771	-0.80(0.87,-0.72)
Zimbabwe	-0.74584633	-0.75(0.85,-0.64)

Table 12. Number of deaths from smoking-attributable dementia across 204 countries and territories in 2021.

age_group	location_name	case_name	metric_name	2021_Death_Rate
All ages	Afghanistan	Alzheimer's disease and other dementias	Number	28,781,648.99
All ages	Albania	Alzheimer's disease and other dementias	Number	57,462,178.83
All ages	Algeria	Alzheimer's disease and other dementias	Number	298,494,028.08
All ages	American Samoa	Alzheimer's disease and other dementias	Number	0,179,916.06
All ages	Andorra	Alzheimer's disease and other dementias	Number	1,430,905.06
All ages	Angola	Alzheimer's disease and other dementias	Number	27,352,994.90
All ages	Antigua and Barbuda	Alzheimer's disease and other dementias	Number	0,540,208.82
All ages	Argentina	Alzheimer's disease and other dementias	Number	255,417,181.81
All ages	Armenia	Alzheimer's disease and other dementias	Number	44,087,984.83
All ages	Australia	Alzheimer's disease and other dementias	Number	288,870,254.24
All ages	Austria	Alzheimer's disease and other dementias	Number	168,750,279.79
All ages	Azerbaijan	Alzheimer's disease and other dementias	Number	52,759,954.05
All ages	Bahamas	Alzheimer's disease and other dementias	Number	0,91,029,854.4
All ages	Bahrain	Alzheimer's disease and other dementias	Number	3,21,107,906.93
All ages	Bangladesh	Alzheimer's disease and other dementias	Number	781,124,132.86
All ages	Barbados	Alzheimer's disease and other dementias	Number	1,38,379,243.13
All ages	Belarus	Alzheimer's disease and other dementias	Number	90,988,929.29
All ages	Belgium	Alzheimer's disease and other dementias	Number	286,474,753.3
All ages	Belize	Alzheimer's disease and other dementias	Number	0,88,262,815.15
All ages	Benin	Alzheimer's disease and other dementias	Number	6,52,827,777.77
All ages	Bermuda	Alzheimer's disease and other dementias	Number	0,65,521,703.70
All ages	Bhutan	Alzheimer's disease and other dementias	Number	2,27,523,769.69
All ages	Bolivia (Plurinational State of)	Alzheimer's disease and other dementias	Number	16,50,731,879.79
All ages	Bosnia and Herzegovina	Alzheimer's disease and other dementias	Number	62,507,392.2
All ages	Botswana	Alzheimer's disease and other dementias	Number	5,06,605,762.8
All ages	Brazil	Alzheimer's disease and other dementias	Number	215,2,528,886.86
All ages	Brunei Darussalam	Alzheimer's disease and other dementias	Number	1,18,859,892.2
All ages	Bulgaria	Alzheimer's disease and other dementias	Number	54,448,708.70
All ages	Burkina Faso	Alzheimer's disease and other dementias	Number	6,32,495,948.48
All ages	Burundi	Alzheimer's disease and other dementias	Number	5,28,596,474.74
All ages	Cabo Verde	Alzheimer's disease and other dementias	Number	0,81,888,764.64
All ages	Cambodia	Alzheimer's disease and other dementias	Number	96,484,848.48
All ages	Cameroon	Alzheimer's disease and other dementias	Number	11,54,635,605.05
All ages	Canada	Alzheimer's disease and other dementias	Number	162,584,844.44
All ages	Central African Republic	Alzheimer's disease and other dementias	Number	2,23,773,763.63
All ages	Chad	Alzheimer's disease and other dementias	Number	7,05,842,406.06
All ages	Chile	Alzheimer's disease and other dementias	Number	65,319,321.21
All ages	China	Alzheimer's disease and other dementias	Number	2487,320,037.03
All ages	Colombia	Alzheimer's disease and other dementias	Number	142,716,661.61
All ages	Comoros	Alzheimer's disease and other dementias	Number	1,45,771,164.64
All ages	Congo	Alzheimer's disease and other dementias	Number	6,32,844,236.26
All ages	Cook Islands	Alzheimer's disease and other dementias	Number	0,11,677,717.17
All ages	Costa Rica	Alzheimer's disease and other dementias	Number	23,377,213.13
All ages	Croatia	Alzheimer's disease and other dementias	Number	101,987,956.61
All ages	Cuba	Alzheimer's disease and other dementias	Number	106,723,132.32
All ages	Cyprus	Alzheimer's disease and other dementias	Number	17,481,266.66
All ages	Czechia	Alzheimer's disease and other dementias	Number	163,418,146.46
All ages	Cote d'Ivoire	Alzheimer's disease and other dementias	Number	12,52,839,872.72
All ages	Democratic Republic of the Congo	Alzheimer's disease and other dementias	Number	139,873,606.06
