**SUPPLEMENTAL MATERIAL**

Impact of diet on cardiovascular disease and diabetes mortality in Latin America and the Caribbean: a comparative risk assessment analysis.

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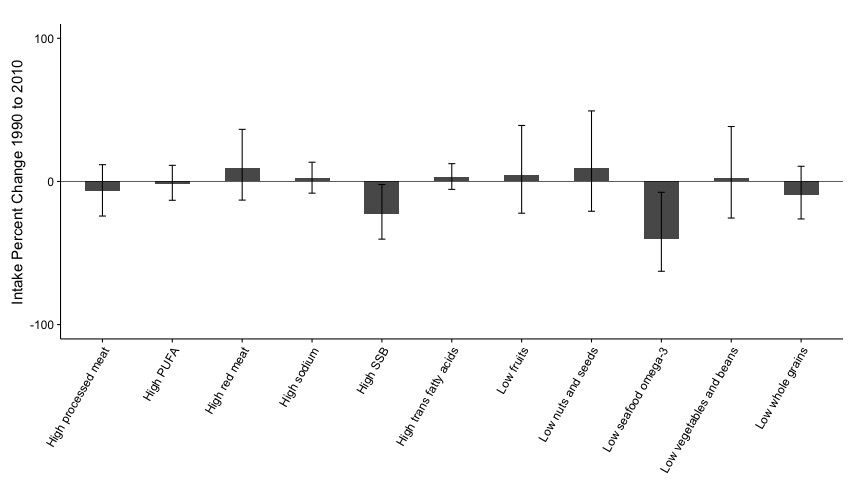
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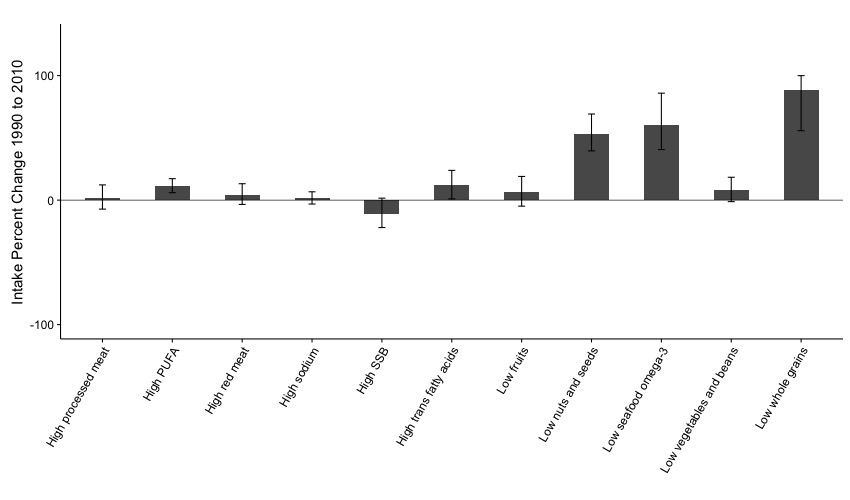
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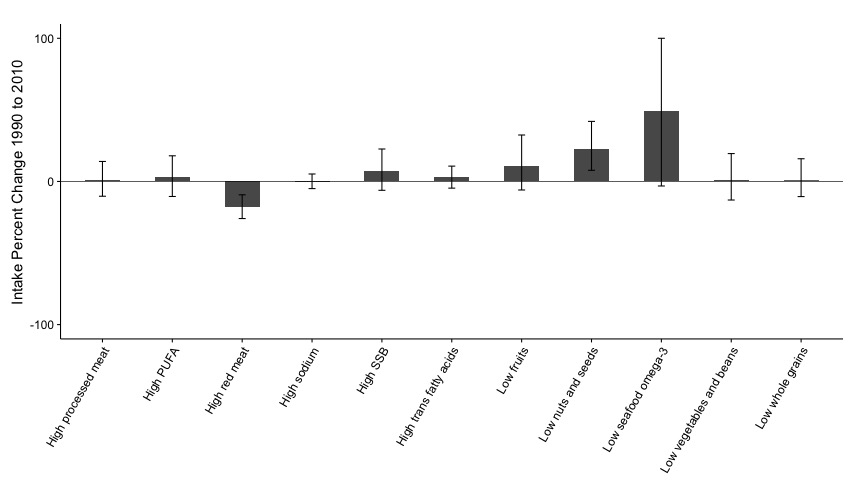
**Figure S1. Intake change (%) in dietary factor level between 1990 and 2010, in Latin America, Andean**

The bars represent the changes in percentage of intake associated with 11 dietary factors between 1990 and 2010 in Latin America, Andean countries (Colombia, Ecuador, Peru, and Bolivia). These percentage changes correspond to (2010intake – 1990intake)/1990intake x 100.

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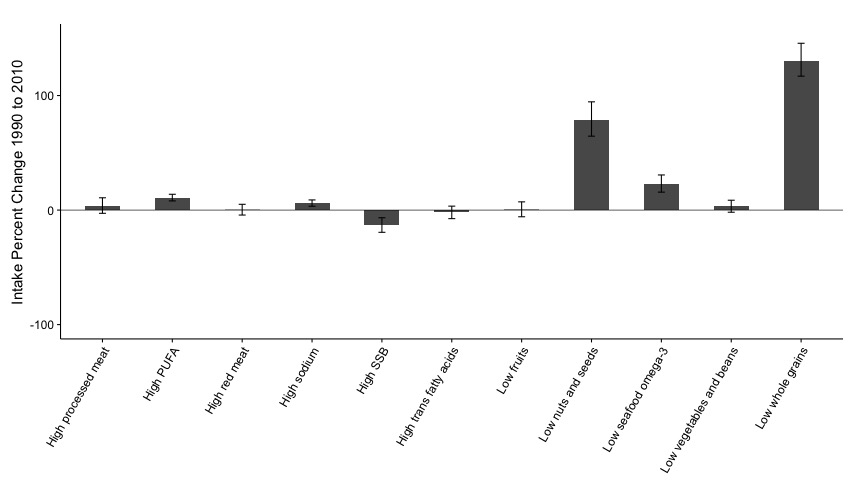
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The bars represent the changes in percentage of intake associated with 11 dietary factors between 1990 and 2010 in Latin America, Central countries (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Mexico, and Panama). These percentage changes correspond to (2010intake – 1990intake)/1990intake x 100.

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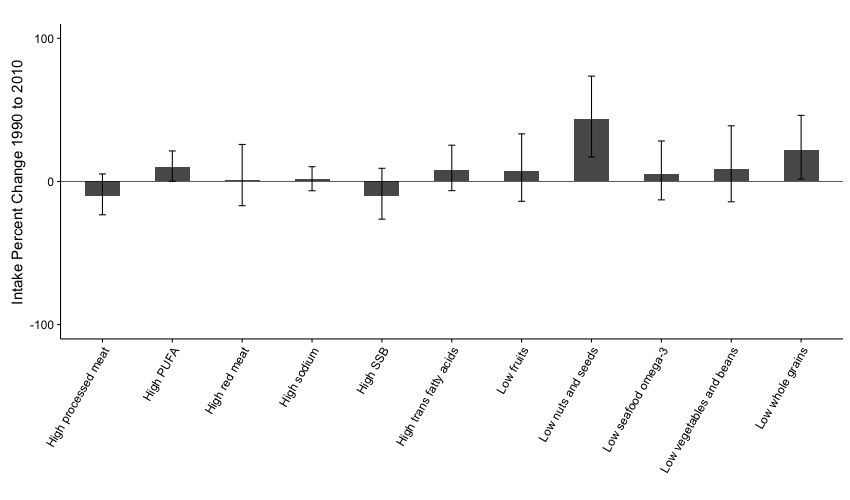
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The bars represent the changes in percentage of intake associated with 11 dietary factors between 1990 and 2010 in Latin America, Southern countries (Argentina, Chile, Paraguay, and Uruguay). These percentage changes correspond to (2010intake – 1990intake)/1990intake x 100.

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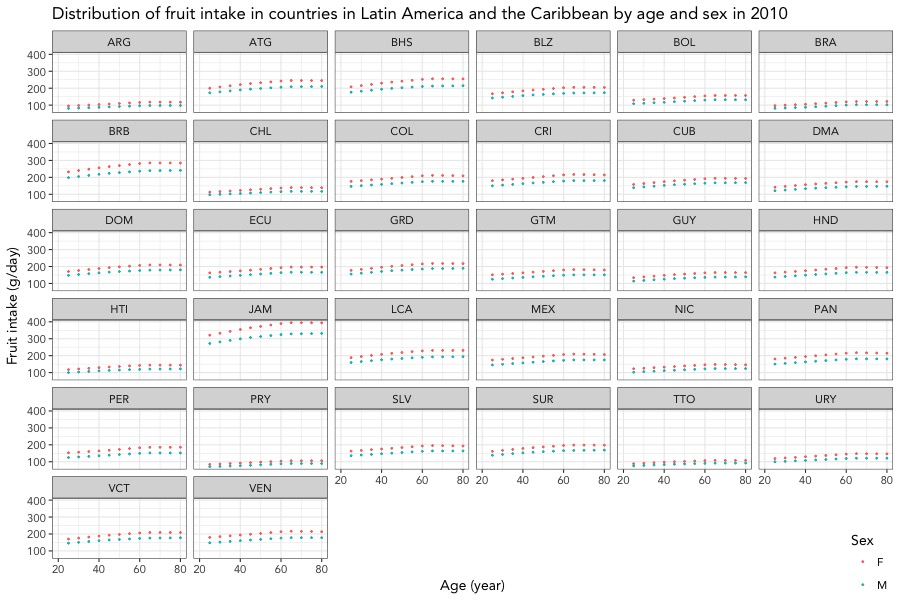
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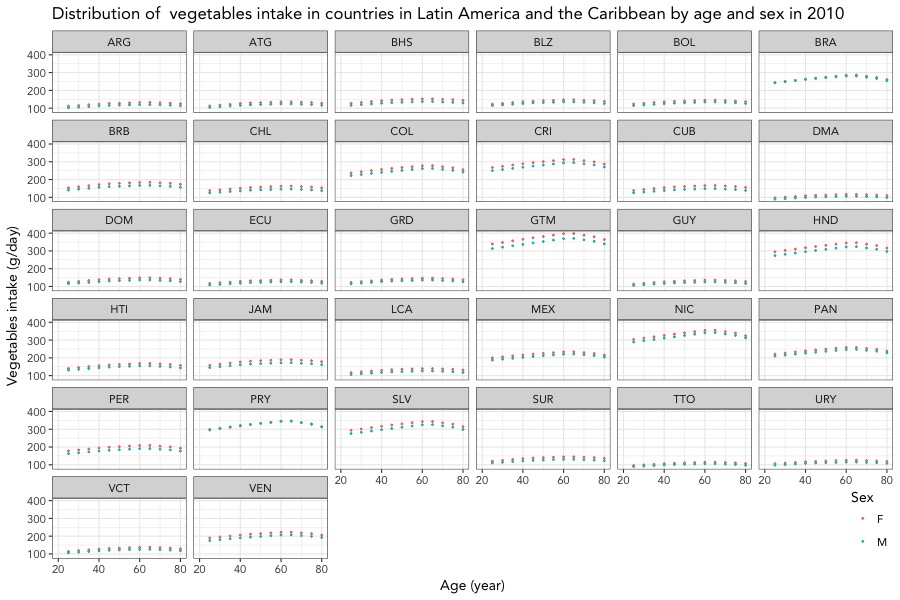
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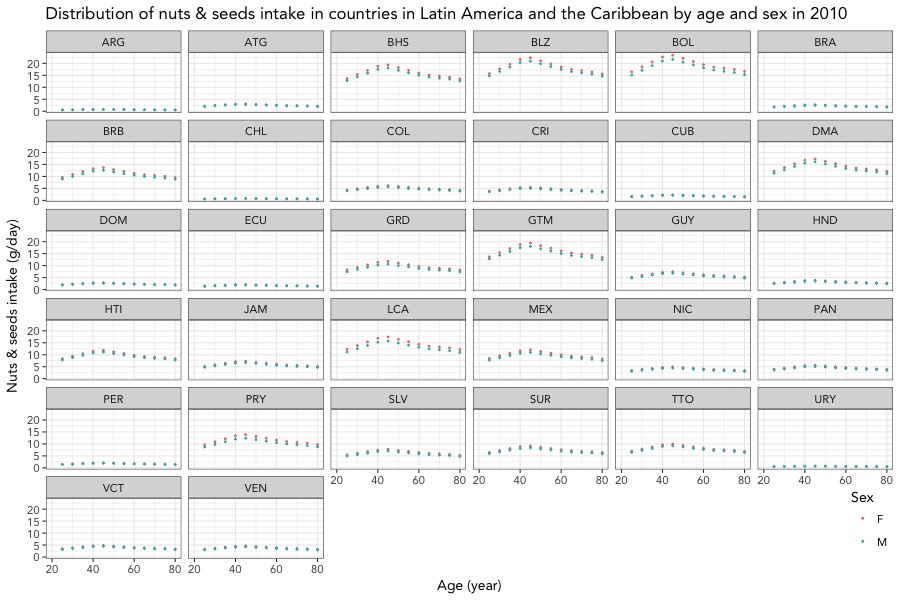
**Figure S6. Distribution of fruit intake in countries in Latin America and Caribbean by age and sex in 2010.**

Data are from 32 countries in LAC and the age of the participants raged from 25 to 80+ years. Each circle represents one age and sex strata within a particular country. The optimal level of fruit intake is 300±30 g/day. ARG: Argentina, ATG: Antigua and Barbuda, BHS: The Bahamas, BLZ: Belize, BOL: Bolivia, BRA: Brazil, BRB: Barbados, CHL: Chile, COL: Colombia, CRI: Costa Rica, CUB: Cuba, DMA: Dominica, DOM: Dominican Republic, ECU: Ecuador, GRD: Grenada, GTM: Guatemala, GUY: Guyana, HND: Honduras, HTI: Haiti, JAM: Jamaica, LCA: Saint Lucia, MEX: Mexico, NIC: Nicaragua, PAN: Panama, PER: Peru, PRY: Paraguay, SLV: El Salvador, SUR: Suriname, TTO: Trinidad and Tobago, URY: Uruguay, VCT: Saint Vincent and the Grenadines, and VEN: Venezuela.

