

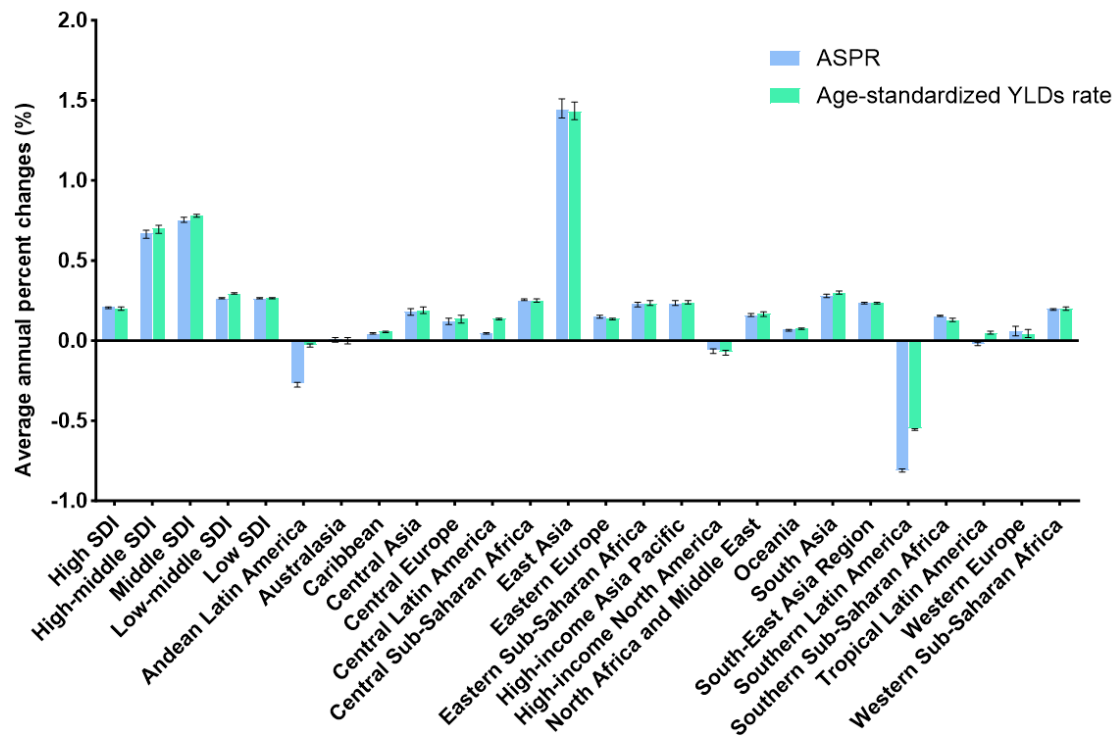
# Heart Failure Burden in 15-44 Year Olds: Global Analysis 1990-2021 with 2050

## Projections

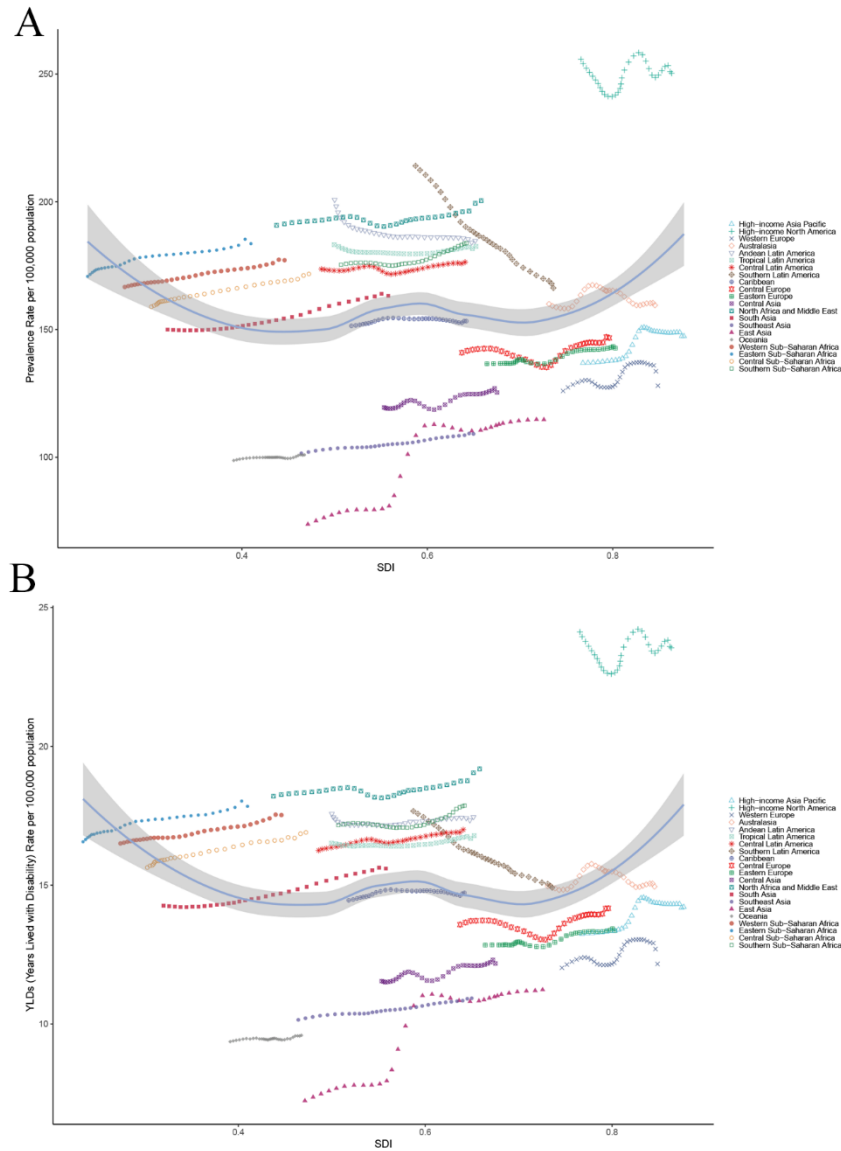
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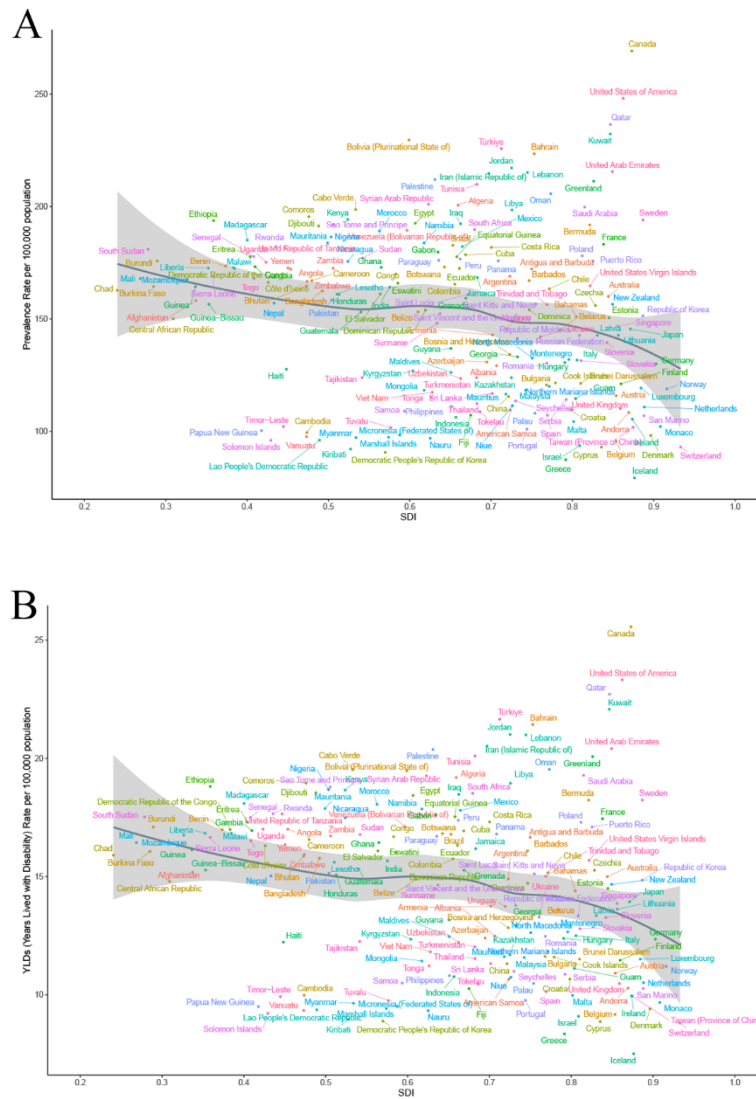
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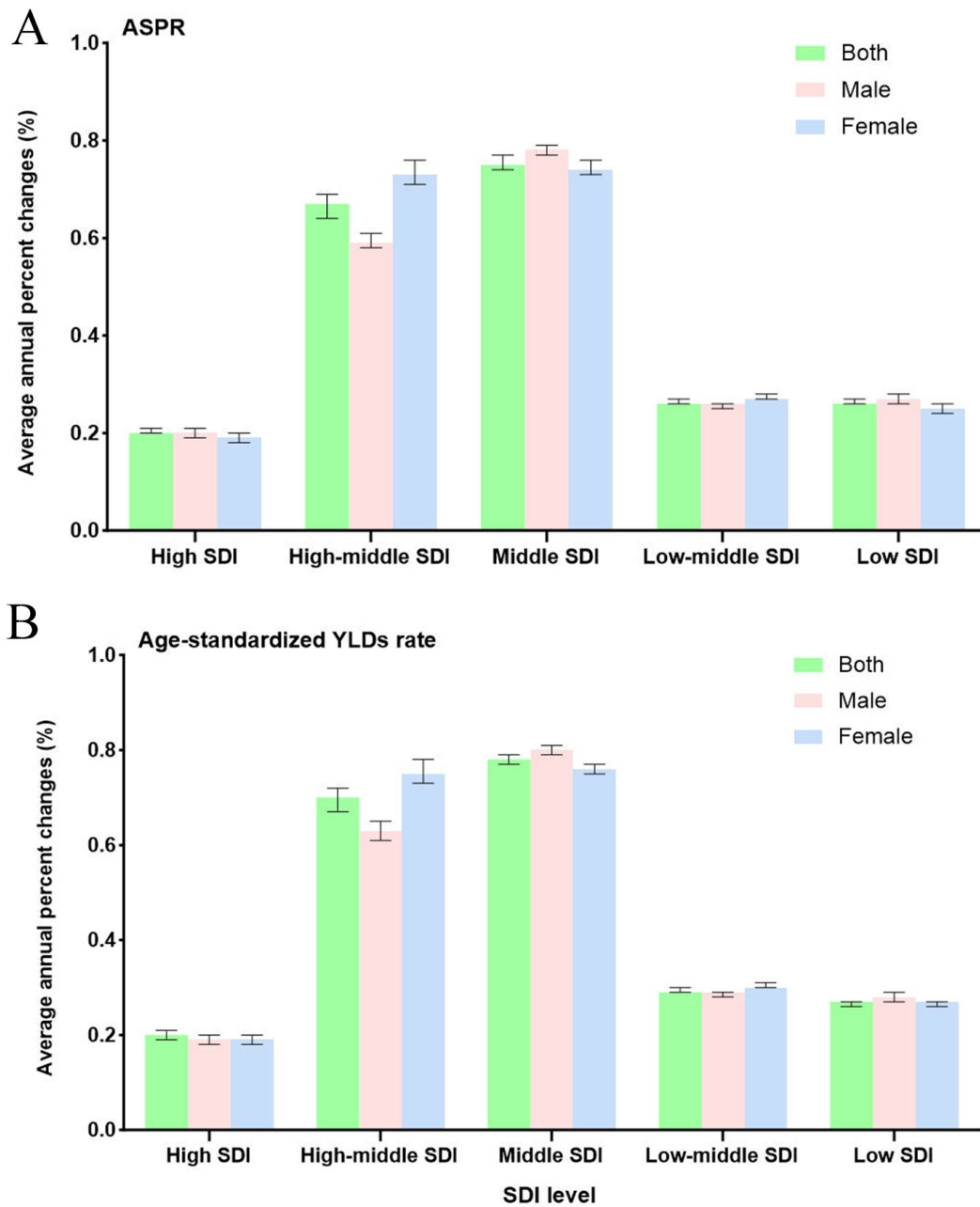
Supplementary Figure 1. Average annual percent changes of ASPR and ASYR of HF patients aged 15-44 years from 1990 to 2021 in 5 SDI and 21 GBD regions levels. ASPR =age-standardized prevalence rate; ASYR =age-standardized years lived with disability rate; GBD =global burden of disease; HF =heart failure; SDI =socio-demographic index.



