

**Table S4. Sensitivity analysis: worldwide, regional, and national levels of strong opioid analgesic consumption in 2015 and 2019 and average annual percentage change in consumption.**

	MME/TID in 2015 (95% CI)*	MME/TID in 2019 (95% CI)*	Average annual percentage change (95% CI)	P-value
<b>Worldwide</b>	24.06 (13.77 to 42.03)	21.65 (12.15 to 38.56)	0.36 (-2.76 to 3.58)	0.82
<b>Africa</b>	1.44 (0.14 to 14.85)	0.88 (0.03 to 29.95)	-16.26 (-40.82 to 18.48)	0.30
Egypt	0.70	0.61	-4.29 (-8.09 to -0.33)	0.041
French West Africa‡	0.07	0.01	-61.69 (-96.82 to 362.15)	0.31
Morocco	0.95	1.19	7.92 (-3.96 to 21.27)	0.13
South Africa	10.51	11.74	3.00 (-0.25 to 6.36)	0.061
Tunisia	11.65	12.05	0.99 (-0.83 to 2.84)	0.18
<b>America (Central and Caribbean)</b>	6.49 (0.02 to 2176.99)	6.24 (0.03 to 1544.88)	-1.89 (-7.00 to 3.51)	0.45
Central America§	1.50	1.32	-6.69 (-20.08 to 8.95)	0.25
Mexico	1.03	1.28	6.72 (0.91 to 12.86)	0.034
Puerto Rico	176.61	143.84	-5.16 (-9.82 to -0.25)	0.044
<b>America (North)</b>	1366.22 (835.06 to 2235.45)	800.95 (273.39 to 2346.55)	-12.93 (-15.46 to -10.34)	<0.0001
Canada	1443.20	902.71	-11.59 (-13.60 to -9.54)	<0.0001
United States of America	1293.39	710.61	-14.26 (-20.23 to -7.86)	0.0065
<b>America (South)</b>	0.51 (0.07 to 3.92)	0.43 (0.04 to 4.70)	-3.76 (-12.07 to 5.33)	0.39
Argentina	3.88	3.84	-0.95 (-4.87 to 3.13)	0.51
Brazil	8.23	6.94	-1.75 (-12.21 to 9.97)	0.65
Chile	0.22	0.33	10.09 (1.41 to 19.51)	0.034
Colombia	0.73	0.41	-10.87 (-26.46 to 8.02)	0.15
Ecuador	0.13	0.34	27.63 (22.56 to 32.91)	<0.0001
Peru	0.01	0.00	-31.24 (-65.15 to 35.68)	0.18
Uruguay	16.06	21.99	7.50 (4.94 to 10.13)	0.0024
Venezuela (Bolivarian Republic of)	0.03	0.02	-18.32 (-50.41 to 34.53)	0.29
<b>Asia</b>	4.06 (1.07 to 15.39)	5.77 (1.88 to 17.66)	9.20 (1.76 to 17.19)	0.016
India	0.01	0.18	99.79 (24.37 to 220.95)	0.019
Japan	139.92	272.09	14.25 (-10.10 to 45.20)	0.18
Kazakhstan	4.99	5.40	-5.52 (-32.13 to 31.54)	0.62
Lebanon	3.65	7.04	20.34 (-1.18 to 46.54)	0.058
Mainland China	6.42	8.94	8.58 (7.25 to 9.93)	0.0002
Pakistan	4.42	3.02	-6.49 (-19.09 to 8.06)	0.078
Philippines	0.97	1.23	5.01 (-2.34 to 12.90)	0.12
Republic of Korea	4.33	11.30	25.74 (20.84 to 30.85)	0.0004
Saudi Arabia	4.65	1.24	-24.32 (-54.68 to 26.39)	0.18
Taiwan	63.68	66.50	2.48 (-4.04 to 9.44)	0.32
Thailand	6.09	6.93	2.52 (-6.26 to 12.12)	0.44
Turkey	25.37	24.19	-1.19 (-2.13 to -0.24)	0.028
United Arab Emirates	0.41	0.79	14.87 (2.81 to 28.36)	0.029
<b>Europe (East)</b>	26.28 (11.56 to 59.76)	33.87 (19.41 to 59.07)	7.04 (2.79 to 11.46)	0.0017
Belarus	21.93	26.59	3.60 (-6.93 to 15.32)	0.37
Bosnia and Herzegovina	26.61	30.37	3.90 (-0.20 to 8.18)	0.057

