

Supplementary Figures

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Figure S11 The number of prevalence cases (bar plot) and ASPR(line plot) of COPD, stratified by age and sex in 2021. The blank vertical lines indicate the prevalent case with 95% uncertainty intervals for men and women. ASPR, age-standardized prevalence rate; COPD: chronic obstructive pulmonary disease.

Figure S12 The number of DALYs cases (bar plot) and ASDR(line plot) of COPD, stratified by age and sex in 2021. The blank vertical lines indicate the prevalent case with 95% uncertainty intervals for men and women. ASDR, age-standardized DALYs rate; DALYs, disability-adjusted life years; COPD: chronic obstructive pulmonary disease.

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Supplementary Tables

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Table S2 The number of prevalence cases and ASPR of COPD between 2019 and 2021 at the global and regional levels. ASPR, age-standardized prevalence rate, COPD: chronic obstructive pulmonary disease.

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Table S4 The number of incident cases and ASIR of COPD between 2019 and 2021 at the national level. ASIR, age-standardized incidence rate, COPD: chronic obstructive pulmonary disease.

Table S5 The number of prevalence cases and ASPR of COPD between 2019 and 2021 at the national level. ASPR, age-standardized prevalence rate, COPD: chronic obstructive pulmonary disease.

Table S6 The number of mortality cases and ASMR of COPD between 2019 and 2021 at the national level. ASMR, age-standardized mortality rate, COPD: chronic obstructive pulmonary disease.

Table S7 The number of DALYs cases and ASDR of COPD between 2019 and 2021 at the national level. DALYs, disability-adjusted life years; ASDR, age-standardized DALYs rate, COPD:

chronic obstructive pulmonary disease.

STROBE Checklist

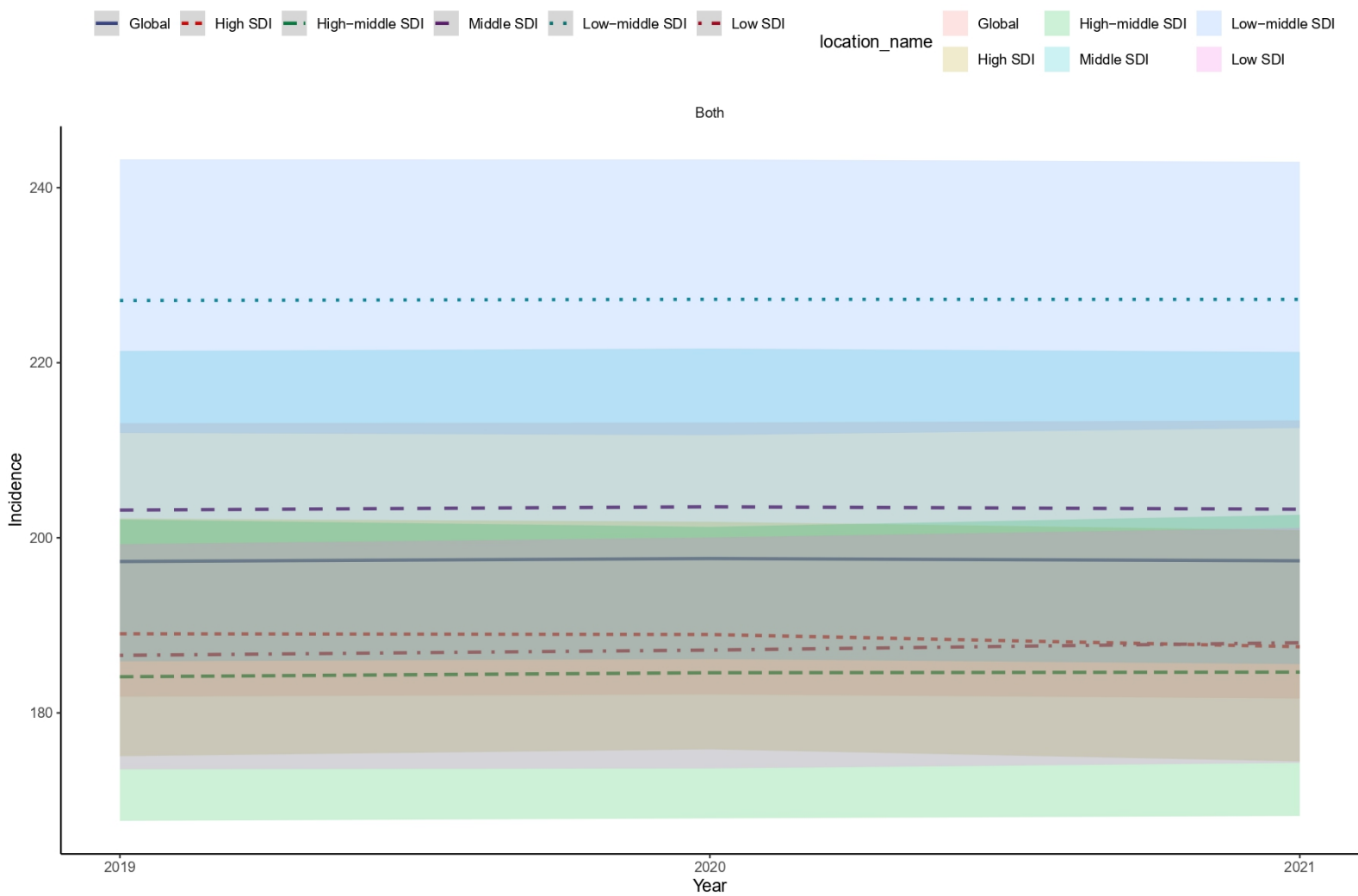


Figure S1 Trends of ASIR in SDI regions from 2019 to 2021. ASIR, age-standardized incidence rate; SDI, Socio-demographic Index.

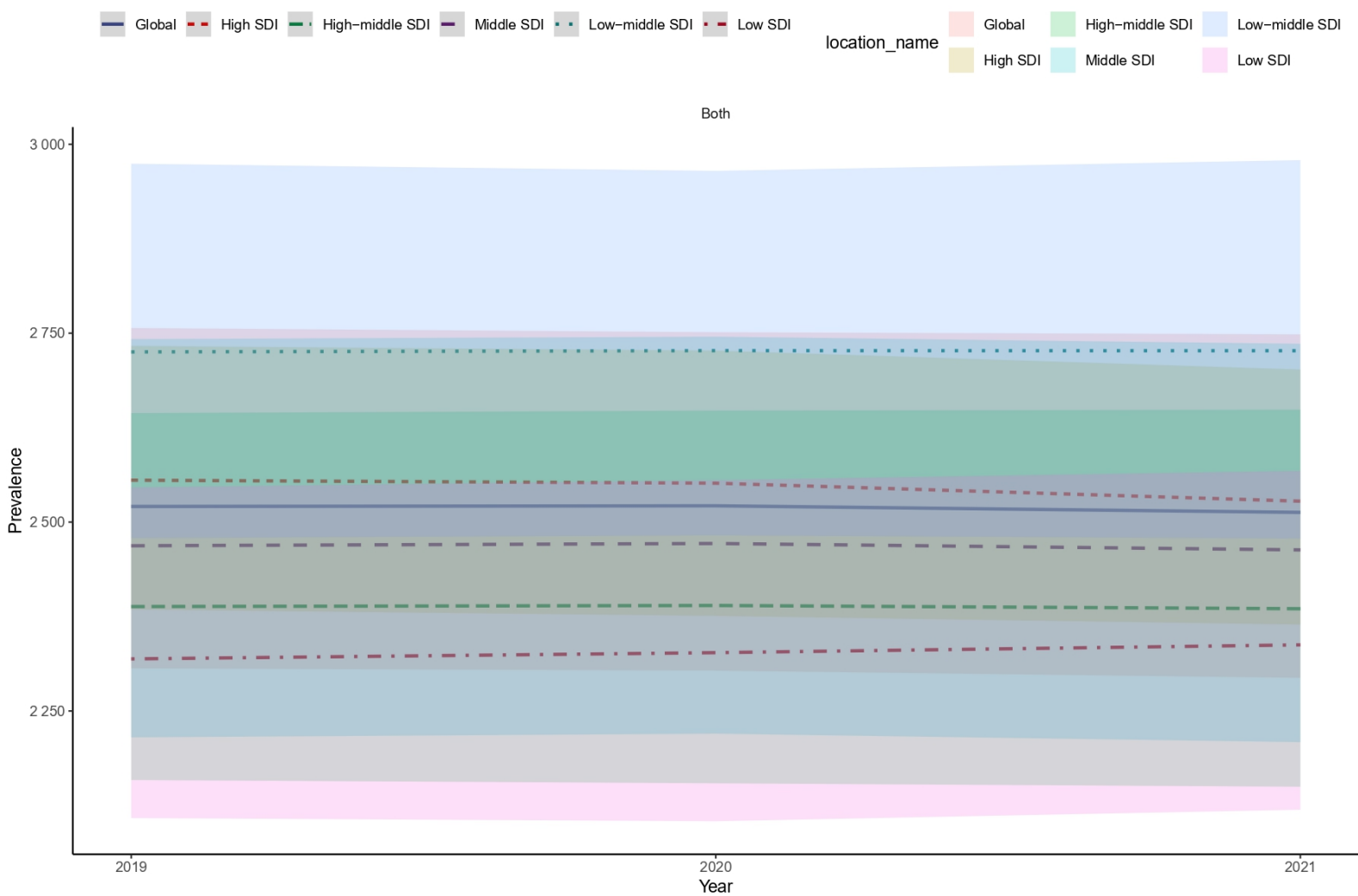


Figure S2 Trends of ASPR in SDI regions from 2019 to 2021. ASPR, age-standardized prevalence rate; SDI, Socio-demographic Index.

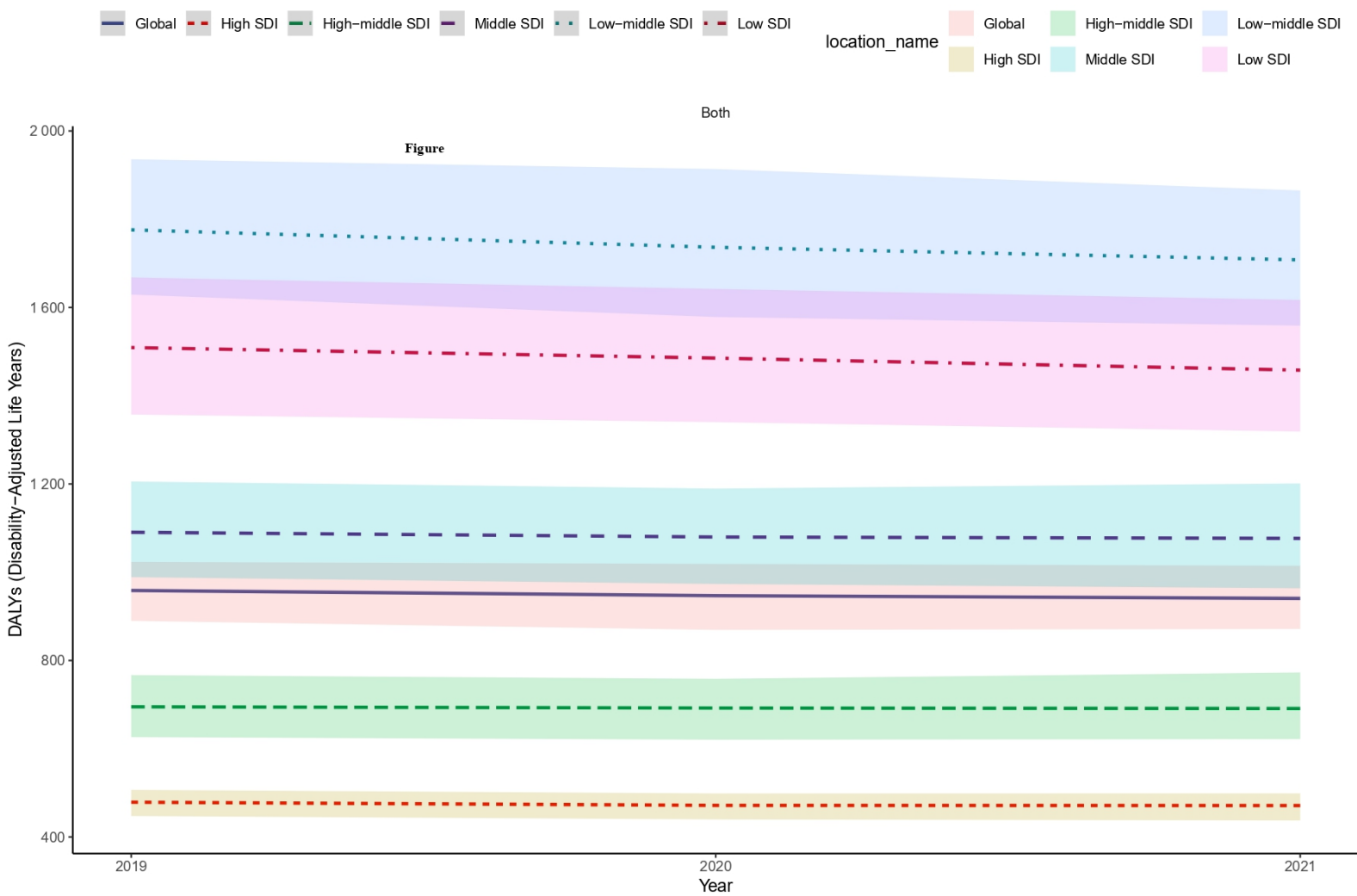


Figure S3 Trends of ASDR in SDI regions from 2019 to 2021. ASDR, age-standardized DALYs rate; SDI, Socio-demographic Index; DALYs, disability-adjusted life years.