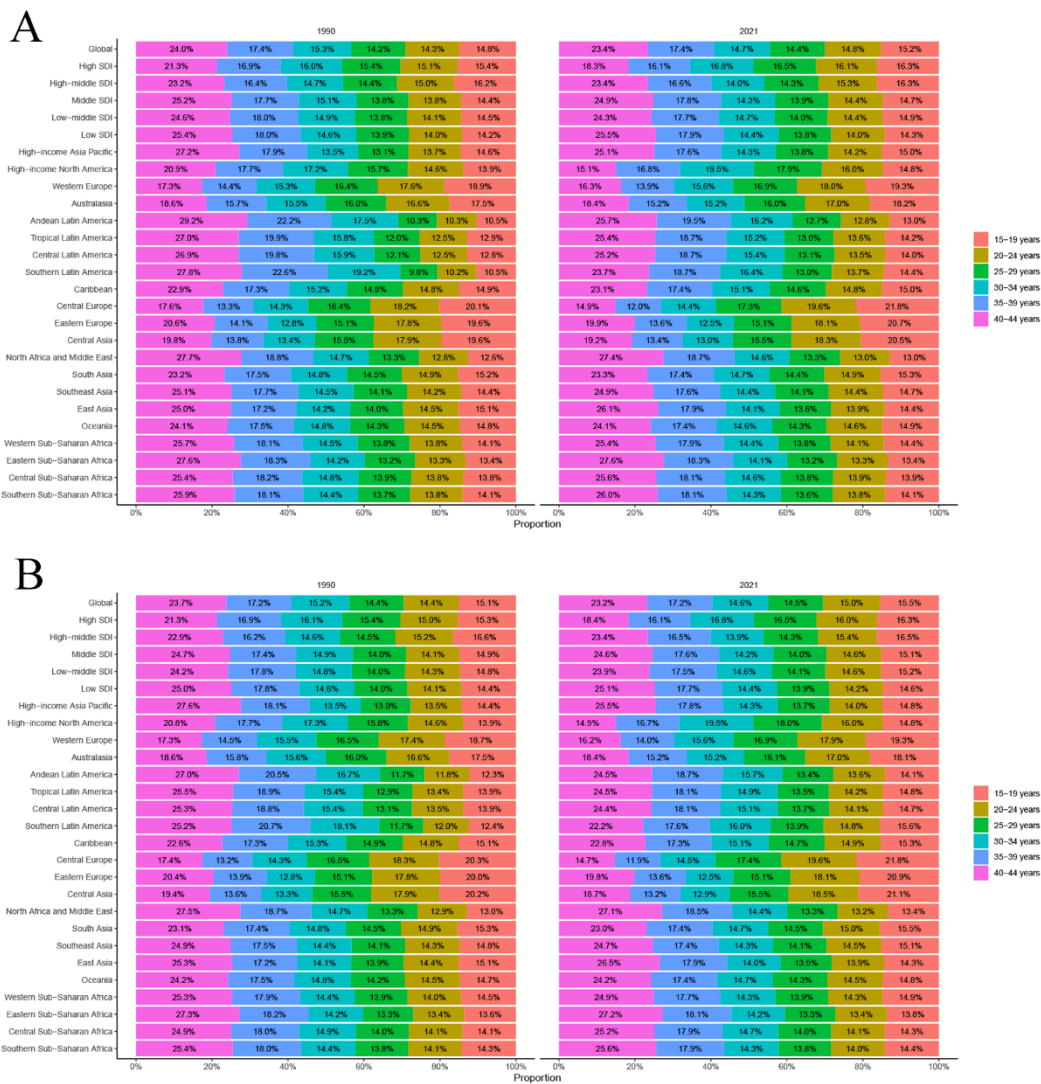
Supplementary Figure 2. Trends of ASPR and ASYR of HF patients aged 15-44 years from 1990 to 2021 in 21 GBD regions. (A) Trends of ASPR; (B) Trends of ASYR. ASPR =age-standardized prevalence rate; ASYR =age-standardized years lived with disability rate; GBD =global burden of disease; HF =heart failure; SDI =socio-demographic index.



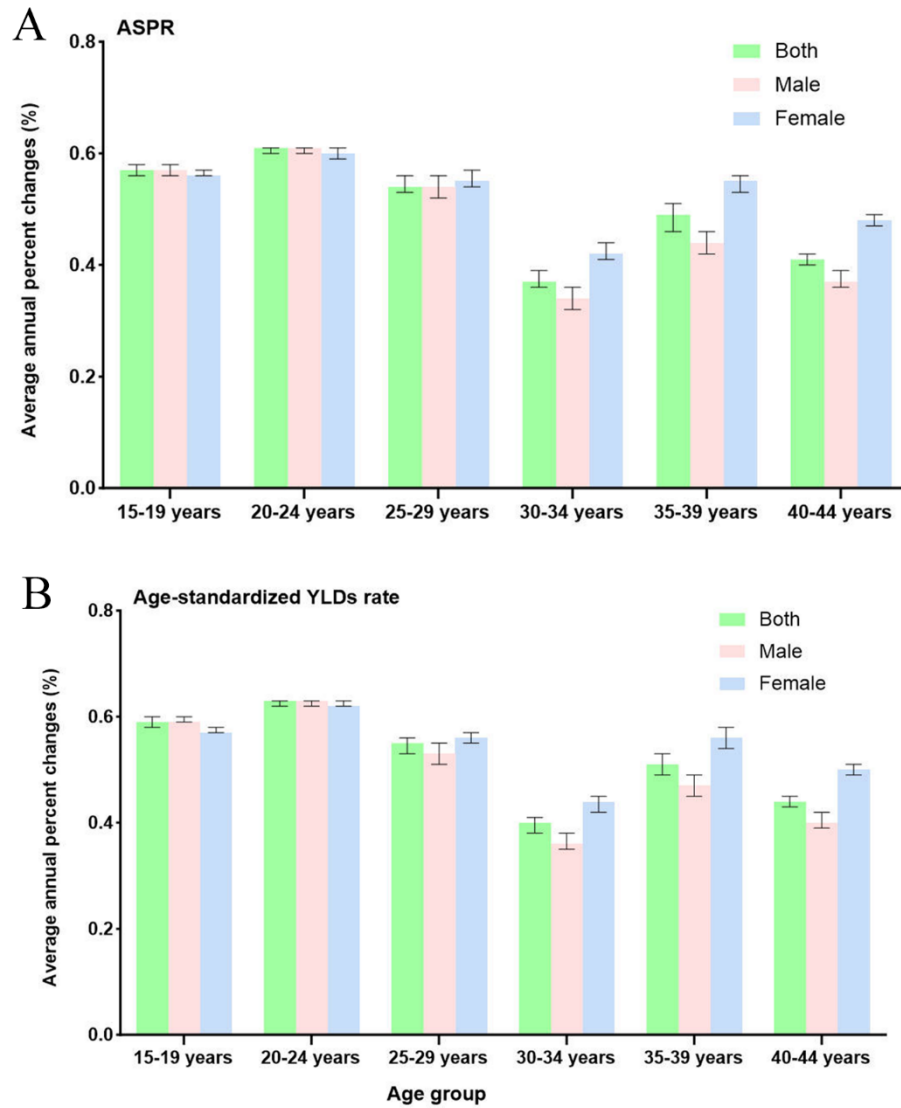
Supplementary Figure 3. The ASPR and ASYR of HF patients aged 15-44 years in 2021 with 204 countries and territories. (A) ASPR; (B) ASYR. ASPR = age-standardized prevalence rate; ASYR = age-standardized years lived with disability rate; HF = heart failure; SDI = socio-demographic index.



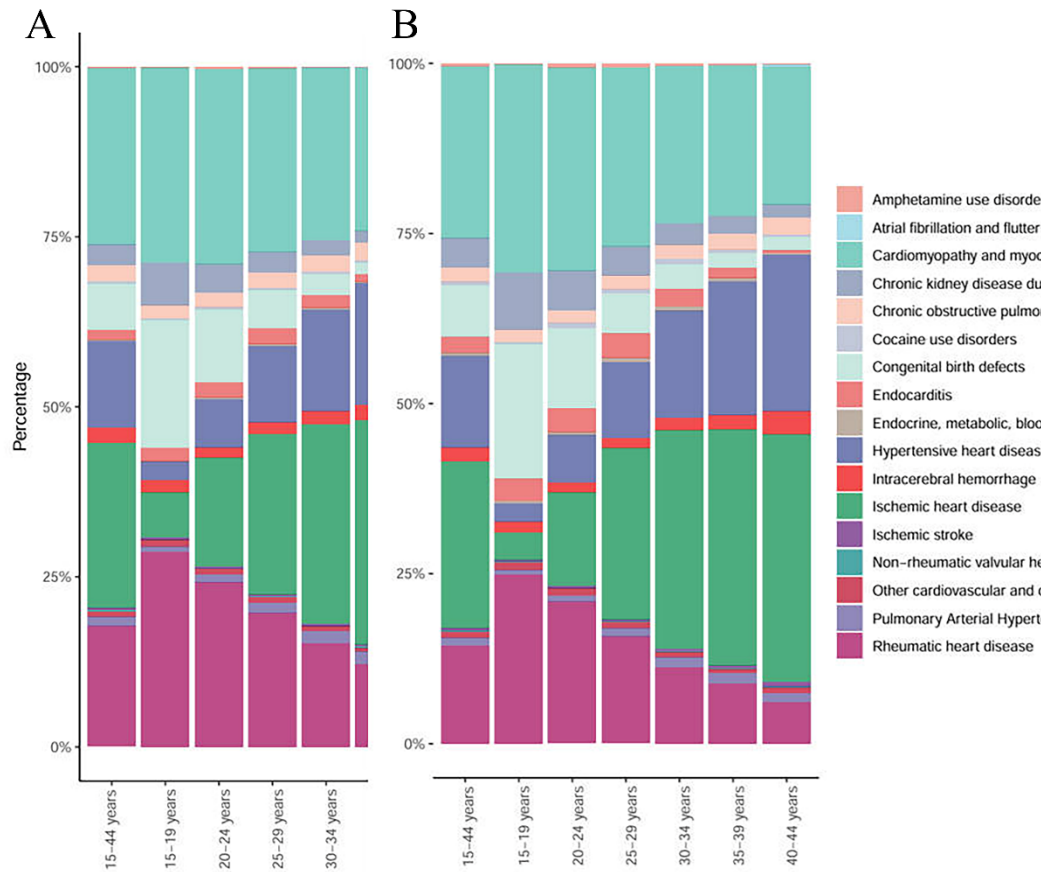
Supplementary Figure 4. AAPCs of ASPR and ASYR of HF patients aged 15-44 years from 1990 to 2021 by sex in different SDI level. (A) ASPR; (B) ASYR. AAPC =average annual percent change; ASPR =age-standardized prevalence rate; ASYR =age-standardized years lived with disability rate; HF =heart failure; SDI =socio-demographic index.