Bulgaria	48·82	47·98	-1·43 (-5·89 to 3·23)	0·40
Croatia	86·72	71·83	-4·50 (-6·82 to -2·13)	0·0094
Romania	46·15	59·63	6·54 (4·57 to 8·54)	0·0017
Russian Federation	5·76	13·88	30·49 (5·73 to 61·05)	0·028
Serbia	63·63	66·68	1·30 (-1·78 to 4·47)	0·28
Ukraine	5·44	11·26	20·78 (14·65 to 27·25)	0·0014
<b>Europe (West and Central)</b>	298·66 (207·39 to 430·14)	310·57 (223·39 to 431·82)	0·81 (-0·31 to 1·94)	0·15
Austria	775·75	746·67	-0·93 (-1·33 to -0·52)	0·0054
Belgium	705·01	692·28	-0·66 (-2·11 to 0·82)	0·25
Czechia	257·96	309·87	4·64 (4·19 to 5·08)	<0·0001
Denmark	972·02	836·37	-3·86 (-5·91 to -1·77)	0·010
Estonia	40·33	70·98	10·98 (-4·05 to 28·37)	0·11
Finland	404·17	367·57	-2·14 (-3·33 to -0·94)	0·011
France	412·92	437·95	1·47 (0·66 to 2·29)	0·010
Germany	826·61	791·93	-1·16 (-1·71 to -0·61)	0·0068
Greece	82·27	100·53	6·55 (1·38 to 11·99)	0·027
Hungary	198·46	203·04	0·44 (-1·01 to 1·91)	0·41
Ireland	324·82	314·72	-1·24 (-3·02 to 0·56)	0·12
Italy	229·44	252·64	2·63 (0·19 to 5·14)	0·042
Latvia	75·53	98·25	7·46 (1·86 to 13·37)	0·023
Lithuania	80·43	80·49	-0·06 (-0·76 to 0·65)	0·81
Luxembourg	339·01	181·42	-14·64 (-16·35 to -12·91)	0·0001
Netherlands	614·38	703·39	3·76 (-1·09 to 8·85)	0·091
Norway	638·12	687·08	1·60 (0·20 to 3·02)	0·036
Poland	103·80	128·20	5·03 (0·45 to 9·82)	0·039
Portugal	140·81	193·75	8·03 (6·68 to 9·40)	0·0003
Slovakia	166·05	172·99	0·83 (-1·16 to 2·86)	0·28
Slovenia	228·63	175·36	-6·65 (-7·96 to -5·31)	0·0006
Spain	594·06	695·25	3·86 (1·89 to 5·86)	0·0080
Sweden	596·28	541·15	-2·46 (-3·23 to -1·69)	0·0021
Switzerland	740·98	846·36	3·27 (1·60 to 4·97)	0·0082
United Kingdom	694·44	615·73	-3·09 (-5·29 to -0·84)	0·023
<b>Oceania</b>	542·40 (13·80 to 21324·25)	422·29 (30·70 to 5808·63)	-6·02 (-8·84 to -3·11)	0·0019
Australia	816·18	565·36	-8·69 (-11·93 to -5·34)	0·0040
New Zealand	360·44	315·43	-3·27 (-6·18 to -0·27)	0·041

\*Worldwide and regional estimates with 95%CI were calculated by pooling the estimates from individual countries using a random-effects model.

CI: confidence interval; MME/TID: milligram morphine equivalent per 1,000 inhabitant per day.

‡Data was aggregated from Benin, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Gabon, Guinea, Mali, Nigeria, Republic of Congo, Senegal, Togo.

§Data was aggregated from Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama.