**Table S1** The ASR of drug use disorders in 2017, the EAPC of drug use disorders from 1990 to 2017, and the relative change in incident cases of drug use disorders between 1990 and 2017 at country and territory level.

|  |  |  |  |
| --- | --- | --- | --- |
| **Location** | **ASR per 100,000 in 2017**  **No.(95% UI)** | **EAPC from 1990 to 2017**  **No.(95% CI)** | **Relative change in incident cases between 1990 and 2017 (%)** |
| Afghanistan | 211.75(177.91–249.58) | 1.38(1.2–1.57) | 386.72 |
| Albania | 68.83(61.43–77.14) | 0.06(0.04–0.08) | -21.97 |
| Algeria | 155.67(134.4–179.27) | 0.71(0.66–0.75) | 92.71 |
| American Samoa | 98.95(86.7–112.77) | 0.05(0.04–0.06) | 20.09 |
| Andorra | 98.16(86.35–112.65) | 0.17(0.16–0.19) | 19.25 |
| Angola | 73.42(65.05–83.23) | -0.11(-0.16–-0.06) | 169.41 |
| Antigua and Barbuda | 100.79(89.48–114.68) | 0.14(0.1–0.18) | 44.78 |
| Argentina | 95.04(85.76–105.89) | 0.21(0.11–0.3) | 40.5 |
| Armenia | 69.92(62.13–78.17) | 0.32(0.25–0.38) | -11.3 |
| Australia | 200.57(182.34–220.63) | -0.64(-0.93–-0.35) | 22.12 |
| Austria | 93.83(84.31–105.11) | 0.22(0.18–0.26) | 1.41 |
| Azerbaijan | 67.77(60.06–76.17) | 0.27(0.21–0.33) | 41.09 |
| Bahrain | 146.84(125.69–172.79) | 0.05(-0.03–0.13) | 165.47 |
| Bangladesh | 69.43(60.73–79.32) | 0(-0.04–0.03) | 63.68 |
| Barbados | 106.47(93.39–121.55) | 0.08(0–0.15) | 3.07 |
| Belarus | 92.44(82.97–102.92) | 0.31(0.25–0.38) | -13.78 |
| Belgium | 88.59(78.65–99.65) | -0.22(-0.33–-0.11) | -2.65 |
| Belize | 105.34(92.69–120.58) | 0.02(-0.08–0.13) | 125.36 |
| Benin | 69.53(61.46–78.72) | 0.24(0.21–0.26) | 193.22 |
| Bermuda | 104.29(92.81–118.54) | -0.05(-0.12–0.01) | -6.14 |
| Bhutan | 70.84(61.79–80.58) | 0.15(0.12–0.18) | 95.53 |
| Bolivia | 102.39(92–115.22) | 0.22(0.16–0.28) | 87.4 |
| Bosnia and Herzegovina | 61.85(55.09–69.35) | 0.4(0.33–0.48) | -30.57 |
| Botswana | 92.83(81.35–106.04) | 0.09(0.01–0.17) | 93.45 |
| Brazil | 113.22(101.39–127.81) | 0.33(0.29–0.36) | 45.06 |
| Brunei | 98.45(86.69–112.56) | -0.03(-0.06–0) | 64.27 |
| Bulgaria | 85.13(77.37–93) | 0.38(0.32–0.44) | -29.67 |
| Burkina Faso | 63.05(55.54–71.44) | 0.17(0.14–0.2) | 159.78 |
| Burundi | 70.37(62.18–79.9) | -0.04(-0.07–-0.01) | 110.23 |
| Cambodia | 77.46(66.31–91.85) | 0.14(0.13–0.15) | 70.11 |
| Cameroon | 75.34(66.37–85) | 0.27(0.22–0.32) | 220.29 |
| Canada | 176.6(154.66–203.21) | 0.44(0.1–0.78) | 27.42 |
| Cape Verde | 76.03(67.09–86.24) | 0.33(0.28–0.37) | 102.93 |
| Central African Republic | 73.44(64.69–83.2) | -0.16(-0.2–-0.12) | 81.65 |
| Chad | 64.96(57.24–74.47) | 0.07(0.03–0.11) | 166.88 |
| Chile | 125.81(112.6–140.16) | 1.23(1.07–1.38) | 43.05 |
| China | 124.79(108.82–143.26) | -0.37(-0.48–-0.25) | -10.17 |
| Colombia | 122.09(109.32–138.37) | 0.64(0.5–0.78) | 56.21 |
| Comoros | 70.5(62.45–79.94) | 0.09(0.08–0.11) | 71.59 |
| Congo | 77.1(68.13–87.33) | -0.34(-0.4–-0.28) | 96.48 |
| Costa Rica | 99.37(88.47–112.25) | 0.19(0.17–0.21) | 58.25 |
| Cote d'Ivoire | 68.56(60.43–77.12) | 0.12(0.07–0.17) | 127.81 |
| Croatia | 84.35(76.12–93.8) | 0.11(-0.06–0.28) | -20.91 |
| Cuba | 98.79(87.11–113.15) | 0.02(0.01–0.04) | -15.14 |
| Cyprus | 69.16(61.25–78.2) | -0.2(-0.24–-0.15) | 38.27 |
| Czech Republic | 103.66(95.59–112.1) | 0.48(0.35–0.6) | -12.35 |
| Democratic Republic of the Congo | 73.4(64.93–83.21) | -0.14(-0.2–-0.09) | 119.04 |
| Denmark | 94.05(83.83–105.84) | -0.26(-0.34–-0.18) | -2.01 |
| Djibouti | 72.29(64.09–81.84) | 0.11(0.08–0.13) | 131.71 |
| Dominica | 110.12(96.52–126.95) | -0.05(-0.13–0.02) | -10.85 |
| Dominican Republic | 89.19(79.22–100.19) | 0.24(0.14–0.35) | 52.19 |
| Ecuador | 86.51(76.93–97.59) | 0.31(0.27–0.36) | 79.03 |
| Egypt | 142.16(121.5–166.36) | 0.42(0.33–0.52) | 101.24 |
| El Salvador | 87.58(76.85–100.82) | 0.03(-0.02–0.09) | 23.79 |
| Equatorial Guinea | 77.35(68.38–87.25) | -0.14(-0.2–-0.09) | 277.68 |
| Eritrea | 72.52(64.18–81.51) | -0.02(-0.05–0.02) | 127.6 |
| Estonia | 116.3(105.33–128.58) | 0.87(0.69–1.06) | -14.96 |
| Ethiopia | 70.89(61.87–81.71) | -0.1(-0.14–-0.05) | 122.52 |
| Federated States of Micronesia | 100.21(87.54–114.12) | 0.05(0.04–0.06) | 5.45 |
| Fiji | 98.18(85.99–112.39) | 0.06(0.04–0.07) | 11.74 |
| Finland | 98.22(86.83–112.65) | 0.39(0.32–0.45) | 8.7 |
| France | 116.28(104.63–131) | 0.44(0.34–0.54) | 4.32 |
| Gabon | 77.33(68.37–87.96) | -0.35(-0.41–-0.3) | 77.18 |
| Georgia | 68.39(60.92–76.3) | 0.32(0.27–0.38) | -33.64 |
| Germany | 92.84(83.21–104.4) | 0.34(0.21–0.46) | -0.69 |
| Ghana | 78.74(69.83–89.6) | 0.63(0.58–0.68) | 164.25 |
| Greece | 65.63(58.3–74.53) | -0.37(-0.66–-0.07) | -21.2 |
| Greenland | 166.75(145.61–192.66) | 0.49(0.41–0.57) | 7.87 |
| Grenada | 98.36(86.89–111.61) | 0.15(0.1–0.2) | 29.52 |
| Guam | 101.03(88.33–115.19) | 0.09(0.09–0.1) | 12.54 |
| Guatemala | 92.52(81.17–106.14) | -0.1(-0.14–-0.06) | 141.23 |
| Guinea | 64.7(57.29–73.12) | 0.16(0.13–0.19) | 124.74 |
| Guinea-Bissau | 66.95(59.06–75.74) | 0.12(0.08–0.16) | 118.36 |
| Guyana | 94.62(84.52–106.48) | 0.12(0.09–0.15) | -1.71 |
| Haiti | 87.65(77.95–99.76) | 0.07(0.03–0.11) | 104.25 |
| Honduras | 95.48(84.78–108.39) | 0.05(0.03–0.08) | 128.98 |
| Hungary | 83.89(74.05–95.19) | 0.36(0.28–0.44) | -15.67 |
| Iceland | 78.66(70.37–88.89) | -0.23(-0.29–-0.17) | 15.16 |
| India | 72.16(62.85–82.7) | 0.18(0.14–0.23) | 77.05 |
| Indonesia | 78.66(67.26–92.66) | 0.16(0.13–0.19) | 37.42 |
| Iran | 169.68(147.69–193.32) | 0.76(0.54–0.97) | 57.6 |
| Iraq | 148.06(127.82–169.97) | -0.02(-0.14–0.11) | 168.86 |
| Ireland | 104.02(91.09–118.34) | -0.11(-0.22–0) | 6.74 |
| Israel | 83.14(73.43–94.55) | 0.31(0.23–0.39) | 77.1 |
| Italy | 116.57(105.67–129.21) | -0.21(-0.47–0.05) | -27.19 |
| Jamaica | 109.12(97.14–123.28) | 0.16(0.11–0.2) | 17.87 |
| Japan | 103.11(89.04–121.96) | 0.18(0.12–0.23) | -18.38 |
| Jordan | 149.96(129.59–174.5) | 0.34(0.24–0.44) | 211.77 |
| Kazakhstan | 78.16(70.23–87.29) | 0.59(0.4–0.77) | 12.76 |
| Kenya | 68.41(59.8–78.46) | 0.28(0.24–0.31) | 154.18 |
| Kiribati | 96.12(83.95–110.92) | 0.07(0.07–0.08) | 60.85 |
| Kuwait | 146.25(126.1–170.36) | 0.49(0.42–0.57) | 153.68 |
| Kyrgyzstan | 71.21(63.91–79.33) | 0.34(0.24–0.44) | 52.25 |
| Laos | 85.99(73.59–101.31) | 0.27(0.19–0.36) | 87.96 |
| Latvia | 113.75(103.15–125.45) | 0.53(0.44–0.61) | -31.65 |
| Lebanon | 186.64(159.69–218.41) | 0.89(0.86–0.93) | 183.77 |
| Lesotho | 94.68(83.36–107.58) | 0.15(0.09–0.21) | 22.43 |
| Liberia | 70.44(62.1–79.82) | 0.16(0.14–0.18) | 200.4 |
| Libya | 205.65(176.68–236.54) | 1.32(1.26–1.38) | 131.99 |
| Lithuania | 78(70.35–86.21) | 0.29(0.25–0.32) | -26.63 |
| Luxembourg | 99.21(87.6–113.35) | -0.2(-0.29–-0.11) | 45.31 |
| Macedonia | 66.66(59.28–74.48) | 0.11(0.06–0.16) | 1.76 |
| Madagascar | 70.59(62.56–79.94) | 0(-0.02–0.02) | 131.42 |
| Malawi | 71.36(63.18–80.49) | -0.01(-0.04–0.02) | 92.95 |
| Malaysia | 83.79(72.61–97.58) | 0.08(0.04–0.12) | 81.1 |
| Maldives | 87.59(75.38–102.51) | 0.3(0.24–0.36) | 125.79 |
| Mali | 63.97(56.35–72.72) | 0.06(0.03–0.1) | 159.54 |
| Malta | 87.73(77.9–98.53) | 0.59(0.48–0.71) | 11.04 |
| Marshall Islands | 99.98(87.46–113.56) | 0.07(0.07–0.08) | 27.15 |
| Mauritania | 68.65(60.34–77.88) | 0.09(0.06–0.12) | 110.02 |