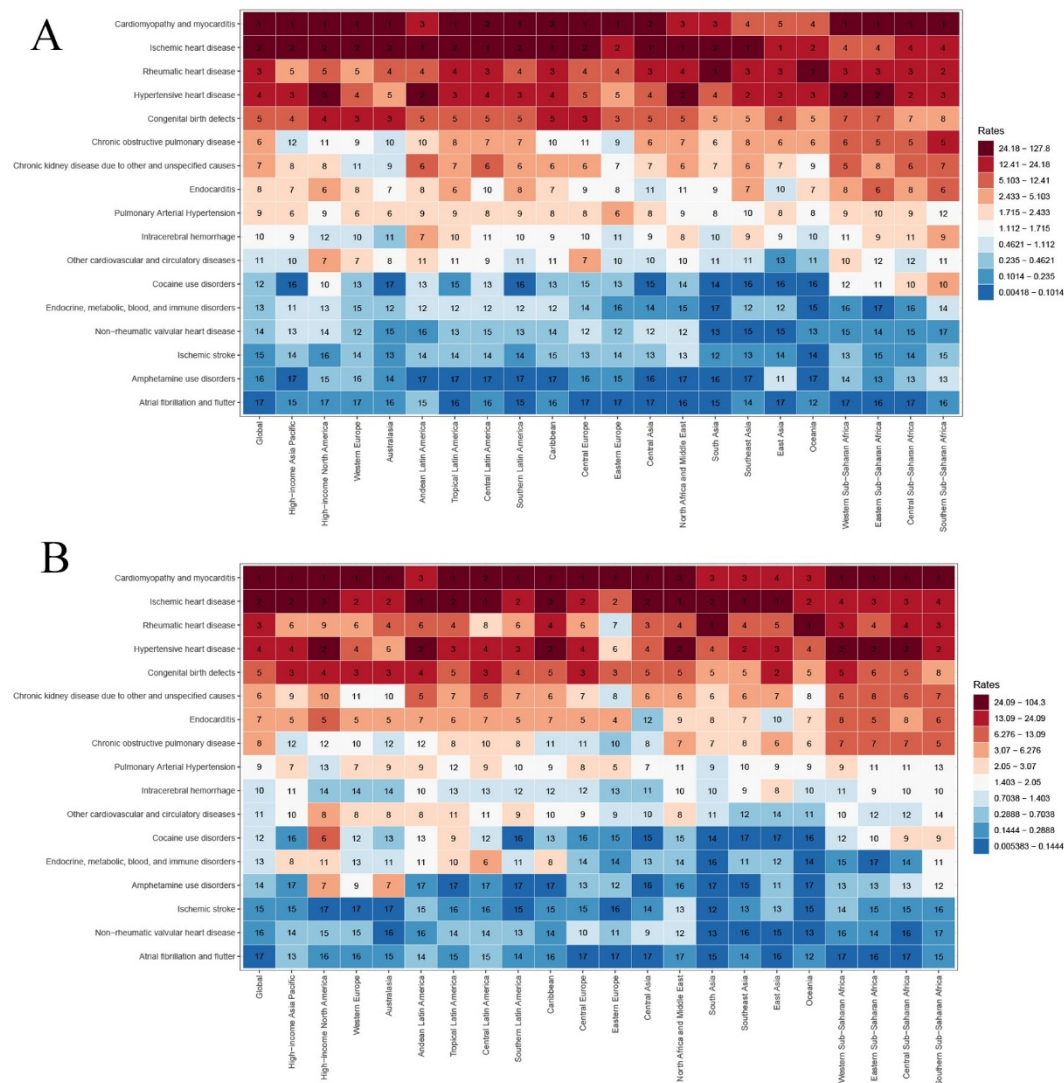
Supplementary Figure 5. Proportion of ASPR and ASYR for HF patients aged 15-44 years in different age groups in 1990 and 2021 in global, 5 SDI regions and 21 GBD regions. (A) Proportion of ASPR; (B) Proportion of ASYR in 1990 and 2021. ASPR =age-standardized prevalence rate; ASYR =age-standardized years lived with disability rate; GBD =global burden of disease; HF =heart failure; SDI =socio-demographic index.



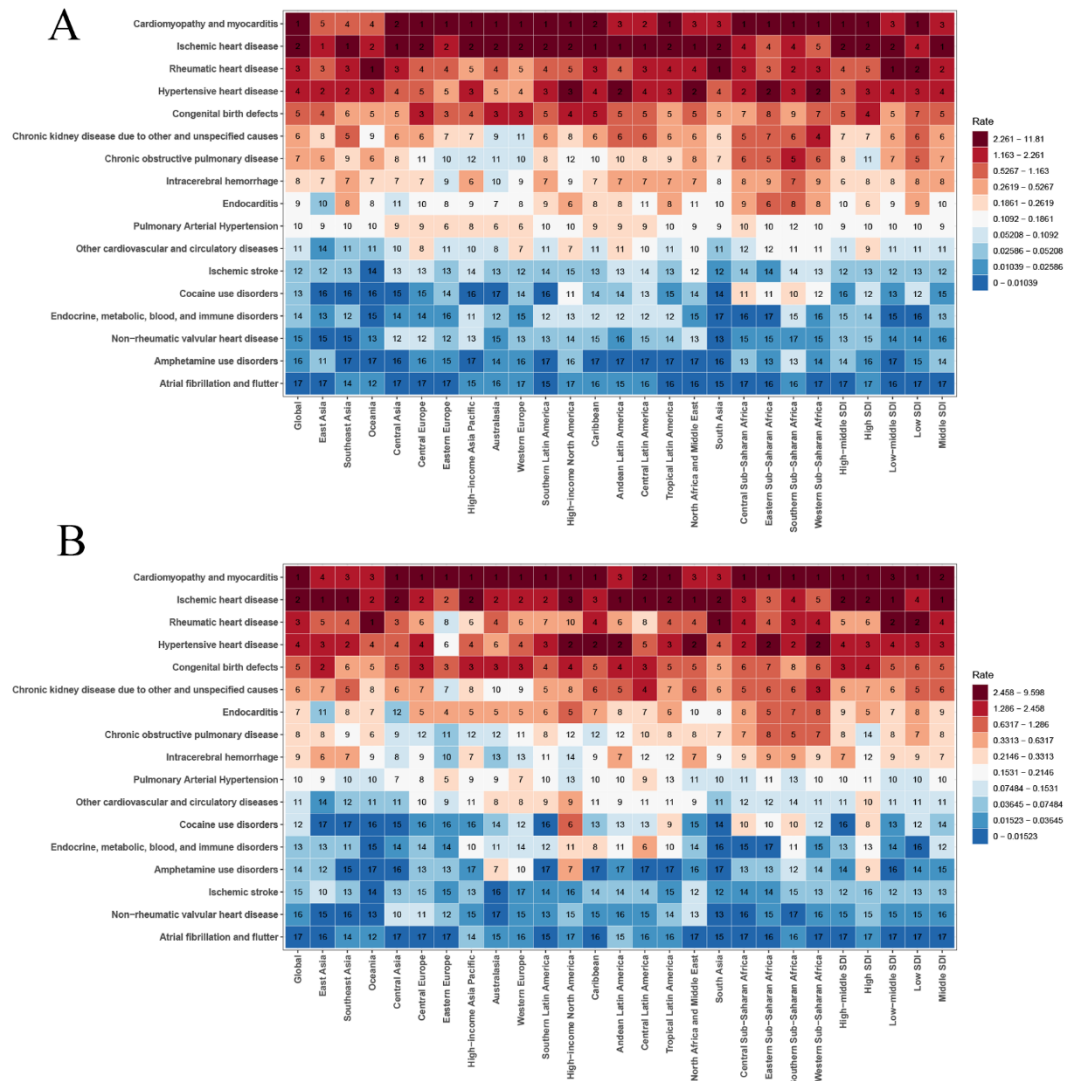
Supplementary Figure 6. AAPCs of ASPR and ASYR of HF patients aged 15-44 years from 1990 to 2021 in different age groups by sex. (A) AAPCs of ASPR; (B) AAPCs of ASYR. AAPC =average annual percent change; ASPR =age-standardized prevalence rate; ASYR =age-standardized years lived with disability rate; HF =heart failure.



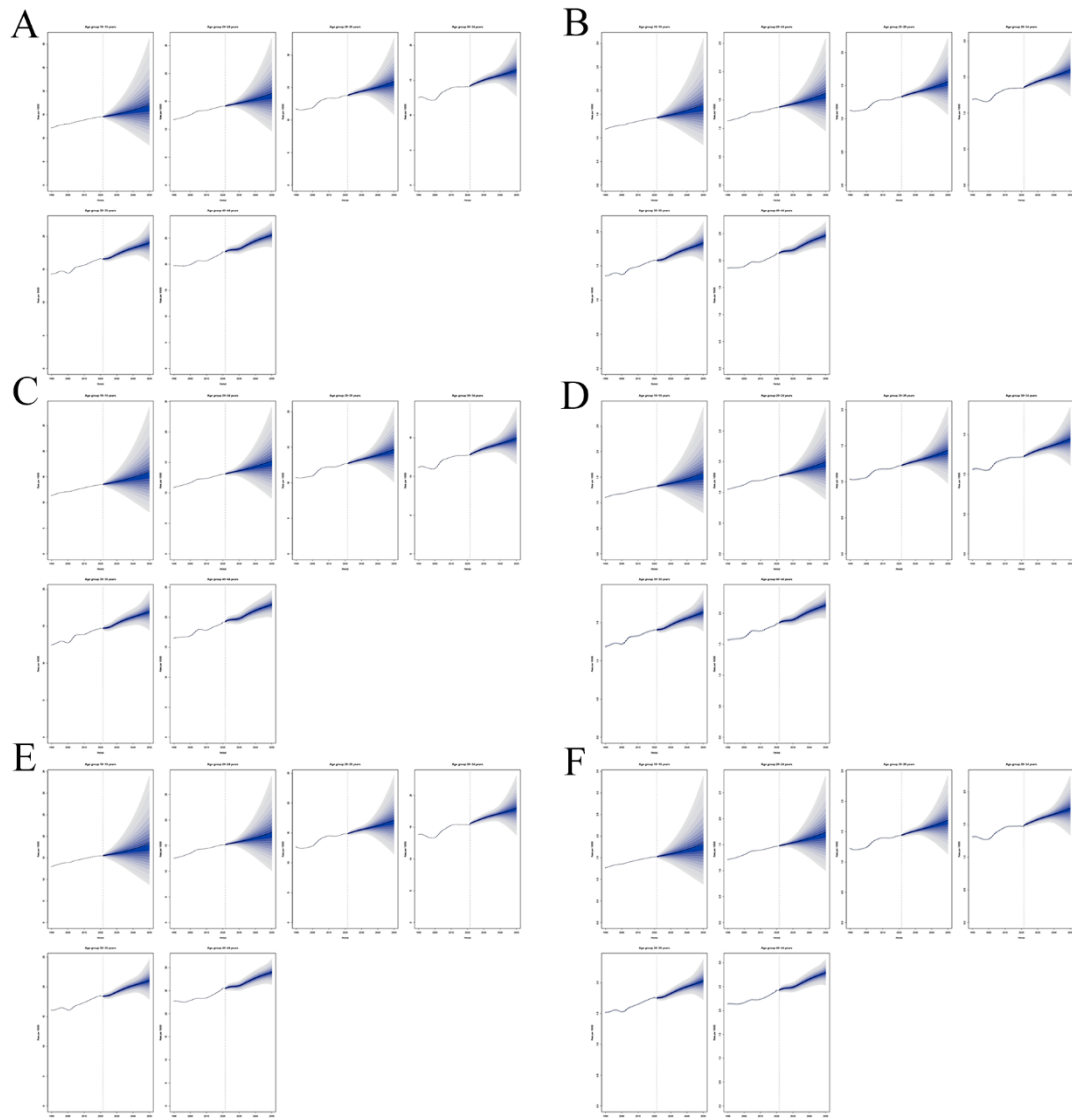
Supplementary Figure 7. The proportion of main underlying causes of ASYR for HF patients aged 15-44 years with at different age groups in 1990 and 2021. (A) The proportion of main underlying causes in 1990; (B) The proportion of main underlying causes in 2021. ASYR =age-standardized years lived with disability rate; HF =heart failure.