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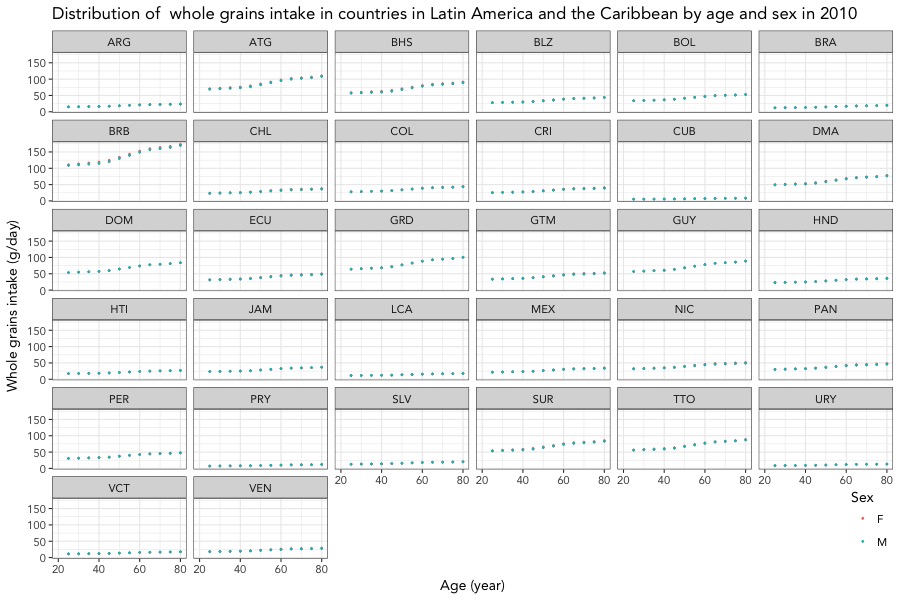
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Data are from 32 countries in LAC and the age of the participants raged from 25 to 80+ years. Each circle represents one age and sex strata within a particular country. The optimal level of vegetables intake is 400±40 g/day . ARG: Argentina, ATG: Antigua and Barbuda, BHS: The Bahamas, BLZ: Belize, BOL: Bolivia, BRA: Brazil, BRB: Barbados, CHL: Chile, COL: Colombia, CRI: Costa Rica, CUB: Cuba, DMA: Dominica, DOM: Dominican Republic, ECU: Ecuador, GRD: Grenada, GTM: Guatemala, GUY: Guyana, HND: Honduras, HTI: Haiti, JAM: Jamaica, LCA: Saint Lucia, MEX: Mexico, NIC: Nicaragua, PAN: Panama, PER: Peru, PRY: Paraguay, SLV: El Salvador, SUR: Suriname, TTO: Trinidad and Tobago, URY: Uruguay, VCT: Saint Vincent and the Grenadines, and VEN: Venezuela.

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**Figure S8. Distribution of nuts and seeds intake in countries in Latin America and Caribbean by age and sex in 2010.**

Data are from 32 countries in LAC and the age of the participants raged from 25 to 80+ years. Each circle represents one age and sex strata within a particular country. The optimal level of nuts and seeds intake is 20.2±2 g/day. ARG: Argentina, ATG: Antigua and Barbuda, BHS: The Bahamas, BLZ: Belize, BOL: Bolivia, BRA: Brazil, BRB: Barbados, CHL: Chile, COL: Colombia, CRI: Costa Rica, CUB: Cuba, DMA: Dominica, DOM: Dominican Republic, ECU: Ecuador, GRD: Grenada, GTM: Guatemala, GUY: Guyana, HND: Honduras, HTI: Haiti, JAM: Jamaica, LCA: Saint Lucia, MEX: Mexico, NIC: Nicaragua, PAN: Panama, PER: Peru, PRY: Paraguay, SLV: El Salvador, SUR: Suriname, TTO: Trinidad and Tobago, URY: Uruguay, VCT: Saint Vincent and the Grenadines, and VEN: Venezuela.

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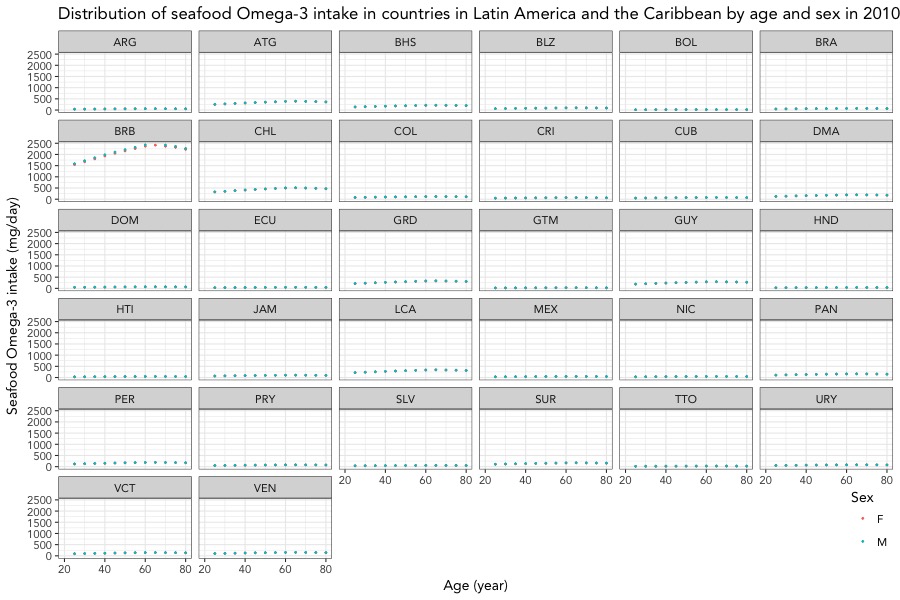
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Data are from 32 countries in LAC and the age of the participants raged from 25 to 80+ years. Each circle represents one age and sex strata within a particular country. The optimal level of whole grains is >125 g/day. ARG: Argentina, ATG: Antigua and Barbuda, BHS: The Bahamas, BLZ: Belize, BOL: Bolivia, BRA: Brazil, BRB: Barbados, CHL: Chile, COL: Colombia, CRI: Costa Rica, CUB: Cuba, DMA: Dominica, DOM: Dominican Republic, ECU: Ecuador, GRD: Grenada, GTM: Guatemala, GUY: Guyana, HND: Honduras, HTI: Haiti, JAM: Jamaica, LCA: Saint Lucia, MEX: Mexico, NIC: Nicaragua, PAN: Panama, PER: Peru, PRY: Paraguay, SLV: El Salvador, SUR: Suriname, TTO: Trinidad and Tobago, URY: Uruguay, VCT: Saint Vincent and the Grenadines, and VEN: Venezuela.

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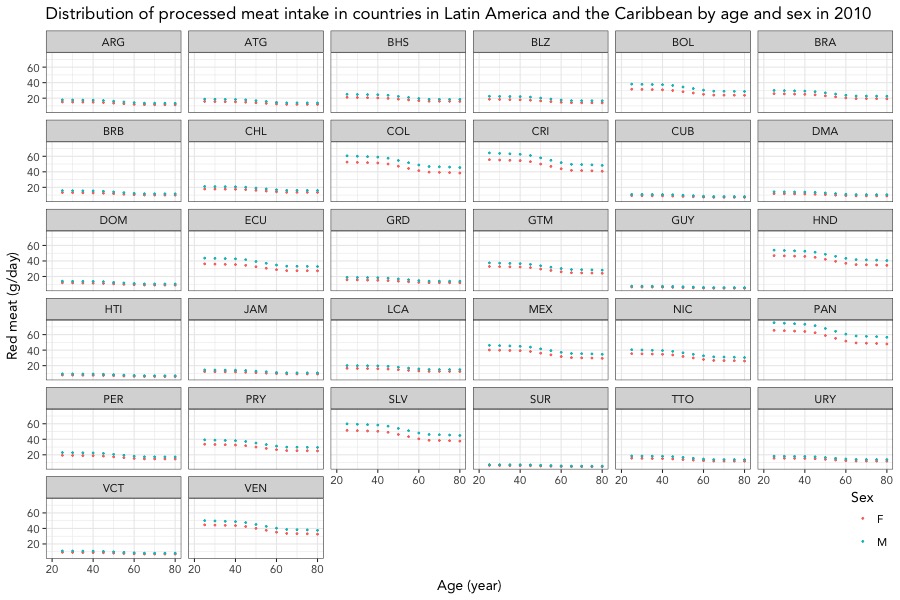
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Data are from 32 countries in LAC and the age of the participants raged from 25 to 80+ years. Each circle represents one age and sex strata within a particular country. The optimal level of polyunsaturated fatty acids (PUFA) intake is 12±1.2% E/day. ARG: Argentina, ATG: Antigua and Barbuda, BHS: The Bahamas, BLZ: Belize, BOL: Bolivia, BRA: Brazil, BRB: Barbados, CHL: Chile, COL: Colombia, CRI: Costa Rica, CUB: Cuba, DMA: Dominica, DOM: Dominican Republic, ECU: Ecuador, GRD: Grenada, GTM: Guatemala, GUY: Guyana, HND: Honduras, HTI: Haiti, JAM: Jamaica, LCA: Saint Lucia, MEX: Mexico, NIC: Nicaragua, PAN: Panama, PER: Peru, PRY: Paraguay, SLV: El Salvador, SUR: Suriname, TTO: Trinidad and Tobago, URY: Uruguay, VCT: Saint Vincent and the Grenadines, and VEN: Venezuela.



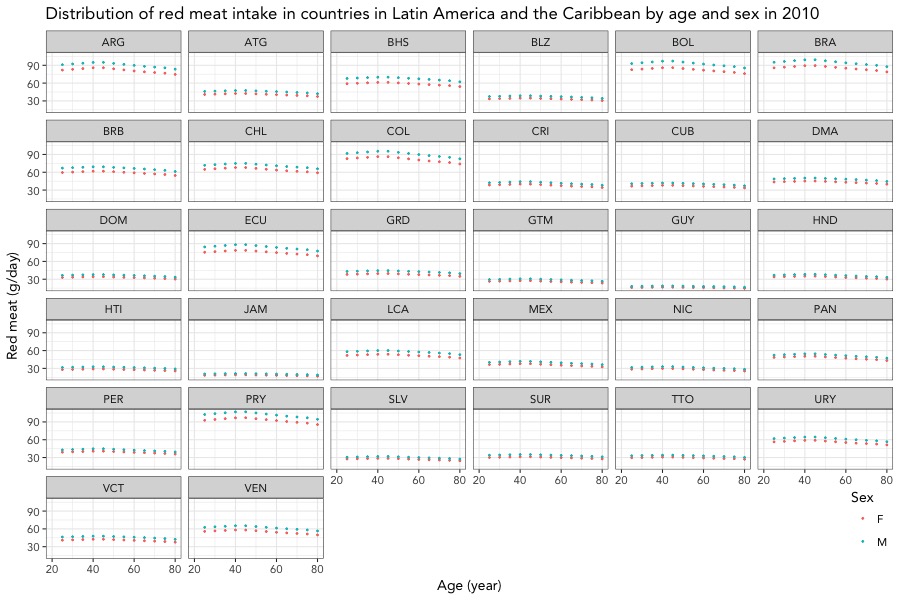
**Figure S11. Distribution of Omega-3 intake in countries in Latin America and Caribbean by age and sex in 2010.**

Data are from 32 countries in LAC and the age of the participants raged from 25 to 80+ years. Each circle represents one age and sex strata within a particular country. The optimal level of Omega-3 intake is 250±25 mg/day. ARG: Argentina, ATG: Antigua and Barbuda, BHS: The Bahamas, BLZ: Belize, BOL: Bolivia, BRA: Brazil, BRB: Barbados, CHL: Chile, COL: Colombia, CRI: Costa Rica, CUB: Cuba, DMA: Dominica, DOM: Dominican Republic, ECU: Ecuador, GRD: Grenada, GTM: Guatemala, GUY: Guyana, HND: Honduras, HTI: Haiti, JAM: Jamaica, LCA: Saint Lucia, MEX: Mexico, NIC: Nicaragua, PAN: Panama, PER: Peru, PRY: Paraguay, SLV: El Salvador, SUR: Suriname, TTO: Trinidad and Tobago, URY: Uruguay, VCT: Saint Vincent and the Grenadines, and VEN: Venezuela.

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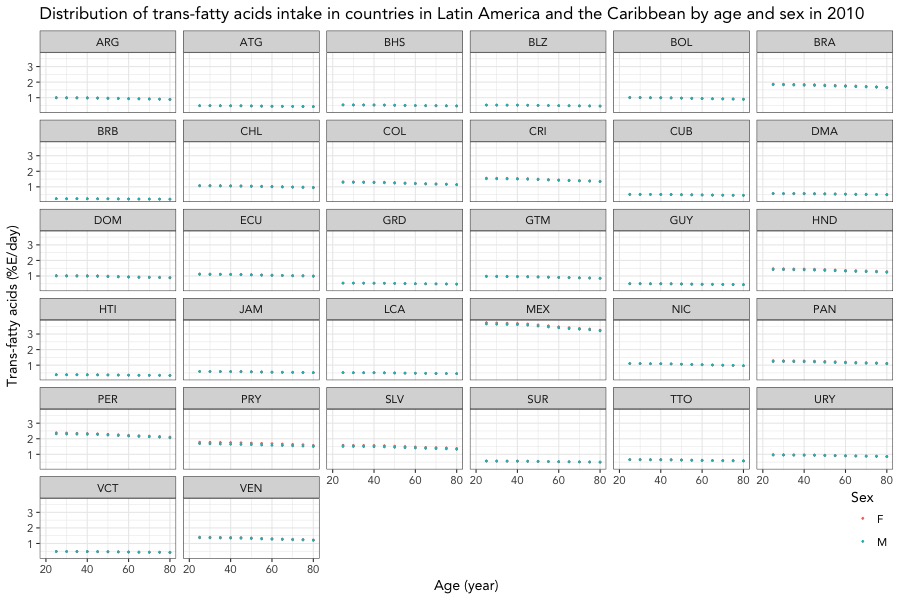
**Figure S12. Distribution of processed meat intake in countries in Latin America and Caribbean by age and sex in 2010.**

Data are from 32 countries in LAC and the age of the participants raged from 25 to 80+ years. Each circle represents one age and sex strata within a particular country. The optimal level of processed meat intake is 0 g/day. ARG: Argentina, ATG: Antigua and Barbuda, BHS: The Bahamas, BLZ: Belize, BOL: Bolivia, BRA: Brazil, BRB: Barbados, CHL: Chile, COL: Colombia, CRI: Costa Rica, CUB: Cuba, DMA: Dominica, DOM: Dominican Republic, ECU: Ecuador, GRD: Grenada, GTM: Guatemala, GUY: Guyana, HND: Honduras, HTI: Haiti, JAM: Jamaica, LCA: Saint Lucia, MEX: Mexico, NIC: Nicaragua, PAN: Panama, PER: Peru, PRY: Paraguay, SLV: El Salvador, SUR: Suriname, TTO: Trinidad and Tobago, URY: Uruguay, VCT: Saint Vincent and the Grenadines, and VEN: Venezuela.