| Mauritius | 89.63(77.69–105.25) | 0.16(0.13–0.19) | 4.26 |
| Mexico | 97.84(87.56–110.05) | 0.31(0.22–0.4) | 51.53 |
| Moldova | 81.62(73.01–90.93) | 0.22(0.19–0.25) | -16.72 |
| Mongolia | 72.98(65.28–81.12) | 0.41(0.36–0.45) | 54.74 |
| Montenegro | 76.77(69.08–85.1) | -0.1(-0.18–-0.02) | -12.72 |
| Morocco | 153.24(132.46–178.39) | 0.56(0.51–0.61) | 63.04 |
| Mozambique | 73.02(64.88–82.15) | 0.13(0.11–0.15) | 130.03 |
| Myanmar | 78.21(68.34–90.34) | 0.02(-0.01–0.06) | 28.18 |
| Namibia | 95.32(84.24–108.42) | 0.08(0–0.15) | 80.5 |
| Nepal | 68.6(59.82–78.13) | -0.02(-0.05–0) | 75.5 |
| Netherlands | 104.04(91.66–116.55) | -0.72(-0.88–-0.56) | -12.5 |
| New Zealand | 192.78(166.11–229.57) | -0.34(-0.42–-0.26) | 4.31 |
| Nicaragua | 84.78(74.65–97.62) | -0.31(-0.39–-0.22) | 68.67 |
| Niger | 65.39(57.68–74.71) | 0.14(0.12–0.17) | 185.42 |
| Nigeria | 64.35(56.78–73.39) | 0.07(0.05–0.1) | 137.95 |
| North Korea | 111.76(98.45–128.16) | 0.18(0.15–0.2) | 28.45 |
| Northern Mariana Islands | 100.17(87.08–115.09) | 0.18(0.14–0.23) | -3.92 |
| Norway | 83.66(72.57–97.77) | -0.11(-0.32–0.1) | 12.61 |
| Oman | 148.51(127.61–174.11) | 0.56(0.41–0.71) | 227.14 |
| Pakistan | 80.92(70.86–91.85) | 0.06(0.02–0.09) | 119.87 |
| Palestine | 146.08(124.63–170.74) | 0.38(0.32–0.44) | 187.86 |
| Panama | 96.87(85.96–111.44) | 0.11(0.07–0.15) | 58.55 |
| Papua New Guinea | 97.88(85.77–112.09) | 0.11(0.1–0.13) | 133.54 |
| Paraguay | 75.09(66.23–85.51) | 0.19(0.14–0.23) | 90.15 |
| Peru | 78.4(69.46–88.78) | 0.14(0.1–0.18) | 50.2 |
| Philippines | 85.09(73.32–98.71) | -0.18(-0.24–-0.12) | 52.89 |
| Poland | 89.87(80.71–99.82) | 0.18(0.02–0.34) | -12.91 |
| Portugal | 81.2(72.03–91.64) | -0.23(-0.4–-0.06) | -16.8 |
| Puerto Rico | 106.24(94.72–119.99) | -0.55(-0.86–-0.25) | -18.24 |
| Qatar | 164.87(139.23–197.77) | 0.08(-0.19–0.34) | 636.4 |
| Romania | 62.03(55.92–69.14) | -0.05(-0.09–-0.01) | -27.42 |
| Russian Federation | 105.16(92.91–120.08) | 0.22(0.01–0.44) | -11.76 |
| Rwanda | 77.04(67.97–87.48) | 0.15(0.08–0.22) | 87.35 |
| Saint Lucia | 109.54(96.61–125.72) | 0.23(0.11–0.36) | 20.57 |
| Saint Vincent and the Grenadines | 100.84(89.72–114.29) | 0.13(0.08–0.17) | -4.62 |
| Samoa | 106.12(92.85–121.85) | 0.14(0.1–0.18) | 8.72 |
| Sao Tome and Principe | 68.07(59.97–77.54) | 0.1(0.06–0.14) | 97.68 |
| Saudi Arabia | 151.57(130.33–176.71) | 0.59(0.47–0.71) | 184.35 |
| Senegal | 66.76(59.01–76.42) | 0.01(-0.02–0.05) | 118.48 |
| Serbia | 62.31(55.77–69.33) | 0.14(0.04–0.23) | -11.9 |
| Seychelles | 95.93(83.18–112.08) | 0.18(0.09–0.26) | 22.66 |
| Sierra Leone | 68.68(60.51–77.75) | 0.14(0.11–0.16) | 142.87 |
| Singapore | 98.13(86.55–111.98) | 0.06(0.04–0.07) | 51.91 |
| Slovakia | 82.32(73.65–92.92) | 0.01(-0.12–0.14) | -11.72 |
| Slovenia | 98.96(90.75–107.46) | 0.4(0.27–0.53) | -8.22 |
| Solomon Islands | 94.41(82.56–108.1) | 0.03(0–0.05) | 88.37 |
| Somalia | 70.42(62.39–79.84) | 0(-0.03–0.03) | 157.48 |
| South Africa | 109.65(95.98–125.21) | -0.85(-0.95–-0.74) | 19.21 |
| South Korea | 99.77(87.74–113.85) | 0.14(0.13–0.16) | -8.68 |
| South Sudan | 71.15(62.92–81) | 0.02(0–0.04) | 62.35 |
| Spain | 150.14(140.41–160.63) | 0.62(0.45–0.79) | -3.39 |
| Sri Lanka | 85.6(73.41–100.51) | -0.01(-0.02–-0.01) | 9.6 |
| Sudan | 141.1(121.84–163.89) | 0.57(0.49–0.65) | 147.45 |
| Suriname | 91.83(81.79–103.74) | 0.05(0.02–0.09) | 40.69 |
| Swaziland | 95.31(83.75–108.17) | 0.14(0.09–0.19) | 62.25 |
| Sweden | 79.64(68.12–93.9) | 0.67(0.54–0.8) | 26.64 |
| Switzerland | 104.31(90.41–120.24) | -0.81(-1.01–-0.61) | -10.04 |
| Syria | 143.53(122.86–166.08) | 0.63(0.57–0.7) | 69.79 |
| Tajikistan | 66.81(59.18–75.3) | 0.23(0.19–0.28) | 89.26 |
| Tanzania | 72.31(64.18–81.68) | 0.04(0–0.08) | 120.39 |
| Thailand | 102.36(86.6–123.34) | 0.05(-0.21–0.32) | 2.4 |
| The Bahamas | 103.22(91.75–116.95) | 0.14(0.09–0.19) | 38.69 |
| The Gambia | 68.35(60.07–77.63) | 0.12(0.08–0.16) | 150.88 |
| Timor-Leste | 84.41(72.55–98.69) | 0.11(0.07–0.14) | 88.07 |
| Togo | 67.07(59.26–76.25) | 0.32(0.28–0.35) | 148.52 |
| Tonga | 98.41(85.54–112.48) | 0.13(0.13–0.14) | 4.13 |
| Trinidad and Tobago | 93.34(83.19–105.66) | 0.16(0.14–0.18) | 7.72 |
| Tunisia | 155.19(133.99–179.77) | 0.8(0.76–0.85) | 57.67 |
| Turkey | 143.5(122.91–167.04) | 0.46(0.37–0.55) | 52.09 |
| Turkmenistan | 70.63(62.88–78.86) | 0.48(0.42–0.54) | 44.65 |
| Uganda | 75.2(66.65–85.26) | 0.04(-0.01–0.08) | 144.06 |
| Ukraine | 87.29(77.12–98.74) | 0.31(0.27–0.35) | -14.68 |
| United Arab Emirates | 195.24(167.29–223.74) | 1.21(0.98–1.44) | 436.63 |
| United Kingdom | 149.13(129.28–174.36) | 0.36(0.14–0.57) | 10.57 |
| United States | 238.07(211.26–270.38) | 0.87(0.51–1.22) | 59.88 |
| Uruguay | 97.99(86.79–110.01) | 0.38(0.29–0.47) | 9.85 |
| Uzbekistan | 67.63(60.41–75.65) | 0.35(0.32–0.38) | 70.41 |
| Vanuatu | 93.92(82.19–107.62) | -0.01(-0.04–0.03) | 93.99 |
| Venezuela | 90.42(79.96–103.59) | 0.02(-0.03–0.08) | 63.47 |
| Vietnam | 88.96(76.53–103.1) | 0.22(0.21–0.24) | 33.85 |
| Virgin Islands, U.S. | 100.55(89.02–114.41) | 0(-0.01–0.02) | -15.73 |
| Yemen | 140.7(121.08–162.65) | 0.63(0.57–0.7) | 209.9 |
| Zambia | 71.67(63.09–81.13) | -0.16(-0.22–-0.1) | 124.57 |
| Zimbabwe | 94.15(82.46–107.26) | 0.04(-0.04–0.12) | 50.2 |

Note. ASR= age-standardized incidence rate; CI=confidence interval; EAPC=estimated annual percentage change; UI= uncertainty interval.

**Table S2** The incident cases and ASR of opioid use disorders in 1990 and 2017, and the temporal trends of ASR from 1990 to 2017.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1990** | |  | **2017** | |  | **1990-2017** |
| **Incident cases**  **No.×103 (95% UI)** | **ASR per 100,000**  **No.(95% UI)** |  | **Incident cases**  **No.×103 (95% UI)** | **ASR per 100,000**  **No.(95% UI)** |  | **EAPC**  **No.(95% CI)** |
| **Overall** | 2719.11(2283.6–3218.71) | 48.42(41.21–56.77) |  | 4085.15(3463.56–4794.23) | 52.52(44.5–61.78) |  | 0.21(0.17–0.24) |
| **Sex** |  |  |  |  |  |  |  |
| Male | 1618.84(1360.48–1911.09) | 56.71(48.14–66.75) |  | 2424.73(2051.24–2860.41) | 62.1(52.5–73.24) |  | 0.23(0.18–0.27) |
| Female | 1100.27(922.8–1305.11) | 39.93(33.89–46.94) |  | 1660.43(1403.45–1947.92) | 42.67(35.89–50.04) |  | 0.17(0.14–0.21) |
| **Socio-demographic index** |  |  |  |  |  |  |  |
| Low | 271.45(224.44–326.95) | 43.65(36.74–51.25) |  | 606.58(505–721.8) | 48.1(40.52–56.53) |  | 0.28(0.21–0.35) |
| Low-middle | 531(441.98–634.23) | 51.86(43.74–60.98) |  | 960.26(805.42–1142.45) | 54.48(45.85–64.15) |  | 0.11(0.05–0.18) |
| Middle | 880.13(735.15–1045.44) | 51.91(44.15–60.59) |  | 1058.37(894.8–1239.83) | 48.38(40.77–56.91) |  | -0.45(-0.56–-0.35) |
| Middle-high | 675.22(568.85–801.28) | 56.69(48.01–66.73) |  | 924.83(782.1–1084.47) | 66.23(55.82–78.29) |  | 0.56(0.54–0.59) |
| High | 343.58(296.21–398.83) | 35.08(30.19–40.92) |  | 517.34(446.26–601.67) | 52.55(45.2–61.9) |  | 1.31(0.93–1.7) |
| **Region** |  |  |  |  |  |  |  |
| Asia Pacific–high income | 50.58(41.57–61.04) | 27.03(22.1–32.98) |  | 55.41(46.19–64.92) | 31.03(25.42–37.66) |  | 0.47(0.39–0.56) |
| Central Asia | 17.65(14.65–20.93) | 26.17(22.13–30.64) |  | 28.48(23.87–33.52) | 30.01(25.28–34.89) |  | 0.71(0.6–0.81) |
| East Asia | 995.54(837.09–1189.52) | 67.86(57.84–80.08) |  | 973.87(823.41–1145.76) | 65.17(54.52–77.88) |  | -0.51(-0.69–-0.34) |
| South Asia | 459.42(378.13–552.76) | 43.55(36.35–51.44) |  | 849.15(705.91–1009.98) | 45.46(38–53.49) |  | 0.14(0.08–0.2) |
| Southeast Asia | 107.96(90.3–128.7) | 22.94(19.37–26.84) |  | 170.98(142.45–202.28) | 24.68(20.63–29.14) |  | 0.16(0.12–0.21) |
| Australasia | 9.92(8.58–11.71) | 47.07(40.69–55.63) |  | 14.72(12.49–17.3) | 54.77(46.03–65.07) |  | 0.09(-0.11–0.3) |
| Caribbean | 15.01(12.54–17.84) | 40.49(34.2–47.53) |  | 19.79(16.57–23.33) | 41.02(34.23–48.41) |  | -0.07(-0.13–-0.02) |
| Central Europe | 29.86(25.01–35.04) | 23.6(19.72–27.87) |  | 30.99(26.44–35.71) | 26.19(22.08–30.52) |  | 0.5(0.45–0.54) |
| Eastern Europe | 90.07(77.25–104.9) | 39.11(33.51–45.56) |  | 88.69(75.69–104.51) | 41.47(34.95–48.75) |  | 0.49(0.2–0.78) |
| Western Europe | 88.08(76.73–100.31) | 22.18(19.26–25.41) |  | 96.6(83.8–110.79) | 24.38(20.94–28.27) |  | 0.46(0.33–0.59) |
| Andean Latin America | 15.19(12.49–18.45) | 40.54(33.91–48.27) |  | 27.07(22.37–32.23) | 43.02(35.8–51.05) |  | 0.23(0.19–0.27) |
| Central Latin America | 66.16(54.75–79.49) | 40.19(34–47.39) |  | 114.43(96.18–135.46) | 42.79(36.07–50.51) |  | 0.17(0.15–0.2) |
| Southern Latin America | 14.03(11.86–16.91) | 28.28(23.94–33.99) |  | 20.35(17–24.65) | 29.9(24.83–36.31) |  | 0.11(0.04–0.18) |
| Tropical Latin America | 59.27(49.21–71.03) | 38.16(32.33–44.83) |  | 100.06(84.6–118.44) | 42.96(36.22–50.94) |  | 0.33(0.27–0.38) |
| North Africa and Middle East | 351.57(292.9–415.73) | 102.57(86.63–120.26) |  | 782.91(658.32–921.39) | 124.22(104.85–145.89) |  | 0.8(0.75–0.85) |
| North America–high income | 149.84(125.27–182.06) | 55.43(45.98–68.03) |  | 283.69(242.71–338.64) | 89.52(75.57–108.61) |  | 1.3(0.65–1.96) |
| Oceania | 1.92(1.55–2.36) | 30.66(25.3–36.63) |  | 4.12(3.37–5.08) | 32.56(26.96–39.36) |  | 0.2(0.17–0.22) |
| Central Sub-Saharan Africa | 22.27(18.46–26.85) | 44.06(37.06–51.96) |  | 49.68(40.83–60.07) | 43.49(36.56–51.72) |  | -0.28(-0.37–-0.19) |
| Eastern Sub-Saharan Africa | 62.37(51.03–75.69) | 37.34(31.37–44.13) |  | 142.75(116.25–174.69) | 38.74(32.25–46.24) |  | -0.02(-0.08–0.04) |
| Southern Sub-Saharan Africa | 41.89(35.06–50.25) | 74.98(63.24–88.03) |  | 50.14(41.62–59.67) | 61.34(51.27–72.58) |  | -0.95(-1.1–-0.79) |
| Western Sub-Saharan Africa | 70.51(57.78–85.6) | 40.48(33.88–47.65) |  | 181.25(149.13–219.44) | 44.52(37.39–52.92) |  | 0.22(0.17–0.26) |

Note. ASR= age-standardized incidence rate; CI=confidence interval; EAPC=estimated annual percentage change; UI= uncertainty interval.

**Table S3** The incident cases and ASR of cannabis use disorders in 1990 and 2017, and the temporal trends of ASR from 1990 to 2017.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1990** | |  | **2017** | |  | **1990-2017** |
| **Incident cases**  **No.×103 (95% UI)** | **ASR per 100,000**  **No.(95% UI)** |  | **Incident cases**  **No.×103 (95% UI)** | **ASR per 100,000**  **No.(95% UI)** |  | **EAPC**  **No.(95% CI)** |
| **Overall** | 1980.36(1628.17–2497.02) | 34.01(28.14–42.52) |  | 2460.7(2061.03–3022.01) | 32.46(27.08–40.05) |  | -0.16(-0.23–-0.09) |
| **Sex** |  |  |  |  |  |  |  |
| Male | 1239.45(1013.19–1566.42) | 41.78(34.39–52.31) |  | 1561.09(1295.61–1927.58) | 40.56(33.6–50.31) |  | -0.09(-0.17–-0.01) |
| Female | 740.91(611.1–926.9) | 25.98(21.61–32.31) |  | 899.61(760.94–1092.47) | 24.02(20.19–29.54) |  | -0.28(-0.34–-0.22) |
| **Socio-demographic index** |  |  |  |  |  |  |  |
| Low | 176.61(143.72–222.4) | 24.4(20.43–29.86) |  | 355.81(291.47–446.18) | 24.83(20.74–30.39) |  | 0.1(0.02–0.17) |
| Low-middle | 289.79(236.38–365.58) | 25.64(21.46–31.53) |  | 468.45(391.17–576.51) | 25.21(21.15–30.7) |  | 0(-0.07–0.08) |
| Middle | 569.66(460.88–728.11) | 32.17(26.43–40.55) |  | 648.43(543.27–794.65) | 31.24(25.82–38.94) |  | -0.06(-0.09–-0.04) |
| Middle-high | 399.74(326.22–507.27) | 33.81(27.63–43.1) |  | 413.78(347.56–500.05) | 33.46(27.58–41.97) |  | -0.01(-0.02–0.01) |
| High | 534.66(444.47–661.02) | 60.51(49.79–75.78) |  | 565(472.74–690.29) | 67.69(55.71–84.82) |  | 0.33(0.12–0.55) |
| **Region** |  |  |  |  |  |  |  |
| Asia Pacific–high income | 89.3(72.12–114.15) | 51.27(41.17–66.27) |  | 67.06(55.33–83.04) | 51.18(41.12–66.01) |  | 0(-0.02–0.01) |
| Central Asia | 19.16(15.88–23.83) | 25.78(21.59–31.69) |  | 23.61(19.91–28.56) | 25.98(21.77–31.95) |  | 0.04(0.03–0.04) |
| East Asia | 514.68(407.69–663.72) | 35.96(28.81–46.38) |  | 464.01(385.9–572.69) | 36.13(28.97–46.61) |  | 0.08(0.04–0.11) |
| South Asia | 288.78(232.24–367.39) | 24.44(20.03–30.4) |  | 502.37(412.14–622.28) | 25.47(21.01–31.36) |  | 0.25(0.09–0.41) |
| Southeast Asia | 168.5(138.22–211.26) | 31.89(26.54–39.45) |  | 215.74(181.57–264.99) | 31.32(26.2–38.81) |  | -0.07(-0.09–-0.06) |
| Australasia | 19.97(17.39–23.13) | 100.94(87.8–116.68) |  | 20.24(17.24–24.11) | 88.74(74.51–107.18) |  | -1.19(-1.48–-0.91) |
| Caribbean | 17.1(13.99–21.37) | 43.31(35.69–53.59) |  | 19.4(16.06–23.88) | 42.23(34.85–52.37) |  | -0.08(-0.13–-0.02) |
| Central Europe | 44.67(37.71–53.22) | 37.11(31.29–44.29) |  | 31.7(27.62–36.04) | 35.82(30.92–41.43) |  | -0.1(-0.27–0.06) |
| Eastern Europe | 77.63(62.18–100.42) | 37.23(29.47–49.17) |  | 60.44(49.6–75.42) | 37.29(29.61–49.21) |  | 0.03(-0.03–0.08) |
| Western Europe | 201.42(169.99–243.44) | 60.24(50.51–73.59) |  | 180.9(157.47–208.65) | 57.9(49.88–68.03) |  | -0.18(-0.41–0.06) |
| Andean Latin America | 9.72(8.1–11.83) | 23.4(19.79–28) |  | 15.07(12.74–17.97) | 23.81(20.15–28.39) |  | 0.06(0.02–0.1) |
| Central Latin America | 49.85(40.64–63.4) | 27.27(22.79–33.8) |  | 77.18(65.14–93.31) | 28.84(24.35–34.87) |  | 0.27(0.18–0.37) |
| Southern Latin America | 17.68(14.9–21.54) | 34.43(29.08–41.83) |  | 26.35(22.65–30.95) | 42.63(36.39–50.3) |  | 0.96(0.77–1.16) |
| Tropical Latin America | 67.21(53.18–87.37) | 39.32(31.73–50.23) |  | 88.14(72.35–107.89) | 39.62(32.1–49.01) |  | 0.03(0–0.06) |
| North Africa and Middle East | 83.69(68.71–105.59) | 22.25(18.64–27.23) |  | 142(119.6–171.99) | 22.22(18.76–27) |  | 0.02(0.01–0.02) |
| North America–high income | 183.64(147.58–236.11) | 73.12(57.72–95.52) |  | 258.69(207.02–333.75) | 88.92(70.16–116.3) |  | 0.54(0.21–0.87) |
| Oceania | 3.51(2.85–4.36) | 46.88(38.7–57.54) |  | 6.59(5.39–8.14) | 46.88(38.68–57.58) |  | 0(0–0) |
| Central Sub-Saharan Africa | 14.09(11.53–17.24) | 24.36(20.35–29.25) |  | 32.16(26.41–39.39) | 24.39(20.38–29.28) |  | 0(0–0) |
| Eastern Sub-Saharan Africa | 56.81(45.95–73.02) | 27.43(22.94–33.93) |  | 124.91(101.19–160.04) | 27.76(23.15–34.31) |  | 0.06(0.03–0.1) |
| Southern Sub-Saharan Africa | 20.32(15.87–26.67) | 33.43(26.69–42.64) |  | 27.26(22.22–34.3) | 32.86(26.76–41.46) |  | -0.22(-0.36–-0.08) |
| Western Sub-Saharan Africa | 32.64(27.38–39.43) | 17.07(14.68–20.11) |  | 76.88(64.42–92.84) | 17.06(14.65–20.12) |  | 0.02(0–0.04) |

Note. ASR= age-standardized incidence rate; CI=confidence interval; EAPC=estimated annual percentage change; UI= uncertainty interval.

**Table S4** The incident cases and ASR of amphetamine use disorders in 1990 and 2017, and the temporal trends of ASR from 1990 to 2017.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1990** | |  | **2017** | |  | **1990-2017** |
| **Incident cases**  **No.×103 (95% UI)** | **ASR per 100,000**  **No.(95% UI)** |  | **Incident cases**  **No.×103 (95% UI)** | **ASR per 100,000**  **No.(95% UI)** |  | **EAPC**  **No.(95% CI)** |
| **Overall** | 848.18(618.91–1143.13) | 14.28(10.55–19.07) |  | 887.24(666.19–1170.17) | 11.75(8.77–15.52) |  | -0.67(-0.7–-0.64) |
| **Sex** |  |  |  |  |  |  |  |
| Male | 532.1(382.09–723.86) | 17.63(12.9–23.69) |  | 556.25(412.78–739.33) | 14.52(10.76–19.34) |  | -0.68(-0.71–-0.64) |
| Female | 316.08(233.17–427.82) | 10.83(8.09–14.44) |  | 330.99(252.19–433.33) | 8.87(6.71–11.66) |  | -0.67(-0.7–-0.64) |
| **Socio-demographic index** |  |  |  |  |  |  |  |
| Low | 19.62(14.87–26.3) | 2.99(2.3–3.87) |  | 42.84(32.34–57.06) | 3.24(2.47–4.17) |  | 0.31(0.3–0.31) |
| Low-middle | 82.06(60.04–109.81) | 7.01(5.25–9.23) |  | 112.26(84.01–148.6) | 6.01(4.55–7.9) |  | -0.52(-0.54–-0.5) |
| Middle | 366.24(255.4–508.89) | 19.41(13.73–26.75) |  | 339.98(242.76–472.4) | 17.02(11.94–23.86) |  | -0.54(-0.58–-0.49) |
| Middle-high | 205.52(149.6–279.43) | 17.16(12.51–23.24) |  | 188.94(142.02–250.66) | 16.04(11.67–21.73) |  | -0.21(-0.24–-0.17) |
| High | 168.21(128.14–219.38) | 18.26(13.74–23.99) |  | 198.47(154.98–254.11) | 22.53(16.98–29.54) |  | 0.89(0.78–1) |
| **Region** |  |  |  |  |  |  |  |
| Asia Pacific–high income | 22.79(17.04–29.89) | 12.67(9.4–16.74) |  | 19.08(14.87–24.41) | 12.81(9.43–17.09) |  | 0.13(0.06–0.2) |
| Central Asia | 8.67(6.33–11.82) | 11.75(8.7–15.71) |  | 11.33(8.45–15.48) | 12.25(9.11–16.58) |  | 0.2(0.18–0.23) |
| East Asia | 365.62(259.88–499.68) | 24.27(17.44–33.23) |  | 258.19(190.67–350.69) | 22.2(15.67–31.03) |  | -0.55(-0.67–-0.44) |
| South Asia | 15.57(11.57–21.09) | 1.52(1.16–2.01) |  | 26.69(20.11–36.24) | 1.46(1.11–1.93) |  | -0.15(-0.18–-0.12) |
| Southeast Asia | 146.38(97.39–210.33) | 25.88(17.44–36.8) |  | 182.88(123.99–260.82) | 27.09(18.3–38.66) |  | 0.14(0.08–0.2) |
| Australasia | 8.2(6.6–10.34) | 40.62(32.68–51.22) |  | 10.61(9.04–12.6) | 47.26(40.14–56.17) |  | -0.15(-0.41–0.1) |
| Caribbean | 2.25(1.7–2.96) | 5.86(4.47–7.56) |  | 2.89(2.22–3.7) | 6.07(4.66–7.78) |  | 0.1(0.04–0.15) |
| Central Europe | 15.22(11.25–20.19) | 12.8(9.41–17.05) |  | 12.18(9.75–15.29) | 14.09(11.11–18.03) |  | 0.49(0.39–0.59) |
| Eastern Europe | 32.89(25.38–43.19) | 15.68(11.85–20.87) |  | 26.89(21.21–34.88) | 16.22(12.24–21.72) |  | 0.21(0.07–0.35) |
| Western Europe | 58.05(43.64–77.02) | 16.36(12.02–22.04) |  | 60.94(47.12–79.39) | 18.68(13.92–25.14) |  | 0.81(0.64–0.99) |
| Andean Latin America | 5.53(3.83–8.01) | 12.5(8.92–17.67) |  | 8.36(6.01–11.78) | 13.08(9.46–18.4) |  | 0.48(0.32–0.64) |
| Central Latin America | 30.97(20.93–45.6) | 15.87(11.18–22.82) |  | 48.46(32.9–70.11) | 17.99(12.27–25.98) |  | 0.69(0.6–0.78) |
| Southern Latin America | 6.23(4.51–8.64) | 12.15(8.89–16.7) |  | 7.4(5.5–10.15) | 11.56(8.52–15.99) |  | 0.17(0.02–0.33) |
| Tropical Latin America | 24.02(16.97–34.33) | 13.78(9.98–19.48) |  | 32.46(23.51–45.14) | 14.81(10.61–20.69) |  | 0.56(0.39–0.74) |
| North Africa and Middle East | 21.33(15.91–29) | 5.89(4.48–7.9) |  | 37.19(27.95–49.62) | 5.85(4.43–7.81) |  | 0.06(0.02–0.09) |
| North America–high income | 60.18(45.92–78.42) | 22.92(17.15–30.13) |  | 88.81(68.07–116.69) | 28.89(21.52–38.37) |  | 0.98(0.79–1.18) |
| Oceania | 1.3(0.9–1.87) | 17.15(12.1–24.19) |  | 2.56(1.8–3.6) | 17.91(12.69–24.95) |  | 0.12(0.09–0.15) |
| Central Sub-Saharan Africa | 2.63(1.96–3.55) | 4.86(3.69–6.42) |  | 6.11(4.58–8.09) | 4.99(3.79–6.48) |  | 0.12(0.1–0.14) |
| Eastern Sub-Saharan Africa | 8.2(6.07–11.04) | 4.46(3.38–5.8) |  | 18.7(13.9–25.1) | 4.63(3.5–6) |  | 0.16(0.14–0.18) |
| Southern Sub-Saharan Africa | 4.04(3.01–5.43) | 6.99(5.29–9.29) |  | 6.11(4.61–8.08) | 7.31(5.56–9.61) |  | 0.34(0.26–0.43) |
| Western Sub-Saharan Africa | 8.08(6.02–10.77) | 4.4(3.35–5.75) |  | 19.4(14.29–25.85) | 4.54(3.45–5.91) |  | 0.13(0.11–0.15) |

ASR= age-standardized incidence rate; CI=confidence interval; EAPC=estimated annual percentage change; UI= uncertainty interval.