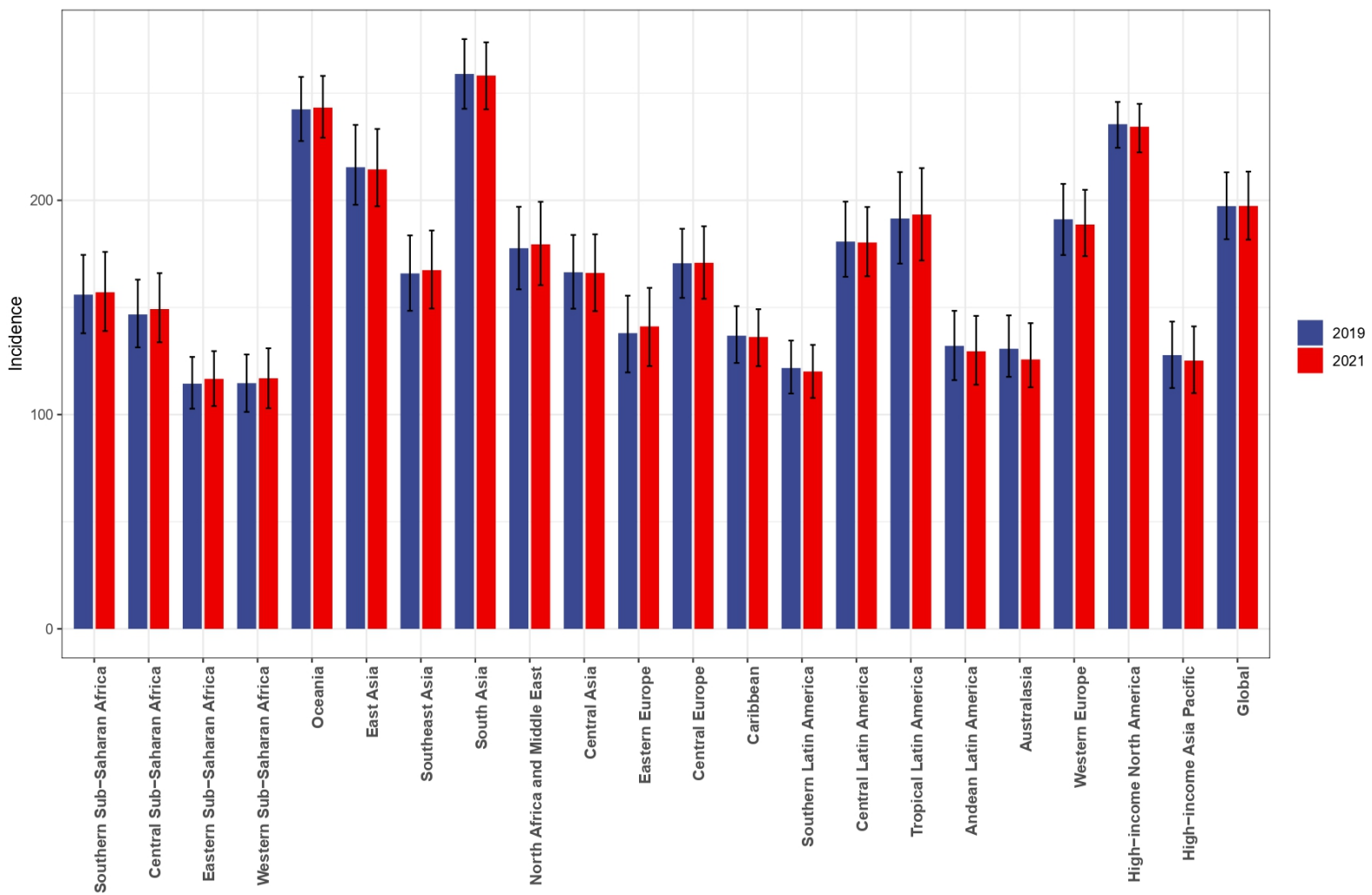


Figure S4 The number of incident cases and ASIR in different geographic regions in 2019 and 2021. ASIR, age-standardized incidence rate.

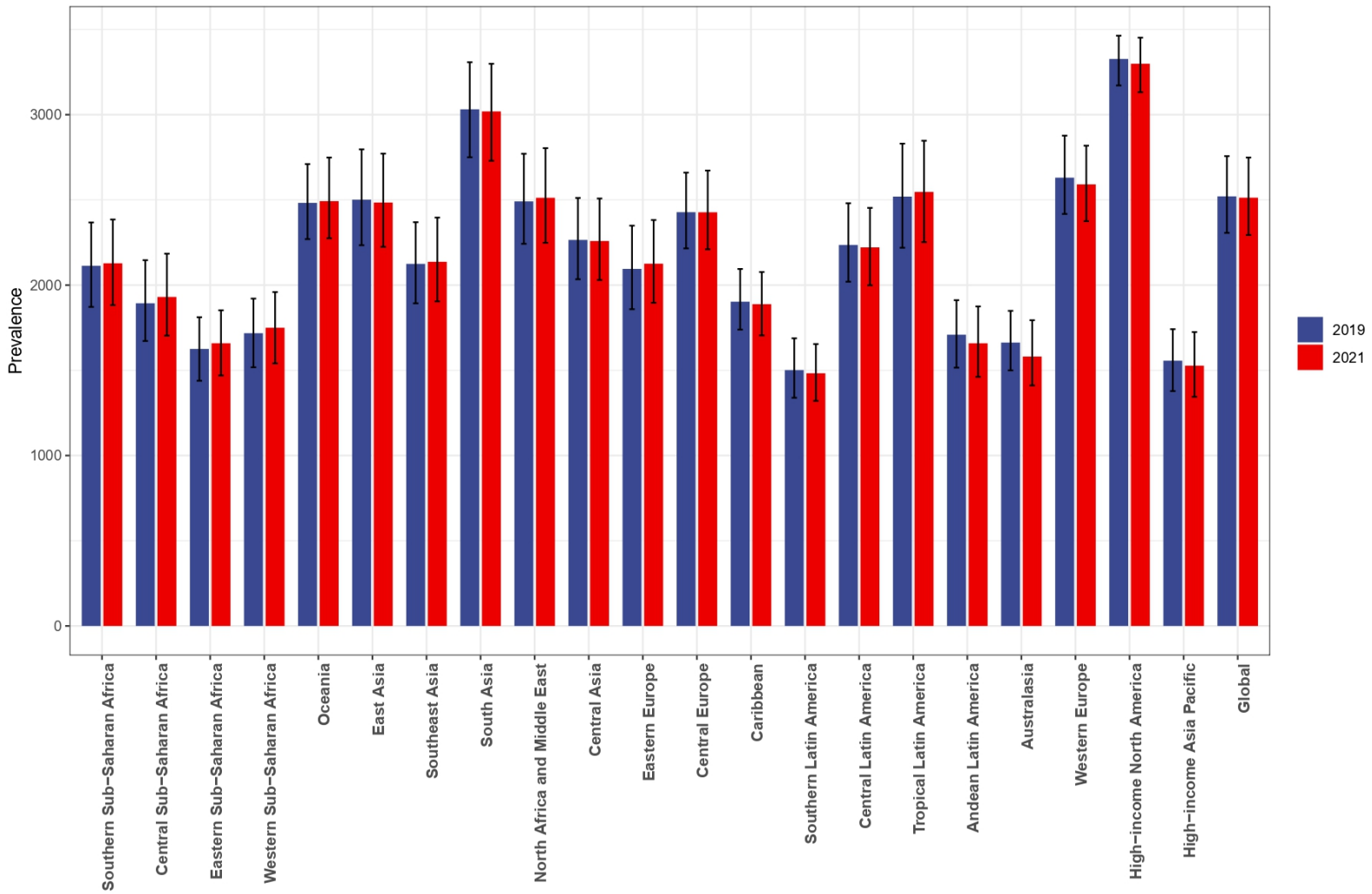


Figure S5 The number of prevalence cases and ASPR in different geographic regions in 2019 and 2021. ASPR, age-standardized prevalence rate.

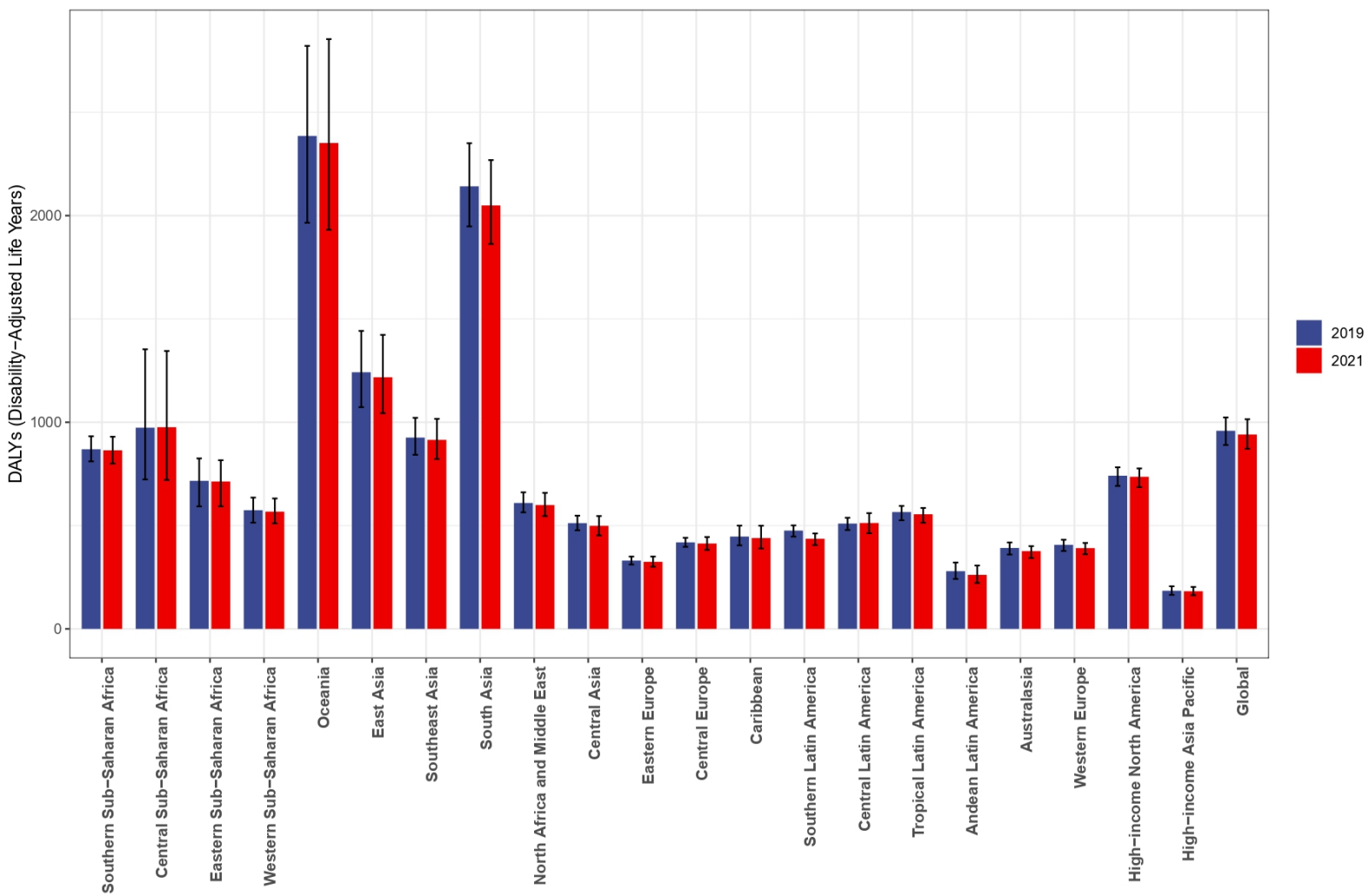
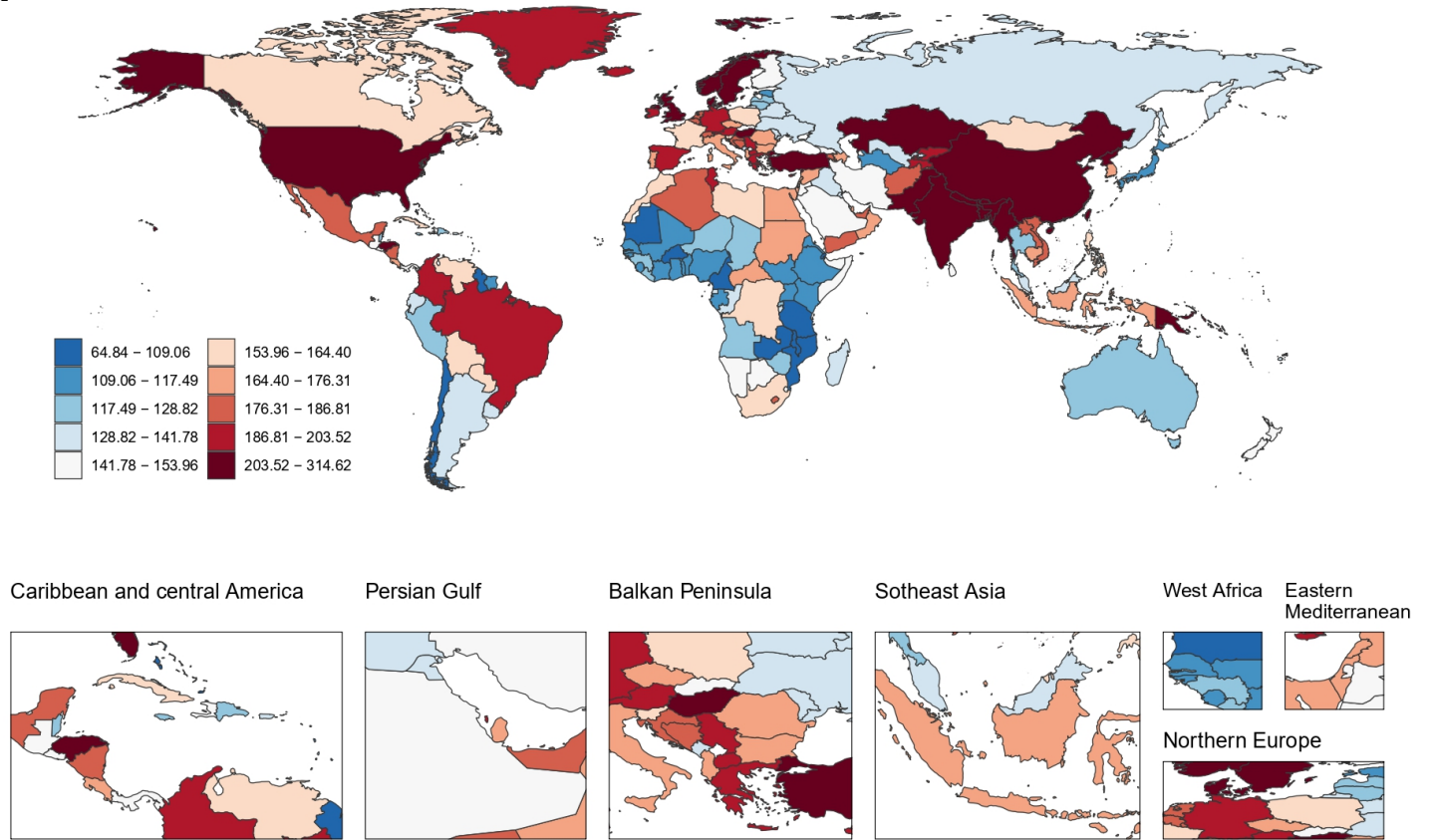


Figure S6 The number of DALYs cases and ASDR in different geographic regions in 2019 and 2021. DALYs, disability-adjusted life years; ASDR, age-standardized DALYs rate.

A



B

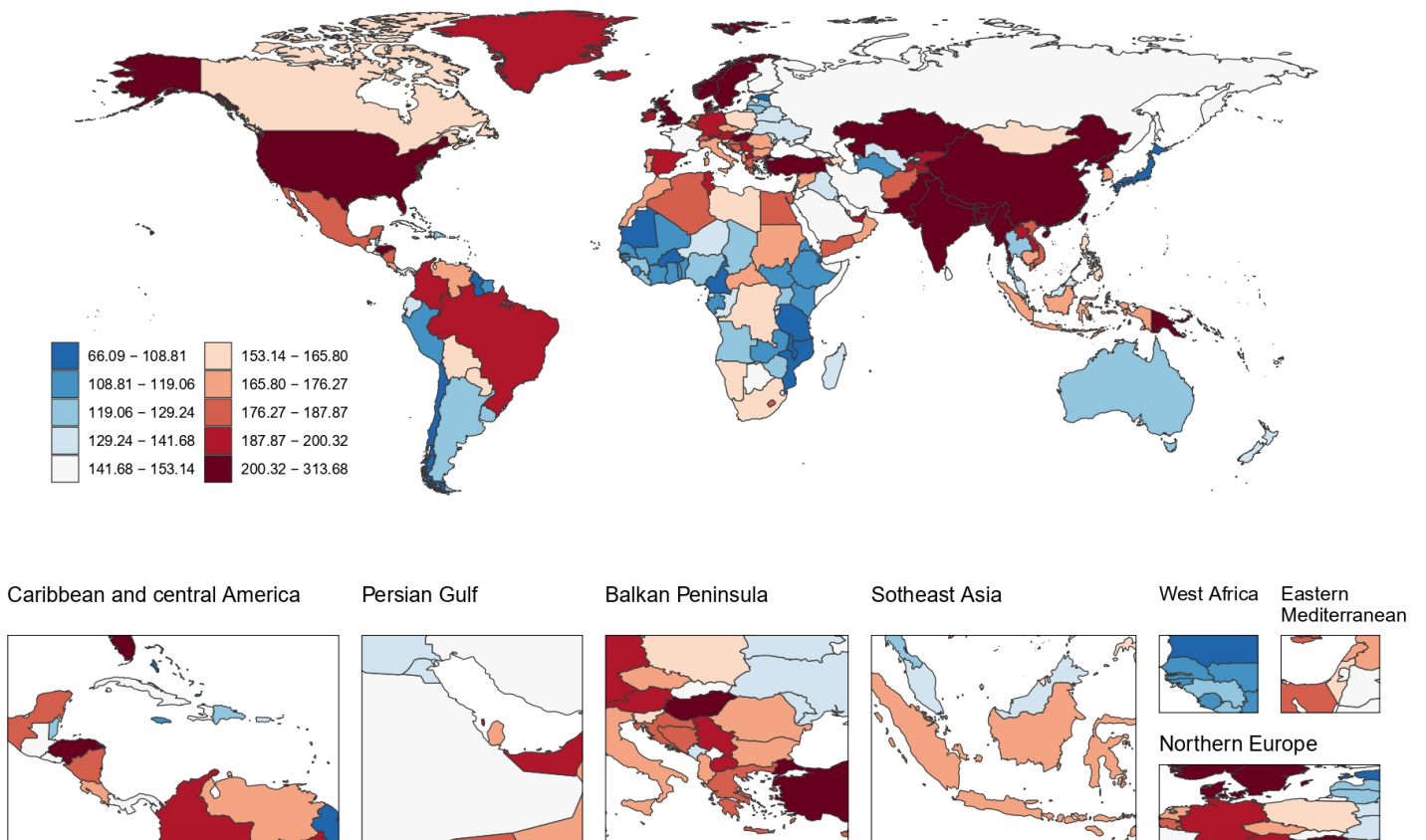


Figure S7 Global ASIR of COPD in 2019 (A) and 2021(B). ASIR, age-standardized incidence rate, COPD, chronic obstructive pulmonary disease.

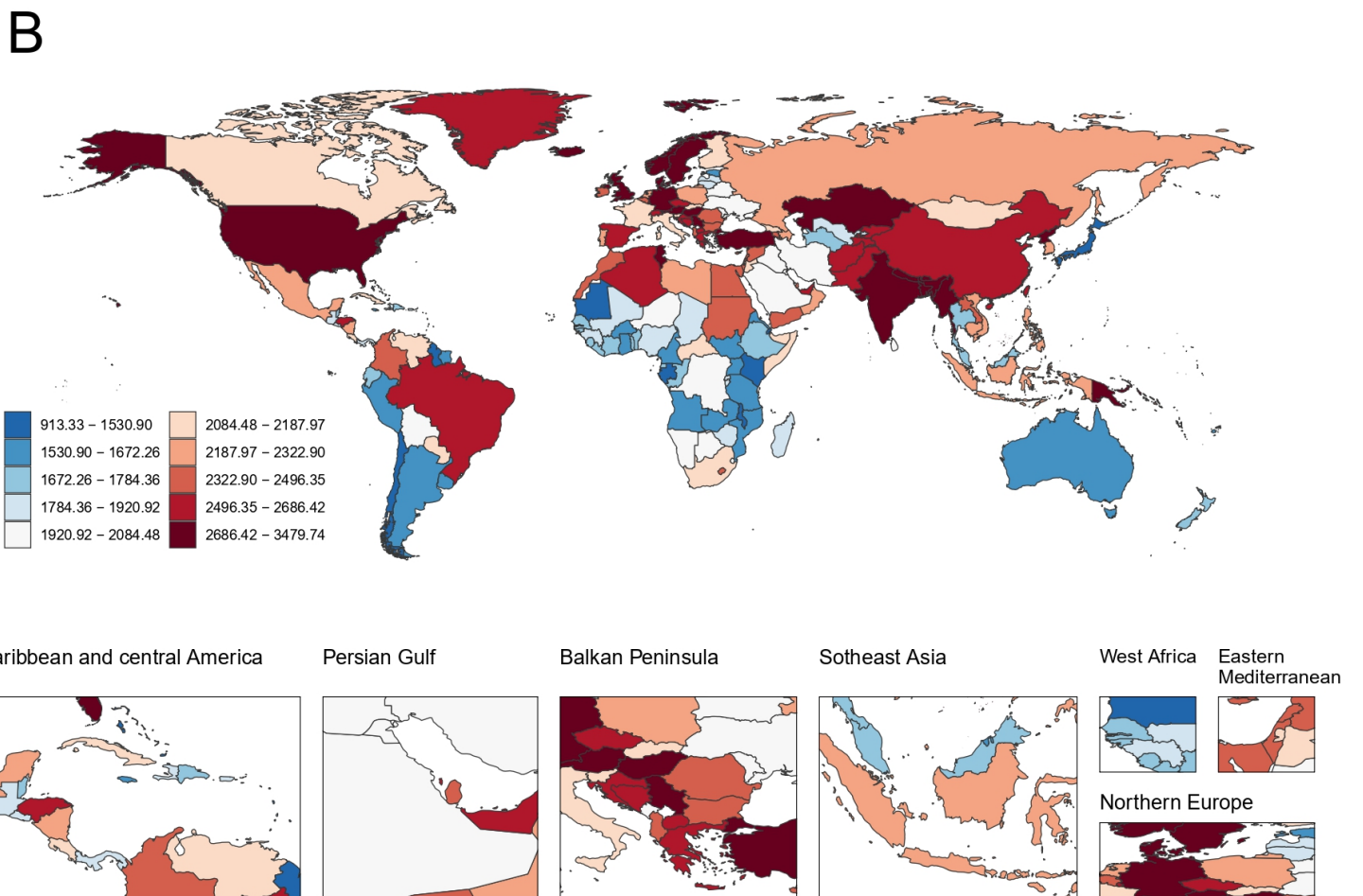
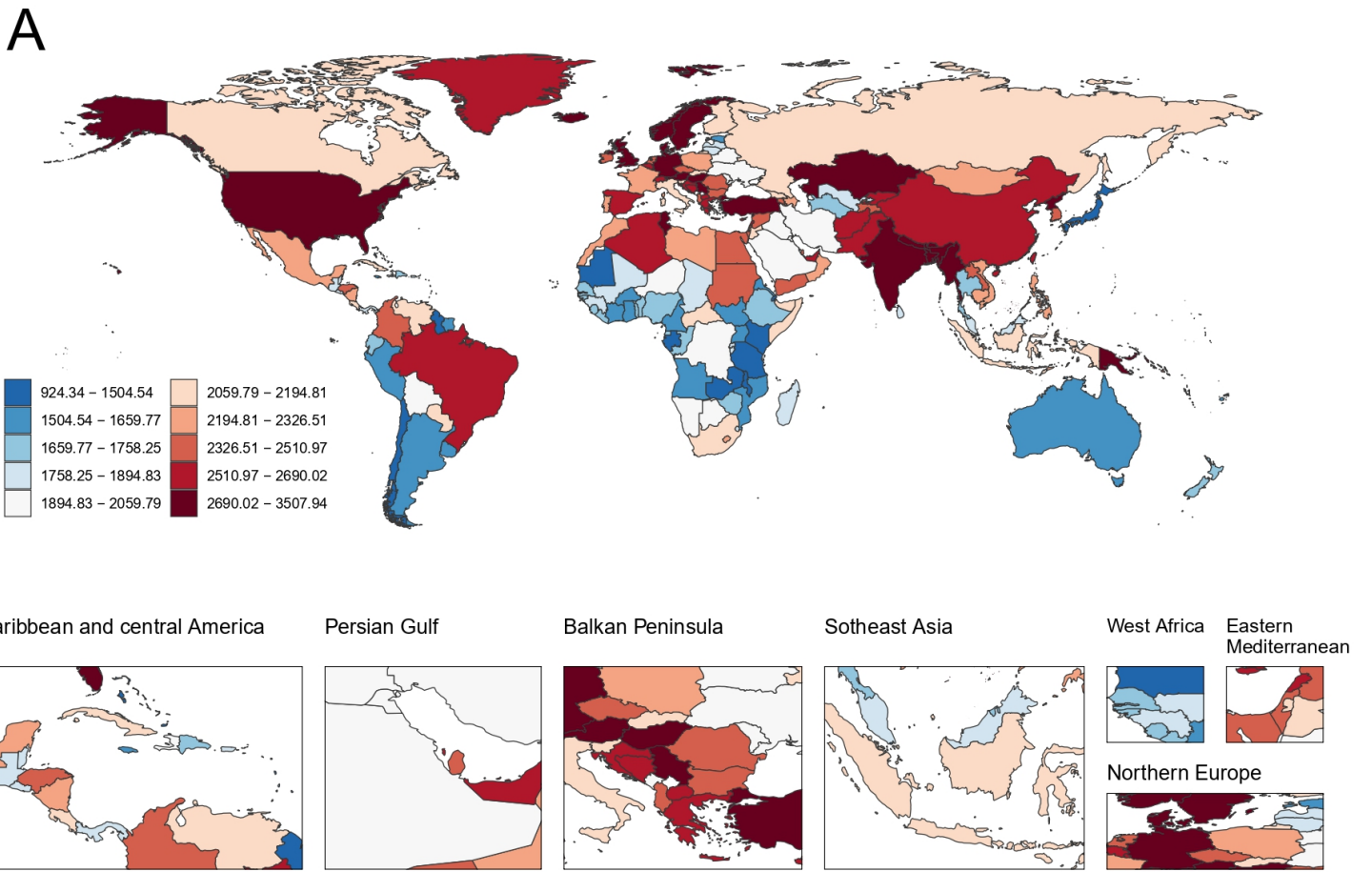
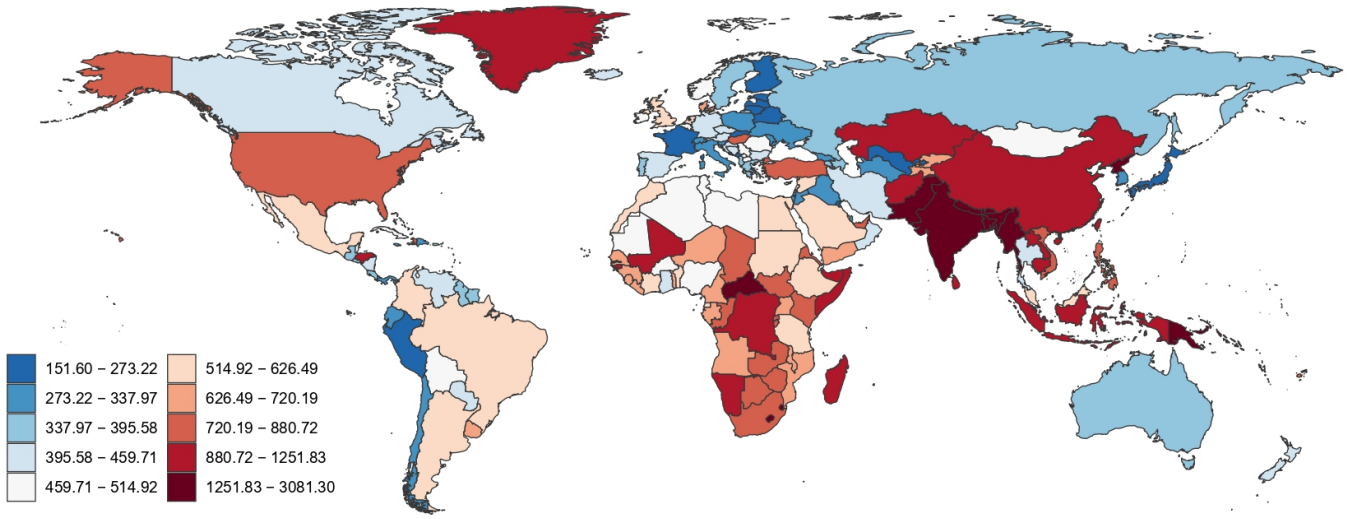
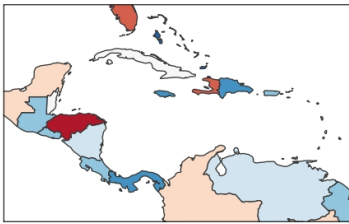


Figure S8 Global ASPR of COPD in 2019 (A) and 2021(B). ASPR, age-standardized prevalence rate, COPD, chronic obstructive pulmonary disease.

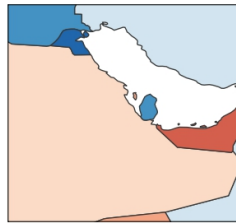
A



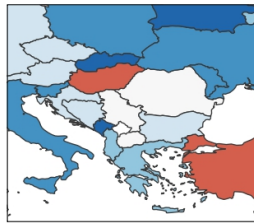
Caribbean and central America



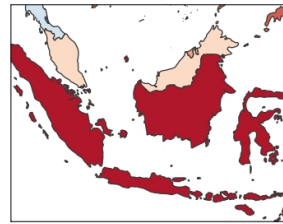
Persian Gulf



Balkan Peninsula



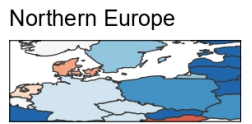
Sotheast Asia



West Africa



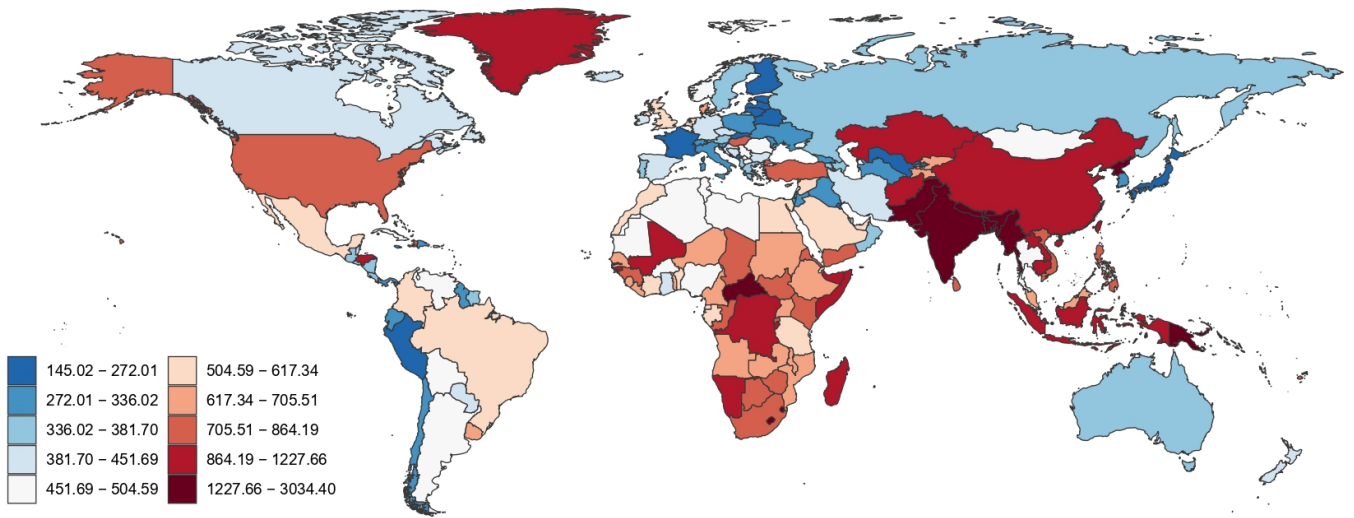
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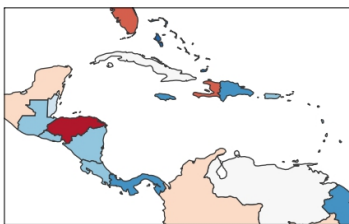
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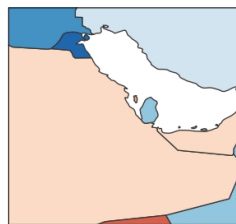
B



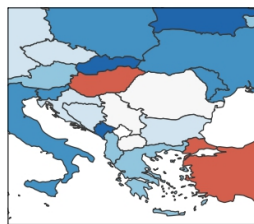
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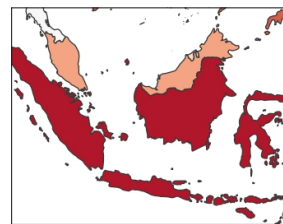
Persian Gulf



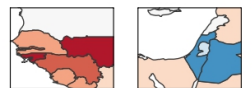
Balkan Peninsula



Sotheast Asia



West Africa



Eastern Mediterranean



Northern Europe

Figure S9 Global ASDR of COPD in 2019 (A) and 2021(B). ASDR, age-standardized DALYs rate; DALYs, disability-adjusted life years; COPD, chronic obstructive pulmonary disease.

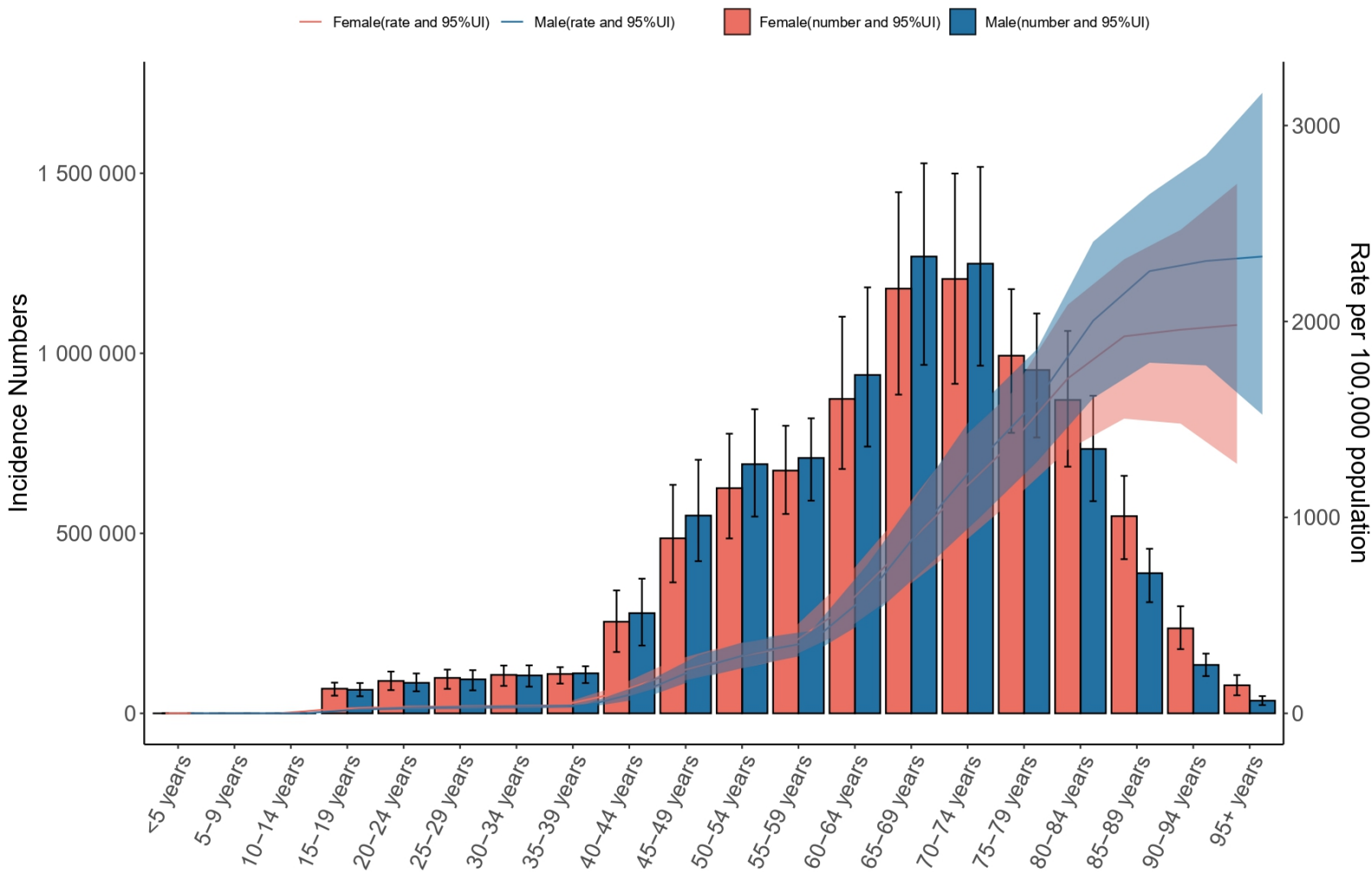


Figure S10 The number of incident cases (bar plot) and ASIR(line plot) of COPD, stratified by age and sex in 2021. The blank vertical lines indicate the prevalent case with 95% uncertainty intervals for men and women. ASIR, age-standardized incidence rate; COPD, Chronic Obstructive Pulmonary Disease.

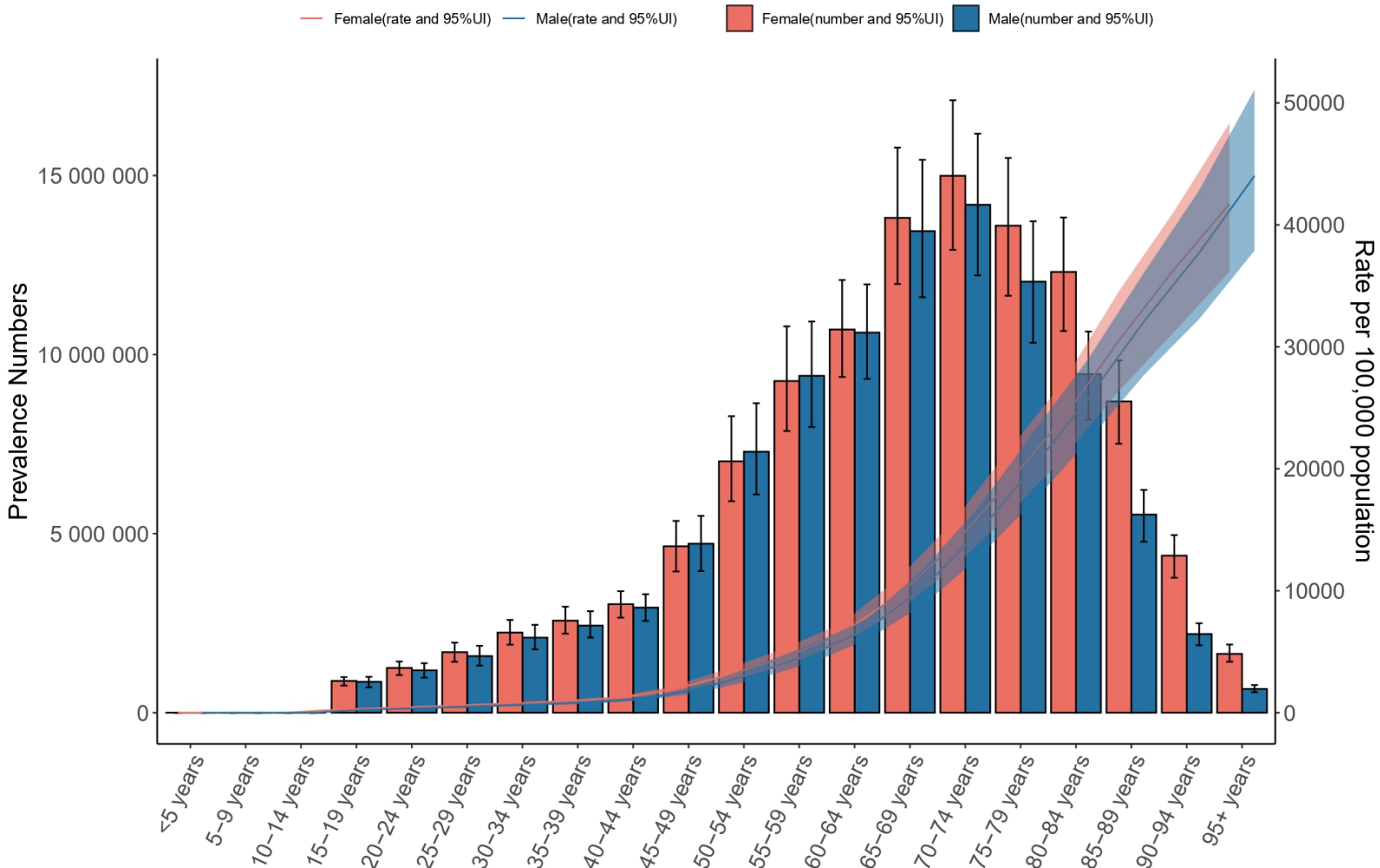


Figure S11 The number of prevalence cases (bar plot) and ASPR(line plot) of COPD, stratified by age and sex in 2021. The blank vertical lines indicate the prevalent case with 95% uncertainty intervals for men and women. ASPR, age-standardized prevalence rate; COPD, chronic obstructive pulmonary disease.

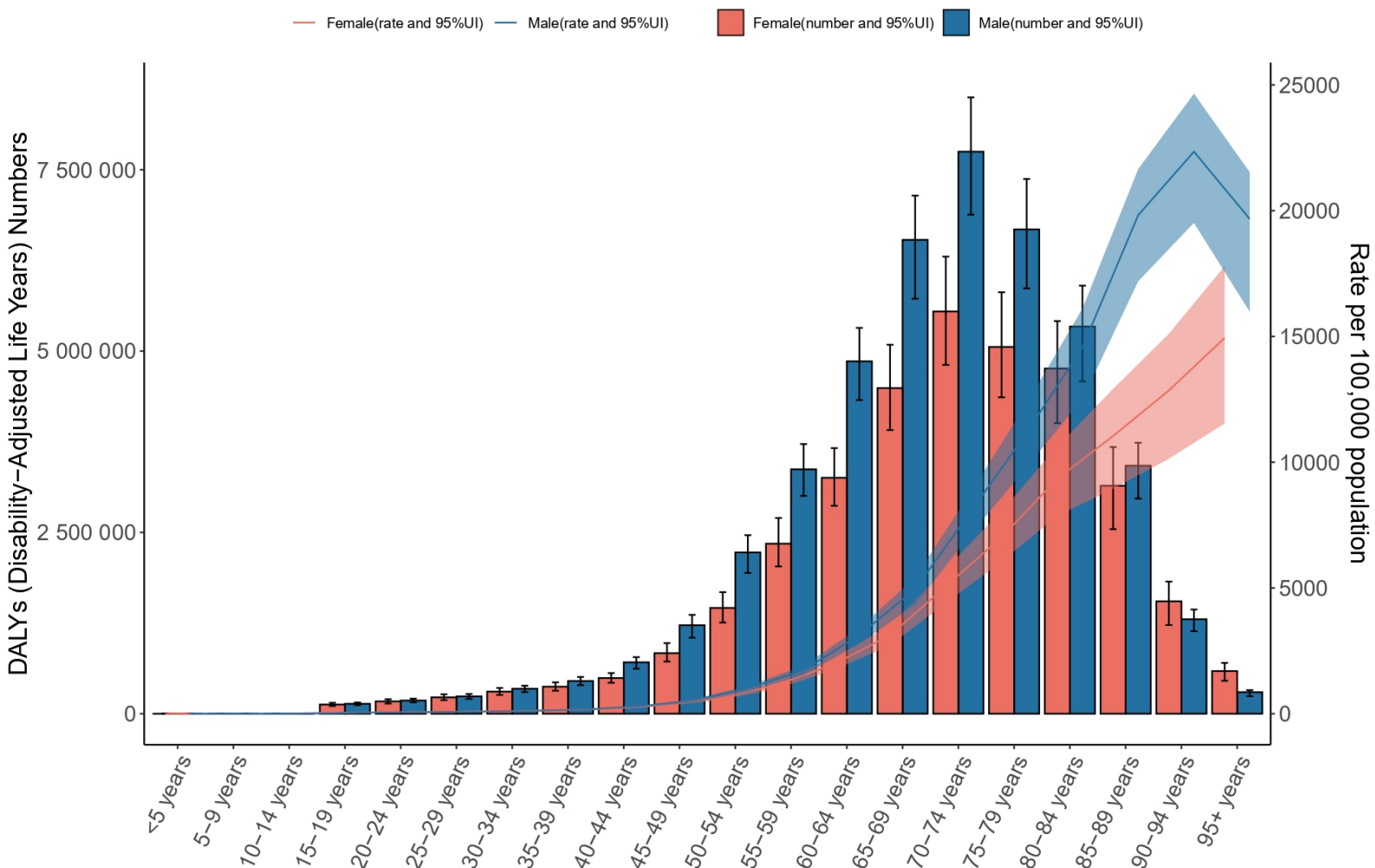


Figure S12 The number of DALYs cases (bar plot) and ASDR(line plot) of COPD, stratified by age and sex in 2021. The blank vertical lines indicate the prevalent case with 95% uncertainty intervals for men and women. ASDR, age-standardized DALYs rate; DALYs, disability-adjusted life years; COPD: chronic obstructive pulmonary disease.

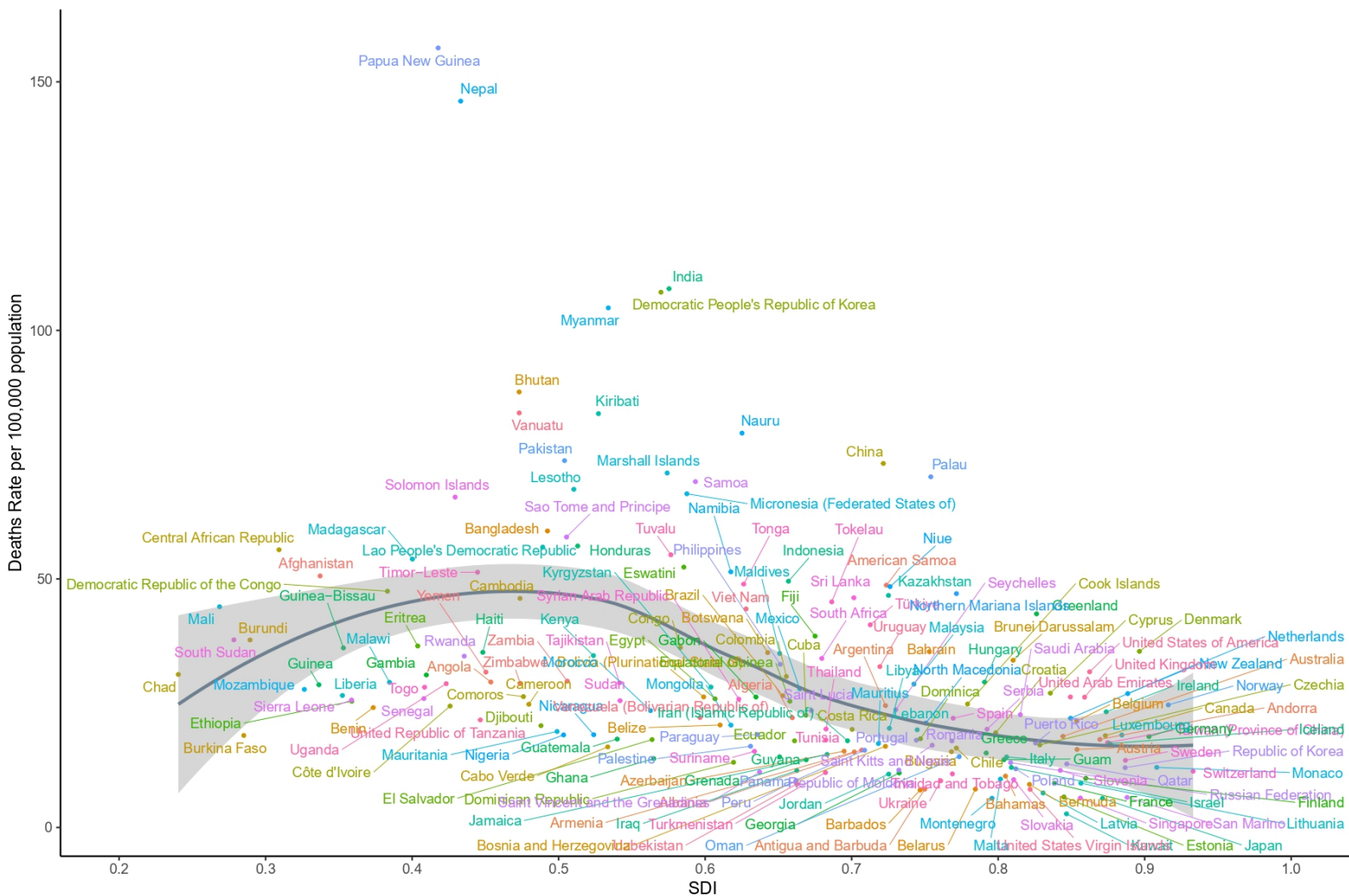


Figure S13 ASMR of COPD in 204 countries by SDI. ASMR, age-standardized mortality rate; COPD, Chronic Obstructive Pulmonary Disease; SDI, socio-demographic index.