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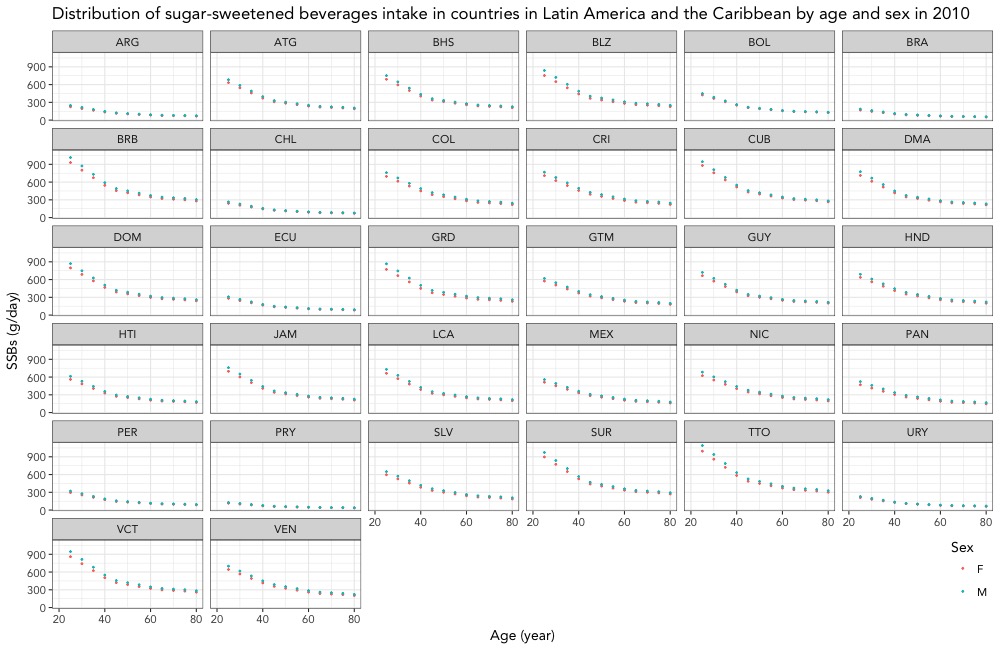
**Figure S13. Distribution of red meat intake in countries in Latin America and Caribbean by age and sex in 2010.**

Data are from 32 countries in LAC and the age of the participants raged from 25 to 80+ years. Each circle represents one-age and sex strata within a particular country. The optimal level of unprocessed meat is <14 g/day. ARG: Argentina, ATG: Antigua and Barbuda, BHS: The Bahamas, BLZ: Belize, BOL: Bolivia, BRA: Brazil, BRB: Barbados, CHL: Chile, COL: Colombia, CRI: Costa Rica, CUB: Cuba, DMA: Dominica, DOM: Dominican Republic, ECU: Ecuador, GRD: Grenada, GTM: Guatemala, GUY: Guyana, HND: Honduras, HTI: Haiti, JAM: Jamaica, LCA: Saint Lucia, MEX: Mexico, NIC: Nicaragua, PAN: Panama, PER: Peru, PRY: Paraguay, SLV: El Salvador, SUR: Suriname, TTO: Trinidad and Tobago, URY: Uruguay, VCT: Saint Vincent and the Grenadines, and VEN: Venezuela.

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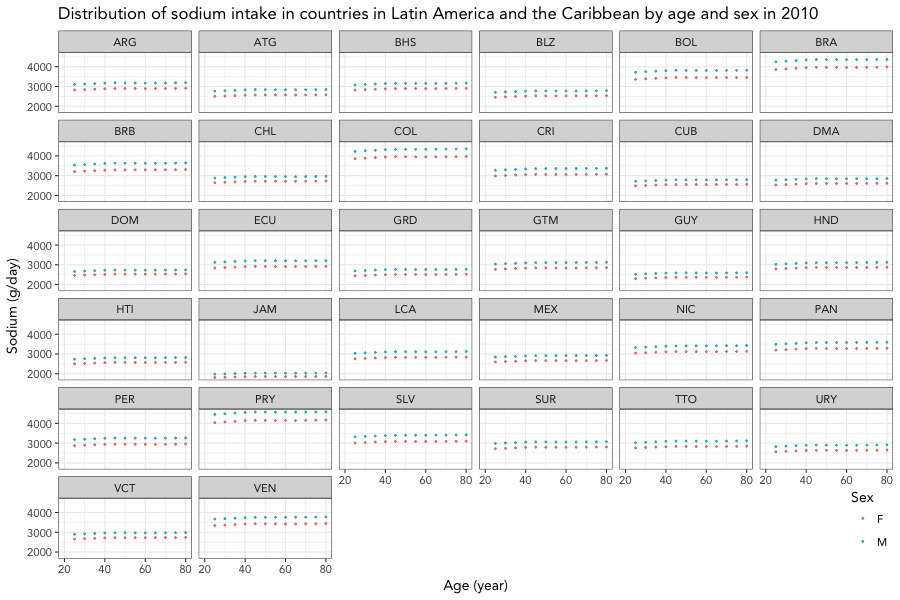
**Figure S14. Distribution of trans fatty acids intake in countries in Latin America and Caribbean by age and sex in 2010.**

Data are from 32 countries in LAC and the age of the participants raged from 25 to 80+ years. Each circle represents one age and sex strata within a particular country. The optimal level of trans-fatty acids intake is <0.5%E/day. ARG: Argentina, ATG: Antigua and Barbuda, BHS: The Bahamas, BLZ: Belize, BOL: Bolivia, BRA: Brazil, BRB: Barbados, CHL: Chile, COL: Colombia, CRI: Costa Rica, CUB: Cuba, DMA: Dominica, DOM: Dominican Republic, ECU: Ecuador, GRD: Grenada, GTM: Guatemala, GUY: Guyana, HND: Honduras, HTI: Haiti, JAM: Jamaica, LCA: Saint Lucia, MEX: Mexico, NIC: Nicaragua, PAN: Panama, PER: Peru, PRY: Paraguay, SLV: El Salvador, SUR: Suriname, TTO: Trinidad and Tobago, URY: Uruguay, VCT: Saint Vincent and the Grenadines, and VEN: Venezuela.

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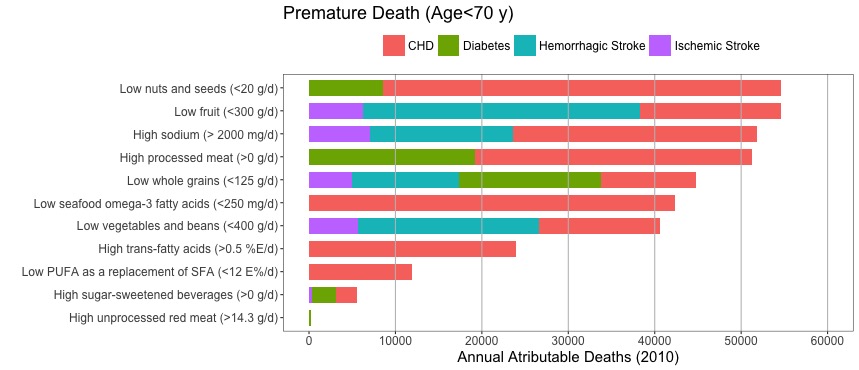
**Figure S15. Distribution of SSBs intake in countries in Latin America and Caribbean by age and sex in 2010.**

Data are from 32 countries in LAC and the age of the participants raged from 25 to 80+ years. Each circle represents one age and sex strata within a particular country. The optimal level of sugar-sweetened beverages intake is 0 g/day. ARG: Argentina, ATG: Antigua and Barbuda, BHS: The Bahamas, BLZ: Belize, BOL: Bolivia, BRA: Brazil, BRB: Barbados, CHL: Chile, COL: Colombia, CRI: Costa Rica, CUB: Cuba, DMA: Dominica, DOM: Dominican Republic, ECU: Ecuador, GRD: Grenada, GTM: Guatemala, GUY: Guyana, HND: Honduras, HTI: Haiti, JAM: Jamaica, LCA: Saint Lucia, MEX: Mexico, NIC: Nicaragua, PAN: Panama, PER: Peru, PRY: Paraguay, SLV: El Salvador, SUR: Suriname, TTO: Trinidad and Tobago, URY: Uruguay, VCT: Saint Vincent and the Grenadines, and VEN: Venezuela.

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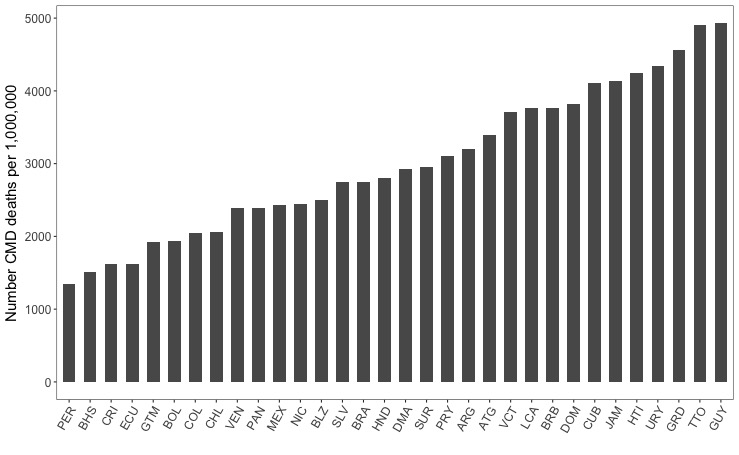
**Figure S16. Distribution of sodium intake in countries in Latin America and Caribbean by age and sex in 2010.**

Data are from 32 countries in LAC and the age of the participants raged from 25 to 80+ years. Each circle represents one age and sex strata within a particular country. The optimal level of sodium intake is 2000±200 mg/day. ARG: Argentina, ATG: Antigua and Barbuda, BHS: The Bahamas, BLZ: Belize, BOL: Bolivia, BRA: Brazil, BRB: Barbados, CHL: Chile, COL: Colombia, CRI: Costa Rica, CUB: Cuba, DMA: Dominica, DOM: Dominican Republic, ECU: Ecuador, GRD: Grenada, GTM: Guatemala, GUY: Guyana, HND: Honduras, HTI: Haiti, JAM: Jamaica, LCA: Saint Lucia, MEX: Mexico, NIC: Nicaragua, PAN: Panama, PER: Peru, PRY: Paraguay, SLV: El Salvador, SUR: Suriname, TTO: Trinidad and Tobago, URY: Uruguay, VCT: Saint Vincent and the Grenadines, and VEN: Venezuela.

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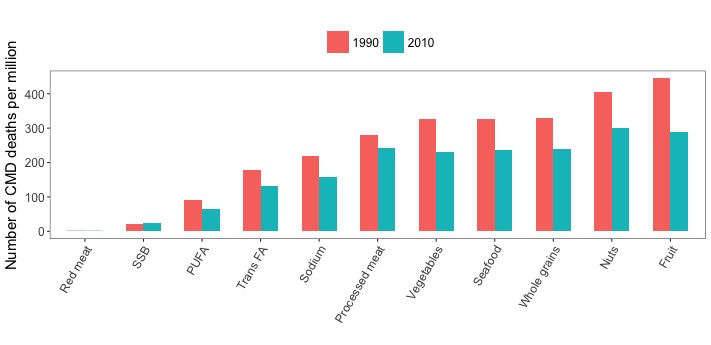
**Figure S17. Premature (<70 y) cardiometabolic deaths attributable to dietary factors in 32 countries in Latin America and Caribbean**

The bars represent absolute cardiometabolic deaths associated with 11 dietary factors and the age of the participants is less than 70 years. Data are stratified by disease outcome. CHD: Coronary heart disease

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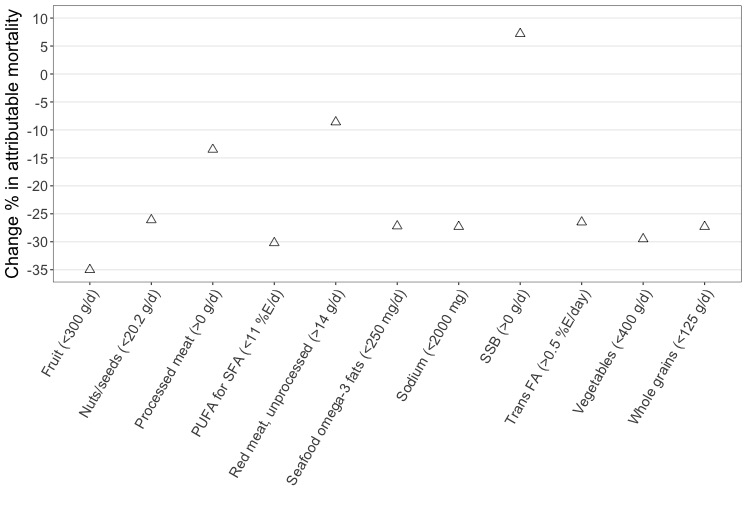
**Figure S18. Cardiometabolic deaths (per million adults) in 32 countries in Latin America and Caribbean in 2010.**

The bars represent age-sex standardized to account for changes in population structure by standardizing the 2010 population per million adults. The Latin America and the Caribbean region includes 32 countries: ARG: Argentina, ATG: Antigua and Barbuda, BHS: The Bahamas, BLZ: Belize, BOL: Bolivia, BRA: Brazil, BRB: Barbados, CHL: Chile, COL: Colombia, CRI: Costa Rica, CUB: Cuba, DMA: Dominica, DOM: Dominican Republic, ECU: Ecuador, GRD: Grenada, GTM: Guatemala, GUY: Guyana, HND: Honduras, HTI: Haiti, JAM: Jamaica, LCA: Saint Lucia, MEX: Mexico, NIC: Nicaragua, PAN: Panama, PER: Peru, PRY: Paraguay, SLV: El Salvador, SUR: Suriname, TTO: Trinidad and Tobago, URY: Uruguay, VCT: Saint Vincent and the Grenadines, and VEN: Venezuela.

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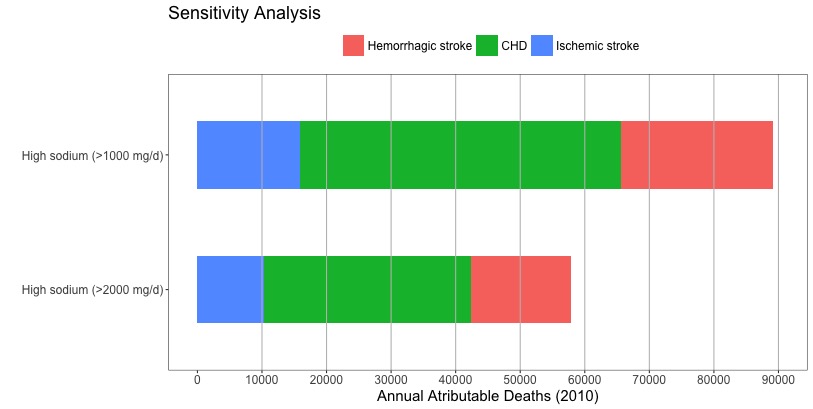
**Figure S19. Cardiometabolic deaths (per year per million adults) attributable to dietary factors in countries in Latin America and Caribbean in 1990 and 2010**

The bars represent the estimated cardiometabolic death rate associated with 11 dietary factors in 1990 and 2010. Death rates were age-sex standardized to account for changes in population structure by standardizing the 1990 and 2010 population per million adults. Trans FA: Trans fatty acids, SSBs: sugar-sweetened beverages, PUFA: polyunsaturated fats.

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**Figure S20. Change in percentage of cardiometabolic disease mortality between 1990 and 2010**

The triangles represent the estimated relative changes in percent cardiometabolic deaths associated with 11 dietary factors between 1990 and 2010 in countries in Latin America and Caribbean. These percentage changes correspond to (2010estimates – 1990estimates)/1990estimates x 100.

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**Figure S21. Cardiometabolic deaths attributable to sodium in countries in Latin America and Caribbean in different optimal levels (2010)**

The bars represent absolute cardiometabolic deaths associated with sodium intake at different optimal levels in 2010. Data is stratified by disease outcome. CHD: Coronary heart disease

**TABLES**

**Table S1. Cause-specific cardiometabolic deaths attributable to dietary factors in countries in Latin America and Caribbean (2010)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Total | Men | Women | 25-44 y | 45-70 y | 70+ y |
| Total CHD death | 465 406 | 251 074 | 214 332 | 16 547 | 200 498 | 248 361 |
| Total ischemic stroke deaths | 166 411 | 78 598 | 87 813 | 2000 | 46 794 | 117 617 |
| Total hemorrhagic stroke deaths | 154 622 | 77 031 | 77 591 | 9377 | 82 970 | 62 275 |
| Total diabetes deaths | 166 938 | 74 391 | 92 547 | 6375 | 89 244 | 71 319 |
| **Protective dietary factors** |  |  |  |  |  |  |
| Low fruits (<300 g/d) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 32 024 | 19 097 | 12 814 | 2353 | 18 342 | 11 259 |
| 95% UI | (28542-34844) | (16535-21552) | (11023-14656) | (1878-2743) | (15891-20496) | (9257-13136) |
| % total CHD deaths | 7 | 7.6 | 6 | 14.2 | 9.1 | 4.5 |
| Ischemic stroke |  |  |  |  |  |  |
| No. of deaths | 20 741 | 10 680 | 10 025 | 574 | 8642 | 11 509 |
| 95% UI | (17967-23028) | (8557-12222) | (8366-12014) | (468-658) | (7317-9675) | (9153-13774) |
| % total ischemic stroke deaths | 12.5 | 13.6 | 11.4 | 28.7 | 18.5 | 9.8 |
| Hemorrhagic stroke |  |  |  |  |  |  |
| No. of deaths | 53 332 | 28 232 | 25 022 | 5258 | 34 076 | 13 871 |
| 95% UI | (47626-57095) | (24126-31157) | (21952-27784) | (4311-6041) | (29691-37176) | (11391-16198) |
| % total hemorrhagic stroke deaths | 34.5 | 36.6 | 32.2 | 56 | 41 | 22.3 |
| Low vegetables and beans (<400 g/d) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 28 749 | 16 833 | 11 887 | 2065 | 15 814 | 10 840 |
| 95% UI | (26593-30934) | (15204-18532) | (10543-13401) | (1788-2342) | (14440-17326) | (9440-12390) |
| % total CHD deaths | 6.2 | 6.7 | 5.5 | 12.5 | 8 | 4.4 |
| Ischemic stroke |  |  |  |  |  |  |
| No. of deaths | 20 330 | 10 092 | 10 207 | 541 | 7965 | 11 846 |
| 95% UI | (18012-23014) | (8600-11761) | (8561-12427) | (456-631) | (6984-8964) | (9789-14284) |
| % total ischemic stroke deaths | 12.2 | 12.8 | 11.6 | 27 | 17 | 10.1 |
| Hemorrhagic stroke |  |  |  |  |  |  |
| No. of deaths | 35 164 | 18 233 | 16 806 | 3604 | 22 115 | 9343 |
| 95% UI | (32024-37884) | (16213-20462) | (14713-18854) | (3048-4183) | (19762-24487) | (7887-11130) |
| % total hemorrhagic stroke deaths | 22.7 | 23.7 | 21.6 | 38.4 | 26.6 | 15 |
| Low nuts and seeds (<20.2 g/d) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 94 261 | 54 046 | 40 022 | 5992 | 52 804 | 35 358 |
| 95% UI | (60720-104608) | (33622-60394) | (24698-45512) | (3799-6804) | (33133-58313) | (20355-41086) |
| % total CHD deaths | 20.2 | 21.5 | 18.7 | 36.2 | 26.3 | 14.2 |
| Diabetes |  |  |  |  |  |  |
| No. of deaths | 15 364 | 7189 | 8070 | 1017 | 9958 | 4279 |
| 95% UI | (10860-17167) | (4908-8250) | (5651-9294) | (704-1192) | (7000-11382) | (2527-5244) |
| % total diabetes deaths | 9.2 | 9.7 | 8.7 | 16 | 11 | 6 |
| Low whole grains (<125 g/d) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 21 331 | 12 355 | 8959 | 1540 | 12 245 | 7548 |
| 95% UI | (16616-24039) | (9279-14149) | (6723-10502) | (1057-1906) | (9068-14063) | (5608-9096) |
| % total CHD deaths | 4.6 | 5 | 4.2 | 9.3 | 6 | 3 |
| Ischemic stroke |  |  |  |  |  |  |
| No. of deaths | 16 896 | 8333 | 8453 | 455 | 6973 | 9416 |
| 95% UI | (12398-19168) | (5733-9945) | (6044-10117) | (295-543) | (5007-8033) | (6542-11383) |
| % total ischemic stroke deaths | 10 | 10.6 | 9.6 | 22.7 | 15 | 8 |
| Hemorrhagic stroke |  |  |  |  |  |  |
| No. of deaths | 20 100 | 10 310 | 9670 | 2135 | 12 961 | 4863 |
| 95% UI | (15263-22174) | (7567-11784) | (7077-10998) | (1390-2560) | (9579-14760) | (3594-5791) |
| % total hemorrhagic stroke deaths | 13 | 13.4 | 12.5 | 22.8 | 15.6 | 7.8 |
| Diabetes |  |  |  |  |  |  |
| No. of deaths | 28 742 | 13 488 | 15 150 | 1965 | 18 835 | 7863 |
| 95% UI | (22903-30956) | (10329-14841) | (11836-16878) | (1388-2303) | (14469-20561) | (5929-8997) |
| % total diabetes deaths | 17.2 | 18 | 16.4 | 31 | 21 | 11 |
| Low PUFA as a replacement for SFA (<12% E/d) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 23 348 | 13 697 | 9652 | 1639 | 13 465 | 8185 |
| 95% UI | (21778-25185) | (12414-15015) | (8688-10855) | (1444-1870) | (12349-14775) | (7125-9400) |
| % total CHD deaths | 5 | 5.4 | 4.5 | 10 | 6.7 | 3.3 |
| Low seafood omega-3 fatty acids (<250 mg/d) | |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 87 007 | 49 525 | 36 825 | 5750 | 48 369 | 32 176 |
| 95% UI | (34330-93991) | (19936-54601) | (14597-41531) | (2185-6689) | (19399-53114) | (12280-36669) |
| % total CHD deaths | 18.7 | 19.7 | 17.2 | 34.7 | 24 | 13 |
| **Harmful dietary factors** |  |  |  |  |  |  |
| High processed med (>0 g/d) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 58 427 | 36 378 | 21 800 | 5270 | 34 398 | 18 633 |
| 95% UI | (53261-64417) | (32261-40615) | (18910-25618) | (4487-6160) | (30591-38656) | (15539-22440) |
| % total CHD deaths | 12.5 | 14.5 | 10.2 | 31.8 | 17.1 | 7.5 |
| Diabetes |  |  |  |  |  |  |
| No. of deaths | 30 970 | 15 964 | 14 947 | 2747 | 20 903 | 7313 |
| 95% UI | (28531-33603) | (14328-17801) | (13237-16829) | (2312-3243) | (18845-23274) | (6022-8617) |
| % total diabetes deaths | 18.5 | 21.4 | 16.1 | 43 | 23.4 | 10.2 |
| High unprocessed red meat (>14.3 g/d) | |  |  |  |  |  |
| Diabetes |  |  |  |  |  |  |
| No. of deaths | 383 | 161 | 221 | 28 | 251 | 101 |
| 95% UI | (323-526) | (128-245) | (178-309) | (21-43) | (203-353) | (74-168) |
| % total diabetes deaths | 0.2 | 0.2 | 0.2 | 0.4 | 0.2 | 0.1 |
| High trans-fatty acids (>0.5 %E/d) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 48 470 | 27 856 | 20 695 | 3217 | 27 333 | 17 909 |
| 95% UI | (45628-51390) | (25720-29832) | (18822-22657) | (2880-3578) | (25360-29276) | (16189-19922) |
| % total CHD deaths | 10.4 | 11 | 9.6 | 19.4 | 13.6 | 7.2 |
| High sodium (>2000 mg/day) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 32 119 | 20 517 | 11 459 | 1398 | 21 252 | 9294 |
| 95% UI | (19915-43499) | (12810-27817) | (7064-16093) | (578-2250) | (13831-27980) | (5364-13954) |
| % total CHD deaths | 7 | 8.2 | 5.3 | 8.4 | 10.6 | 3.7 |
| Ischemic stroke |  |  |  |  |  |  |
| No. of deaths | 10 274 | 6013 | 4234 | 220 | 6288 | 3824 |
| 95% UI | (6548-14111) | (3879-8329) | (2681-5997) | (87-348) | (4106-8207) | (2296-5679) |
| % total ischemic stroke deaths | 6.2 | 7.6 | 4.8 | 11 | 13.4 | 3.2 |
| Hemorrhagic stroke |  |  |  |  |  |  |
| No. of deaths | 15 423 | 9051 | 6377 | 1087 | 11 917 | 2364 |
| 95% UI | (9623-21026) | (5607-12248) | (3977-8888) | (456-1798) | (7681-15836) | (1366-3792) |
| % total hemorrhagic stroke deaths | 10 | 11.7 | 8.2 | 11.6 | 14.4 | 3.8 |
| High sugar-sweetened beverages (>0 g/day) | |  |  |  |  |  |
| Diabetes |  |  |  |  |  |  |
| No. of deaths | 3906 | 1984 | 1917 | 514 | 2666 | 712 |
| 95% UI | (2474-5493) | (1247-2763) | (1185-2717) | (327-731) | (1683-3775) | (441-1004) |
| % total diabetes deaths | 2.3 | 2.7 | 2 | 8 | 3 | 1 |
| CHD |  |  |  |  |  |  |
| No. of deaths | 3853 | 2384 | 1470 | 535 | 2403 | 931 |
| 95% UI | (2461-5305) | (1503-3256) | (934-2079) | (336-738) | (1517-3306) | (606-1301) |
| % total CHD deaths | 0.8 | 1 | 0.6 | 3 | 1 | 0.4 |
| Ischemic stroke |  |  |  |  |  |  |
| No. of deaths | 723 | 398 | 326 | 70 | 470 | 183 |
| 95% UI | (464-994) | (250-537) | (207-462) | (45-96) | (297-648) | (113-260) |
| % total ischemic stroke deaths | 0.4 | 0.5 | 0.4 | 3 | 1 | 0.1 |

CHD, coronary heart disease; CMD, cardiometabolic disease; PUFA, polyunsaturated fatty acids as a replacement of SFA; UI, uncertainty interval

**Table S2. Cause-specific cardiometabolic deaths attributable to dietary factors in countries in Latin America and Caribbean (1990)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Total | Men | Women | 25-44 y | 45-70 y | 70+ y |
| Total CHD death | 305 663 | 171 075 | 134 588 | 15 179 | 154 021 | 136 463 |
| Total ischemic stroke deaths | 118 758 | 57 474 | 61 284 | 2187 | 42 737 | 73 833 |
| Total hemorrhagic stroke deaths | 120 141 | 60 991 | 59 150 | 12 265 | 74 331 | 33 545 |
| Total diabetes deaths | 80 348 | 34 145 | 46 203 | 4566 | 49 588 | 26 194 |
| **Protective dietary factors** |  |  |  |  |  |  |
| Low fruits (<300 g/d) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 23 226 | 14 287 | 8935 | 2228 | 14 635 | 6384 |
| 95% UI | (21034-25110) | (12299-15842) | (7947-9974) | (1790-2613) | (12740-16144) | (5451-7340) |
| % total CHD deaths | 7.6 | 8.3 | 6.6 | 14.7 | 9.5 | 4.7 |
| Ischemic stroke |  |  |  |  |  |  |
| No. of deaths | 16 288 | 8617 | 7626 | 642 | 8171 | 7445 |
| 95% UI | (14518-17670) | (7342-9641) | (6637-8731) | (528-723) | (7076-8977) | (6381-8582) |
| % total ischemic stroke deaths | 13.7 | 15 | 12.4 | 29.3 | 19.1 | 10 |
| Hemorrhagic stroke |  |  |  |  |  |  |
| No. of deaths | 46 075 | 24 597 | 21 561 | 7026 | 31 483 | 7601 |
| 95% UI | (41472-49221) | (21096-27038) | (19340-23363) | (5943-7856) | (27819-34383) | (6406-8571) |
| % total hemorrhagic stroke deaths | 38.3 | 40.3 | 36.4 | 57.3 | 42.3 | 22.6 |
| Low vegetables and beans (<400 g/d) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 19 347 | 11 700 | 7649 | 1760 | 11 689 | 5889 |
| 95% UI | (17988-20652) | (10576-12772) | (6922-8388) | (1516-2024) | (10645-12793) | (5148-6610) |
| % total CHD deaths | 6.3 | 7 | 5.7 | 11.6 | 7.5 | 4.3 |
| Ischemic stroke |  |  |  |  |  |  |
| No. of deaths | 15 074 | 7700 | 7384 | 565 | 7031 | 7490 |
| 95% UI | (13539-16535) | (6632-8725) | (6302-8395) | (483-649) | (6108-7870) | (6281-8735) |
| % total ischemic stroke deaths | 12.7 | 13.4 | 12 | 26 | 16.4 | 10 |
| Hemorrhagic stroke |  |  |  |  |  |  |
| No. of deaths | 28 381 | 14 941 | 13 422 | 4434 | 19 085 | 4847 |
| 95% UI | (25865-30472) | (13103-16780) | (12066-14784) | (3691-5175) | (16992-21105) | (4159-5521) |
| % total hemorrhagic stroke deaths | 23.6 | 24.4 | 22.7 | 36 | 25.6 | 14.4 |
| Low nuts and seeds (<20.2 g/d) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 69 502 | 41 020 | 28 517 | 5958 | 42 919 | 20 565 |
| 95% UI | (45571-76148) | (26257-45557) | (18364-31522) | (3619-6589) | (27907-47240) | (12990-23451) |
| % total CHD deaths | 22.7 | 24 | 21.2 | 39.2 | 27.8 | 15 |
| Diabetes |  |  |  |  |  |  |
| No. of deaths | 8673 | 3818 | 4832 | 829 | 6110 | 1687 |
| 95% UI | (6190-9556) | (2699-4306) | (3449-5410) | (580-952) | (4375-6856) | (1142-1972) |
| % total diabetes deaths | 10.8 | 11.2 | 10.4 | 18 | 12.3 | 6.4 |
| Low whole grains (<125 g/d) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 15 836 | 9373 | 6376 | 1458 | 9829 | 4416 |
| 95% UI | (10341-18160) | (5887-11209) | (4110-7508) | (818-1838) | (6110-11700) | (2641-5263) |
| % total CHD deaths | 5.2 | 5.5 | 4.7 | 9.6 | 6.4 | 3.2 |
| Ischemic stroke |  |  |  |  |  |  |
| No. of deaths | 13 310 | 6778 | 6444 | 504 | 6500 | 6207 |
| 95% UI | (8620-15216) | (3972-8068) | (4014-7659) | (285-617) | (4012-7668) | (3536-7382) |
| % total ischemic stroke deaths | 11.2 | 11.8 | 10.5 | 23 | 15.2 | 8.4 |
| Hemorrhagic stroke |  |  |  |  |  |  |
| No. of deaths | 17 617 | 9128 | 8373 | 2837 | 11928 | 2714 |
| 95% UI | (11210-19860) | (5493-10736) | (5334-9702) | (1563-3480) | (7401-13863) | (1620-3229) |
| % total hemorrhagic stroke deaths | 14.7 | 15 | 14.1 | 23.1 | 16 | 8 |
| Diabetes |  |  |  |  |  |  |
| No. of deaths | 15 662 | 6904 | 8666 | 1460 | 11003 | 3090 |
| 95% UI | (10371-17000) | (4382-7718) | (5681-9565) | (888-1684) | (7075-12115) | (1880-3511) |
| % total diabetes deaths | 19.5 | 20.2 | 18.7 | 32 | 22.2 | 11.8 |
| Low PUFA as a replacement for SFA  (<12% E/d) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 17 557 | 10 531 | 7009 | 1600 | 11 099 | 4817 |
| 95% UI | (16340-18791) | (9573-11522) | (6373-7799) | (1395-1833) | (10106-12184) | (4298-5469) |
| % total CHD deaths | 5.7 | 6.1 | 5.2 | 10.5 | 7.2 | 3.5 |
| Low seafood omega-3 fatty acids (<250 mg/d) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 62 744 | 36 781 | 25 561 | 5448 | 38 543 | 18 162 |
| 95% UI | (23955-67597) | (14381-40131) | (10008-28299) | (1989-6238) | (14920-42264) | (6788-20477) |
| % total CHD deaths | 20.5 | 21.5 | 19 | 36 | 25 | 13.3 |
| **Harmful dietary factors** |  |  |  |  |  |  |
| High processed med (>0 g/d) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 39 030 | 24 631 | 14 352 | 4573 | 24 659 | 9713 |
| 95% UI | (35801-42833) | (22008-27850) | (12651-16247) | (3851-5371) | (22027-27521) | (8349-11513) |
| % total CHD deaths | 12.8 | 14.4 | 10.7 | 30.1 | 16 | 7.1 |
| Diabetes |  |  |  |  |  |  |
| No. of deaths | 15 270 | 7435 | 7849 | 1833 | 10 896 | 2550 |
| 95% UI | (14126-16395) | (6652-8192) | (7023-8705) | (1616-2051) | (9784-11930) | (2167-3023) |
| % total diabetes deaths | 19 | 21.8 | 17 | 40.1 | 22 | 9.7 |
| High unprocessed red meat (>14.3 g/d) |  |  |  |  |  |  |
| Diabetes |  |  |  |  |  |  |
| No. of deaths | 220 | 88 | 132 | 20 | 156 | 156 |
| 95% UI | (186-291) | (70-126) | (104-181) | (15-28) | (125-215) | (125-216) |
| % total diabetes deaths | 0.3 | 0.2 | 0.3 | 0.4 | 0.3 | 0.6 |
| High trans-fatty acids (>0.5 %E/d) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 34 609 | 20 425 | 14 112 | 3044 | 21 479 | 10 049 |
| 95% UI | (32662-36381) | (18944-21824) | (13047-15209) | (2689-3357) | (19970-22938) | (9011-10958) |
| % total CHD deaths | 11.3 | 12 | 10.4 | 20 | 14 | 7.4 |
| High sodium (>2000 mg/day) |  |  |  |  |  |  |
| CHD |  |  |  |  |  |  |
| No. of deaths | 21 552 | 14 101 | 7396 | 1317 | 15 188 | 4908 |
| 95% UI | (13544-28839) | (8814-18989) | (4599-10123) | (508-2137) | (9929-19900) | (2890-7170) |
| % total CHD deaths | 7 | 8.2 | 5.4 | 8.6 | 9.8 | 3.5 |
| Ischemic stroke |  |  |  |  |  |  |
| No. of deaths | 7800 | 4693 | 3073 | 245 | 5229 | 2314 |
| 95% UI | (4940-10495) | (2953-6328) | (1931-4217) | (93-396) | (3414-6829) | (1420-3330) |
| % total ischemic stroke deaths | 6.5 | 8.2 | 5 | 11.2 | 12.2 | 3 |
| Hemorrhagic stroke |  |  |  |  |  |  |
| No. of deaths | 12 568 | 7372 | 5196 | 1425 | 9812 | 1278 |
| 95% UI | (7670-17142) | (4539-10025) | (3258-7090) | (554-2409) | (6326-12974) | (745-1917) |
| % total hemorrhagic stroke deaths | 10.4 | 12 | 8.7 | 11.6 | 13.2 | 3.8 |
| High sugar-sweetened beverages (>0 g/day) |  |  |  |  |  |  |
| Diabetes |  |  |  |  |  |  |
| No. of deaths | 1797 | 766 | 1031 | 287 | 1335 | 175 |
| 95% UI | (1192-2441) | (527 – 1038) | (660-1422) | (194 – 392) | (854 – 1847) | (117 – 237) |
| % total diabetes deaths | 2.2 | 2.2 | 2.2 | 6 | 2.6 | 0.7 |
| CHD |  |  |  |  |  |  |
| No. of deaths | 1920 | 1033 | 881 | 314 | 1318 | 283 |
| 95% UI | (1343 – 2541) | (717 – 1378) | (589-1194) | (224 – 420) | (921 – 1765) | (184 – 391) |
| % total CHD deaths | 0.6 | 0.6 | 0.6 | 2 | 0.8 | 0.2 |
| Ischemic stroke |  |  |  |  |  |  |
| No. of deaths | 445 | 204 | 242 | 51 | 314 | 80 |
| 95% UI | (310 – 592) | (136 – 272) | (161-329) | (35 – 68) | (217 – 421) | (53 – 112) |
| % total ischemic stroke deaths | 0.4 | 0.3 | 0.4 | 2.3 | 0.7 | 0.1 |