**Table S5** The incident cases and ASR of cocaine use disorders in 1990 and 2017, and the temporal trends of ASRfrom 1990 to 2017.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1990** | |  | **2017** | |  | **1990-2017** |
| **Incident cases**  **No.×103 (95% UI)** | **ASR per 100,000**  **No.(95% UI)** |  | **Incident cases**  **No.×103 (95% UI)** | **ASR per 100,000**  **No.(95% UI)** |  | **EAPC**  **No.(95% CI)** |
| **Overall** | 215.32(185.1–252.62) | 3.53(3.05–4.13) |  | 260.31(227.94–301.56) | 3.49(3.05–4.05) |  | -0.04(-0.14–0.05) |
| **Sex** |  |  |  |  |  |  |  |
| Male | 141.06(121.73–166.09) | 4.53(3.92–5.32) |  | 172.3(150.84–200.19) | 4.52(3.96–5.26) |  | -0.01(-0.11–0.09) |
| Female | 74.26(63.53–87.79) | 2.49(2.15–2.93) |  | 88.01(76.49–102.53) | 2.4(2.08–2.79) |  | -0.14(-0.23–-0.04) |
| **Socio-demographic index** |  |  |  |  |  |  |  |
| Low | 4.32(3.41–5.31) | 0.65(0.53–0.79) |  | 9.33(7.41–11.42) | 0.71(0.58–0.86) |  | 0.3(0.27–0.33) |
| Low-middle | 17.38(14.72–20.44) | 1.47(1.25–1.72) |  | 27.85(23.75–32.54) | 1.47(1.26–1.71) |  | -0.03(-0.1–0.04) |
| Middle | 44.67(38.04–53.01) | 2.34(2.01–2.76) |  | 58.04(49.8–67.92) | 2.92(2.49–3.43) |  | 0.71(0.49–0.92) |
| Middle-high | 40.05(34.24–47.01) | 3.32(2.84–3.89) |  | 44.1(38.38–51.47) | 4.09(3.54–4.83) |  | 0.63(0.46–0.8) |
| High | 108.59(93.15–128.14) | 12.41(10.62–14.69) |  | 120.66(105.43–140.2) | 15.4(13.36–18) |  | 0.88(0.81–0.95) |
| **Region** |  |  |  |  |  |  |  |
| Asia Pacific–high income | 11.7(9.8–14.2) | 6.43(5.39–7.81) |  | 8.18(6.92–9.76) | 6.61(5.53–7.99) |  | 0.12(0.1–0.14) |
| Central Asia | 1.42(1.18–1.68) | 1.89(1.58–2.23) |  | 1.79(1.51–2.13) | 2.01(1.68–2.38) |  | 0.4(0.28–0.52) |
| East Asia | 11.9(9.34–14.77) | 0.79(0.63–0.98) |  | 11.03(8.76–13.48) | 0.77(0.61–0.95) |  | -0.32(-0.39–-0.24) |
| South Asia | 6.27(4.85–7.92) | 0.56(0.44–0.7) |  | 11.73(9.1–14.66) | 0.61(0.48–0.76) |  | 0.29(0.26–0.31) |
| Southeast Asia | 2.64(2–3.36) | 0.51(0.39–0.64) |  | 3.74(2.9–4.68) | 0.54(0.42–0.67) |  | 0.22(0.19–0.26) |
| Australasia | 1.74(1.46–2.1) | 8.58(7.19–10.38) |  | 1.82(1.52–2.22) | 8.5(7.08–10.48) |  | -0.08(-0.13–-0.02) |
| Caribbean | 1.93(1.6–2.35) | 4.54(3.8–5.52) |  | 2.24(1.87–2.7) | 4.8(4.01–5.79) |  | 0.09(-0.03–0.22) |
| Central Europe | 4.93(4.12–5.92) | 4.15(3.46–5) |  | 3.5(2.97–4.11) | 4.23(3.53–5.03) |  | 0.04(-0.01–0.09) |
| Eastern Europe | 10.04(8.62–11.86) | 5.04(4.32–5.95) |  | 7.32(6.33–8.57) | 5.22(4.44–6.2) |  | 0.38(0.16–0.6) |
| Western Europe | 38.62(32.3–46.37) | 11.53(9.63–13.91) |  | 36.87(31.36–43.58) | 12.65(10.75–15.04) |  | 0.71(0.56–0.86) |
| Andean Latin America | 2.26(1.82–2.81) | 4.88(3.95–6.01) |  | 3.57(2.92–4.38) | 5.5(4.51–6.77) |  | 0.77(0.6–0.93) |
| Central Latin America | 22.08(18.25–26.91) | 10.51(8.79–12.8) |  | 29.75(24.83–36.06) | 10.9(9.1–13.2) |  | 0.26(0.16–0.36) |
| Southern Latin America | 9.16(7.66–11.31) | 17.32(14.5–21.37) |  | 11.57(9.97–14.03) | 18.74(16.14–22.77) |  | 0.41(0.33–0.5) |
| Tropical Latin America | 21.91(18.44–26.45) | 11.94(10.08–14.35) |  | 30.78(26.05–36.95) | 14.47(12.23–17.38) |  | 0.83(0.61–1.05) |
| North Africa and Middle East | 10.61(8.87–12.64) | 2.73(2.31–3.2) |  | 16.17(13.59–19.1) | 2.57(2.17–3.04) |  | -0.2(-0.3–-0.1) |
| North America–high income | 53.77(46.68–63.14) | 22.17(19.25–26.07) |  | 71.73(62.94–82.87) | 25.19(22.03–29.17) |  | 0.35(0.21–0.49) |
| Oceania | 0.03(0.03–0.05) | 0.5(0.38–0.64) |  | 0.07(0.05–0.09) | 0.53(0.4–0.67) |  | 0.21(0.2–0.23) |
| Central Sub-Saharan Africa | 0.39(0.31–0.49) | 0.76(0.61–0.92) |  | 0.93(0.74–1.15) | 0.8(0.65–0.97) |  | 0.26(0.23–0.29) |
| Eastern Sub-Saharan Africa | 0.75(0.56–0.98) | 0.43(0.34–0.54) |  | 1.71(1.27–2.22) | 0.46(0.36–0.57) |  | 0.22(0.19–0.26) |
| Southern Sub-Saharan Africa | 1.94(1.64–2.29) | 3.42(2.94–3.97) |  | 2.85(2.45–3.3) | 3.55(3.07–4.09) |  | 0.35(0.25–0.44) |
| Western Sub-Saharan Africa | 1.22(0.97–1.51) | 0.76(0.63–0.91) |  | 2.96(2.36–3.64) | 0.8(0.67–0.95) |  | 0.22(0.16–0.27) |

Note. ASR= age-standardized incidence rate; CI=confidence interval; EAPC=estimated annual percentage change; UI= uncertainty interval.