All ages	Democratic People's Republic of Korea	Alzheimer's disease and other dementias	Number	35,20,081,115.11
All ages	Dominica	Alzheimer's disease and other dementias	Number	197,429,606.06
All ages	Djibouti	Alzheimer's disease and other dementias	Number	2,00,537,711.11
All ages	Dominica	Alzheimer's disease and other dementias	Number	6,53,931,446.46
All ages	Dominican Republic	Alzheimer's disease and other dementias	Number	73,467,336.36
All ages	Dominican Republic	Alzheimer's disease and other dementias	Number	31,24,474,245.45
All ages	Ecuador	Alzheimer's disease and other dementias	Number	395,404,067.67
All ages	Egypt	Alzheimer's disease and other dementias	Number	14,10,865,862.82
All ages	Equatorial Guinea	Alzheimer's disease and other dementias	Number	0,80,033,093.93
All ages	Eritrea	Alzheimer's disease and other dementias	Number	1,78,288,544.44
All ages	Estonia	Alzheimer's disease and other dementias	Number	15,37,802,007.07
All ages	Eswatini	Alzheimer's disease and other dementias	Number	0,98,568,822.22
All ages	Ethiopia	Alzheimer's disease and other dementias	Number	45,204,789.89
All ages	Fiji	Alzheimer's disease and other dementias	Number	1,87,799,869.86
All ages	Finland	Alzheimer's disease and other dementias	Number	85,57,908,847.47
All ages	France	Alzheimer's disease and other dementias	Number	110,954,804.04
All ages	Gabon	Alzheimer's disease and other dementias	Number	1,75,566,915.15
All ages	Gambia	Alzheimer's disease and other dementias	Number	1,20,795,795.79
All ages	Georgia	Alzheimer's disease and other dementias	Number	47,05,502,665.65
All ages	Germany	Alzheimer's disease and other dementias	Number	219,399,806.06
All ages	Ghana	Alzheimer's disease and other dementias	Number	20,887,757.75
All ages	Greece	Alzheimer's disease and other dementias	Number	382,788,823.23
All ages	Greenland	Alzheimer's disease and other dementias	Number	0,52,116,885.85
All ages	Grenada	Alzheimer's disease and other dementias	Number	0,15,845,493.49
All ages	Guam	Alzheimer's disease and other dementias	Number	0,79,809,999.99
All ages	Guatemala	Alzheimer's disease and other dementias	Number	27,94,860,676.67
All ages	Guinea	Alzheimer's disease and other dementias	Number	0,36,529,869.69
All ages	Guinea-Bissau	Alzheimer's disease and other dementias	Number	0,45,271,467.67
All ages	Guyana	Alzheimer's disease and other dementias	Number	1,10,47,642.42
All ages	Haiti	Alzheimer's disease and other dementias	Number	7,33,725,463.63
All ages	Honduras	Alzheimer's disease and other dementias	Number	24,837,567.67
All ages	Hungary	Alzheimer's disease and other dementias	Number	95,40,920,271.21
All ages	Iceland	Alzheimer's disease and other dementias	Number	6,10,003,339.39
All ages	India	Alzheimer's disease and other dementias	Number	432,841,898.89
All ages	Indonesia	Alzheimer's disease and other dementias	Number	155,863,883.83
All ages	Iran (Islamic Republic of)	Alzheimer's disease and other dementias	Number	399,849,626.26
All ages	Iraq	Alzheimer's disease and other dementias	Number	176,308,603.03
All ages	Ireland	Alzheimer's disease and other dementias	Number	83,970,759.79
All ages	Israel	Alzheimer's disease and other dementias	Number	95,946,127.27
All ages	Italy	Alzheimer's disease and other dementias	Number	149,653,523.23
All ages	Jamaica	Alzheimer's disease and other dementias	Number	27,10,507.07
All ages	Japan	Alzheimer's disease and other dementias	Number	272,888,844.44
All ages	Jordan	Alzheimer's disease and other dementias	Number	56,518,558.58
All ages	Kazakhstan	Alzheimer's disease and other dementias	Number	39,272,816.16
All ages	Korea	Alzheimer's disease and other dementias	Number	39,21,381,733.33
All ages	Kiribati	Alzheimer's disease and other dementias	Number	0,49,939,257.25
All ages	Kuwait	Alzheimer's disease and other dementias	Number	20,94,906,974.74
All ages	Kyrgyzstan	Alzheimer's disease and other dementias	Number	28,185,105.05
All ages	Laos	Alzheimer's disease and other dementias	Number	26,148,232.32
All ages	Latvia	Alzheimer's disease and other dementias	Number	16,882,771.21
All ages	Lebanon	Alzheimer's disease and other dementias	Number	108,257,355.55
All ages	Lesotho	Alzheimer's disease and other dementias	Number	4,487,849.99
All ages	Liberia	Alzheimer's disease and other dementias	Number	1,53,746,119.19