CHD, coronary heart disease; CMD, cardiometabolic disease; PUFA, polyunsaturated fatty acids as a replacement of SFA; UI, uncertainty interval

**Table S3. Cardiometabolic deaths attributable to dietary factors in countries in Latin America and Caribbean (1990) \***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Total | Women | Men | 25-44 years | 45-70 years | 70+ years |
| Total CMD† | 624 911 | 301 226 | 323 685 | 34 197 | 320 678 | 270 036 |
| Low fruits (<300 g/day) | |  |  |  |  |  |
| Deaths (n) | 85 794 | 38 173 | 47 704 | 9928 | 54 386 | 21 467 |
| 95% UI | (77 743 – 89 931) | (34 757 – 40 736) | (41 300 – 51 267) | (8415 – 10 891) | (48 461 – 58 038) | (18 838 – 23 703) |
| % of total CMD deaths | 13.7 | 12.7 | 14.7 | 29 | 17 | 8 |
| Low whole grains (<125 g/day) | |  |  |  |  |  |
| Deaths (n) | 63 352 | 30 349 | 32 802 | 6341 | 40 016 | 16 708 |
| 95% UI | (41 022 – 68 313) | (19 759 – 33 078) | (20 448 – 36 095) | (3629 – 7304) | (25 488 – 43 549) | (9920 – 18 534) |
| % of total CMD deaths | 10.1 | 10 | 10.1 | 18.5 | 12.5 | 6.2 |
| Low nuts and seeds (<20.2 g/day) | |  |  |  |  |  |
| Deaths (n) | 78 086 | 33 440 | 44 913 | 6813 | 49 188 | 22 297 |
| 95% UI | (51 795 – 85 340) | (21 920 – 36 659) | (29 028 – 49 668) | (4275-7453) | (32 159 – 53 683) | (14 099 – 25 241) |
| % of total CMD deaths | 12.5 | 11 | 14 | 20 | 15.3 | 8.2 |
| Low vegetables and beans (<250 mg/day) | |  |  |  |  |  |
| Deaths (n) | 62 841 | 28 464 | 34 374 | 6771 | 37 854 | 18 201 |
| 95% UI | (58 663 – 66 098) | (26 059 – 30 526) | (31 201 – 37 154) | (5908 – 7598) | (34 777 – 40 662) | (16 110 – 20 065) |
| % of total CMD deaths | 10 | 9.4 | 10.6 | 19.8 | 11.8 | 6.7 |
| Low seafood ω-3 fatty acids (<250 mg/day) | |  |  |  |  |  |
| Deaths (n) | 62 744 | 25 561 | 36 781 | 5448 | 38 543 | 18 162 |
| 95% UI | (23 955 – 67 597) | (10 008 – 28 299) | (14 381 – 40 131) | (1989 – 6238) | (14 920 – 42 264) | (6788 – 20 477) |
| % of total CMD deaths | 10 | 8.5 | 11.4 | 16 | 12 | 6.7 |
| Low PUFA (<12 %E/day) | |  |  |  |  |  |
| Deaths (n) | 17 557 | 7009 | 10 531 | 1600 | 11 099 | 4817 |
| 95% UI | (16 340 – 18 791) | (6373 – 7799) | (9573 – 11 522) | (1395 – 1833) | (10 106 – 12 184) | (4298 – 5469) |
| % of total CMD deaths | 3 | 2.3 | 3.2 | 4.7 | 3.5 | 1.8 |
| High processed meat (>0g/day) | |  |  |  |  |  |
| Deaths (n) | 54 235 | 22 179 | 32 018 | 6415 | 35 508 | 12 241 |
| 95% UI | (50 755 – 58 607) | (20 220 – 24 717) | (29 145 – 35 474) | (5655 – 7248) | (32 433 – 39 098) | (10 713 – 14 289) |
| % of total CMD deaths | 8.7 | 7.4 | 9.9 | 18.7 | 11.1 | 4.5 |
| High unprocessed red meat (>14.2 g/day) | |  |  |  |  |  |
| Deaths (n) | 220 | 132 | 88 | 20 | 156 | 44 |
| 95% UI | (186 – 291) | (104 – 181) | (70 – 126) | (15 – 28) | (125 – 216) | (31 – 71) |
| % of total CMD deaths | 0.03 | 0.04 | 0.03 | 0.06 | 0.05 | 0.02 |
| High trans-fatty acids (>0.5%E/day) | |  |  |  |  |  |
| Deaths (n) | 34 609 | 14 112 | 20 425 | 3044 | 21 479 | 10 049 |
| 95% UI | (32 662 – 36 381) | (13 047 – 15 209) | (18 944 – 21 824) | (2689 – 3357) | (19 970 – 22 938) | (9011 – 10 958) |
| % of total CMD deaths | 5.5 | 4.6 | 6.3 | 9 | 6.7 | 3.7 |
| High sodium (>2,000 mg/day) ‡ | |  |  |  |  |  |
| Deaths (n) § | 42 003 | 15 651 | 26 295 | 2980 | 30 248 | 8583 |
| 95% UI | (26 029 – 56 412) | (9672 – 21 151) | (16 278 – 35 121) | (1185 – 4886) | (19 761 – 39 834) | (5183 – 12 218) |
| % of total CMD deaths | 6.7 | 5.2 | 8 | 8.7 | 9.4 | 3.2 |
| High sugar-sweetened beverages (>0 g/day) || | |  |  |  |  |  |
| Deaths (n) | 4151 | 2159 | 2007 | 654 | 2966 | 537 |
| 95% UI | (2887 – 5549) | (1413 – 2928) | (1410 – 2662) | (461 – 874) | (2006 – 3992) | (358 – 727) |
| % of total CMD deaths | 0.7 | 0.7 | 0.6 | 2 | 0.9 | 0.2 |

\* The Latin America and the Caribbean region includes 32 countries: Argentina, Antigua and Barbuda, The Bahamas, Belize, Bolivia, Brazil, Barbados, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, Grenada, Guatemala, Guyana, Honduras, Haiti, Jamaica, Saint Lucia, Mexico, Nicaragua, Panama, Peru, Paraguay, El Salvador, Suriname, Trinidad and Tobago, Uruguay, Saint Vincent and the Grenadines, and Venezuela.

† Total cardiometabolic deaths include CHD (ICD-10 codes I20-I25), ischemic stroke (I63, I65-I67, I69.3), haemorrahagic/other non-ischemic stroke (I60-62, I69.0-2), and diabetes mellitus (E10-E14)

‡ In following the US Institute of Medicine’s recommendation and to be consistent with prior studies evaluating the CMD burden we used the level of 2,000 mg/day

§ Mediated effect throught blood pressure

|| Mediated effect through BMI

CMD, cardiometabolic disease; PUFA, polyunsaturated fatty acids as a replacement of SFA; UI, uncertainty interval

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table S4. Cardiometabolic deaths (per year per million adults) attributable to dietary risk factors in 32 countries in Latin American and Caribbean (1990)** | | | | | | | | | | | |
|  | Low fruits (<300 g/day) | Low whole grains (<125 g/day) | Low nuts and seeds (<20.2 g/day) | Low vegetables and beans (<400 g/day) | Low seafood ω-3 fatty acids (<250 mg/day) | Low PUFA as a replacement for SFA (<12% E/day) | High trans-fatty acids (>0.5% E/day) | High processed meat (>0 g/day) | High unprocessed red meat (>14.3 g/day) | High sodium (>2,000 mg/day) | High SSB (>0 g/day) |
| High income |  |  |  |  |  |  |  |  |  |  |  |
| The Bahamas | 158 | 105 | 172 | 213 | 116 | 54 | 95 | 123 | 0 | 79 | 32 |
|  | (140 - 176) | (95 - 117) | (156 - 190) | (176 - 239) | (68 - 133) | (46 - 63) | (77 - 108) | (101 - 148) | (0 - 1) | (49 - 108) | (20 - 44) |
| Barbados | 296 | 75 | 394 | 426 | 14 | 84 | 170 | 154 | 1 | 184 | 56 |
|  | (256 - 351) | (67 - 90) | (303 - 434) | (350 - 497) | (12 - 16) | (69 - 103) | (94 - 199) | (115 - 223) | (1 - 2) | (113 - 253) | (37 - 76) |
| Trinidad and Tobago | 453 | 344 | 532 | 456 | 353 | 81 | 210 | 194 | 6 | 122 | 99 |
|  | (354 - 510) | (310 - 376) | (335 - 578) | (348 - 505) | (106 - 443) | (67 - 95) | (174 - 236) | (149 - 292) | (4 - 9) | (72 - 163) | (63 - 137) |
| Upper middle income |  |  |  |  |  |  |  |  |  |  |  |
| Argentina | 430 | 282 | 316 | 433 | 307 | 65 | 174 | 134 | 0 | 149 | 11 |
|  | (346 - 481) | (149 - 322) | (159 - 430) | (345 - 485) | (100 - 358) | (54 - 79) | (148 - 197) | (103 - 188) | (0 - 1) | (92 - 202) | (7 - 16) |
| Antigua and Barbuda | 269 | 114 | 244 | 338 | 82 | 59 | 105 | 96 | 1 | 72 | 18 |
|  | (232 - 313) | (102 - 128) | (141 - 272) | (268 - 391) | (69 - 100) | (50 - 69) | (76 - 121) | (73 - 124) | (1 - 2) | (45 - 99) | (12 - 24) |
| Brazil | 302 | 197 | 233 | 148 | 186 | 48 | 98 | 130 | 0 | 180 | 5 |
|  | (250 - 332) | (98 - 224) | (126 - 262) | (127 - 172) | (65 - 214) | (40 - 56) | (86 - 109) | (108 - 153) | (0 - 1) | (113 - 244) | (3 - 6) |
| Chile | 272 | 120 | 176 | 256 | 81 | 47 | 101 | 66 | 0 | 70 | 7 |
|  | (227 - 305) | (106 - 135) | (76 - 260) | (210 - 290) | (67 - 100) | (39 - 57) | (87 - 117) | (47 - 93) | (0 - 1) | (44 – 95) | (5 - 10) |
| Colombia | 155 | 117 | 195 | 108 | 170 | 43 | 97 | 238 | 0 | 141 | 14 |
|  | (139 - 172) | (95 - 129) | (162 - 212) | (94 - 125) | (67 - 195) | (36 - 50) | (87 - 109) | (205 - 272) | (0 - 1) | (88 - 188) | (10 - 19) |
| Costa Rica | 99 | 81 | 152 | 67 | 131 | 22 | 70 | 144 | 0 | 44 | 10 |
|  | (86 - 114) | (66 - 90) | (104 - 169) | (56 - 83) | (41 - 155) | (18 – 28) | (61 - 80) | (121 - 168) | (0 - 1) | (27 - 61) | (7 - 13) |
| Cuba | 306 | 268 | 496 | 389 | 370 | 120 | 241 | 156 | 1 | 120 | 35 |
|  | (272 - 348) | (128 - 328) | (263 - 559) | (310 - 443) | (154 - 426) | (100 - 142) | (195 - 275) | (119 - 215) | (0 - 1) | (74 - 164) | (24 - 47) |
| Dominica | 304 | 265 | 279 | 354 | 140 | 49 | 122 | 80 | 2 | 64 | 24 |
|  | (257 - 347) | (197 - 297) | (211 - 306) | (260 - 406) | (86 - 164) | (39 - 59) | (98 - 140) | (60 - 133) | (1 - 3) | (39 - 87) | (16 - 32) |
| Dominican Republic | 216 | 168 | 231 | 239 | 185 | 51 | 105 | 54 | 1 | 42 | 9 |
|  | (191 - 241) | (116 - 185) | (141 - 253) | (201 - 268) | (66 - 211) | (43 - 59) | (93 - 118) | (40 - 97) | (0 - 1) | (26 - 57) | (4 - 14) |
| Ecuador | 139 | 86 | 128 | 149 | 96 | 14 | 55 | 86 | 0 | 42 | 5 |
|  | (124 - 157) | (77 - 95) | (76 - 141) | (126 - 166) | (34 - 110) | (11 - 17) | (48 - 63) | (74 - 100) | (0 - 1) | (26 - 58) | (4 – 17) |
| Grenada | 492 | 208 | 416 | 617 | 202 | 72 | 224 | 155 | 2 | 94 | 43 |
|  | (429 - 568) | (183 - 236) | (364 - 462) | (489 - 712) | (160 - 240) | (58 - 88) | (175 - 256) | (94 - 217) | (1 - 3) | (58 - 127) | (31 - 58) |
| Jamaica | 206 | 358 | 308 | 405 | 184 | 47 | 111 | 118 | 6 | 3 | 22 |
|  | (180 - 241) | (292 - 395) | (162 - 342) | (329 - 474) | (63 - 219) | (38 - 59) | (83 - 131) | (76 - 161) | (3 - 9) | (2 - 5) | (16 - 30) |
| Saint Lucia | 346 | 339 | 290 | 449 | 146 | 52 | 131 | 106 | 2 | 115 | 28 |
|  | (301 - 398) | (228 - 377) | (243 - 317) | (364 - 516) | (97 - 169) | (42 - 63) | (102 - 152) | (79 - 160) | (1 - 3) | (72 - 154) | (19 - 37) |
| Mexico | 101 | 151 | 155 | 92 | 117 | 37 | 50 | 184 | 2 | 33 | 21 |
|  | (91 - 115) | (94 - 166) | (130 - 168) | (80 - 106) | (33 - 139) | (32 - 43) | (43 - 57) | (159 - 206) | (1 - 2) | (20 - 45) | (14 - 30) |
| Panama | 157 | 135 | 183 | 134 | 123 | 51 | 81 | 222 | 0 | 89 | 9 |
|  | (138 - 181) | (92 - 150) | (108 - 204) | (115 - 156) | (56 - 142) | (42 - 60) | (70 - 93) | (192 - 258) | (0 - 1) | (55 - 119) | (6 - 12) |
| Peru | 120 | 79 | 125 | 118 | 45 | 33 | 47 | 81 | 0 | 50 | 5 |
|  | (106 - 133) | (71 - 86) | (72 - 137) | (101 - 132) | (38 - 53) | (28 - 39) | (41 - 53) | (67 - 94) | (0 - 1) | (31 - 67) | (4 - 7) |
| Suriname | 311 | 255 | 319 | 366 | 225 | 79 | 160 | 103 | 2 | 86 | 27 |
|  | (275 - 351) | (185 - 281) | (254 - 350) | (287 - 415) | (113 - 258) | (67 - 93) | (131 - 181) | (48 - 158) | (1 - 3) | (54 - 116) | (19 - 36) |
| Uruguay | 591 | 365 | 411 | 645 | 409 | 81 | 231 | 203 | 0 | 153 | 11 |
|  | (496 - 660) | (257 - 412) | (200 - 573) | (486 - 741) | (152 - 488) | (65 - 100) | (198 - 264) | (155 - 251) | (0 - 1) | (93 - 209) | (7 - 15) |
| Saint Vincent and the Grenadines | 405 | 383 | 336 | 476 | 239 | 51 | 161 | 90 | 2 | 99 | 41 |
|  | (353 - 468) | (197 - 431) | (286 - 370) | (373 - 544) | (92 - 279) | (42 - 62) | (119 - 184) | (64 - 163) | (2 - 4) | (61 - 134) | (28 - 54) |
| Venezuela | 133 | 133 | 208 | 133 | 140 | 60 | 91 | 205 | 1 | 88 | 18 |
|  | (120 - 151) | (84 - 148) | (123 - 229) | (116 - 150) | (62 - 158) | (52 - 69) | (80 - 101) | (176 - 235) | (0 - 1) | (55 - 118) | (12 - 25) |
| Lower middle income |  |  |  |  |  |  |  |  |  |  |  |
| Belize | 158 | 126 | 188 | 184 | 150 | 51 | 92 | 87 | 1 | 44 | 16 |
|  | (136 - 181) | (92 - 140) | (135 - 205) | (154 - 208) | (56 - 175) | (43 - 60) | (71 - 105) | (68 - 108) | (0 - 1) | (27 - 60) | (10 - 21) |
| Bolivia | 222 | 123 | 113 | 200 | 113 | 70 | 80 | 132 | 0 | 111 | 7 |
|  | (194 - 250) | (110 - 135) | (100 - 127) | (174 - 230) | (42 - 182) | (59 - 82) | (68 - 93) | (112 - 156) | (0 - 1) | (69 - 151) | (4 – 9) |
| Guatemala | 110 | 92 | 97 | 45 | 82 | 39 | 56 | 84 | 1 | 34 | 5 |
|  | (97 - 123) | (44 - 106) | (87 - 106) | (39 - 54) | (29 - 125) | (34 - 45) | (49 - 64) | (71 - 97) | (0 - 1) | (21 - 47) | (3 - 8) |
| Guyana | 775 | 581 | 541 | 832 | 173 | 96 | 252 | 154 | 5 | 107 | 34 |
|  | (687 - 864) | (322 - 645) | (385 - 589) | (679 - 931) | (147 - 206) | (82 - 113) | (197 - 286) | (59 - 249) | (2 - 7) | (65 - 144) | (21 - 46) |
| Honduras | 161 | 118 | 203 | 84 | 148 | 30 | 94 | 185 | 0 | 62 | 8 |
|  | (144 - 180) | (57 - 152) | (125 - 226) | (73 - 100) | (49 - 219) | (25 - 36) | (83 - 105) | (157 - 214) | (0 - 1) | (38 - 84) | (5 - 12) |
| Nicaragua | 158 | 125 | 135 | 54 | 96 | 42 | 64 | 141 | 1 | 66 | 12 |
|  | (140 - 177) | (57 - 144) | (109 - 147) | (45 - 66) | (32 - 146) | (36 - 49) | (56 - 73) | (122 - 162) | (0 - 1) | (41 - 88) | (8 - 17) |
| Paraguay | 244 | 109 | 164 | 88 | 131 | 31 | 69 | 140 | 0 | 141 | 2 |
|  | (198 - 270) | (51 - 193) | (114 - 181) | (74 - 109) | (45 - 153) | (26 - 37) | (60 - 78) | (120 - 161) | (0 - 1) | (88 - 187) | (1 -2) |
| El Salvador | 201 | 150 | 209 | 97 | 193 | 60 | 109 | 235 | 1 | 88 | 11 |
|  | (178 - 232) | (69 - 198) | (182 - 229) | (81 - 122) | (57 - 247) | (50 - 69) | (95 - 123) | (197 - 272) | (1 - 2) | (54 - 121) | (7 - 15) |
| Lower income |  |  |  |  |  |  |  |  |  |  |  |
| Haiti | 571 | 185 | 209 | 522 | 178 | 56 | 109 | 95 | 3 | 75 | 4 |
|  | (491 - 641) | (164 - 211) | (187 - 230) | (427 - 603) | (52 - 237) | (46 - 66) | (81 - 127) | (40 - 151) | (2 - 4) | (47 - 100) | (2 - 7) |

**Table S5. Cardiometabolic death rates associated with suboptimal fruit intake in countries in Latin America and Caribbean and change between 1990 and 2010**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dietary factor | Country | Associated deaths per 1 million (median, 95% UI) | | Percent change between 1990 and 2010\* |
| 1990 | 2010 |  |
| Fruit (<300 g/d) | The Bahamas | 158 (140, 176) | 118 (104,139) | -25.32 |
| Barbados | 296 (256, 351) | 214 (177, 266) | -27.81 |
| Trinidad and Tobago | 453 (354, 510) | 487 (376, 555) | 7.40 |
| Haiti | 571 (491, 641) | 758 (650, 886) | 32.83 |
| Belize | 158 (136, 181) | 199 (172, 232) | 25.68 |
| Bolivia | 222 (194, 250) | 257 (219, 297) | 15.88 |
| Guatemala | 110 (97, 123) | 171 (150, 192) | 55.62 |
| Guyana | 775 (687, 864) | 627 (539, 709) | -19.13 |
| Honduras | 161 (144, 180) | 295 (255, 345) | 83.51 |
| Nicaragua | 158 (140, 177) | 264 (218, 300) | 67.19 |
| Paraguay | 244 (198, 270) | 444 (346, 500) | 82.07 |
| El Salvador | 201 (178, 232) | 207 (178, 248) | 3.13 |
| Argentina | 430 (346, 481) | 378 (292, 436) | -11.99 |
| Antigua and Barbuda | 269 (232, 314) | 245 (201, 300) | -8.74 |
| Brazil | 302 (250, 332) | 379 (307, 421) | 25.56 |
| Chile | 272 (227, 305) | 250 (203, 288) | -8.00 |
| Colombia | 155 (139, 172) | 183 (159, 210) | 17.97 |
| Costa Rica | 99 (86, 114) | 139 (117, 166) | 40.40 |
| Cuba | 306 (272, 348) | 345 (297, 405) | 12.74 |
| Dominica | 304 (257, 347) | 273 (233, 328) | -10.09 |
| Dominican Republic | 216 (191, 241) | 361 (311, 421) | 67.31 |
| Ecuador | 139 (124, 157) | 175 (149, 201) | 26.18 |
| Grenada | 492 (429, 568) | 369 (319, 433) | -25.10 |
| Jamaica | 206 (180, 241) | 196 (166, 235) | -4.84 |
| Saint Lucia | 346 (301, 398) | 285 (240, 341) | -17.55 |
| Mexico | 101 (91, 115) | 168 (146, 193) | 66.07 |
| Panama | 157 (138, 181) | 218 (187, 252) | 38.72 |
| Peru | 120 (106, 133) | 145 (125, 168) | 20.49 |
| Suriname | 311 (275, 351) | 363 (317, 421) | 16.85 |
| Uruguay | 591 (49, 660) | 507 (413, 593) | -14.29 |
| Saint Vincent and Grenadines | 405(353, 468) | 312 (269, 367) | -22.86 |
| Venezuela | 133(120, 151) | 219 (192, 247) | 64.65 |

\*Percent changes correspond to ((2010estimates – 1990estimates)/ 1990estimates)100

**Table S6. Cardiometabolic death rates associated with suboptimal whole grains intake in countries in Latin America and Caribbean and change between 1990 and 2010**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dietary factor | Country | Associated deaths per 1 million (median, 95% UI) | | Percent change between 1990 and 2010\* |
| 1990 | 2010 |  |
| Whole grains (<125 g/d) | The Bahamas | 105 (95, 117) | 88 (77, 100) | -16.20 |
| Barbados | 75 (67, 90) | 61 (53, 75) | -18.49 |
| Trinidad and Tobago | 344 (310, 376) | 315 (283, 356) | -8.35 |
| Haiti | 185 (164, 211) | 537 (386, 602) | 190.14 |
| Belize | 126 (92, 140) | 224 (193, 251) | 78.15 |
| Bolivia | 123 (110, 135) | 167 (148, 186) | 36.13 |
| Guatemala | 92 (44, 106) | 179 (159, 198) | 94.07 |
| Guyana | 581 (322, 645) | 337 (298, 382) | -41.98 |
| Honduras | 118 (57, 152) | 218 (176, 244) | 84.54 |
| Nicaragua | 125 (57, 144) | 182 (160, 202) | 45.33 |
| Paraguay | 109 (51, 193) | 334 (175, 391) | 206.49 |
| El Salvador | 150 (69, 198) | 232 (145, 264) | 54.84 |
| Argentina | 282 (149, 322) | 258 (172, 294) | -8.35 |
| Antigua and Barbuda | 114 (102, 128) | 139 (121, 163) | 21.69 |
| Brazil | 197 (98, 224) | 276 (178, 309) | 40.23 |
| Chile | 120 (106, 135) | 163 (135, 183) | 35.78 |
| Colombia | 117 (95, 129) | 147 (124, 164) | 25.81 |
| Costa Rica | 81 (66, 90) | 107 (89, 122) | 32.13 |
| Cuba | 268 (128, 328) | 291 (137, 378) | 8.59 |
| Dominica | 265 (197, 297) | 183 (160, 209) | -31.09 |
| Dominican Republic | 168 (116, 185) | 185 (164, 209) | 10.28 |
| Ecuador | 86 (77, 95) | 134 (116, 147) | 55.45 |
| Grenada | 208 (183, 236) | 216 (190, 251) | 3.80 |
| Jamaica | 358 (292, 395) | 404 (326, 457) | 12.87 |
| Saint Lucia | 339 (228, 377) | 411 (233, 470) | 21.17 |
| Mexico | 151 (94, 166) | 246 (199, 271) | 63.19 |
| Panama | 135 (92, 150) | 185 (162, 207) | 37.37 |
| Peru | 79 (71, 86) | 101 (88, 112) | 28.04 |
| Suriname | 255 (185, 281) | 181 (160, 204) | -28.85 |
| Uruguay | 365 (257, 412) | 359 (190, 432) | -1.55 |
| Saint Vincent and Grenadines | 383 (197, 431) | 377 (227, 424) | -1.52 |
| Venezuela | 133 (84, 148) | 213 (161, 235) | 60.51 |

\*Percent changes correspond to ((2010estimates – 1990estimates)/ 1990estimates)100

**Table S7. Cardiometabolic death rates associated with suboptimal nuts/seeds intake in countries in Latin America and Caribbean and change between 1990 and 2010**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dietary factor | Country | Associated deaths per 1 million (median, 95% UI) | | Percent change between 1990 and 2010\* |
| 1990 | 2010 |  |
| Nuts/seeds (<20.2 g/d) | The Bahamas | 172 (156 ,190) | 127 (112 ,145) | -26.41 |
| Barbados | 394 (303 ,434) | 291 (246 ,333) | -26.02 |
| Trinidad and Tobago | 532 (335 ,578) | 558 (446 ,615) | 4.93 |
| Haiti | 209 (187 ,230) | 302 (249 ,359) | 44.38 |
| Belize | 188 (135 ,205) | 186 (167 ,211) | -1.25 |
| Bolivia | 113 (100 ,127) | 140 (122 ,160) | 24.09 |
| Guatemala | 97 (87 ,106) | 172 (155 ,190) | 76.81 |
| Guyana | 541 (385 ,589) | 573 (413 ,631) | 5.87 |
| Honduras | 203 (125 ,226) | 382 (212 ,444) | 88.31 |
| Nicaragua | 135 (109 ,147) | 301 (165 ,337) | 123.07 |
| Paraguay | 164 (114 ,181) | 257 (221 ,285) | 56.78 |
| El Salvador | 209 (182 ,229) | 357 (255 ,398) | 70.63 |
| Argentina | 316 (159 ,430) | 323 (132 ,485) | 2.11 |
| Antigua and Barbuda | 244 (141 ,272) | 384 (183 ,437) | 57.40 |
| Brazil | 233 (126 ,262) | 332 (157 ,375) | 42.61 |
| Chile | 176 (76 ,260) | 183 (77 ,272) | 4.12 |
| Colombia | 195 (162 ,212) | 264 (169 ,292) | 35.43 |
| Costa Rica | 152 (104 ,169) | 217 (134 ,246) | 42.70 |
| Cuba | 496 (263 ,559) | 526 (215 ,627) | 6.12 |
| Dominica | 279 (211 ,306) | 202 (178 ,229) | -27.68 |
| Dominican Republic | 231 (141 ,253) | 489 (237 ,562) | 111.51 |
| Ecuador | 128 (76 ,141) | 191 (84 ,227) | 49.49 |
| Grenada | 416 (364 ,462) | 396 (333 ,438) | -4.77 |
| Jamaica | 308 (162 ,342) | 319 (203 ,365) | 3.49 |
| Saint Lucia | 290 (243 ,317) | 233 (206 ,267) | -19.65 |
| Mexico | 155 (130 ,168) | 263 (230 ,291) | 69.39 |
| Panama | 183 (108 ,204) | 265 (161 ,301) | 44.72 |
| Peru | 125 (72 ,137) | 168 (71 ,203) | 34.76 |
| Suriname | 319 (254 ,350) | 263 (203 ,288) | -17.50 |
| Uruguay | 411 (200 ,573) | 352 (129 ,528) | -14.33 |
| Saint Vincent and Grenadines | 336 (286 ,370) | 412 (234 ,466) | 22.70 |
| Venezuela | 208 (123 ,229) | 352 (201 ,390) | 69.06 |

\*Percent changes correspond to ((2010estimates – 1990estimates)/ 1990estimates)100

**Table S8. Cardiometabolic death rates associated with suboptimal seafood ω-3 fats intake in countries in Latin America and Caribbean and change between 1990 and 2010**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dietary factor | Country | Associated deaths per 1 million (median, 95% UI) | | Percent change between 1990 and 2010\* |
| 1990 | 2010 |  |
| Seafood ω-3 fats (<250 mg/d) | The Bahamas | 116 (68 ,133) | 92 (55 ,111) | -20.31 |
| Barbados | 14 (12 ,16) | 10 (8 ,12) | -27.44 |
| Trinidad and Tobago | 353 (106 ,443) | 415 (129 ,553) | 17.43 |
| Haiti | 178 (52 ,237) | 242 (80 ,328) | 35.92 |
| Belize | 150 (56 ,175) | 198 (76 ,231) | 31.91 |
| Bolivia | 113 (42 ,182) | 163 (54 ,244) | 43.88 |
| Guatemala | 82 (29 ,125) | 172 (56 ,229) | 109.74 |
| Guyana | 173 (147 ,206) | 241 (178 ,282) | 39.43 |
| Honduras | 148 (49 ,219) | 324 (101 ,414) | 118.95 |
| Nicaragua | 96 (32 ,146) | 239 (74 ,287) | 148.47 |
| Paraguay | 131 (45 ,153) | 229 (80 ,269) | 74.61 |
| El Salvador | 193 (57 ,247) | 303 (87 ,368) | 57.23 |
| Argentina | 307 (100 ,358) | 327 (105 ,396) | 6.45 |
| Antigua and Barbuda | 82 (69 ,100) | 105 (87 ,132) | 27.94 |
| Brazil | 186 (65 ,214) | 248 (87 ,287) | 33.24 |
| Chile | 81 (67 ,100) | 58 (48 ,76) | -28.12 |
| Colombia | 170 (67 ,195) | 195 (85 ,228) | 14.75 |
| Costa Rica | 131 (41 ,155) | 185 (64 ,220) | 41.30 |
| Cuba | 370 (154 ,426) | 432 (156 ,521) | 16.70 |
| Dominica | 140 (86 ,164) | 129 (69 ,154) | -8.03 |
| Dominican Republic | 185 (66 ,211) | 387 (138 ,456) | 109.14 |
| Ecuador | 96 (34 ,110) | 146 (48 ,177) | 52.20 |
| Grenada | 202 (160 ,240) | 161 (126 ,197) | -20.06 |
| Jamaica | 184 (63 ,219) | 183 (63 ,224) | -0.40 |
| Saint Lucia | 146 (97 ,169) | 94 (74 ,116) | -35.41 |
| Mexico | 117 (33 ,139) | 221 (64 ,266) | 88.97 |
| Panama | 123 (56 ,142) | 157 (81 ,186) | 27.76 |
| Peru | 45 (38 ,53) | 96 (54 ,114) | 113.30 |
| Suriname | 225 (113 ,258) | 172 (95 ,199) | -23.57 |
| Uruguay | 409 (152 ,488) | 338 (117 ,404) | -17.29 |
| Saint Vincent and Grenadines | 239 (92 ,279) | 236 (114 ,279) | -1.46 |
| Venezuela | 140 (62 ,158) | 222 (117 ,256) | 58.47 |

\*Percent changes correspond to ((2010estimates – 1990estimates)/ 1990estimates)100

**Table S9. Cardiometabolic death rates associated with suboptimal PUFA intake in countries in Latin America and Caribbean and change between 1990 and 2010**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dietary factor | Country | Associated deaths per 1 million (median, 95% UI) | | Percent change between 1990 and 2010\* |
|  |  | 1990 | 2010 |  |
| PUFA replacing SFA† (<12% E/d) | The Bahamas | 54 (46 ,63) | 47 (39 ,58) | -12.28 |
| Barbados | 84 (69 ,103) | 72 (57 ,88) | -14.86 |
| Trinidad and Tobago | 81 (67 ,95) | 118 (98 ,141) | 46.23 |
| Haiti | 56 (46 ,66) | 92 (70 ,115) | 64.13 |
| Belize | 51 (43 ,60) | 80 (67 ,95) | 56.78 |
| Bolivia | 70 (59 ,82) | 104 (87 ,123) | 48.21 |
| Guatemala | 39 (34 ,45) | 58 (49 ,67) | 48.71 |
| Guyana | 96 (82 ,113) | 82 (67 ,100) | -15.01 |
| Honduras | 30 (25 ,36) | 67 (54 ,83) | 121.69 |
| Nicaragua | 42 (36 ,49) | 68 (56 ,83) | 61.71 |
| Paraguay | 31 (26 ,37) | 74 (61 ,88) | 138.12 |
| El Salvador | 60 (50 ,69) | 104 (86 ,125) | 73.79 |
| Argentina | 65 (54 ,79) | 68 (54 ,87) | 4.56 |
| Antigua and Barbuda | 59 (50 ,69) | 87 (71 ,106) | 47.69 |
| Brazil | 48 (40 ,56) | 56 (46 ,67) | 16.98 |
| Chile | 47 (39 ,57) | 40 (32 ,50) | -15.49 |
| Colombia | 43 (36 ,50) | 57 (47 ,69) | 32.46 |
| Costa Rica | 22 (18 ,28) | 44 (36 ,54) | 101.21 |
| Cuba | 120 (100 ,142) | 157 (130 ,190) | 30.97 |
| Dominica | 49 (39 ,59) | 47 (38 ,59) | -3.38 |
| Dominican Republic | 51 (43 ,59) | 87 (71 ,105) | 71.28 |
| Ecuador | 14 (11 ,17) | 26 (21 ,32) | 82.50 |
| Grenada | 72 (58 ,88) | 74 (60 ,90) | 2.27 |
| Jamaica | 47 (38 ,59) | 54 (43 ,68) | 15.68 |
| Saint Lucia | 52 (42 ,63) | 45 (35 ,57) | -12.95 |
| Mexico | 37 (32 ,43) | 64 (53 ,76) | 72.69 |
| Panama | 51 (42 ,60) | 80 (67 ,94) | 55.92 |
| Peru | 33 (28 ,39) | 45 (38 ,54) | 37.49 |
| Suriname | 79 (67 ,93) | 73 (61 ,87) | -7.29 |
| Uruguay | 81 (65 ,100) | 63 (50 ,80) | -21.98 |
| Saint Vincent and Grenadines | 51 (42 ,62) | 74 (61 ,91) | 44.86 |
| Venezuela | 60 (52 ,69) | 85 (72 ,100) | 41.00 |

\*Percent changes correspond to ((2010estimates – 1990estimates)/ 1990estimates)100

† Saturated fats

**Table S10. Cardiometabolic death rates associated with suboptimal vegetables intake in countries in Latin America and Caribbean and change between 1990 and 2010**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dietary factor | Country | Associated deaths per 1 million (median, 95% UI) | | Percent change between 1990 and 2010\* |
|  |  | 1990 | 2010 |  |
| Vegetables (<400 g/d) | The Bahamas | 213 (176,239) | 171 (144 ,199) | -19.73 |
| Barbados | 426 (350,497) | 325 (257 ,399) | -23.81 |
| Trinidad and Tobago | 456 (348,505) | 514 (389 ,587) | 12.73 |
| Haiti | 522 (427,603) | 695 (576 ,810) | 33.23 |
| Belize | 184 (154,208) | 254 (209 ,286) | 37.83 |
| Bolivia | 200 (174,230) | 274 (230 ,309) | 36.87 |
| Guatemala | 45 (39,54) | 70 (60 ,85) | 55.74 |
| Guyana | 832 (679,931) | 691 (582 ,783) | -16.91 |
| Honduras | 84 (73,100) | 167 (140 ,202) | 98.78 |
| Nicaragua | 54 (45,66) | 118 (100 ,144) | 119.17 |
| Paraguay | 88 (74,109) | 178 (150 ,215) | 102.05 |
| El Salvador | 97 (81,122) | 117 (96 ,147) | 20.65 |
| Argentina | 433 (345,485) | 394 (310 ,455) | -8.97 |
| Antigua and Barbuda | 338 (268,391) | 356 (275 ,421) | 5.47 |
| Brazil | 148 (127,172) | 221 (186 ,260) | 49.30 |
| Chile | 256 (210,290) | 250 (213 ,291) | -2.24 |
| Colombia | 108 (94,125) | 149 (126 ,176) | 37.92 |
| Costa Rica | 67 (56,83) | 98 (81 ,122) | 46.53 |
| Cuba | 389 (310,443) | 441 (368 ,513) | 13.28 |
| Dominica | 354 (260,406) | 334 (248 ,388) | -5.77 |
| Dominican Republic | 239 (201,268) | 468 (390 ,531) | 95.76 |
| Ecuador | 149 (126,166) | 211 (170 ,241) | 41.30 |
| Grenada | 617 (489,712) | 496 (407 ,570) | -19.57 |
| Jamaica | 405 (329,474) | 412 (330 ,493) | 1.81 |
| Saint Lucia | 449 (364,516) | 403 (319 ,481) | -10.15 |
| Mexico | 92 (80,106) | 164 (142 ,190) | 78.52 |
| Panama | 134 (115,156) | 191 (160 ,229) | 42.50 |
| Peru | 118 (101,132) | 144 (124 ,165) | 21.76 |
| Suriname | 366 (287,415) | 442 (368 ,504) | 20.75 |
| Uruguay | 645 (486,741) | 585 (452 ,691) | -9.32 |
| Saint Vincent and Grenadines | 476 (373,544) | 409 (327 ,472) | -14.03 |
| Venezuela | 133 (116,150) | 223 (192 ,255) | 67.47 |

\*Percent changes correspond to ((2010estimates – 1990estimates)/ 1990estimates)100

T**able S11. Cardiometabolic death rates associated with suboptimal unprocessed red meat intake in countries in Latin America and Caribbean and change between 1990 and 2010**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dietary factor | Country | Associated deaths per 1 million (median, 95% UI) | | Percent change between 1990 and 2010\* |
|  |  | 1990 | 2010 |  |
| Red meat, unprocessed (>14.2 g/d) | The Bahamas | 0 (0 ,1) | 1 (0 ,1) | - |
| Barbados | 1 (1 ,2) | 1 (1 ,3) | 47.65 |
| Trinidad and Tobago | 6 (4 ,9) | 8 (5 ,12) | 27.20 |
| Haiti | 3 (2 ,4) | 5 (3 ,7) | 61.71 |
| Belize | 1 (0 ,1) | 3 (2 ,4) | 169.67 |
| Bolivia | 0 (0 ,0) | 0 (0 ,0) | - |
| Guatemala | 1 (0 ,1) | 3 (2 ,5) | 232.78 |
| Guyana | 5 (2 ,7) | 10 (5 ,14) | 106.28 |
| Honduras | 0 (0 ,1) | 1 (1 ,2) | - |
| Nicaragua | 1 (0 ,1) | 2 (1 ,3) | 105.75 |
| Paraguay | 0 (0 ,0) | 0 (0 ,1) | - |
| El Salvador | 1 (1 ,2) | 3 (2 ,4) | 163.93 |
| Argentina | 0 (0 ,0) | 0 (0 ,0) | - |
| Antigua and Barbuda | 1 (1 ,2) | 2 (2 ,4) | 149.57 |
| Brazil | 0 (0 ,0) | 0 (0 ,0) | - |
| Chile | 0 (0 ,0) | 0 (0 ,0) | - |
| Colombia | 0 (0 ,0) | 0 (0 ,0) | - |
| Costa Rica | 0 (0 ,1) | 0 (0 ,1) | - |
| Cuba | 1 (1 ,1) | 1 (1 ,1) | -23.11 |
| Dominica | 2 (1 ,3) | 2 (1 ,4) | -1.95 |
| Dominican Republic | 1 (1 ,1) | 2 (1 ,3) | 67.47 |
| Ecuador | 0 (0 ,0) | 0 (0 ,0) | - |
| Grenada | 2 (1 ,3) | 3 (2 ,6) | 73.48 |
| Jamaica | 6 (3 ,9) | 8 (4 ,12) | 34.40 |
| Saint Lucia | 2 (1 ,3) | 2 (1 ,4) | 0.23 |
| Mexico | 2 (1 ,2) | 3 (2 ,5) | 38.56 |
| Panama | 0 (0 ,1) | 1 (1 ,2) | - |
| Peru | 0 (0 ,1) | 0 (0 ,1) | - |
| Suriname | 2 (1 ,3) | 2 (1 ,3) | -0.74 |
| Uruguay | 0 (0 ,0) | 0 (0 ,1) | - |
| Saint Vincent and Grenadines | 2 (2 ,4) | 2 (2 ,4) | 23.31 |
| Venezuela | 0 (0 ,1) | 1 (0 ,1) | - |