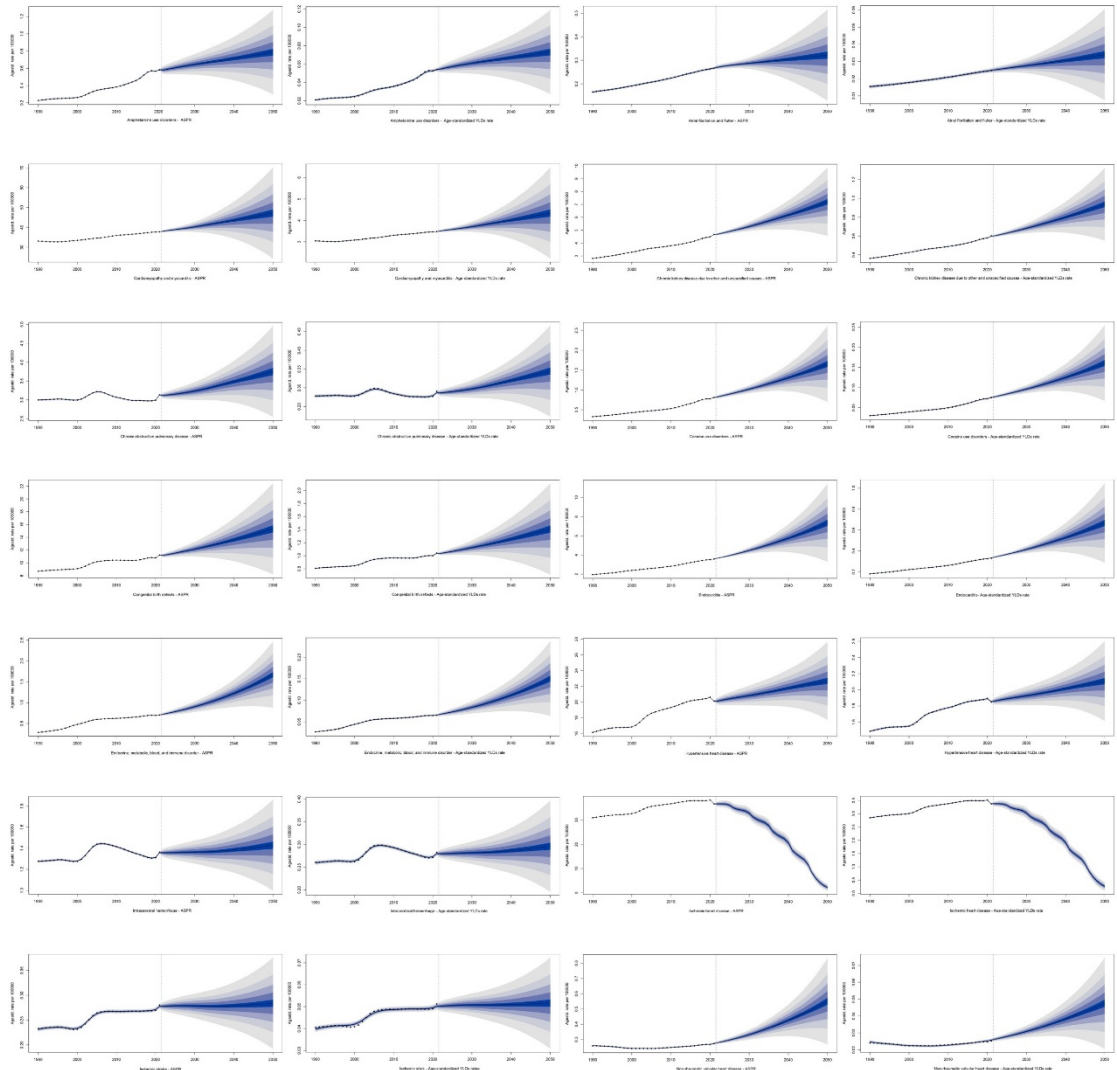
Supplementary Figure 8. The proportion of main underlying causes of ASPR for HF patients aged 15-44 years with at global, 5 SDI and 21 GBD regions in 1990 and 2021. (A) The proportion of main underlying causes in 1990; (B) The proportion of main underlying causes in 2021. ASYR =age-standardized years lived with disability rate; GBD =global burden of disease; HF =heart failure; SDI =socio-demographic index.



Supplementary Figure 9. The proportion of main underlying causes of ASYR for HF patients aged 15-44 years with at global, 5 SDI and 21 GBD regions in 1990 and 2021. (A) The proportion of main underlying causes in 1990; (B) The proportion of main underlying causes in 2021. ASYR =age-standardized years lived with disability rate; GBD =global burden of disease; HF =heart failure; SDI =socio-demographic index.



Supplementary Figure 10. Prediction to 2050 in ASPR and ASYR by different sex for HF patients with different age groups at global. (A) ASPR prediction in both sex with different age groups; (B) ASYR prediction in both sex with different age groups; (C) ASPR prediction in female with different age groups; (D) ASYR prediction in female with different age groups; (E) ASPR prediction in male with different age groups; (F) ASYR prediction in male with different age groups. ASPR =age-standardized prevalence rate; ASYR =age-standardized years lived with disability rate; HF=heart failure; UI=uncertainty interval.



Supplementary Figure 11. Prediction to 2050 in ASPR and ASYR by main underlying causes for HF patients aged 15-44 years at global: observed (dashed lines) and predicted rates (solid lines). The blue region shows the upper and lower limits of the 95% uncertainty intervals (95% UIs). The predictive mean is shown as solid line. ASPR =age-standardized prevalence rate; ASYR =age-standardized years lived with disability rate; HF=heart failure; UI=uncertainty interval.

**Supplementary Table 1. International Classification of Diseases (ICD) codes mapped to underlying causes of heart failure in the adolescents and young adults of 15-44 years old.**

|                                                               | ICD 9                                                                                                                                                                                   | ICD 9 used in hospital/claims<br>and analyses                                              | ICD 10                                                                                                                                                                                    | ICD 10 used in hospital/claims and<br>analyses                                                                                                                                          |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Amphetamine use disorders                                     | 304.4-304.43,304.5,305.7-<br>305.73,969.72                                                                                                                                              | 304.4-304.43, 304.5,305.7-<br>305.73, 969.72                                               | F15.1-F15.13,F5.15,F15.18-<br>F15.20,F15.22,F15.25,F15.28-<br>F15.29,F15.90,F15.92,F15.93,F15.98                                                                                          | F15.1-F15.13,F5.15,F15.18-<br>F15.20,F15.22,F15.25,F15.28-<br>F15.29,F15.90,F15.92,F15.93,F15.98                                                                                        |
| Atrial fibrillation and flutter                               | 427.3-427.32                                                                                                                                                                            | 427.3-427.32                                                                               | I48.0-I48.4,I48.9                                                                                                                                                                         | I48.0-I48.4,I48.9                                                                                                                                                                       |
| Cardiomyopathy and myocarditis                                |                                                                                                                                                                                         |                                                                                            |                                                                                                                                                                                           |                                                                                                                                                                                         |
| Alcoholic cardiomyopathy                                      | 425.5                                                                                                                                                                                   | /                                                                                          | I42.6                                                                                                                                                                                     | /                                                                                                                                                                                       |
| Other cardiomyopathy                                          | 425.0-425.18,425.3                                                                                                                                                                      | /                                                                                          | I42.0-I42.5, I42.7                                                                                                                                                                        | /                                                                                                                                                                                       |
| Myocarditis                                                   | 074.2,074.23,<br>422-422.99,429.0-429.1                                                                                                                                                 | 074.2,074.23,<br>422-422.99,429.0-429.1                                                    | B33.2-B33.20, B33.22-B33.24,<br>D86.85, I40-I41.8, I51.4-I51.6                                                                                                                            | B33.2-B33.20, B33.22-B33.24, I40-<br>I41.8, I51.4-I51.6                                                                                                                                 |
| Chronic kidney disease due to<br>other and unspecified causes | 589.8-589.9                                                                                                                                                                             | 589.8-589.9                                                                                | N18.9                                                                                                                                                                                     | N18.9                                                                                                                                                                                   |
| Chronic obstructive pulmonary<br>disease                      | /                                                                                                                                                                                       | 496                                                                                        | J41.0-J41.1,J41.8,J43.0-J43.9<br>J44.0-<br>J44.1,J44.8,J44.89,J44.9,J44.99                                                                                                                | J44.0-<br>J44.1,J44.8,J44.81,J44.89,J44.9                                                                                                                                               |
| Cocaine use disorders                                         | 304.2-304.23<br>305.6-305.69,<br>968.5                                                                                                                                                  | 304.2-304.23<br>305.6-305.63,968.5                                                         | F14.1-F14.19,F41.21-<br>F14.25,F14..28-F14.29,F14.92-<br>F14.95,F14.98-F14.99                                                                                                             | F14.1-F14.15,F14.18—<br>F14.25,F14.28-F14.29,F14.92-<br>F14.95,F14.98-F14.99                                                                                                            |
| Congenital birth defects                                      | 237.7, 237.73-237.79, 740-744,<br>744.00-753, 753.5, 754-759.9,<br>V13.6-V13.69, V18.61, V18.9,<br>V19.5, V19.7-V19.8, V82.3                                                            | 237.7, 237.73-237.79, 740-<br>743.22, 743.35-744,744.00759.9                               | G71.2, P96.0, Q00-Q15.9, Q17-Q57,<br>Q63.3, Q64-Q64.19, Q65-Q99.9                                                                                                                         | P96.0-P96.0,Q00-Q12,Q12.1-Q15.9,<br>Q17-Q99.9                                                                                                                                           |
| Endocarditis                                                  | 074.22, 421-421.9, 424,<br>424.4-424.99                                                                                                                                                 | 074.22,112.81-115.94,421-<br>421.9,424-424.99                                              | B33.21, I33-I33.9, I38-I38.0, I39-<br>I39.9                                                                                                                                               | A32.82, B33.21,<br>B37.6,I33-I39..9                                                                                                                                                     |
| Endocrine, metabolic, blood, and<br>immune disorder           | 240-244, 244.8-246.9, 251-256.9,<br>256.8-259.9, 270-272.9, 275-<br>278.02, 278.1-279.9, 286-289.9,<br>775.3, V12.2-V12.49, V18.1-<br>V18.19, V45.86, V77.0,V77.3-<br>V77.4,V77.6-V77.4 | 240-244, 244.8-246.9, 251-<br>256.39, 256.8-259.9, 270-<br>271.9,275-279.9,286-289.9,775.3 | D66-D69.49, D69.6-D70.0,<br>D70.2-D77, D80-D84.9,<br>D86.8,D86.82-D86.84, D86.86-<br>D86.87,D89-D89.9, E03-E03.1,<br>E03.3-E06.3, E06.5-E07.9, E15-E16,<br>E16.1-E16.9, E20-E23.0, E24.3- | D66-D69.49, D69.6-D70.0, D70.2-<br>D77, D80-D84.9,D86.3-D86.87,<br>D89-D89.9,E03-E03.1, E03.3-E06.3,<br>E06.5-E07.9, E15-E16, E16.1-E23.0,<br>E23.2-E24.1, E24.3-E27.2, E27.4-<br>E28.1 |