All ages	Libya	Alzheimer's disease and other dementias	Number	22,284,409.09
All ages	Lithuania	Alzheimer's disease and other dementias	Number	30,40,600,791.91
All ages	Luxembourg	Alzheimer's disease and other dementias	Number	6,75,104,739.39
All ages	Madagascar	Alzheimer's disease and other dementias	Number	1,64,265,571.51
All ages	Malawi	Alzheimer's disease and other dementias	Number	21,443,767.67
All ages	Malaysia	Alzheimer's disease and other dementias	Number	156,383,071.07
All ages	Maldives	Alzheimer's disease and other dementias	Number	2,52,261,882.82
All ages	Mali	Alzheimer's disease and other dementias	Number	17,38,816,108.08
All ages	Malta	Alzheimer's disease and other dementias	Number	6,28,787,875.75
All ages	Marshall Islands	Alzheimer's disease and other dementias	Number	0,08,405,779.79
All ages	Mauritania	Alzheimer's disease and other dementias	Number	2,14,451,327.27
All ages	Mauritius	Alzheimer's disease and other dementias	Number	10,381,009.09
All ages	Mexico	Alzheimer's disease and other dementias	Number	287,234,605.05
All ages	Micronesia (Federated States of)	Alzheimer's disease and other dementias	Number	0,31,175,141.41
All ages	Moldova	Alzheimer's disease and other dementias	Number	1,11,008,936.93
All ages	Mongolia	Alzheimer's disease and other dementias	Number	8,74,161,541.54
All ages	Montenegro	Alzheimer's disease and other dementias	Number	6,65,448,523.23
All ages	Morocco	Alzheimer's disease and other dementias	Number	89,163,025.25
All ages	Mozambique	Alzheimer's disease and other dementias	Number	21,734,104.04
All ages	Myanmar	Alzheimer's disease and other dementias	Number	238,853,992.92
All ages	Namibia	Alzheimer's disease and other dementias	Number	63,171,714.74
All ages	Nauru	Alzheimer's disease and other dementias	Number	0,05,999,848.48
All ages	Nepal	Alzheimer's disease and other dementias	Number	149,563,838.38
All ages	Netherlands	Alzheimer's disease and other dementias	Number	486,233,993.93
All ages	New Zealand	Alzheimer's disease and other dementias	Number	78,39,563,162.62
All ages	Nicaragua	Alzheimer's disease and other dementias	Number	14,10,292.22
All ages	Niger	Alzheimer's disease and other dementias	Number	6,07,638,883.83
All ages	Nigeria	Alzheimer's disease and other dementias	Number	58,42,121,337.33
All ages	Niue	Alzheimer's disease and other dementias	Number	0,00,860,282.82
All ages	North Macedonia	Alzheimer's disease and other dementias	Number	26,15,605,536.36
All ages	Northern Mariana Islands	Alzheimer's disease and other dementias	Number	0,18,611,887.87
All ages	Norway	Alzheimer's disease and other dementias	Number	79,15,682,607.07
All ages	Oman	Alzheimer's disease and other dementias	Number	4,23,900,345.45
All ages	Pakistan	Alzheimer's disease and other dementias	Number	409,16,987,113.13
All ages	Palestine	Alzheimer's disease and other dementias	Number	0,65,459,877.77
All ages	Pakistan	Alzheimer's disease and other dementias	Number	14,73,308,849.49
All ages	Panama	Alzheimer's disease and other dementias	Number	15,88,809,094.09
All ages	Papua New Guinea	Alzheimer's disease and other dementias	Number	11,382,243.23
All ages	Paraguay	Alzheimer's disease and other dementias	Number	67,17,799,144.44
All ages	Peru	Alzheimer's disease and other dementias	Number	92,147,746.46
All ages	Philippines	Alzheimer's disease and other dementias	Number	428,931,244.44
All ages	Poland	Alzheimer's disease and other dementias	Number	446,224,453.53
All ages	Portugal	Alzheimer's disease and other dementias	Number	90,28,829,916.16
All ages	Portugal	Alzheimer's disease and other dementias	Number	34,807,168.68
All ages	Qatar	Alzheimer's disease and other dementias	Number	1,98,914,276.76
All ages	Republic of Korea	Alzheimer's disease and other dementias	Number	985,23,045.45
All ages	Republic of Moldova	Alzheimer's disease and other dementias	Number	26,586,029.29
All ages	Romania	Alzheimer's disease and other dementias	Number	151,038,208.20
All ages	Russian Federation	Alzheimer's disease and other dementias	Number	113,13,124,416.16
All ages	Rwanda	Alzheimer's disease and other dementias	Number	47,836,113.13
All ages	Saint Kitts and Nevis	Alzheimer's disease and other dementias	Number	0,08,783,259.25
All ages	Saint Lucia	Alzheimer's disease and other dementias	Number	0,05,282,327.27
All ages	Saint Vincent and the Grenadines	Alzheimer's disease and other dementias	Number	0,31,309,105.05
All ages	Samoa	Alzheimer's disease and other dementias	Number	0,80,807,173.73
All ages	Sao Marino	Alzheimer's disease and other dementias	Number	0,79,898,584.84
All ages	Sao Tome and Principe	Alzheimer's disease and other dementias	Number	0,07,530,241.41
All ages	Saudi Arabia	Alzheimer's disease and other dementias	Number	39,486,949.49
All ages	Senegal	Alzheimer's disease and other dementias	Number	7,83,972,746.46
All ages	Senegal	Alzheimer's disease and other dementias	Number	99,74,749,756.56
All ages	Senegal	Alzheimer's disease and other dementias	Number	0,82,181,518.51
All ages	Senegal	Alzheimer's disease and other dementias	Number	1,495,950,777.77
All ages	Singapore	Alzheimer's disease and other dementias	Number	23,216,194.94
All ages	Slovakia	Alzheimer's disease and other dementias	Number	46,384,813.13
All ages	Slovenia	Alzheimer's disease and other dementias	Number	24,637,103.23
All ages	Solomon Islands	Alzheimer's disease and other dementias	Number	1,514,849.49
All ages	Somalia	Alzheimer's disease and other dementias	Number	7,43,020,974.74
All ages	South Africa	Alzheimer's disease and other dementias	Number	109,023,127.27
All ages	South Sudan	Alzheimer's disease and other dementias	Number	7,32,342,768.68
All ages	Spain	Alzheimer's disease and other dementias	Number	695,791,907.90
All ages	Sri Lanka	Alzheimer's disease and other dementias	Number	70,99,829,879.79
All ages	Sudan	Alzheimer's disease and other dementias	Number	94,01,689,449.49
All ages	Suriname	Alzheimer's disease and other dementias	Number	1,97,798,876.76
All ages	Sweden	Alzheimer's disease and other dementias	Number	281,014,001.01
All ages	Switzerland	Alzheimer's disease and other dementias	Number	236,953,296.29
All ages	Syrian Arab Republic	Alzheimer's disease and other dementias	Number	73,284,943.43
All ages	Taiwan (Province of China)	Alzheimer's disease and other dementias	Number	296,235,173.73
All ages	Tajikistan	Alzheimer's disease and other dementias	Number	15,99,616,371.37
All ages	Tanzania	Alzheimer's disease and other dementias	Number	741,070,768.68
All ages	Timor-Leste	Alzheimer's disease and other dementias	Number	4,24,371,309.09
All ages	Togo	Alzheimer's disease and other dementias	Number	5,803,468,118.18
All ages	Tokelau	Alzheimer's disease and other dementias	Number	0,00,784,972.92
All ages	Tonga	Alzheimer's disease and other dementias	Number	0,05,629,767.67
All ages	Trinidad and Tobago	Alzheimer's disease and other dementias	Number	51,708,897.89
All ages	Tunisia	Alzheimer's disease and other dementias	Number	132,406,787.87
All ages	Turkey	Alzheimer's disease and other dementias	Number	602,745,821.21
All ages	Turkmenistan	Alzheimer's disease and other dementias	Number	10,306,486.48
All ages	Turkey	Alzheimer's disease and other dementias	Number	0,04,652,796.96
All ages	Uganda	Alzheimer's disease and other dementias	Number	28,899,463.63
All ages	Ukraine	Alzheimer's disease and other dementias	Number	335,545,364.36
All ages	United Arab Emirates	Alzheimer's disease and other dementias	Number	0,33,840,757.57
All ages	United Kingdom	Alzheimer's disease and other dementias	Number	1425,151,384.84
All ages	United Republic of Tanzania	Alzheimer's disease and other dementias	Number	86,16,923,752.52
All ages	United States of America	Alzheimer's disease and other dementias	Number	7091,07,926.26
All ages	United States Virgin Islands	Alzheimer's disease and other dementias	Number	0,51,008,681.81
All ages	Uruguay	Alzheimer's disease and other dementias	Number	35,041,861.61
All ages	Uzbekistan	Alzheimer's disease and other dementias	Number	52,39,935,374.74
All ages	Vanuatu	Alzheimer's disease and other dementias	Number	0,17,847,188.88
All ages	Venezuela (Bolivarian Republic of)	Alzheimer's disease and other dementias	Number	102,17,002,207.02
All ages	Viet Nam	Alzheimer's disease and other dementias	Number	602,10,203,848.48
All ages	Yemen	Alzheimer's disease and other dementias	Number	85,50,942,766.66
All ages	Zambia	Alzheimer's disease and other dementias	Number	18,02,246,343.43
All ages	Zimbabwe	Alzheimer's disease and other dementias	Number	25,000,447.47

Table S3. Frontier analysis results for age-standardized DALY rates (ASDR) attributable to smoking-related dementia across 204 countries and territories in 2021.

Location name	ID	year	ASDR	ASDR rank	effective difference rank	O
Somalia	007688109	2021	17,31415732	17,31415732		0
Niger	014607274	2021	8,20121232	7,48121263		12,0899589
Chad	020404029	2021	12,7026535	61,42549613		62,0202869
Mali	020637991	2021	21,04478207	5,74777654		15,3300242
South Sudan	027817125	2021	20,78684749	7,70261976		15,07323213
Burkina Faso	028518402	2021	6,82924085	5,7121055		1,18048586
Burundi	028937455	2021	12,0257970	5,7121055		6,14050512
Central African Republic	030916769	2021	14,26185762	5,71110611		8,55071561
Mozambique	032646514	2021	21,0282444	5,71110611		15,31839604
Guinea	033402293	2021	15,5592261	5,714826309		7,844399791
Algerian	033719998	2021	32,07597931	5,714826309		26,36515651
Libyan	035244452	2021	18,7535991	5,712510386		2,355649584
Guinea-Bissau	035310921	2021	7,36608674	5,712832045		1,63303526
Sierra Leone	035660581	2021	9,87446828	5,712832045		4,19877607
Ethiopia	035882326	2021	9,24477838	5,710071134		3,534720644
Benin	037348574	2021	7,09146639	5,71297462		1,37003206
Democratic Republic of Congo	038179849	2021	10,10404836	5,71174237		4,69924059
Mali	038553034	2021	30,7782524	5,71481748		15,0505693
Madagascar	040549434	2021	10,81154144	5,71151526		5,10010503
Eritrea	040838943	2021	7,93882721	5,71152608		2,22287103
Senegal	040842192	2021	9,85564749	5,71154434		3,65450946
Togo	040853895	2021	17,3628835	5,71153757		11,6544644
Gambia	040971416	2021	11,8373247	5,71202823		6,114330342
Papua New Guinea	041779743	2021	28,3151287	5,71268075		22,60023209
Uganda	042326121	2021	15,51812325	5,71251737		11,80886421
Cote d'Ivoire	042594883	2021	12,17824376	5,71143915		6,467099843
Madagascar	042598016	2021	55,77861338	5,71080885		46,00850467
Rapoon Islands	042598016	2021	55,77861338	5,71080885		50,6163407
Rwanda	043558706	2021	78,46548997	5,71249852		72,74709312
Timor-Leste	043714635	2021	59,3787352	5,71338119		44,12282838
United Republic of Tanzania	044658273	2021	31,5008905	5,71571609		26,4531891
Iran	044872026	2021	11,7608087	5,71081921		6,02050476
Yemen	045073735	2021	65,13279318	5,71161538		59,42047996
Angola	045173499	2021	27,71739321	5,71039963		22,0285337
Bhutan	047306278	2021	25,85140574	5,71207739		19,6393021
Vanuatu	047100706	2021	24,3887601	5,71201581		18,6484089
Cambodia	0471821491	2021	12,4852386	5,71072813		7,11818001
Zimbabwe	047181486	2021	45,0653278	5,71044099		39,3487854
Comoros	047376688	2021	20,78433331	5,71097884		20,0771441
Cameroon	047499223	2021	9,37915424	5,71088933		4,02138302
Djibouti	047598171	2021	25,78433331	5,71088933		20,2438738
Laos People's Democratic Republic	048918091	2021	59,9068932	5,71514139		54,1892518
Bangladesh	049242025	2021	45,688984	5,71719134		39,370502
Mauritania	04989451	2021	9,15541796	5,71284665		3,44242432
Nigeria	050139033	2021	6,10748481	5,71404407		0,93410304
Pakistan	050420889	2021	31,3184601	5,71508296		27,60347973
Sao Tome and Principe	050541747	2021	6,89120245	5,71764611		0,77868285
Zambia	050548564	2021	29,09925257	5,71460919		24,88466451
India	051039066	2021	49,8272722	5,71593572		44,1701885
Honduras	051037148	2021	35,2984212	5,71083363		30,6451871
Kenya	051276877	2021	18,6971749	5,71537747		12,3788155
North Macedonia	051359472	2021	24,89721727	5,71537747		19,5003189
Kiribati	052188583	2021	84,3641738	5,71263936		78,5513144
Costa Verde	053353439	2021	6,83627802	5,71703094		1,19776887
Myanmar	053390084	2021	44,60764249	5,71100011		38,85988367
Guatemala	053997424	2021	20,88992183	5,71252738		15,70760909
Tajikistan	054151187	2021	28,59887815	5,7142547		22,88141488
Sudan	054194935	2021	46,08340132	5,71508071		40,3681161
Morocco	054209051	2021	23,0447993	5,71268999		17,96237001
El Salvador	054797188	2021	16,9912864	5,71376476		11,3779377
Ghana	054948939	2021	13,0381051	5,71032586		7,12274897
Democratic People's Republic of Korea	054984644	2021	14,3381336	5,71000521		30,8221841
Maldives Islands	054991126	2021	31,8583729	5,71573949		26,23828864
India	055402449	2021	30,2381972	5,71466907		24,90540776
Turkey	056262029	2021	42,0809887	5,71403487		36,840884
Congo	058507326	2021	46,887882	5,71574651		21,7103718
Eswatini	058549513	2021	21,8726622	5,71311391		16,1590988
Micronesia (Federated States of)	058552667	2021	47,10571921	5,7131889		41,53848032
Samoa	058929769	2021	53,2405920	5,71525899		47,5234342
Venezuela (Bolivarian Republic of)	059511039	2021	27,1540310	5,71646668		21,43948489