\*Percent changes correspond to ((2010estimates – 1990estimates)/ 1990estimates)100

**Table S12. Cardiometabolic death rates associated with suboptimal processed meats intake in countries in Latin America and Caribbean and change between 1990 and 2010**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dietary factor | Country | Associated deaths per 1 million (median, 95% UI) | | Percent change between 1990 and 2010\* |
|  |  | 1990 | 2010 |  |
| Processed meats (>0 g/d) | The Bahamas | 123 (101 ,148) | 118 (95 ,147) | -4.04 |
| Barbados | 154 (115 ,223) | 152 (107 ,232) | -1.32 |
| Trinidad and Tobago | 194 (149 ,292) | 319 (252 ,426) | 64.68 |
| Haiti | 95 (40 ,151) | 104 (75 ,227) | 9.31 |
| Belize | 87 (68 ,108) | 172 (139 ,214) | 97.27 |
| Bolivia | 132 (112 ,156) | 199 (165 ,237) | 51.00 |
| Guatemala | 84 (71 ,97) | 256 (221 ,291) | 204.83 |
| Guyana | 154 (59 ,249) | 139 (103 ,335) | -9.46 |
| Honduras | 185 (157 ,214) | 381 (321 ,450) | 105.78 |
| Nicaragua | 141 (122 ,162) | 262 (217 ,306) | 86.08 |
| Paraguay | 140 (120 ,161) | 297 (248 ,344) | 112.43 |
| El Salvador | 235 (197 ,272) | 464 (399 ,534) | 97.40 |
| Argentina | 134 (103 ,188) | 140 (105 ,193) | 4.85 |
| Antigua and Barbuda | 96 (73 ,124) | 171 (126 ,230) | 78.19 |
| Brazil | 130 (108 ,153) | 207 (169 ,247) | 59.08 |
| Chile | 66 (47 ,93) | 97 (71 ,129) | 46.99 |
| Colombia | 238 (205 ,272) | 313 (266 ,359) | 31.42 |
| Costa Rica | 144 (121 ,168) | 261 (219 ,307) | 81.58 |
| Cuba | 156 (119 ,215) | 109 (73 ,228) | -30.18 |
| Dominica | 80 (60 ,133) | 107 (76 ,170) | 33.80 |
| Dominican Republic | 54 (40 ,97) | 137 (102 ,224) | 154.11 |
| Ecuador | 86 (74 ,100) | 183 (158 ,212) | 113.24 |
| Grenada | 155 (94 ,217) | 218 (168 ,303) | 40.37 |
| Jamaica | 118 (76 ,161) | 139 (100 ,210) | 17.91 |
| Saint Lucia | 106 (79 ,160) | 181 (140 ,245) | 71.22 |
| Mexico | 184 (159 ,206) | 375 (327 ,429) | 103.88 |
| Panama | 222 (192 ,258) | 424 (361 ,487) | 91.03 |
| Peru | 81 (67 ,94) | 79 (62 ,99) | -2.91 |
| Suriname | 103 (48 ,158) | 59 (42 ,160) | -43.17 |
| Uruguay | 203 (155 ,251) | 152 (106 ,216) | -25.27 |
| Saint Vincent and Grenadines | 90 (64 ,163) | 114 (82 ,200) | 26.62 |
| Venezuela | 205 (176 ,235) | 369 (315 ,432) | 79.91 |

\*Percent changes correspond to ((2010estimates – 1990estimates)/ 1990estimates)100

**Table S13. Cardiometabolic death rates associated with suboptimal trans-fatty acids intake in countries in Latin America and Caribbean and change between 1990 and 2010**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dietary factor | Country | Associated deaths per 1 million (median, 95% UI) | | Percent change between 1990 and 2010\* |
|  |  | 1990 | 2010 |  |
| Trans-fatty acids (>0.5% E/d) | The Bahamas | 95 (77 ,108) | 85 (68 ,100) | -10.53 |
| Barbados | 170 (94 ,199) | 145 (75 ,178) | -14.71 |
| Trinidad and Tobago | 210 (174 ,236) | 256 (216 ,293) | 21.90 |
| Haiti | 109 (81 ,127) | 151 (98 ,191) | 38.53 |
| Belize | 92 (71 ,105) | 131 (104 ,153) | 42.39 |
| Bolivia | 80 (68 ,93) | 107 (90 ,124) | 33.75 |
| Guatemala | 56 (49 ,64) | 105 (92 ,120) | 87.50 |
| Guyana | 252 (197 ,286) | 270 (215 ,308) | 7.14 |
| Honduras | 94 (83 ,105) | 181 (153 ,211) | 92.55 |
| Nicaragua | 64 (56 ,73) | 135 (115 ,154) | 110.94 |
| Paraguay | 69 (60 ,78) | 131 (113 ,152) | 89.86 |
| El Salvador | 109 (95 ,123) | 166 (141 ,192) | 52.29 |
| Argentina | 174 (148 ,197) | 190 (159 ,221) | 9.20 |
| Antigua and Barbuda | 105 (76 ,121) | 153 (116 ,180) | 45.71 |
| Brazil | 98 (86 ,109) | 136 (119 ,153) | 38.78 |
| Chile | 101 (87 ,117) | 104 (88 ,120) | 2.97 |
| Colombia | 97 (87 ,109) | 128 (109 ,146) | 31.96 |
| Costa Rica | 70 (61 ,80) | 104 (89 ,120) | 48.57 |
| Cuba | 241 (195 ,275) | 272 (198 ,316) | 12.86 |
| Dominica | 122 (98 ,140) | 113 (87 ,131) | -7.38 |
| Dominican Republic | 105 (93 ,118) | 229 (196 ,260) | 118.10 |
| Ecuador | 55 (48 ,63) | 83 (71 ,95) | 50.91 |
| Grenada | 224 (175 ,256) | 201 (162 ,232) | -10.27 |
| Jamaica | 111 (83 ,131) | 123 (98 ,150) | 10.81 |
| Saint Lucia | 131 (102 ,152) | 122 (90 ,144) | -6.87 |
| Mexico | 50 (43 ,57) | 94 (80 ,107) | 88.00 |
| Panama | 81 (70 ,93) | 119 (100 ,138) | 46.91 |
| Peru | 47 (41 ,53) | 68 (59 ,79) | 44.68 |
| Suriname | 160 (131 ,181) | 137 (114 ,159) | -14.38 |
| Uruguay | 231 (198 ,264) | 208 (172 ,246) | -9.96 |
| Saint Vincent and Grenadines | 161 (119 ,184) | 177 (139 ,205) | 9.94 |
| Venezuela | 91 (80 ,101) | 160 (138 ,182) | 75.82 |

\*Percent changes correspond to ((2010estimates – 1990estimates)/ 1990estimates)100

**Table S14. Cardiometabolic death rates associated with suboptimal sodium intake in countries in Latin America and Caribbean and change between 1990 and 2010**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dietary factor | Country | Associated deaths per 1 million (median, 95% UI) | | Percent change between 1990 and 2010\* |
|  |  | 1990 | 2010 |  |
| Sodium (>2000 mg/d) | The Bahamas | 79 (49 ,108) | 62 (39 ,85) | -21.29 |
| Barbados | 184 (113 ,253) | 147 (89 ,203) | -20.19 |
| Trinidad and Tobago | 122 (75 ,163) | 173 (108 ,233) | 41.41 |
| Haiti | 75 (47 ,100) | 151 (94 ,204) | 101.37 |
| Belize | 44 (27 ,60) | 57 (34 ,78) | 29.70 |
| Bolivia | 111 (69 ,151) | 139 (88 ,192) | 25.55 |
| Guatemala | 34 (21 ,47) | 64 (40 ,89) | 88.14 |
| Guyana | 107 (65 ,144) | 121 (75 ,161) | 12.82 |
| Honduras | 62 (38 ,84) | 124 (76 ,170) | 99.72 |
| Nicaragua | 66 (41 ,88) | 116 (71 ,160) | 75.91 |
| Paraguay | 141 (88 ,187) | 288 (177 ,387) | 104.46 |
| El Salvador | 88 (54 ,121) | 108 (65 ,153) | 22.87 |
| Argentina | 149 (92 ,202) | 133 (83 ,185) | -10.71 |
| Antigua and Barbuda | 72 (45 ,99) | 77 (47 ,107) | 7.02 |
| Brazil | 180 (113 ,244) | 251 (157 ,340) | 39.51 |
| Chile | 70 (44 ,95) | 70 (44 ,95) | -0.71 |
| Colombia | 141 (88 ,188) | 179 (112 ,242) | 26.93 |
| Costa Rica | 44 (27 ,61) | 76 (46 ,105) | 71.71 |
| Cuba | 120 (74 ,164) | 112 (69 ,156) | -6.73 |
| Dominica | 64 (39 ,87) | 68 (41 ,94) | 6.24 |
| Dominican Republic | 42 (26 ,57) | 104 (65 ,141) | 148.11 |
| Ecuador | 42 (26 ,58) | 66 (41 ,90) | 56.72 |
| Grenada | 94 (58 ,127) | 100 (60 ,139) | 6.10 |
| Jamaica | 3 (2 ,5) | 7 (4 ,10) | 148.22 |
| Saint Lucia | 115 (72 ,154) | 105 (64 ,144) | -8.80 |
| Mexico | 33 (20 ,45) | 64 (39 ,88) | 93.16 |
| Panama | 89 (55 ,119) | 132 (83 ,179) | 48.10 |
| Peru | 50 (31 ,67) | 61 (37 ,84) | 22.28 |
| Suriname | 86 (54 ,116) | 126 (79 ,171) | 47.01 |
| Uruguay | 153 (93 ,209) | 129 (79 ,177) | -15.74 |
| Saint Vincent and Grenadines | 99 (61 ,134) | 108 (67 ,150) | 9.36 |
| Venezuela | 88 (55 ,118) | 166 (104 ,225) | 88.49 |

\*Percent changes correspond to ((2010estimates – 1990estimates)/ 1990estimates)100

**Table S15. Cardiometabolic death rates associated with suboptimal sugar-sweetened beverages intake in countries in Latin America and Caribbean and change between 1990 and 2010**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dietary factor | Country | Associated deaths per 1 million (median, 95% UI) | | Percent change between 1990 and 2010\* |
|  |  | 1990 | 2010 |  |
| SSBs (>0 g/d) | The Bahamas | 32 (20 ,44) | 29 (18 ,42) | -8.33 |
| Barbados | 56 (37 ,76) | 75 (46 ,107) | 34.66 |
| Trinidad and Tobago | 99 (63 ,137) | 144 (90 ,203) | 45.42 |
| Haiti | 4 (2 ,7) | 15 (7 ,24) | 278.35 |
| Belize | 16 (10 ,21) | 49 (31 ,68) | 204.05 |
| Bolivia | 7 (4 ,9) | 16 (11 ,22) | 133.52 |
| Guatemala | 5 (3 ,8) | 35 (22 ,49) | 604.29 |
| Guyana | 34 (21 ,46) | 68 (45 ,90) | 98.87 |
| Honduras | 8 (5 ,12) | 30 (20 ,40) | 276.41 |
| Nicaragua | 12 (8 ,17) | 33 (21 ,45) | 171.49 |
| Paraguay | 2 (1 ,2) | 9 (5 ,12) | 341.21 |
| El Salvador | 11 (7 ,15) | 37 (23 ,50) | 233.27 |
| Argentina | 11 (7 ,16) | 14 (8 ,19) | 24.50 |
| Antigua and Barbuda | 18 (12 ,24) | 45 (28 ,63) | 152.67 |
| Brazil | 5 (3 ,6) | 11 (7 ,15) | 115.43 |
| Chile | 7 (5 ,10) | 9 (6 ,13) | 27.54 |
| Colombia | 14 (10 ,19) | 30 (19 ,43) | 117.25 |
| Costa Rica | 10 (7 ,13) | 21 (14 ,30) | 112.40 |
| Cuba | 35 (24 ,47) | 43 (29 ,57) | 22.58 |
| Dominica | 24 (16 ,32) | 33 (22 ,44) | 36.51 |
| Dominican Republic | 9 (4 ,14) | 49 (32 ,66) | 441.64 |
| Ecuador | 5 (4 ,7) | 10 (6 ,14) | 96.30 |
| Grenada | 43 (31 ,58) | 75 (47 ,103) | 74.24 |
| Jamaica | 22 (16 ,30) | 40 (26 ,53) | 81.94 |
| Saint Lucia | 28 (19 ,37) | 54 (34 ,76) | 93.24 |
| Mexico | 21 (14 ,30) | 42 (26 ,60) | 100.30 |
| Panama | 9 (6 ,12) | 25 (15 ,34) | 176.13 |
| Peru | 5 (4 ,7) | 7 (5 ,10) | 47.64 |
| Suriname | 27 (19 ,36) | 54 (34 ,74) | 100.71 |
| Uruguay | 11 (7 ,15) | 13 (8 ,19) | 21.13 |
| Saint Vincent and Grenadines | 41 (28 ,54) | 71 (44 ,99) | 73.11 |
| Venezuela | 18 (12 ,25) | 41 (26 ,57) | 126.77 |

\*Percent changes correspond to ((2010estimates – 1990estimates)/ 1990estimates)100

**Table S16. Cardiometabolic deaths attributable to sodium in countries in Latin America and Caribbean in different optimal levels (2010)**\*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Total | Women | Men | 25-44 years | 45-70 years | 70+ years |
| Total CMD† | 953 377 | 472 283 | 481 094 | 34 299 | 419 506 | 499 572 |
| High sodium (>2,000 mg/day) | |  |  |  |  |  |
| Deaths (n) † | 58 121 | 22 181 | 35 829 | 2715 | 39 519 | 15 662 |
| 95% UI | (35 806 – 78 257) | (13 602 – 30 167) | (22 298 – 48 057) | (1136 – 4344) | (25 760 – 52 055) | (9452 – 22 600) |
| % of total CMD deaths | 6.1 | 4.7 | 7.4 | 7.9 | 9.4 | 3.1 |
| High sodium (>1,000 mg/day) | |  |  |  |  |  |
| Deaths (n) ‡ | 89 326 | 35 961 | 53 165 | 4287 | 59 575 | 25 042 |
| 95% UI | (55 778 – 118 683) | (29 419 – 48 424) | (33 654 – 70 189) | (1780 – 6766) | (39 399 – 77 271) | (14 939 – 35 910) |
| % of total CMD deaths | 9.4 | 7.6 | 11 | 12.5 | 14.2 | 5 |

\* The Latin America and the Caribbean region includes 32 countries: Argentina, Antigua and Barbuda, The Bahamas, Belize, Bolivia, Brazil, Barbados, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, Grenada, Guatemala, Guyana, Honduras, Haiti, Jamaica, Saint Lucia, Mexico, Nicaragua, Panama, Peru, Paraguay, El Salvador, Suriname, Trinidad and Tobago, Uruguay, Saint Vincent and the Grenadines, and Venezuela.

† Total cardiometabolic deaths include CHD (ICD-10 codes I20-I25), ischemic stroke (I63, I65-I67, I69.3), haemorrahagic/other non-ischemic stroke (I60-62, I69.0-2), and diabetes mellitus (E10-E14)

‡ Mediated effect throught blood pressure

CMD, cardiometabolic disease; UI, uncertainty interval