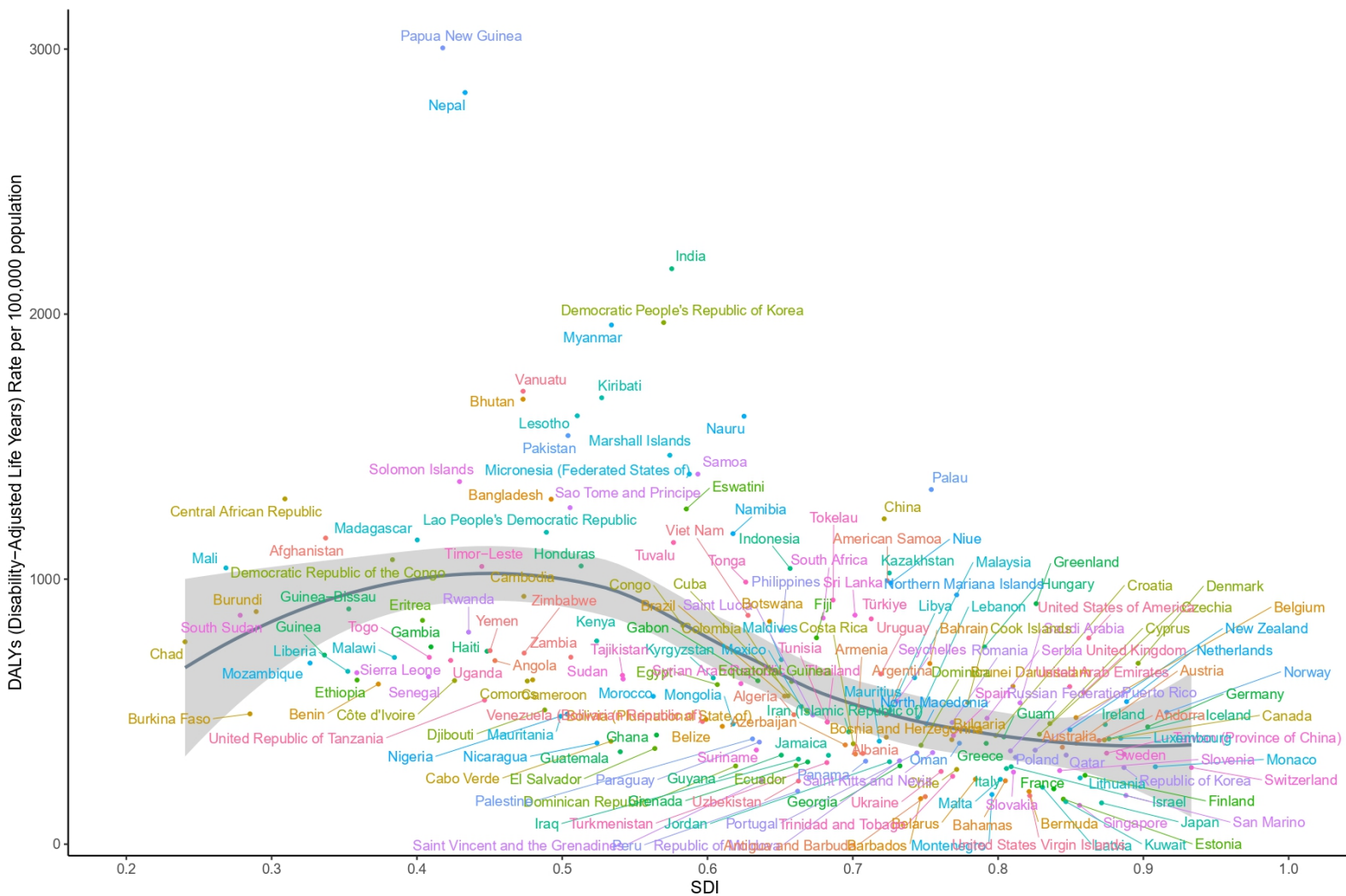
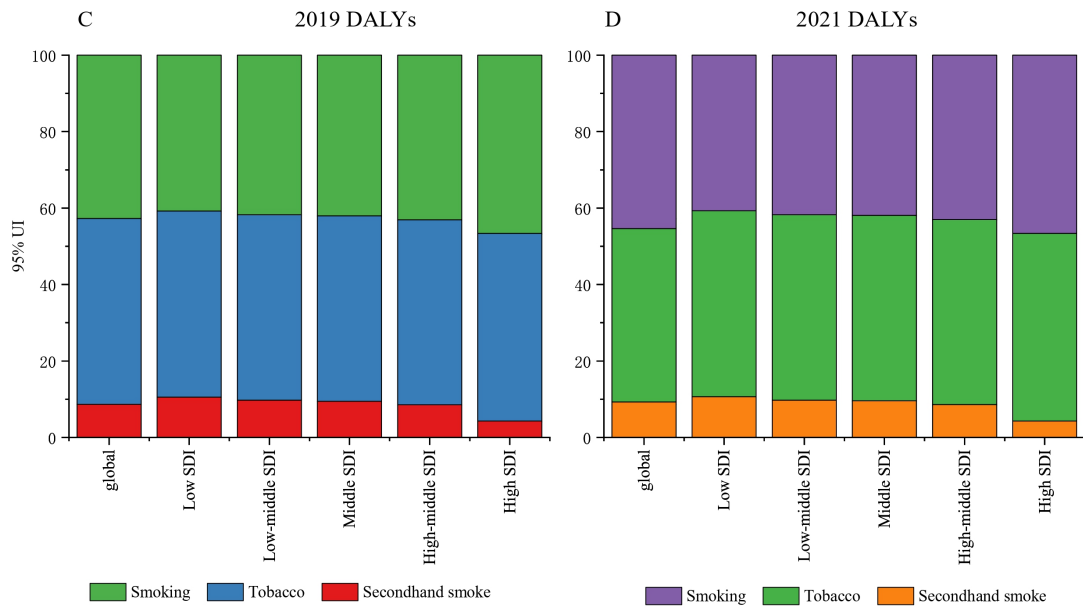
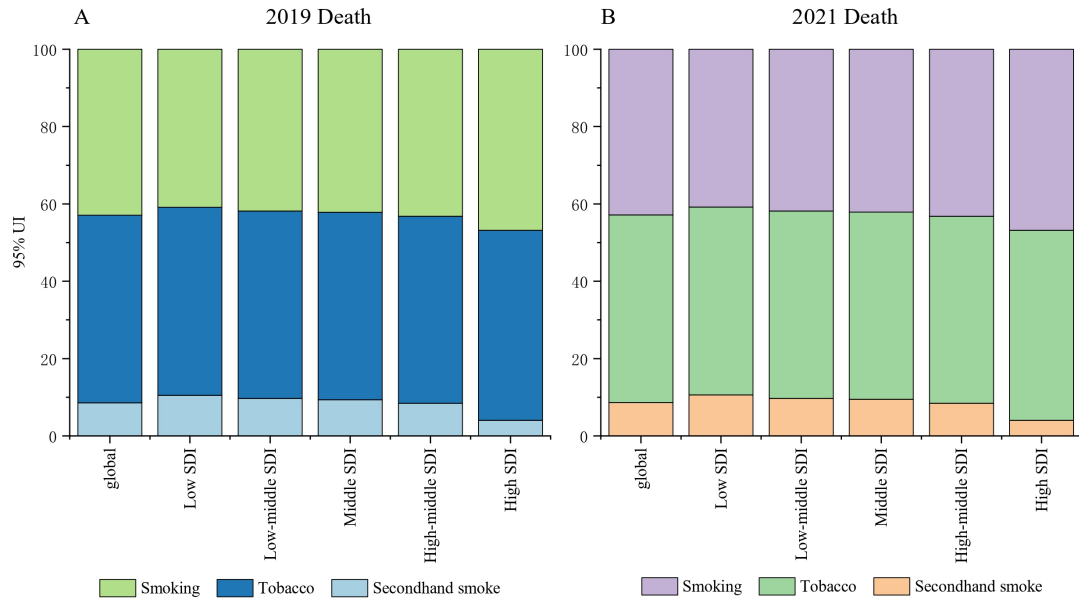


Figure S14 ASDR of COPD in 204 countries by SDI. ASDR, age-standardized DALYs rate; COPD, Chronic Obstructive Pulmonary Disease; SDI, socio-demographic index.



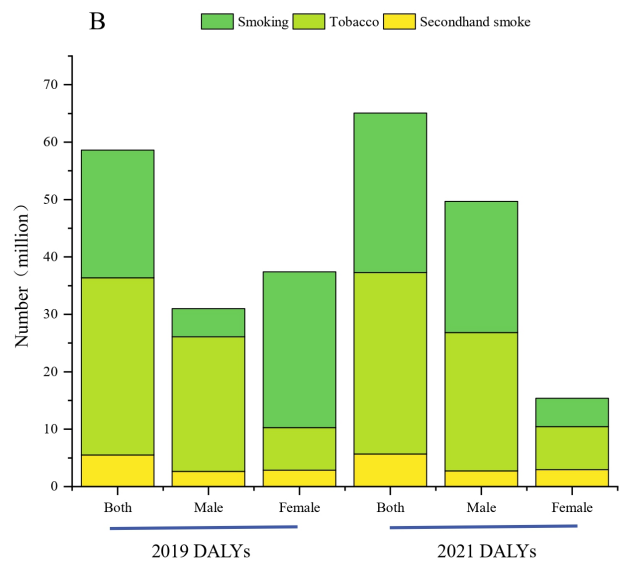
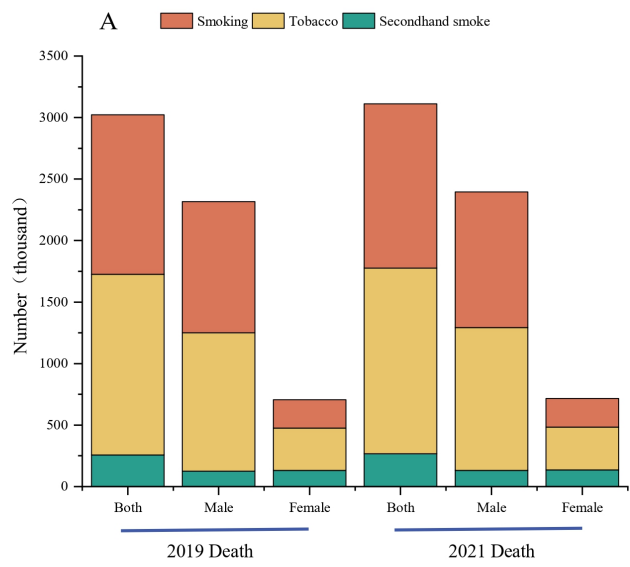


Table S1 The number of incident cases and ASIR of COPD between 2019 and 2021 at the global and regional levels

Location	2019		2021		ASIR	EAPCs
	Number	ASIR	Number	ASIR		
Global	16126484.84(14787209.81,17514355.12)	197.30(181.85,213.09)	16895444.79(15471347.31,18335690.52)	197.37(181.65,213.42)	0.02(-1.08,1.14)	
High SDI	3634851.46(3364345.89,3915144.55)	189.04(175.06,202.21)	3738604.77(3455740.61,4029190.31)	187.56(174.46,200.88)	-0.39(-2.91,2.19)	
High-middle SDI	3416919.49(3102303.52,3746480.93)	184.13(167.67,202.10)	3572747.46(3232637.57,3922372.55)	184.66(168.23,202.63)	0.14(-0.63,0.92)	
Middle SDI	5032306.30(4560445.49,5538716.71)	203.17(185.89,221.34)	5330087.72(4819505.41,5856107.18)	203.26(185.58,221.23)	0.02(-1.16,1.22)	
Low-middle SDI	3086585.28(2860185.53,3316828.30)	227.11(211.98,243.23)	3238337.55(2999595.01,3483041.98)	227.24(212.55,242.96)	0.03(-0.21,0.27)	
Low SDI	943663.66(874651.13,1015177.88)	186.57(173.55,199.28)	1003161.23(931213.77,1080774.13)	188.01(174.28,201.15)	0.38(-0.07,0.84)	
Andean Latin America	75041.32(66133.53,84321.50)	132.09(116.08,148.44)	76153.32(67002.44,85720.13)	129.53(113.95,146.07)	-0.97(-8.08,6.68)	
Australasia	63497.06(56861.48,71218.66)	130.73(117.63,146.30)	64995.32(57948.66,73958.30)	125.74(112.75,142.68)	-1.93(-12.58,10.02)	
Caribbean	71214.58(64675.30,78454.17)	136.83(124.10,150.61)	73259.33(66093.32,80323.05)	136.21(122.61,149.19)	-0.23(-3.08,2.71)	
Central Asia	127469.74(114806.08,140061.44)	166.43(149.42,183.84)	133302.01(118935.70,148130.94)	166.10(148.28,184.13)	-0.10(-1.57,1.40)	
Central Europe	353383.11(317132.17,390725.90)	170.63(154.46,186.72)	358921.92(320213.90,398310.86)	170.85(154.02,187.89)	0.06(-0.88,1.02)	
Central Latin America	424107.17(385126.13,468074.66)	180.75(164.31,199.40)	444187.15(404528.16,485439.78)	180.32(164.59,196.89)	-0.12(-2.50,2.32)	
Central Sub-Saharan Africa	81567.99(73261.99,91269.16)	146.74(131.36,162.99)	88281.05(79298.34,98784.22)	149.24(133.76,166.02)	0.85(0.03,1.68)	
East Asia	4319321.69(3908540.93,4756099.66)	215.45(197.92,235.20)	4567271.28(4133511.59,5000602.39)	214.45(197.24,233.32)	-0.23(-1.45,1.00)	
Eastern Europe	450726.11(388715.74,510407.43)	138.01(119.69,155.50)	466293.04(401442.45,528517.51)	141.15(122.66,159.15)	1.13(-2.00,4.36)	
Eastern Sub-Saharan Africa	212919.84(191415.25,235813.81)	114.43(102.77,126.92)	230277.76(206005.14,256110.16)	116.67(103.99,129.63)	0.97(0.61,1.34)	
High-income Asia Pacific	576483.55(501383.06,655885.46)	127.75(112.39,143.40)	586742.66(507296.95,672276.90)	125.19(110.04,141.17)	-1.01(-7.52,5.96)	
High-income North America	1406930.56(1331951.69,1473910.43)	235.55(224.53,245.94)	1457540.95(1375581.35,1529937.20)	234.36(222.40,245.02)	-0.25(-1.04,0.54)	
North Africa and Middle East	773182.38(691476.92,856161.18)	177.64(158.45,196.99)	827234.92(739140.37,922749.89)	179.46(160.40,199.32)	0.51(-2.45,3.56)	
Oceania	16932.03(15822.65,18140.89)	242.46(227.68,257.61)	18086.53(16743.47,19481.10)	243.27(229.23,258.09)	0.17(-0.28,0.62)	
South Asia	3599303.05(3344944.61,3840722.71)	258.99(242.73,275.24)	3779866.09(3513161.50,4030885.29)	258.26(242.49,273.76)	-0.14(-0.63,0.35)	
Southeast Asia	1000680.74(890945.11,1109261.16)	165.88(148.45,183.63)	1070750.09(953956.17,1190856.16)	167.41(149.52,185.92)	0.46(-2.47,3.48)	
Southern Latin America	101537.36(91547.56,112472.81)	121.74(109.83,134.54)	104101.82(93191.08,115163.94)	120.12(107.77,132.55)	-0.67(-5.29,4.18)	
Southern Sub-Saharan Africa	88211.08(78387.67,98482.34)	155.98(137.96,174.53)	91911.34(81635.06,102392.19)	157.09(138.99,175.94)	0.35(-0.45,1.17)	
Tropical Latin America	460915.95(411266.70,514221.26)	191.52(170.46,213.19)	491865.96(437762.58,549168.56)	193.37(171.91,215.04)	0.48(-4.85,6.11)	
Western Europe	1674695.29(1530909.77,1822457.80)	191.15(174.46,207.67)	1696122.21(1559293.18,1848141.84)	188.71(173.96,204.91)	-0.64(-2.59,1.35)	
Western Sub-Saharan Africa	248364.25(221691.15,276568.91)	114.67(101.25,128.05)	268280.03(238670.69,297721.79)	116.95(102.97,130.95)	0.99(-0.75,2.76)	

Abbreviations

ASIR, age-standardized incidence rate, COPD: chronic obstructive pulmonary disease, EAPCs: estimated annual percentage changes, SDI: Socio-demographic Index.

Table S2 The number of prevalence cases and ASPR of COPD between 2019 and 2021 at the global and regional levels.

Location	2019		2021		EAPCs
	Number	ASPR	Number	ASPR	
Global	204278956.72(186874138.01,223843973.05)	2520.67(2306.51,2756.83)	213387446.18(194868122.06,233975904.60)	2512.86(2293.93,2748.52)	-0.15(-1.54,1.25)
High SDI	50908956.35(47146953.71,54693542.01)	2555.49(2384.34,2733.19)	52256394.66(48386829.86,55979572.19)	2527.66(2364.40,2701.80)	-0.55(-3.35,2.34)
High-middleSDI	43846615.39(39451250.42,48860321.18)	2388.21(2158.68,2644.19)	45671522.59(40973796.19,50846209.89)	2385.34(2149.82,2648.74)	-0.06(-0.93,0.82)
MiddleSDI	60509948.13(54202015.63,67479527.58)	2468.66(2215.14,2742.12)	63927638.63(57320694.57,71316409.59)	2463.19(2208.84,2735.96)	-0.11(-1.80,1.61)
Low-middleSDI	36917459.92(33519551.96,40385089.82)	2725.21(2478.78,2974.28)	38692639.02(35061911.35,42291464.22)	2726.76(2478.22,2979.00)	0.03(-0.21,0.27)
Low SDI	11927721.66(10807892.35,13060767.16)	2318.95(2108.33,2545.84)	12666829.95(11450844.58,13814461.88)	2337.52(2119.39,2567.85)	0.40(0.08,0.72)
Andean Latin America	974902.83(865306.34,1089717.23)	1709.02(1515.59,1911.55)	978554.64(865310.36,1103424.56)	1658.68(1461.64,1874.88)	-1.48(-11.63,9.83)
Australasia	837684.09(749353.33,931199.09)	1662.84(1499.67,1848.89)	847867.19(751920.12,969504.89)	1580.64(1411.47,1793.95)	-2.50(-16.58,13.95)
Caribbean	988734.35(903210.96,1089343.59)	1902.66(1738.85,2094.67)	1014978.75(916210.05,1117154.67)	1888.04(1704.73,2076.77)	-0.39(-4.49,3.90)
Central Asia	1710696.84(1550855.21,1895867.70)	2265.14(2034.31,2511.55)	1780821.26(1612497.32,1981648.18)	2258.77(2029.80,2508.18)	-0.14(-0.48,0.20)
Central Europe	5115224.41(4643816.85,5623310.18)	2428.07(2215.33,2660.05)	5181540.82(4678087.56,5712556.34)	2427.25(2209.94,2672.32)	-0.02(-0.90,0.87)
Central Latin America	5244810.73(4747732.89,5797115.40)	2235.65(2019.91,2480.29)	5463613.77(4930424.49,6048461.69)	2221.43(1999.23,2453.11)	-0.32(-2.89,2.32)
Central Sub-Saharan Africa	1067087.60(946433.15,1194579.29)	1893.45(1672.14,2146.25)	1153090.40(1027025.01,1292651.31)	1930.50(1703.40,2184.23)	0.97(-0.06,2.01)
East Asia	49311842.16(44016180.36,55551943.85)	2501.31(2234.04,2796.61)	52092964.77(46321786.60,58800865.30)	2484.43(2224.88,2771.41)	-0.34(-2.30,1.67)
Eastern Europe	6907143.49(6080525.58,7769305.58)	2095.20(1858.65,2348.81)	7080729.28(6224108.96,7978156.30)	2125.62(1896.41,2381.92)	0.72(-1.50,3.00)
Eastern Sub-Saharan Africa	3086049.40(2750587.18,3425421.95)	1625.43(1438.73,1811.48)	3325632.62(2964626.17,3692139.64)	1658.85(1469.54,1852.14)	1.02(0.98,1.06)
High-income Asia Pacific	7117978.63(6177934.70,8092145.29)	1556.54(1378.18,1741.40)	7287035.08(6342141.45,8310359.77)	1527.27(1344.70,1724.48)	-0.94(-4.65,2.90)
High-income North America	20803768.31(19783529.21,21683516.30)	3327.05(3171.51,3463.54)	21494712.24(20380509.31,22538270.18)	3298.88(3132.14,3451.88)	-0.42(-2.37,1.56)
North Africa and Middle East	10728600.66(9711570.76,11903162.35)	2491.33(2242.42,2770.57)	11422458.15(10303522.29,12685054.77)	2512.32(2248.38,2803.61)	0.42(-2.71,3.66)
Oceania	183265.79(168918.68,200177.06)	2482.57(2269.82,2710.23)	195494.88(180142.08,213656.56)	2492.77(2275.04,2748.51)	0.21(-0.43,0.84)
South Asia	41746451.37(37883019.99,45529353.85)	3031.47(2750.18,3307.72)	43766611.60(39580899.80,47755743.37)	3019.10(2729.72,3298.67)	-0.20(-0.85,0.44)
Southeast Asia	12832392.14(11499540.14,14271354.08)	2124.64(1893.06,2369.12)	13656278.72(12169347.18,15269436.20)	2136.77(1904.59,2396.24)	0.29(-3.34,4.05)
Southern Latin America	1254164.41(1115606.54,1412756.52)	1501.31(1338.97,1687.92)	1286931.68(1144984.83,1438038.07)	1482.66(1320.77,1654.03)	-0.62(-4.56,3.47)
Southern Sub-Saharan Africa	1193326.18(1052378.59,1326303.50)	2113.39(1871.98,2367.66)	1239234.11(1090868.86,1375534.28)	2127.98(1882.89,2384.97)	0.34(-1.70,2.44)
Tropical Latin America	6031430.66(5342741.63,6778491.91)	2519.40(2219.14,2830.09)	6440524.58(5703139.46,7215021.58)	2546.83(2252.36,2847.04)	0.54(-7.04,8.75)
Western Europe	23400021.43(21269747.93,25587537.03)	2630.47(2417.50,2876.99)	23652788.12(21532743.84,25858983.64)	2590.99(2375.15,2818.23)	-0.75(-2.81,1.35)
Western Sub-Saharan Africa	3743381.26(3329203.05,4165981.66)	1717.82(1517.82,1920.86)	4025583.55(3582881.21,4476126.95)	1749.91(1540.55,1959.17)	0.93(-0.43,2.31)

Abbreviations

ASPR, age-standardized prevalence rate, COPD: chronic obstructive pulmonary disease, EAPCs: estimated annual percentage changes, SDI: Socio-demographic Index.

Table S3 The number of DALYs cases and ASPR of COPD between 2019 and 2021 at the global and regional levels.

Location	2019		2021		EAPCs
	Number	ASDR	Number	ASDR	
Global	77327991.89(71819023.40,82519473.45)	958.62(889.80,1023.31)	79779695.05(74026373.40,86011405.86)	940.66(871.48,1014.59)	-0.94(-2.99,1.15)
High SDI	9955978.54(9256840.40,10546895.85)	478.86(447.48,506.70)	10197032.65(9399334.69,10811522.80)	471.22(437.45,498.84)	-0.80(-5.93,4.61)
High-middle SDI	12892913.81(11625010.13,14247468.32)	695.04(626.40,766.91)	13439404.01(12068466.43,15035539.57)	691.14(621.83,772.74)	-0.28(-1.21,0.65)
Middle SDI	25356633.05(23017096.86,28030540.97)	1090.51(988.89,1205.71)	26679162.31(23958688.03,29735634.14)	1076.67(963.62,1201.24)	-0.64(-3.14,1.93)
Low-middle SDI	22513818.04(20640642.40,24541834.53)	1775.92(1629.32,1935.79)	22727337.53(20885631.75,24793577.27)	1707.90(1558.88,1865.11)	-1.93(-4.04,0.22)
Low SDI	6566329.88(5895361.80,7272481.57)	1509.16(1357.39,1668.00)	6693611.03(6035071.61,7482882.34)	1457.94(1318.76,1617.05)	-1.71(-2.64,-0.78)
Andean Latin America	156099.59(135141.37,179477.44)	279.25(241.63,321.07)	149984.89(127860.72,176079.60)	261.42(222.30,306.62)	-3.24(-10.84,5.00)
Australasia	206680.90(188377.82,220837.58)	391.70(359.85,418.17)	212256.48(192365.38,226399.90)	376.20(343.09,400.39)	-2.00(-22.24,23.51)
Caribbean	232426.32(210131.34,259539.90)	446.85(404.16,499.76)	237302.18(209887.63,269405.10)	439.53(388.88,499.30)	-0.82(-1.09,-0.56)
Central Asia	376053.87(350240.18,403149.24)	511.84(477.14,547.88)	385341.46(348372.88,424298.17)	498.60(452.01,546.10)	-1.30(-5.09,2.64)
Central Europe	913464.25(864942.53,961490.38)	418.70(397.09,440.80)	915004.97(846947.45,983684.49)	413.12(382.55,444.56)	-0.67(-1.81,0.48)
Central Latin America	1165840.92(1096520.30,1230146.82)	509.70(478.48,537.72)	1233671.54(1115697.88,1349665.05)	512.35(462.65,560.08)	0.26(-1.54,2.09)
Central Sub-Saharan Africa	465993.74(344845.16,621512.46)	973.70(723.09,1353.16)	496005.87(367405.53,659994.87)	975.91(720.50,1344.93)	0.11(-0.07,0.29)
East Asia	23074183.49(19928181.74,26844041.74)	1241.97(1072.95,1442.05)	24391744.16(20763409.85,28628224.46)	1217.69(1043.87,1422.79)	-0.98(-1.78,-0.18)
Eastern Europe	1127031.94(1063229.36,1194014.08)	330.52(311.50,349.95)	1120457.46(1038544.13,1207861.85)	324.42(301.04,350.10)	-0.93(-3.64,1.87)
Eastern Sub-Saharan Africa	1131769.01(937527.09,1299937.01)	716.56(592.66,824.94)	1190523.44(990108.32,1364079.45)	713.24(593.00,816.07)	-0.23(-1.31,0.86)
High-income Asia Pacific	924487.18(815416.71,1028723.41)	184.52(164.55,206.12)	958532.44(841285.98,1065148.93)	182.14(162.64,202.95)	-0.65(-6.13,5.15)
High-income North America	4774829.90(4441822.68,5046039.71)	741.22(691.77,782.00)	4946483.09(4577692.79,5222006.58)	736.05(685.79,776.49)	-0.35(-5.17,4.72)
North Africa and Middle East	2436740.59(2276169.98,2641093.93)	609.26(563.96,660.88)	2534741.31(2307239.25,2795708.69)	599.18(546.07,658.22)	-0.83(-2.66,1.03)
Oceania	150604.81(123075.28,180049.90)	2385.68(1965.40,2821.28)	158392.83(127993.44,193144.75)	2351.49(1931.26,2854.06)	-0.72(-4.24,2.93)
South Asia	27704498.85(25129954.06,30269980.11)	2141.76(1947.67,2350.30)	28009599.09(25404007.40,30942200.96)	2049.22(1862.71,2268.73)	-2.18(-3.84,-0.50)
Southeast Asia	5270652.17(4791179.69,5815931.23)	925.82(842.48,1021.44)	5558590.11(4982450.35,6206668.07)	914.73(822.27,1016.35)	-0.60(-6.82,6.03)
Southern Latin America	405269.73(379673.52,426900.48)	475.75(446.77,500.75)	386636.80(359705.12,409515.84)	436.03(405.72,461.73)	-4.27(-7.53,-0.88)
Southern Sub-Saharan Africa	464350.78(433433.97,497009.82)	869.34(810.66,932.19)	480021.01(444989.93,518790.53)	864.13(800.37,929.92)	-0.30(-2.78,2.25)
Tropical Latin America	1344365.54(1254265.01,1412754.02)	565.44(525.60,595.01)	1402590.87(1301692.60,1479539.63)	554.73(513.83,585.11)	-0.95(-4.59,2.83)
Western Europe	3925961.03(3604971.44,4168336.40)	406.75(376.89,431.31)	3886178.55(3551748.75,4135317.27)	390.81(361.46,415.88)	-1.98(-6.01,2.23)
Western Sub-Saharan Africa	1076687.29(959480.00,1196055.52)	574.41(514.23,635.41)	1125636.51(1009836.73,1263285.93)	567.27(510.78,631.22)	-0.62(-2.43,1.21)

Abbreviations

DALYs, disability-adjusted life years; ASDR, age-standardized DALYs rate; COPD: chronic obstructive pulmonary disease; EAPCs: estimated annual percentage changes; SDI: Socio-demographic Index.

Table S5: The number of prevalence cases and ASPR of COPD between 2019 and 2021 at the national level.

Location	Number	ASPR	Number	ASPR
Algeria	276524(2925201.30488213)	2765.24	276524(2925201.30488213)	2765.24
Albania	28420(3284975.37122287)	284.20	28420(3284975.37122287)	284.20
Algeria	28420(3284975.37122287)	284.20	28420(3284975.37122287)	284.20
American Samoa	867(97718.458424)	86.70	867(97718.458424)	86.70
Angola	1771(15151.42113)	17.71	1771(15151.42113)	17.71
Angola	1771(15151.42113)	17.71	1771(15151.42113)	17.71
Antigua and Barbuda	17(176.8147186.22403837)	1.70	17(176.8147186.22403837)	1.70
Argentina	1771(15151.42113)	17.71	1771(15151.42113)	17.71
Armenia	9999(378354.25110561)	99.99	9999(378354.25110561)	99.99
Australia	2544(3264624.87782177)	254.40	2544(3264624.87782177)	254.40
Austria	2099(204284.8131173)	20.99	2099(204284.8131173)	20.99
Azerbaijan	2099(204284.8131173)	20.99	2099(204284.8131173)	20.99
Bahamas	5062(84000.84377075)	50.62	5062(84000.84377075)	50.62
Bahrain	2131(320297.2414277)	213.10	2131(320297.2414277)	213.10
Bangladesh	374068(471305381.4941915154)	3740.68	374068(471305381.4941915154)	3740.68
Barbados	627(70705.84909770)	6.27	627(70705.84909770)	6.27
Belarus	12125(1207895.43495513)	121.25	12125(1207895.43495513)	121.25
Belgium	15076(2205212.431712428)	150.76	15076(2205212.431712428)	150.76
Belize	506(508411.2836751)	5.06	506(508411.2836751)	5.06
Benin	9723(48068.87484515)	97.23	9723(48068.87484515)	97.23
Bermuda	1021(88463.722261)	10.21	1021(88463.722261)	10.21
Bhutan	1638(51821.78400627)	16.38	1638(51821.78400627)	16.38
Bolivia (Plurinational State of)	2544(3264624.87782177)	254.40	2544(3264624.87782177)	254.40
Bosnia and Herzegovina	15076(2205212.431712428)	150.76	15076(2205212.431712428)	150.76
Botswana	2099(204284.8131173)	20.99	2099(204284.8131173)	20.99
Brazil	91312(39215158.6244646694)	9131.20	91312(39215158.6244646694)	9131.20
Brunei Darussalam	472(3424.7839923)	4.72	472(3424.7839923)	4.72
Bulgaria	13545(8240457.7737847)	135.45	13545(8240457.7737847)	135.45
Burkina Faso	15076(2205212.431712428)	150.76	15076(2205212.431712428)	150.76
Burundi	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Cabo Verde	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Cambodia	23010(320297.2414277)	230.10	23010(320297.2414277)	230.10
Cameroon	14644(167561933.5134466183)	1464.40	14644(167561933.5134466183)	1464.40
Canada	14644(167561933.5134466183)	1464.40	14644(167561933.5134466183)	1464.40
Central African Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Chad	2099(204284.8131173)	20.99	2099(204284.8131173)	20.99
China	70879(3284975.37122287)	7087.90	70879(3284975.37122287)	7087.90
Colombia	12778(8013197.9517997675)	127.78	12778(8013197.9517997675)	127.78
Comoros	78(78.78474)	0.78	78(78.78474)	0.78
Congo	4847(74022.1510527)	48.47	4847(74022.1510527)	48.47
Congo (Kinshasa)	4847(74022.1510527)	48.47	4847(74022.1510527)	48.47
Congo (Brazzaville)	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Costa Rica	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Cote d'Ivoire	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Cuba	40821(5007045.644483624)	4082.10	40821(5007045.644483624)	4082.10
Cyprus	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Czechia	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Democratic Republic of the Congo	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37	4137(420297.2414277)	41.37
Dominican Republic	10058(80992.2512428283)	100.58	10058(80992.2512428283)	100.58
Dominica	4137(420297.2414277)	41.37		

Table 56: The number of mortality cases and ASMR of COVID between 2019 and 2021 at the national level.

Location	2019		2021	
	Number	ASMR	Number	ASMR
Algeria	184342(57.97)	58.4(77.96)	151438(113.61)	15.7(120.15)
Albania	642(40.05)	49.8(8.82)	652(27.05)	40.8(8.33)
Algeria	15042(54.01)	58.2(54.43)	17321(57.36)	60.6(53.78)
American Samoa	17(1.04)	38.1(8.38)	17(1.04)	38.1(8.38)
Andorra	21(1.21)	21(1.21)	21(1.21)	21(1.21)
Angola	173(1.06)	17.3(7.85)	28(1.02)	2.8(1.02)
Antigua and Barbuda	8(8.82)	8(8.82)	8(8.82)	8(8.82)
Argentina	15619(730.49)	13.1(66.21)	18411(81.04)	15.4(141.02)
Armenia	656(40.86)	19.1(10.7)	656(40.86)	19.1(10.7)
Australia	1400(34.05)	15.0(44.71)	1400(34.05)	15.0(44.71)
Austria	1400(34.05)	15.0(44.71)	1400(34.05)	15.0(44.71)
Bahamas	13(3.29)	13(3.29)	13(3.29)	13(3.29)
Bahrain	137(30.09)	13.7(30.09)	137(30.09)	13.7(30.09)
Bangladesh	87429(49.40)	87.4(28.02)	87429(49.40)	87.4(28.02)
Barbados	60(20.3)	60(20.3)	60(20.3)	60(20.3)
Belarus	173(1.06)	17.3(7.85)	173(1.06)	17.3(7.85)
Belgium	112(4.05)	11.2(4.05)	112(4.05)	11.2(4.05)
Belize	12(4.05)	12(4.05)	12(4.05)	12(4.05)
Benin	94(30.7)	9.4(30.7)	94(30.7)	9.4(30.7)
Bermuda	12(4.05)	12(4.05)	12(4.05)	12(4.05)
Bhutan	440(23.4)	44(23.4)	440(23.4)	44(23.4)
Bolivia (Plurinational State of)	1907(50.19)	19.0(7.23)	1907(50.19)	19.0(7.23)
Bosnia and Herzegovina	112(9.97)	11.2(9.97)	112(9.97)	11.2(9.97)
Brazil	376(38.95)	37.6(38.95)	376(38.95)	37.6(38.95)
Brunei Darussalam	66(40.7)	6.6(40.7)	66(40.7)	6.6(40.7)
Bulgaria	2288(81.26)	22.8(81.26)	2288(81.26)	22.8(81.26)
Burkina Faso	1328(47.07)	13.2(47.07)	1328(47.07)	13.2(47.07)
Burundi	135(4.8)	13.5(4.8)	135(4.8)	13.5(4.8)
Cabo Verde	184(5.0)	18.4(5.0)	184(5.0)	18.4(5.0)
Cambodia	184(5.0)	18.4(5.0)	184(5.0)	18.4(5.0)
Cameroon	113(3.6)	11.3(3.6)	113(3.6)	11.3(3.6)
Canada	15443(15.66)	15.4(15.66)	15443(15.66)	15.4(15.66)
Central African Republic	139(4.8)	13.9(4.8)	139(4.8)	13.9(4.8)
Chad	139(4.8)	13.9(4.8)	139(4.8)	13.9(4.8)
China	4205(38.04)	42.0(38.04)	4205(38.04)	42.0(38.04)
Colombia	1594(30.49)	15.9(30.49)	1594(30.49)	15.9(30.49)
Comoros	88(2.8)	8.8(2.8)	88(2.8)	8.8(2.8)
Congo	63(1.0)	6.3(1.0)	63(1.0)	6.3(1.0)
Cook Islands	8(8.82)	8(8.82)	8(8.82)	8(8.82)
Costa Rica	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Cote d'Ivoire	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Cuba	4004(9.0)	40.0(9.0)	4004(9.0)	40.0(9.0)
Cyprus	4004(9.0)	40.0(9.0)	4004(9.0)	40.0(9.0)
Czechia	1875(18.48)	18.7(18.48)	1875(18.48)	18.7(18.48)
Cote d'Ivoire	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Democratic People's Republic of Korea	29418(0.21)	294.1(0.21)	29418(0.21)	294.1(0.21)
Democratic Republic of Congo	1154(4.0)	11.5(4.0)	1154(4.0)	11.5(4.0)
Denmark	4687(11.16)	46.8(11.16)	4687(11.16)	46.8(11.16)
Dominica	82(8.82)	8.2(8.82)	82(8.82)	8.2(8.82)
Dominican Republic	1164(8.0)	11.6(8.0)	1164(8.0)	11.6(8.0)
Ecuador	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Egypt	1020(8.19)	10.2(8.19)	1020(8.19)	10.2(8.19)
El Salvador	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Equatorial Guinea	88(2.8)	8.8(2.8)	88(2.8)	8.8(2.8)
Eritrea	668(1.0)	6.6(1.0)	668(1.0)	6.6(1.0)
Estonia	184(5.0)	18.4(5.0)	184(5.0)	18.4(5.0)
Eswatini	184(5.0)	18.4(5.0)	184(5.0)	18.4(5.0)
Ethiopia	4495(4.9)	44.9(4.9)	4495(4.9)	44.9(4.9)
Finland	1462(13.18)	14.6(13.18)	1462(13.18)	14.6(13.18)
France	1676(13.18)	16.7(13.18)	1676(13.18)	16.7(13.18)
Gabon	204(1.4)	20.4(1.4)	204(1.4)	20.4(1.4)
Gambia	242(4.0)	24.2(4.0)	242(4.0)	24.2(4.0)
Georgia	74(8.82)	7.4(8.82)	74(8.82)	7.4(8.82)
Germany	4084(17.0)	40.8(17.0)	4084(17.0)	40.8(17.0)
Ghana	176(1.0)	17.6(1.0)	176(1.0)	17.6(1.0)
Greece	4084(17.0)	40.8(17.0)	4084(17.0)	40.8(17.0)
Greenland	13(3.29)	13(3.29)	13(3.29)	13(3.29)
Grenada	13(3.29)	13(3.29)	13(3.29)	13(3.29)
Guam	13(3.29)	13(3.29)	13(3.29)	13(3.29)
Guatemala	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Guinea	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Guinea-Bissau	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Guyana	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Haiti	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Honduras	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Hong Kong	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Hungary	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
India	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Indonesia	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Iran (Islamic Republic of)	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Iraq	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Israel	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Italy	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Jamaica	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Japan	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Jordan	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Kazakhstan	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Kenya	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Kiribati	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Kuwait	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Kyrgyzstan	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Laos	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Latvia	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Lebanon	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Lesotho	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Liberia	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Libya	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Lithuania	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Luxembourg	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Madagascar	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Malawi	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Malaysia	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Maldives	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Mali	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Malta	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Marshall Islands	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Mexico	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Moldova	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Micronesia (Federated States of)	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Moldova	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Mongolia	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Montenegro	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Morocco	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Mozambique	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Myanmar	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Namibia	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Nauru	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Nepal	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Netherlands	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
New Zealand	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Nicaragua	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Niger	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Nigeria	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
North Macedonia	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Northern Mariana Islands	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Norway	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Oman	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Pakistan	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Pala	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Pakistan	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Panama	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Papua New Guinea	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Paraguay	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Philippines	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Poland	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Portugal	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Puerto Rico	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Qatar	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Republic of Korea	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Romania	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Russian Federation	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Rwanda	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Saint Kitts and Nevis	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Saint Lucia	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Saint Vincent and the Grenadines	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Samoa	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
San Marino	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Sao Tome and Principe	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Saudi Arabia	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Senegal	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Serbia	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Seychelles	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Sierra Leone	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Singapore	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Slovakia	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Slovenia	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Somalia	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
South Africa	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
South Sudan	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Spain	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Sri Lanka	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Sweden	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Switzerland	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Syrian Arab Republic	1116(8.07)	11.1(8.07)	1116(8.07)	11.1(8.07)
Taiwan (Province of China)	1116(8.			

STROBE Statement—checklist of items that should be included in reports of observational studies

	Item No	Recommendation	Page
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	1-2
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	3-4
Objectives	3	State specific objectives, including any prespecified hypotheses	4
Methods			
Study design	4	Present key elements of study design early in the paper	4
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	4-5
Participants	6	(a) <i>Cohort study</i> —Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up <i>Case-control study</i> —Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls <i>Cross-sectional study</i> —Give the eligibility criteria, and the sources and methods of selection of participants	4-5
		(b) <i>Cohort study</i> —For matched studies, give matching criteria and number of exposed and unexposed <i>Case-control study</i> —For matched studies, give matching criteria and the number of controls per case	
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	4-6
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	4-6
Bias	9	Describe any efforts to address potential sources of bias	5-6
Study size	10	Explain how the study size was arrived at	4-5
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	4-5
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	5-6
		(b) Describe any methods used to examine subgroups and interactions	5-6
		(c) Explain how missing data were addressed	5-6
		(d) <i>Cohort study</i> —If applicable, explain how loss to follow-up was addressed <i>Case-control study</i> —If applicable, explain how matching of cases and controls was addressed <i>Cross-sectional study</i> —If applicable, describe analytical methods taking account of sampling strategy	5-6
		(e) Describe any sensitivity analyses	5-6

Continued on next page

Results			Page
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	6
		(b) Give reasons for non-participation at each stage	Not Applicable
		(c) Consider use of a flow diagram	Not Applicable
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	6
		(b) Indicate number of participants with missing data for each variable of interest	Not Applicable
		(c) <i>Cohort study</i> —Summarise follow-up time (eg, average and total amount)	
Outcome data	15*	<i>Cohort study</i> —Report numbers of outcome events or summary measures over time	
		<i>Case-control study</i> —Report numbers in each exposure category, or summary measures of exposure	
		<i>Cross-sectional study</i> —Report numbers of outcome events or summary measures	6-9
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	6-9
		(b) Report category boundaries when continuous variables were categorized	6-9
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	6-9
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	6-9
Discussion			
Key results	18	Summarise key results with reference to study objectives	10
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	11
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	10-11
Generalisability	21	Discuss the generalisability (external validity) of the study results	10-11
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	13

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at

<http://www.annals.org/>, and *Epidemiology* at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.

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