Bolivia (Plurinational State of)	059927799	2021	16,86212046	5,71179569		11,26518087
Kyrgyzstan	060789728	2021	55,8601399	5,71212652		50,1497347
Egypt	060872094	2021	80,8962828	5,71180428		70,15104748
Belize	061029002	2021	25,2829531	5,71181375		19,8713774
Namibia	061756473	2021	48,8145048	5,71490064		41,2700016
Mongolia	061762166	2021	41,9865551	5,71160211		38,2780993
Dominican Republic	061843809	2021	39,2971231	5,71082037		34,494966
Syrian Arab Republic	062304075	2021	60,8091525	5,71281345		54,590718
Nauru	062517814	2021	41,9989209	5,71818788		36,2871422
Tonga	062519493	2021	60,7110209	5,72970045		54,5484409
Viet Nam	062793121	2021	50,8259036	5,71540703		45,1104966
Pakistan	063116465	2021	60,4727121	5,71484011		54,7687006
Suriname	063166579	2021	26,58643631	5,71570599		20,8707073
Paraguay	063449339	2021	45,4037614	5,71263135		39,8493069
Paraguay	063718099	2021	79,0821007	5,71193411		70,2701436
San Vincent and the Grenadines	063739943	2021	38,69721421	5,7132856		31,2091846
Botswana	064271629	2021	36,56216001	5,71232034		30,8479971
Guyana	065023135	2021	17,1721062	5,71640795		11,45740582
Maldives	065086627	2021	44,60764249	5,71141412		38,85988367
Philippines	065121029	2021	50,2867295	5,71212058		44,57452588
Brazil	065134487	2021	50,86578651	5,71527099		44,5424283
Colombia	065144913	2021	18,4509884	5,71193466		12,75420587
Indonesia	065158930	2021	31,0447993	5,71089099		41,2833863
Equatorial Guinea	065787456	2021	17,2145068	5,71585051		11,4985002
Algeria	065900024	2021	77,8282589	5,71260254		70,1154666
Ecuador	066101703	2021	14,3181377	5,71005175		9,20248956
Peru	066205407	2021	17,8002043	5,71580377		11,8684006
Uzbekistan	066221494	2021	21,0005497	5,71468017		15,2875666
Iraq	066262021	2021	75,7138893	5,71712488		70,0585932
Mexico	066457336	2021	18,5381051	5,71083363		11,44348748
Cuba	066780864	2021	38,1406337	5,71395153		32,4757201
Guatemala	066993028	2021	18,2321099	5,71190189		8,10479656
Saint Lucia	067159975	2021	17,9269322	5,71355943		12,1161368
Fiji	067305531	2021	27,2374600	5,71478521		21,3284026
South Africa	067361098	2021	22,1182767	5,71140156		16,4054921
Turkmenistan	068126076	2021	25,1165352	5,71938558		19,4006796
Tunisia	068242126	2021	74,7081792	5,71242218		69,8933744
Thailand	068254793	2021	42,0117531	5,71484847		36,2892948
Yemenia	068326064	2021	26,4832184	5,71330469		20,7650317
Tajikistan	068445621	2021	37,8843815	5,71214746		32,1720073
Azerbaijan	068451274	2021	51,7573464	5,71171032		46,0237482
Syrian Arab Republic of	069270798	2021	42,48795162	5,71075674		36,7771946
Costa Rica	070340477	2021	29,7089939	5,71640217		23,8516504
Sri Lanka	070344934	2021	21,7409861	5,71182118		19,0294867
Armenia	070483194	2021	63,8282468	5,71372888		58,114802
Albania	070644971	2021	51,2381380	5,71022208		46,8711585
Paraguay	070884428	2021	24,0837443	5,71270033		18,3720326
Turkey	071203743	2021	51,7964501	5,71267869		46,08479055
Mauritius	071264446	2021	42,6474274	5,71144372		36,9740041
Uruguay	071282445	2021	36,7787129	5,7112886		30,5870888
China	072162976	2021	95,4664784	5,71121859		81,7831662
Bosnia and Herzegovina	072377993	2021	67,2862394	5,71473808		61,5726059
Argentina	072112073	2021	31,4998881	5,7119884		29,7889084
American Samoa	072372333	2021	36,4667303	5,7187907		30,7512906
Kazakhstan	072544495	2021	31,2684643	5,71081843		25,5528484
Jordan	072570227	2021	84,3562781	5,71136827		78,6441178
Uyghur	072571999	2021	51,0512627	5,71277941		47,1837884
Niue	072622025	2021	31,4646642	5,71868227		25,7508929
Myanmar	073010775	2021	45,2133232	5,71489538		39,4975568
Republic of Moldova	073224875	2021	35,4548080	5,71068306		29,7284297
Georgia	073247504	2021	49,2062252	5,71064093		43,4915565
Malaysia	073423238	2021	45,6505621	5,71124611		39,8457732
Portugal	074415181	2021	23,4968827	5,71598384		17,9349053
Lebanon	074474631	2021	106,4464824	5,71633861		100,2341418
Barbados	074674764	2021	18,4844760	5,71245906		11,3303909
Guatemala	074697185	2021	18,0448995	5,71279714		10,2092018
Antigua and Barbuda	074988887	2021	20,2138480	5,71239677		14,5011838
North Macedonia	075029709	2021	62,6757207	5,71403117		56,9158895
Bahrain	075042024	2021	54,7527477	5,71113846		49,0424803
Poland	075404911	2021	31,1380984	5,71515326		24,1755407
Saint Kitts and Nevis	075489705	2021	11,4924928	5,71272918		7,79843874
Ukraine	076077913	2021	31,270525	5,71650757		25,1094949
Russia	076100039	2021	34,4834544	5,71532038		30,7688314
Romania	076493364	2021	30,6789223	5,71391356		24,9624067

Supplementary Methods

This supplementary section provides additional methodological details to support the analyses described in the main text, including definitions of key epidemiological indicators and further information on data processing and statistical procedures.

1 Sociodemographic Index (SDI)

The SDI is a composite index used to evaluate the level of development across countries and regions. It is derived from the geometric mean of three metrics: total fertility rate, average educational attainment, and per capita income¹. SDI values range from 0 to 1, with higher values reflecting greater socioeconomic development. Based on these thresholds, the Global Burden of Disease (GBD) framework classifies 204 countries and territories into five development levels: low SDI (0-0.4658), low-middle SDI (0.4658-0.6188), middle SDI (0.6188-0.7120), high-middle SDI (0.7120-0.8103), and high SDI (0.8103-1.0000). This stratification systematically captures disparities in socioeconomic conditions that influence health outcomes across populations.

2 Disability-adjusted life years (DALYs)

DALYs are a widely used indicator of overall disease burden or injury, calculated by combining years of life lost (YLLs) and years lived with disability (YLDs), thereby offering more comprehensive measure of health damages than any single metric.

3 Age-standardised rates (ASRs)

ASR was calculated using the formula below:

$$ASR = \frac{\sum_{i=1}^n a_i w_i}{\sum_{i=1}^n w_i}$$

Here, n denotes the aggregate number of age groups; i indicates the current age group's index; a_i shows the indicator value for that age group, w_i reflects the number of individuals in age group i under the standard population structure.

4 The estimated annual percentage change (EAPC)

To quantify the long-term trends in ASMR and ASDR attributable to smoking-related dementia, the estimated annual percentage change (EAPC) was calculated using linear regression. The regression model was specified as $\ln(y) = \alpha + \beta X + \varepsilon$, where $\ln(y)$ represents the natural logarithm of the ASR, α is the intercept, β is the slope, X denotes the calendar year, and ε is the error term. EAPC and its 95% confidence interval (CI) were computed as $100 \times [\exp(\beta) - 1]$, indicating the annual percentage change. If both the EAPC value and the lower bound of its 95% CI were above 0, the ASR was considered to be increasing; if both were below 0, it was considered to be decreasing; otherwise, the ASR was considered stable. The 95% CI for EAPC was obtained from the linear regression model. We applied Spearman rank correlation to examine the relationships between ASRs and SDI, and between EAPC and both ASRs and SDI. The Spearman rank correlation coefficient (R) ranges from -1 to 1 . Values approaching either end of this range indicate stronger associations, whereas those near zero suggest weak or no correlation.

4 Frontier analysis

Frontier methods was used to investigate the relative efficiency of countries and territories in achieving health outcomes, with a focus on the relationship between SDI

and health performance². This analysis defined the efficiency gap as the difference between the observed health burden in each country and the theoretical minimum burden at its corresponding SDI level, thereby quantifying relative efficiency. A standardised efficiency score was calculated to evaluate how closely each country approached the frontier line. Scores closer to 1 represented higher relative efficiency. To further examine the influence of development level and regional context on efficiency variation, stratified comparisons were conducted by SDI quintile and geographic region. Frontier analysis provides a comprehensive assessment of national and regional health performance, helping to identify potential areas for improvement and inform more targeted health intervention strategies.

5 Health inequality analysis

To characterise the distribution of the smoking-attributable burden of AD and other dementias across SDI regions, we conducted a health inequality analysis using the slope index of inequality (SII) and the concentration index³. The SII based on regression analysis to quantify absolute inequality in health outcomes across the socioeconomic gradient, exemplified by the SDI. In contrast, the concentration index assesses the extent to which health outcomes are concentrated across the entire socioeconomic distribution, reflecting the degree of inequality in health resource allocation. The concentration index values closer to zero suggest more equitable distribution.

6 Decomposition analysis

The Das Gupta decomposition method was applied to identify the structural drivers

underlying differences in overall disease burden⁴. Unlike conventional regression models that estimate associations between variables, this method decomposes changes in dementia-related deaths and DALYs during 1990–2021 into three distinct contributors: population ageing, population growth, and age-specific rates. It offers a clearer understanding of the mechanisms contributing to trends in the burden of AD and other dementias.

7 Bayesian age-period-cohort (BAPC) analysis

Additionally, we adopted the BAPC model to estimate disease burden in 2035, implemented with the BAPC package in R and based on observed data from 1990 to 2021. By capturing the relationships among age, period, and cohort effects, it supports more accurate modelling of temporal trends and facilitates projections over the medium and long term. To account for randomness in future incidence, the model automatically incorporates Poisson noise during prediction⁵.

References

- 1 Institute for Health Metrics and Evaluation. Global burden of disease study 2021 (GBD 2021): socio-demographic index (SDI) 1950–2021. 2024 [cited 2025 May 17]. Available from: <https://ghdx.healthdata.org/record/global-burden-disease-study-2021-gbd-2021-socio-demographic-index-sdi-1950%E2%80%932021>.
- 2 Bai Z, Han J, An J, Wang H, Du X, Yang Z, et al. The global, regional, and national patterns of change in the burden of congenital birth defects, 1990–2021: an analysis of the Global Burden of Disease Study 2021 and forecast to 2040. *EClinicalMedicine* 2024;77:102873. <https://doi.org/10.1016/j.eclinm.2024.102873>.
- 3 World Health Organization. Handbook on health inequality monitoring with a special focus on low- and middle-income countries. 2013 [cited 2025 May 18]. Available from: <https://www.who.int/publications/i/item/9789241548632>.
- 4 Gupta PD. Standardization and decomposition of rates from cross-classified data. *Genus* 1994;50:171–96.
- 5 Riebler A, Held L. Projecting the future burden of cancer: Bayesian age-period-cohort analysis with integrated nested Laplace approximations. *Biom J* 2017;59:531–49. <https://doi.org/10.1002/bimj.201500263>.