|                                                 |                                                                                                                               |                                          |                                                                                                                                          |                                                       |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
|                                                 |                                                                                                                               |                                          | E27.2, E27.4-E28.1, E28.3-E32.9, E34-E35.8, E65-E66.09, E66.2-E68, E70-E80.09, E80.3-E88.9, E90-E998, Z83.4                              |                                                       |
| Hypertensive heart disease                      | 402-402.91                                                                                                                    | /                                        | I11-I11.2, I11.9                                                                                                                         | /                                                     |
| Intracerebral hemorrhage                        | 431-431.9                                                                                                                     | 431                                      | I61- I61.9, S06.301, S06.801-S06.804, S06.811-S06.814                                                                                    | I61- I61.9, S06.301, S06.801-S06.804, S06.811-S06.814 |
| Ischemic heart disease                          | 410-414.9, V17.3                                                                                                              | /                                        | I20-I21.6, I21.9-I25.9, Z82.4-Z82.49                                                                                                     | I20-I25.9                                             |
| Ischemic stroke                                 | 433-433.3, 433.8-433.9, 434-434.1, 434.9                                                                                      | 433-433.3, 433.8-433.9, 434-434.1, 434.9 | I63.0-I63.6, I63.8-I63.9                                                                                                                 | I63.0-I63.6, I63.8-I63.9                              |
| Non-rheumatic valvular heart disease            |                                                                                                                               |                                          |                                                                                                                                          |                                                       |
| Non-rheumatic calcific aortic valve disease     | 424.1                                                                                                                         | 424.1                                    | I35.0-I35.2, I35.8-I35.9                                                                                                                 | I35.0-I35.2, I35.8-I35.9                              |
| Non-rheumatic degenerative mitral valve disease | 424.0                                                                                                                         | 424.0                                    | I34.0-I34.2, I34.8-I34.9                                                                                                                 | I34.0-I34.2, I34.8-I34.9                              |
| Other non-rheumatic valve diseases              | 424.2-424.3                                                                                                                   | 424.2-424.3                              | I36.0-I36.2, I36.8-I36.9<br>I37.0-I37.2, I37.8-I37.9                                                                                     | I36.0-I36.2, I36.8-I36.9<br>I37.0-I37.2, I37.8-I37.9  |
| Other cardiovascular and circulatory diseases   | 423- 423.9, 424.0-424.3, 429, 429.2-429.9, 442-442.9, 443.21-443.29, 447-454.9, 456, 456.3-457, 457.1, 457.8-458.1, 459-459.9 | /                                        | I30-I32.8, I34-I37.9, I51-I51.3, I51.7-I52.8, I62.0-I62.1, I72-I72.9, I77-I83.93, I86-I89.0, I89.9, I95.0-I95.1, I98, I98.8-I99.9, K75.1 | /                                                     |
| Pulmonary arterial hypertension                 | 416.0                                                                                                                         | 416.0                                    | /                                                                                                                                        | I27.0                                                 |
| Rheumatic heart disease                         | 391-391.9, 392.0, 393-398.99                                                                                                  | 391-398.99                               | I01-I01.9, I02.0, I05-I09.9                                                                                                              | I01-I09.9                                             |

**Underlying causes of heart failure:** Based on the latest list of aetiologies of heart failure in GBD 2021 and a review of the literature and expert opinion, the above underlying causes of heart failure in 15-44 years patients was selected.

ICD =International Classification of Diseases; GBD =Global Burden of Disease.

**Supplementary Table 2. Prevalence and YLDs of HF in AYA aged 15-44 years and their AAPCs at 204 countries and territories, 1990-2021.**

|                     | Prevalence (95% UI) |                                           |                 |                                           |                  | YLDs (95% UI)  |                                           |                |                                           |                         |
|---------------------|---------------------|-------------------------------------------|-----------------|-------------------------------------------|------------------|----------------|-------------------------------------------|----------------|-------------------------------------------|-------------------------|
|                     | Cases (n) 1990      | Age-standardized rates per 100,000 (1990) | Cases (n) 2021  | Age-standardized rates per 100,000 (2021) | AAPC (95% CI)    | Cases (n) 1990 | Age-standardized rates per 100,000 (1990) | Cases (n) 2021 | Age-standardized rates per 100,000 (2021) | AAPC (95% CI)           |
| Afghanistan         | 4,887               | 142.25                                    | 19,716          | 158.17                                    | 0.34*            | 472            | 13.68                                     | 1,903          | 15.18                                     | 0.33*                   |
|                     | (3,276-6,791)       | (92.74-199.49)                            | (13,417-27,501) | (105.66-224.07)                           | (0.33 to 0.35)   | (265-758)      | (7.42-22.44)                              | (1,076-3,089)  | (8.45-24.98)                              | (0.32 to 0.35)          |
| Albania             | 1,980               | 124.59                                    | 1,407           | 129.19                                    | 0.12*            | 193            | 12.10                                     | 136            | 12.48                                     | 0.10*                   |
|                     | (1,365-2,740)       | (85.22-173.27)                            | (975-1,959)     | (89.55-179.89)                            | (0.12 to 0.13)   | (110-309)      | (6.87-19.53)                              | (77-223)       | (7.05-20.42)                              | (0.09 to 0.11)          |
| Algeria             | 19,377              | 189.51                                    | 41,172          | 200.57                                    | 0.17*            | 1,848          | 18.02                                     | 3,934          | 19.19                                     | 0.20*                   |
|                     | (13,009-26,718)     | (125.17-262.82)                           | (27,424-57,122) | (134.30-277.69)                           | (0.16 to 0.19)   | (1,024-2,972)  | (9.80-29.07)                              | (2,166-6,314)  | (10.60-30.74)                             | (0.19 to 0.21)          |
| American Samoa      | 23                  | 106.15                                    | 23              | 109.51                                    | 0.09*            | 2              | 10.20                                     | 2              | 10.66                                     | 0.13*                   |
|                     | (15-34)             | (67.88-153.71)                            | (15-33)         | (70.63-155.46)                            | (0.09 to 0.1)    | (1-4)          | (5.44-16.95)                              | (1-4)          | (5.78-17.58)                              | (0.13 to 0.14)          |
| Andorra             | 31                  | 108.25                                    | 35              | 108.44                                    | 0                | 3              | 10.28                                     | 3              | 10.28                                     | 0                       |
|                     | (21-43)             | (73.54-150.44)                            | (24-49)         | (74.21-149.65)                            | (-0.01 to 0.01)  | (2-5)          | (5.68-16.94)                              | (2-5)          | (5.73-16.63)                              | (-0.01 to 0.01)         |
| Angola              | 6,529               | 158.64                                    | 22,455          | 172.12                                    | 0.27*            | 645            | 15.61                                     | 2,226          | 17.00                                     | 0.28*                   |
|                     | (4,384-9,057)       | (105.50-221.07)                           | (15,261-31,113) | (115.85-239.76)                           | (0.26 to 0.27)   | (358-1,041)    | (8.63-25.27)                              | (1,261-3,537)  | (9.57-27.07)                              | (0.26 to 0.29)          |
| Antigua and Barbuda | 47                  | 164.13                                    | 71              | 172.27                                    | 0.16*            | 5              | 15.81                                     | 7              | 16.66                                     | 0.16*                   |
|                     | (31-64)             | (109.98-227.51)                           | (48-100)        | (115.77-241.65)                           | (0.15 to 0.16)   | (3-7)          | (8.86-25.20)                              | (4-11)         | (9.45-26.48)                              | (0.16 to 0.17)          |
| Argentina           | 31,206              | 221.98                                    | 35,367          | 168.97                                    | -0.87*           | 2,530          | 17.95                                     | 3,108          | 14.90                                     | -0.60*                  |
|                     | (21,743-42,655)     | (154.71-303.35)                           | (25,186-47,675) | (120.27-227.83)                           | (-0.89 to -0.86) | (1,445-3,970)  | (10.26-28.14)                             | (1,767-4,963)  | (8.47-23.84)                              | (-0.62 to -0.59)        |
| Armenia             | 2,173               | 138.63                                    | 1,778           | 142.86                                    | 0.13*            | 206            | 13.13                                     | 170            | 13.75                                     | 0.17*                   |
|                     | (1,478-3,020)       | (94.00-192.98)                            | (1,225-2,481)   | (99.58-197.66)                            | (0.11 to 0.16)   | (114-336)      | (7.22-21.35)                              | (98-274)       | (7.95-21.98)                              | (0.14 to 0.2)           |
| Australia           | 13,130              | 163.68                                    | 16,485          | 160.02                                    | -0.07*           | 1,227          | 15.30                                     | 1,545          | 15.00                                     | -0.06* (-0.08 to -0.05) |
|                     | (9,105-17,952)      | (113.83-223.36)                           | (11,399-22,572) | (111.15-218.66)                           | (-0.09 to -0.05) | (690-1,978)    | (8.60-24.64)                              | (850-2,490)    | (8.28-24.10)                              | (0.05)                  |
| Austria             | 4,394               | 125.45                                    | 3,843           | 115.90                                    | -0.26*           | 414            | 11.82                                     | 362            | 10.91                                     | -0.26*                  |
|                     | (3,085-6,003)       | (87.83-171.63)                            | (2,689-5,232)   | (81.14-157.53)                            | (-0.28 to -0.24) | (227-663)      | (6.47-18.94)                              | (202-575)      | (6.08-17.34)                              | (-0.28 to -0.24)        |
| Azerbaijan          | 4,239               | 124.03                                    | 6,312           | 130.88                                    | 0.20*            | 403            | 11.76                                     | 597            | 12.40                                     | 0.21*                   |
|                     | (2,848-5,927)       | (82.40-174.64)                            | (4,223-8,869)   | (88.05-183.18)                            | (0.18 to 0.23)   | (217-656)      | (6.29-19.25)                              | (319-993)      | (6.67-20.48)                              | (0.18 to 0.23)          |
| Bahamas             | 180                 | 140.20                                    | 277             | 150.98                                    | 0.24*            | 17             | 13.25                                     | 26             | 14.40                                     | 0.26*                   |

|                           |                  |                 |                   |                 |                  |                |               |                 |               |                  |
|---------------------------|------------------|-----------------|-------------------|-----------------|------------------|----------------|---------------|-----------------|---------------|------------------|
|                           | (120-253)        | (92.53-197.78)  | (181-393)         | (98.65-213.77)  | (0.23 to 0.24)   | (9-28)         | (7.27-21.93)  | (15-43)         | (7.99-23.14)  | (0.25 to 0.27)   |
| Bahrain                   | 583              | 210.94          | 1,955             | 223.48          | 0.18*            | 55             | 19.98         | 187             | 21.43         | 0.22*            |
|                           | (389-804)        | (140.33-291.25) | (1,285-2,741)     | (147.97-312.39) | (0.18 to 0.19)   | (30-88)        | (10.79-31.57) | (103-303)       | (11.82-34.64) | (0.2 to 0.23)    |
| Bangladesh                | 66,659           | 147.76          | 127,487           | 162.42          | 0.32*            | 6,488          | 14.36         | 12,386          | 15.78         | 0.30*            |
|                           | (43,751-93,973)  | (95.62-209.81)  | (85,086-178,687)  | (108.16-227.91) | (0.31 to 0.33)   | (3,547-10,541) | (7.80-23.37)  | (6,876-20,090)  | (8.74-25.58)  | (0.29 to 0.32)   |
| Barbados                  | 191              | 157.28          | 201               | 167.07          | 0.19*            | 18             | 15.09         | 19              | 16.09         | 0.19*            |
|                           | (130-265)        | (106.16-218.27) | (136-279)         | (113.44-231.26) | (0.19 to 0.2)    | (10-29)        | (8.33-24.02)  | (11-31)         | (8.96-25.82)  | (0.17 to 0.2)    |
| Belarus                   | 6,238            | 139.44          | 5,089             | 145.05          | 0.14*            | 581            | 12.99         | 476             | 13.59         | 0.15*            |
|                           | (4,253-8,759)    | (95.57-195.26)  | (3,463-7,134)     | (100.76-200.61) | (0.13 to 0.15)   | (319-937)      | (7.18-20.94)  | (258-777)       | (7.51-21.87)  | (0.14 to 0.16)   |
| Belgium                   | 4,152            | 94.82           | 4,003             | 95.70           | 0.01*            | 397            | 9.05          | 384             | 9.17          | 0.02*            |
|                           | (2,781-5,857)    | (63.81-133.53)  | (2,772-5,592)     | (66.72-132.84)  | (0.01 to 0.02)   | (217-648)      | (4.96-14.77)  | (218-618)       | (5.24-14.67)  | (0.01 to 0.03)   |
| Belize                    | 111              | 144.23          | 324               | 153.19          | 0.18*            | 11             | 13.87         | 32              | 14.88         | 0.22*            |
|                           | (73-156)         | (93.68-203.14)  | (215-454)         | (101.06-215.22) | (0.17 to 0.19)   | (6-17)         | (7.55-22.69)  | (18-51)         | (8.39-24.19)  | (0.2 to 0.23)    |
| Benin                     | 2,883            | 161.90          | 9,683             | 173.51          | 0.23*            | 283            | 15.83         | 951             | 16.98         | 0.23*            |
|                           | (1,944-3,973)    | (107.74-224.60) | (6,690-13,209)    | (117.98-238.99) | (0.22 to 0.23)   | (159-444)      | (8.80-25.00)  | (555-1,487)     | (9.83-26.70)  | (0.21 to 0.24)   |
| Bermuda                   | 54               | 178.54          | 44                | 191.83          | 0.23*            | 5              | 16.97         | 4               | 18.24         | 0.24*            |
|                           | (37-75)          | (121.95-246.99) | (30-62)           | (130.20-266.10) | (0.23 to 0.24)   | (3-8)          | (9.46-26.90)  | (2-7)           | (10.34-29.31) | (0.23 to 0.25)   |
| Bhutan                    | 426              | 150.43          | 651               | 164.70          | 0.29*            | 41             | 14.36         | 63              | 15.87         | 0.32*            |
|                           | (283-601)        | (98.56-214.07)  | (434-910)         | (109.82-230.40) | (0.29 to 0.3)    | (22-66)        | (7.69-23.40)  | (35-103)        | (8.74-25.95)  | (0.3 to 0.34)    |
| Bolivia                   | 8,350            | 342.18          | 12,671            | 229.60          | -1.29*           | 632            | 25.25         | 1,080           | 19.47         | -0.84*           |
|                           | (5,721-12,045)   | (233.56-495.89) | (9,115-17,147)    | (165.14-310.89) | (-1.31 to -1.26) | (366-1,002)    | (14.58-40.18) | (643-1,691)     | (11.59-30.49) | (-0.86 to -0.82) |
| Bosnia and<br>Herzegovina | 2,843            | 131.58          | 1,629             | 134.27          | 0.07*            | 273            | 12.62         | 155             | 12.84         | 0.05*            |
|                           | (1,964-3,949)    | (90.86-182.95)  | (1,124-2,274)     | (93.71-185.79)  | (0.06 to 0.08)   | (154-437)      | (7.13-20.23)  | (86-256)        | (7.18-21.07)  | (0.04 to 0.07)   |
| Botswana                  | 875              | 163.15          | 2,134             | 173.11          | 0.19*            | 86             | 15.98         | 207             | 16.82         | 0.17*            |
|                           | (581-1,223)      | (107.49-229.03) | (1,418-2,963)     | (115.18-240.32) | (0.19 to 0.2)    | (48-140)       | (8.79-25.99)  | (116-332)       | (9.39-26.94)  | (0.16 to 0.17)   |
| Brazil                    | 124,356          | 183.29          | 189,956           | 182.74          | -0.01*           | 11,298         | 16.52         | 17,385          | 16.79         | 0.05*            |
|                           | (93,909-159,593) | (137.96-235.79) | (144,302-243,189) | (139.15-233.75) | (-0.02 to -0.01) | (6,968-17,043) | (10.17-24.93) | (10,746-26,057) | (10.39-25.19) | (0.04 to 0.06)   |
| Brunei Darussalam         | 159              | 120.77          | 297               | 121.37          | 0.02*            | 15             | 11.41         | 28              | 11.51         | 0.02*            |
|                           | (104-223)        | (78.57-169.50)  | (193-420)         | (79.39-171.43)  | (0.01 to 0.02)   | (8-25)         | (6.15-18.80)  | (15-47)         | (6.15-19.08)  | (0.02 to 0.03)   |
| Bulgaria                  | 4,086            | 113.71          | 2,755             | 120.63          | 0.19*            | 395            | 11.01         | 264             | 11.63         | 0.17*            |
|                           | (2,830-5,561)    | (79.56-153.88)  | (1,920-3,800)     | (86.01-163.41)  | (0.19 to 0.2)    | (222-630)      | (6.26-17.46)  | (146-435)       | (6.58-18.81)  | (0.16 to 0.18)   |
| Burkina Faso              | 5,206            | 153.04          | 15,199            | 164.43          | 0.23*            | 509            | 14.93         | 1,488           | 16.06         | 0.23*            |
|                           | (3,508-7,157)    | (102.13-211.65) | (10,483-20,798)   | (112.21-226.43) | (0.22 to 0.24)   | (280-820)      | (8.13-24.07)  | (857-2,375)     | (9.20-25.85)  | (0.22 to 0.24)   |

|                             |                   |                 |                       |                 |                  |                 |               |                 |               |                  |
|-----------------------------|-------------------|-----------------|-----------------------|-----------------|------------------|-----------------|---------------|-----------------|---------------|------------------|
| Burundi                     | 3,518             | 164.12          | 9,786                 | 175.78          | 0.22*            | 342             | 15.93         | 954             | 17.10         | 0.22*            |
|                             | (2,352-4,909)     | (108.64-230.47) | (6,605-13,591)        | (117.68-245.58) | (0.21 to 0.23)   | (192-550)       | (8.82-25.63)  | (534-1,531)     | (9.53-27.40)  | (0.21 to 0.22)   |
| Cabo Verde                  | 239               | 183.22          | 562                   | 198.64          | 0.26*            | 24              | 18.06         | 55              | 19.53         | 0.26*            |
|                             | (161-329)         | (121.67-253.11) | (384-767)             | (135.67-271.41) | (0.26 to 0.27)   | (14-38)         | (10.19-29.08) | (32-88)         | (11.34-31.00) | (0.24 to 0.27)   |
| Cambodia                    | 3,703             | 89.15           | 8,074                 | 99.48           | 0.35*            | 370             | 8.90          | 811             | 9.98          | 0.36*            |
|                             | (2,450-5,257)     | (57.95-127.87)  | (5,249-11,463)        | (64.51-141.42)  | (0.35 to 0.36)   | (204-595)       | (4.82-14.43)  | (448-1,306)     | (5.50-16.08)  | (0.35 to 0.38)   |
| Cameroon                    | 6,161             | 152.94          | 23,143                | 167.07          | 0.29*            | 610             | 15.09         | 2,300           | 16.56         | 0.30*            |
|                             | (4,141-8,506)     | (101.53-212.47) | (15,763-31,721)       | (112.86-230.75) | (0.28 to 0.29)   | (341-973)       | (8.35-24.09)  | (1,337-3,622)   | (9.53-26.12)  | (0.28 to 0.32)   |
| Canada                      | 37,413            | 278.54          | 39,281                | 269.20          | -0.11*           | 3,551           | 26.43         | 3,732           | 25.56         | -0.10*           |
|                             | (26,167-50,274)   | (195.80-373.55) | (27,782-52,066)       | (191.28-356.07) | (-0.16 to -0.06) | (2,015-5,561)   | (15.06-41.32) | (2,193-5,761)   | (15.04-39.43) | (-0.15 to -0.05) |
| Central African<br>Republic | 1,526             | 138.66          | 3,562                 | 150.13          | 0.25*            | 151             | 13.70         | 352             | 14.80         | 0.25*            |
|                             | (1,017-2,128)     | (91.36-194.56)  | (2,402-4,952)         | (100.37-209.82) | (0.25 to 0.26)   | (84-244)        | (7.47-22.19)  | (195-562)       | (8.17-23.72)  | (0.24 to 0.26)   |
| Chad                        | 3,386             | 152.87          | 10,734 (7,376-14,734) | 162.77          | 0.21*            | 332             | 14.94         | 1,051           | 15.90         | 0.21*            |
|                             | (2,267-4,699)     | (101.06-213.68) |                       | (110.45-225.20) | (0.2 to 0.21)    | (188-538)       | (8.39-24.29)  | (604-1,638)     | (9.03-24.93)  | (0.2 to 0.21)    |
| Chile                       | 12,902            | 206.83          | 13,570                | 163.37          | -0.75*           | 1,113           | 17.65         | 1,256           | 15.16         | -0.49*           |
|                             | (9,159-17,451)    | (146.69-279.87) | (9,679-18,092)        | (116.58-217.85) | (-0.75 to -0.75) | (656-1,735)     | (10.41-27.52) | (739-1,998)     | (8.92-24.09)  | (-0.5 to -0.48)  |
| China                       | 442,478           | 73.36           | 656,113               | 115.50          | 1.49*            | 43,356          | 7.19          | 64,311          | 11.31         | 1.48*            |
|                             | (321,400-577,375) | (52.74-96.33)   | (479,267-857,403)     | (85.11-150.06)  | (1.43 to 1.55)   | (26,428-66,108) | (4.35-11.02)  | (39,054-97,254) | (6.91-17.08)  | (1.42 to 1.53)   |
| Colombia                    | 23,196            | 153.37          | 38,462                | 165.45          | 0.24*            | 2,197           | 14.45         | 3,662           | 15.75         | 0.27*            |
|                             | (15,755-31,994)   | (103.45-212.59) | (26,674-52,585)       | (114.64-226.35) | (0.24 to 0.24)   | (1,222-3,500)   | (7.98-23.06)  | (2,111-5,770)   | (9.07-24.82)  | (0.26 to 0.28)   |
| Comoros                     | 333               | 187.68          | 675                   | 195.51          | 0.14*            | 33              | 18.25         | 66              | 18.95         | 0.14*            |
|                             | (225-458)         | (125.29-258.95) | (455-932)             | (131.39-270.49) | (0.13 to 0.16)   | (18-51)         | (10.26-28.70) | (36-105)        | (10.47-30.35) | (0.12 to 0.15)   |
| Congo                       | 1,516             | 154.73          | 4,286                 | 169.95          | 0.31*            | 151             | 15.30         | 421             | 16.68         | 0.29*            |
|                             | (1,010-2,105)     | (101.62-216.39) | (2,904-5,943)         | (114.82-236.10) | (0.3 to 0.32)    | (83-244)        | (8.33-24.93)  | (243-672)       | (9.59-26.65)  | (0.27 to 0.3)    |
| Cook Islands                | 10                | 114.90          | 9                     | 121.57          | 0.18*            | 1               | 10.83         | 1               | 11.60         | 0.23*            |
|                             | (6-13)            | (74.89-162.14)  | (6-12)                | (79.01-172.33)  | (0.18 to 0.18)   | (0-2)           | (5.65-18.37)  | (0-1)           | (6.02-19.18)  | (0.21 to 0.24)   |
| Costa Rica                  | 2,486             | 179.75          | 4,082                 | 181.83          | 0.04*            | 231             | 16.63         | 388             | 17.31         | 0.13*            |
|                             | (1,723-3,383)     | (124.13-245.22) | (2,900-5,506)         | (129.49-245.03) | (0.03 to 0.04)   | (129-370)       | (9.26-26.62)  | (227-608)       | (10.14-27.07) | (0.12 to 0.14)   |
| Côte d'Ivoire               | 7,548             | 151.92          | 20,529                | 166.28          | 0.30*            | 745             | 14.93         | 2,017           | 16.30         | 0.29*            |
|                             | (5,112-10,493)    | (101.31-212.75) | (14,077-28,227)       | (113.24-229.37) | (0.29 to 0.31)   | (419-1,213)     | (8.30-24.37)  | (1,157-3,205)   | (9.29-25.99)  | (0.28 to 0.31)   |
| Croatia                     | 2,280             | 107.64          | 1,595                 | 109.56          | 0.09*            | 223             | 10.52         | 155             | 10.67         | 0.07*            |
|                             | (1,606-3,120)     | (76.54-146.40)  | (1,141-2,132)         | (79.58-145.34)  | (0.02 to 0.16)   | (127-358)       | (6.06-16.78)  | (89-245)        | (6.20-16.68)  | (0.01 to 0.13)   |
| Cuba                        | 9,306             | 169.93          | 7,562                 | 178.56          | 0.16*            | 879             | 16.05         | 717             | 16.93         | 0.18*            |

|                     |                 |                 |                  |                 |                  |               |              |                |               |                |
|---------------------|-----------------|-----------------|------------------|-----------------|------------------|---------------|--------------|----------------|---------------|----------------|
|                     | (6,494-12,694)  | (117.24-233.23) | (5,172-10,413)   | (122.73-245.20) | (0.15 to 0.16)   | (503-1,372)   | (9.13-25.14) | (406-1,134)    | (9.61-26.71)  | (0.17 to 0.18) |
| Cyprus              | 323             | 90.20           | 553              | 92.97           | 0.13*            | 31            | 8.62         | 53             | 8.87          | 0.12*          |
|                     | (225-448)       | (62.92-124.92)  | (377-768)        | (64.29-127.70)  | (0.08 to 0.2)    | (17-50)       | (4.75-13.93) | (30-85)        | (5.06-14.14)  | (0.05 to 0.2)  |
| Czechia             | 6,464           | 142.54          | 5,695            | 155.96          | 0.31*            | 629           | 13.88        | 556            | 15.27         | 0.33*          |
|                     | (4,531-8,749)   | (101.00-191.85) | (4,034-7,681)    | (112.91-207.16) | (0.28 to 0.33)   | (358-989)     | (7.93-21.75) | (320-899)      | (8.95-24.30)  | (0.3 to 0.35)  |
| Democratic People's | 7,688           | 82.02           | 10,919           | 90.63           | 0.32*            | 753           | 8.04         | 1,071          | 8.89          | 0.32*          |
| Republic of Korea   | (5,019-11,009)  | (53.12-117.95)  | (7,206-15,479)   | (60.17-127.94)  | (0.32 to 0.32)   | (410-1,238)   | (4.35-13.27) | (579-1,763)    | (4.85-14.55)  | (0.31 to 0.33) |
| Democratic          | 23,861          | 160.62          | 66,609           | 172.84          | 0.24*            | 2,357         | 15.80        | 6,567          | 16.99         | 0.24*          |
| Republic of the     | (15,966-33,550) | (106.19-226.99) | (45,008-92,390)  | (115.58-240.91) | (0.23 to 0.24)   | (1,314-3,775) | (8.74-25.39) | (3,734-10,424) | (9.58-27.09)  | (0.22 to 0.25) |
| Congo               |                 |                 |                  |                 |                  |               |              |                |               |                |
| Denmark             | 2,079           | 89.99           | 2,123            | 98.17           | 0.29*            | 200           | 8.64         | 204            | 9.41          | 0.29*          |
|                     | (1,476-2,842)   | (64.19-122.46)  | (1,511-2,870)    | (70.08-132.42)  | (0.23 to 0.34)   | (116-321)     | (5.05-13.84) | (118-321)      | (5.48-14.80)  | (0.22 to 0.35) |
| Djibouti            | 335             | 182.25          | 1,194            | 191.37          | 0.16*            | 33            | 17.70        | 116            | 18.54         | 0.15*          |
|                     | (224-462)       | (120.53-252.80) | (801-1,660)      | (128.34-266.05) | (0.14 to 0.17)   | (18-52)       | (9.74-28.22) | (66-183)       | (10.57-29.29) | (0.13 to 0.17) |
| Dominica            | 47              | 146.77          | 46               | 154.12          | 0.16*            | 4             | 13.83        | 4              | 14.72         | 0.20*          |
|                     | (31-66)         | (95.48-207.70)  | (30-64)          | (101.21-215.53) | (0.16 to 0.16)   | (2-7)         | (7.54-22.67) | (2-7)          | (7.99-23.88)  | (0.19 to 0.21) |
| Dominican           | 4,744           | 144.00          | 8,043            | 153.96          | 0.22*            | 459           | 13.90        | 781            | 14.94         | 0.23*          |
|                     | (3,134-6,715)   | (94.07-205.07)  | (5,335-11,250)   | (101.95-215.63) | (0.21 to 0.22)   | (253-734)     | (7.56-22.42) | (429-1,261)    | (8.22-24.16)  | (0.22 to 0.25) |
| Ecuador             | 7,646           | 177.64          | 14,398           | 172.51          | -0.10*           | 700           | 16.00        | 1,364          | 16.32         | 0.06*          |
|                     | (5,333-10,364)  | (123.87-240.92) | (10,132-19,436)  | (121.19-233.12) | (-0.11 to -0.09) | (407-1,107)   | (9.28-25.42) | (793-2,165)    | (9.48-25.92)  | (0.04 to 0.07) |
| Egypt               | 42,833          | 181.02          | 92,407           | 192.55          | 0.19*            | 4,103         | 17.31        | 8,853          | 18.43         | 0.20*          |
|                     | (27,945-60,122) | (117.51-254.63) | (62,133-129,536) | (129.29-270.14) | (0.18 to 0.2)    | (2,211-6,676) | (9.28-28.22) | (4,851-14,407) | (10.09-30.01) | (0.18 to 0.22) |
| El Salvador         | 3,377           | 154.90          | 4,716            | 161.11          | 0.13*            | 320           | 14.47        | 472            | 16.09         | 0.34*          |
|                     | (2,367-4,619)   | (108.20-212.29) | (3,248-6,412)    | (110.63-219.53) | (0.11 to 0.14)   | (185-517)     | (8.35-23.37) | (271-749)      | (9.19-25.59)  | (0.33 to 0.35) |
| Equatorial Guinea   | 243             | 153.14          | 1,295            | 177.70          | 0.49*            | 24            | 15.17        | 128            | 17.53         | 0.47*          |
|                     | (161-341)       | (100.60-216.52) | (881-1,774)      | (119.32-245.80) | (0.48 to 0.5)    | (13-39)       | (8.28-24.33) | (73-202)       | (9.90-27.75)  | (0.46 to 0.48) |
| Eritrea             | 2,225           | 166.31          | 5,406            | 177.67          | 0.22*            | 217           | 16.16        | 528            | 17.31         | 0.22*          |
|                     | (1,497-3,092)   | (110.50-232.96) | (3,669-7,421)    | (119.90-244.77) | (0.21 to 0.23)   | (121-349)     | (8.91-26.11) | (297-832)      | (9.68-27.33)  | (0.2 to 0.23)  |
| Estonia             | 946             | 142.42          | 715              | 150.51          | 0.20*            | 90            | 13.53        | 69             | 14.50         | 0.24*          |
|                     | (648-1,323)     | (98.19-198.45)  | (484-1,012)      | (103.50-211.12) | (0.18 to 0.21)   | (50-143)      | (7.63-21.49) | (38-112)       | (8.11-23.38)  | (0.22 to 0.25) |
| Eswatini            | 493             | 156.01          | 920              | 165.96          | 0.20*            | 48            | 15.13        | 89             | 16.02         | 0.20*          |
|                     | (320-694)       | (101.00-220.74) | (620-1,280)      | (111.22-231.25) | (0.2 to 0.21)    | (26-78)       | (8.23-24.74) | (50-144)       | (8.97-25.97)  | (0.19 to 0.21) |
| Ethiopia            | 33,230          | 174.80          | 94,544           | 193.77          | 0.34*            | 3,223         | 16.90        | 9,207          | 18.81         | 0.35*          |

|               |                 |                 |                  |                 |                  |               |               |                |               |                    |
|---------------|-----------------|-----------------|------------------|-----------------|------------------|---------------|---------------|----------------|---------------|--------------------|
|               | (24,628-43,143) | (128.25-227.33) | (70,668-121,951) | (143.52-250.62) | (0.33 to 0.35)   | (1,944-4,869) | (10.15-25.60) | (5,696-13,916) | (11.58-28.41) | (0.34 to 0.37)     |
| Fiji          | 369             | 103.88          | 449              | 107.24          | 0.10*            | 35            | 9.88          | 43             | 10.27         | 0.11*              |
|               | (236-529)       | (65.98-149.72)  | (290-642)        | (69.26-153.23)  | (0.08 to 0.11)   | (18-58)       | (5.13-16.31)  | (23-71)        | (5.46-17.01)  | (0.09 to 0.12)     |
| Finland       | 2,644           | 118.89          | 2,409            | 121.19          | 0.08*            | 251           | 11.29         | 228            | 11.47         | 0.08*              |
|               | (1,803-3,648)   | (82.35-162.77)  | (1,697-3,260)    | (86.10-163.17)  | (0.02 to 0.14)   | (138-410)     | (6.29-18.33)  | (129-362)      | (6.54-18.11)  | (0.02 to 0.14)     |
| France        | 45,081          | 172.25          | 43,775           | 183.25          | 0.37*            | 4,301         | 16.42         | 4,167          | 17.45         | 0.30*              |
|               | (32,237-60,382) | (123.84-230.14) | (31,385-58,785)  | (132.15-245.11) | (0.17 to 0.6)    | (2,469-6,811) | (9.46-25.97)  | (2,435-6,499)  | (10.24-27.14) | (0.15 to 0.51)     |
| Gabon         | 653             | 166.31          | 1,484            | 179.78          | 0.25*            | 65            | 16.37         | 146            | 17.60         | 0.23*              |
|               | (442-900)       | (110.88-231.50) | (1,009-2,050)    | (121.47-249.16) | (0.25 to 0.26)   | (36-105)      | (9.10-26.80)  | (84-232)       | (10.07-28.04) | (0.22 to 0.24)     |
| Gambia        | 646             | 162.63          | 1,846            | 173.23          | 0.20*            | 64            | 15.95         | 181            | 16.95         | 0.19*              |
|               | (438-890)       | (109.19-225.96) | (1,269-2,530)    | (117.77-239.48) | (0.2 to 0.21)    | (36-102)      | (9.00-25.73)  | (105-286)      | (9.69-26.82)  | (0.17 to 0.2)      |
| Georgia       | 3,074           | 128.34          | 1,788            | 133.20          | 0.15*            | 295           | 12.33         | 173            | 12.93         | 0.17*              |
|               | (2,023-4,362)   | (84.39-182.36)  | (1,204-2,467)    | (90.77-182.47)  | (0.13 to 0.17)   | (161-482)     | (6.72-20.12)  | (97-277)       | (7.37-20.51)  | (0.15 to 0.19)     |
| Germany       | 43,862          | 127.26          | 39,140           | 130.05          | 0.09*            | 4,188         | 12.14         | 3,718          | 12.35         | 0.09               |
|               | (30,095-60,478) | (87.43-175.25)  | (27,456-54,066)  | (92.04-178.33)  | (0.02 to 0.16)   | (2,316-6,778) | (6.73-19.65)  | (2,109-5,926)  | (7.03-19.55)  | (-0.01 to 0.18)    |
| Ghana         | 9,806           | 160.46          | 27,200           | 172.93          | 0.24*            | 932           | 15.25         | 2,588          | 16.44         | 0.24*              |
|               | (6,672-13,426)  | (107.55-221.48) | (19,172-37,042)  | (121.05-236.53) | (0.23 to 0.25)   | (523-1,510)   | (8.43-24.80)  | (1,511-4,120)  | (9.53-26.24)  | (0.22 to 0.25)     |
| Greece        | 3,899           | 88.26           | 3,040            | 87.40           | -0.04*           | 374           | 8.47          | 290            | 8.35          | -0.05* (-0.06 to - |
|               | (2,677-5,416)   | (60.70-122.45)  | (2,146-4,108)    | (62.08-117.66)  | (-0.04 to -0.03) | (207-610)     | (4.69-13.78)  | (162-468)      | (4.71-13.43)  | 0.04)              |
| Greenland     | 64              | 210.68          | 51               | 211.27          | 0.01*            | 6             | 20.00         | 5              | 20.07         | 0.01*              |
|               | (44-88)         | (142.77-288.63) | (35-69)          | (144.59-288.09) | (0.01 to 0.02)   | (3-10)        | (11.17-32.45) | (3-8)          | (11.33-32.13) | (0 to 0.02)        |
| Grenada       | 53              | 148.93          | 74               | 159.21          | 0.21*            | 5             | 14.24         | 7              | 15.27         | 0.23*              |
|               | (35-74)         | (97.73-209.72)  | (50-101)         | (107.11-219.81) | (0.21 to 0.22)   | (3-8)         | (7.73-23.13)  | (4-11)         | (8.64-24.04)  | (0.22 to 0.24)     |
| Guam          | 78              | 110.37          | 74               | 114.59          | 0.12*            | 7             | 10.55         | 7              | 11.12         | 0.16*              |
|               | (50-111)        | (71.00-157.26)  | (48-106)         | (74.00-164.43)  | (0.12 to 0.13)   | (4-12)        | (5.66-17.37)  | (4-12)         | (5.78-18.49)  | (0.16 to 0.17)     |
| Guatemala     | 4,735           | 154.46          | 11,476           | 153.13          | -0.04*           | 444           | 14.22         | 1,156          | 15.32         | 0.22*              |
|               | (3,205-6,550)   | (104.89-212.88) | (7,927-15,829)   | (105.62-211.80) | (-0.05 to -0.02) | (246-703)     | (7.89-22.55)  | (663-1,837)    | (8.77-24.40)  | (0.2 to 0.24)      |
| Guinea        | 3,467           | 154.16          | 9,022            | 164.33          | 0.21*            | 341           | 15.13         | 888            | 16.13         | 0.21*              |
|               | (2,305-4,806)   | (101.99-214.66) | (6,154-12,342)   | (110.68-226.33) | (0.21 to 0.22)   | (193-548)     | (8.53-24.38)  | (512-1,412)    | (9.24-25.77)  | (0.2 to 0.23)      |
| Guinea-Bissau | 562             | 144.50          | 1,410            | 156.56          | 0.26*            | 55            | 14.14         | 138            | 15.27         | 0.26*              |
|               | (380-777)       | (96.31-201.31)  | (955-1,938)      | (105.06-216.86) | (0.26 to 0.27)   | (31-90)       | (7.77-23.11)  | (77-218)       | (8.52-24.28)  | (0.25 to 0.27)     |
| Guyana        | 461             | 126.10          | 485              | 136.92          | 0.27*            | 44            | 12.12         | 47             | 13.17         | 0.27*              |
|               | (300-653)       | (80.88-179.06)  | (323-679)        | (90.83-192.39)  | (0.26 to 0.28)   | (24-73)       | (6.54-20.04)  | (26-75)        | (7.36-21.15)  | (0.26 to 0.28)     |

|                            |                   |                 |                     |                 |                  |                 |               |                  |               |                    |
|----------------------------|-------------------|-----------------|---------------------|-----------------|------------------|-----------------|---------------|------------------|---------------|--------------------|
| Haiti                      | 3,097             | 116.79          | 7,920               | 127.68          | 0.29*            | 297             | 11.18         | 759              | 12.22         | 0.29*              |
|                            | (2,047-4,355)     | (76.49-165.15)  | (5,275-11,160)      | (84.80-180.25)  | (0.28 to 0.3)    | (161-482)       | (6.06-18.21)  | (426-1,220)      | (6.85-19.68)  | (0.27 to 0.3)      |
| Honduras                   | 2,927             | 164.78          | 7,726               | 160.88          | -0.08*           | 269             | 14.89         | 728              | 15.07         | 0.04*              |
|                            | (2,087-3,938)     | (116.73-222.14) | (5,463-10,407)      | (113.25-217.51) | (-0.08 to -0.07) | (159-419)       | (8.72-23.23)  | (417-1,149)      | (8.59-23.81)  | (0.03 to 0.04)     |
| Hungary                    | 5,298             | 122.65          | 4,421               | 130.63          | 0.20*            | 509             | 11.79         | 418              | 12.39         | 0.16*              |
|                            | (3,713-7,265)     | (86.86-166.86)  | (3,086-6,081)       | (92.49-177.50)  | (0.2 to 0.21)    | (283-813)       | (6.62-18.66)  | (239-671)        | (7.13-19.75)  | (0.15 to 0.17)     |
| Iceland                    | 94                | 78.58           | 112                 | 79.34           | 0.02*            | 9               | 7.45          | 11               | 7.51          | 0.02*              |
|                            | (65-132)          | (54.17-110.27)  | (78-154)            | (55.39-108.39)  | (0.01 to 0.03)   | (5-15)          | (4.15-12.17)  | (6-17)           | (4.29-12.05)  | (0.01 to 0.03)     |
| India                      | 569,042           | 150.43          | 1,144,312           | 164.16          | 0.29*            | 53,980          | 14.26         | 109,204          | 15.66         | 0.31*              |
|                            | (422,982-737,104) | (111.08-195.25) | (847,058-1,475,617) | (121.26-211.84) | (0.28 to 0.3)    | (32,609-81,094) | (8.59-21.48)  | (66,009-163,943) | (9.46-23.52)  | (0.3 to 0.32)      |
| Indonesia                  | 84,433            | 100.53          | 144,683             | 106.31          | 0.20*            | 8,603           | 10.20         | 14,632           | 10.77         | 0.18*              |
|                            | (61,995-109,566)  | (73.12-131.02)  | (105,550-189,099)   | (77.73-138.84)  | (0.18 to 0.21)   | (5,163-12,996)  | (6.09-15.44)  | (8,810-22,109)   | (6.49-16.26)  | (0.17 to 0.18)     |
| Iran (Islamic Republic of) | 45,262            | 202.40          | 94,149              | 214.69          | 0.18*            | 4,323           | 19.27         | 8,971            | 20.52         | 0.19*              |
|                            | (34,211-57,634)   | (151.06-259.26) | (69,878-120,994)    | (160.92-274.58) | (0.17 to 0.19)   | (2,671-6,475)   | (11.85-28.97) | (5,503-13,453)   | (12.63-30.73) | (0.17 to 0.2)      |
| Iraq                       | 13,328            | 179.52          | 37,485              | 192.31          | 0.22*            | 1,284           | 17.24         | 3,604            | 18.48         | 0.22*              |
|                            | (9,071-18,274)    | (120.29-248.06) | (25,300-51,969)     | (129.23-267.23) | (0.21 to 0.22)   | (704-2,053)     | (9.35-27.84)  | (1,980-5,831)    | (10.12-29.94) | (0.21 to 0.23)     |
| Ireland                    | 1,654             | 102.92          | 2,041               | 105.45          | 0.08*            | 156             | 9.68          | 193              | 9.96          | 0.09*              |
|                            | (1,123-2,296)     | (69.92-142.75)  | (1,411-2,820)       | (73.57-144.80)  | (0.07 to 0.08)   | (82-256)        | (5.07-15.96)  | (108-315)        | (5.65-16.22)  | (0.08 to 0.1)      |
| Israel                     | 2,067             | 92.55           | 3,674               | 93.65           | 0.02*            | 197             | 8.84          | 357              | 9.09          | 0.09*              |
|                            | (1,436-2,826)     | (64.32-126.53)  | (2,589-5,011)       | (66.11-127.60)  | (0 to 0.04)      | (108-319)       | (4.83-14.29)  | (208-565)        | (5.30-14.39)  | (0.07 to 0.11)     |
| Italy                      | 38,473            | 152.38          | 25,834              | 131.73          | -0.49*           | 3,700           | 14.65         | 2,452            | 12.50         | -0.52* (-0.57 to - |
|                            | (29,492-49,046)   | (116.87-194.24) | (20,003-32,719)     | (102.12-166.65) | (-0.53 to -0.45) | (2,261-5,523)   | (8.97-21.88)  | (1,545-3,674)    | (7.89-18.73)  | 0.48)              |
| Jamaica                    | 1,711             | 162.36          | 2,283               | 168.40          | 0.12*            | 164             | 15.55         | 219              | 16.18         | 0.12*              |
|                            | (1,139-2,411)     | (106.48-230.04) | (1,538-3,151)       | (113.06-232.94) | (0.11 to 0.12)   | (89-264)        | (8.40-25.14)  | (123-347)        | (9.07-25.60)  | (0.11 to 0.13)     |
| Japan                      | 79,777            | 136.31          | 61,470              | 145.52          | 0.21*            | 7,620           | 12.99         | 5,897            | 13.93         | 0.22*              |
|                            | (57,608-104,126)  | (98.82-177.68)  | (46,952-78,284)     | (111.35-185.46) | (0.18 to 0.23)   | (4,599-11,574)  | (7.86-19.74)  | (3,633-8,777)    | (8.59-20.77)  | (0.2 to 0.23)      |
| Jordan                     | 3,146             | 205.09          | 13,186              | 217.17          | 0.18*            | 303             | 19.67         | 1,278            | 21.01         | 0.22*              |
|                            | (2,177-4,314)     | (138.62-284.46) | (9,108-18,101)      | (149.41-298.98) | (0.17 to 0.19)   | (176-484)       | (11.19-31.62) | (721-2,020)      | (11.82-33.30) | (0.21 to 0.24)     |
| Kazakhstan                 | 8,567             | 114.03          | 9,950               | 123.85          | 0.29*            | 822             | 10.93         | 938              | 11.69         | 0.24*              |
|                            | (5,854-11,796)    | (77.64-157.47)  | (6,761-13,963)      | (84.95-173.08)  | (0.26 to 0.31)   | (459-1,290)     | (6.10-17.17)  | (499-1,551)      | (6.28-19.29)  | (0.21 to 0.26)     |
| Kenya                      | 16,641            | 186.54          | 45,102              | 194.24          | 0.13*            | 1,601           | 17.91         | 4,340            | 18.66         | 0.13*              |
|                            | (12,751-21,106)   | (140.41-238.87) | (34,322-57,376)     | (146.54-248.10) | (0.12 to 0.15)   | (985-2,395)     | (10.95-26.87) | (2,734-6,473)    | (11.69-27.88) | (0.12 to 0.14)     |

|                                        |                |                 |                 |                 |                |             |               |               |               |                |
|----------------------------------------|----------------|-----------------|-----------------|-----------------|----------------|-------------|---------------|---------------|---------------|----------------|
| Kiribati                               | 29             | 87.15           | 52              | 92.17           | 0.18*          | 3           | 8.42          | 5             | 8.96          | 0.20*          |
|                                        | (19-41)        | (55.53-126.63)  | (33-75)         | (58.80-133.09)  | (0.18 to 0.19) | (1-5)       | (4.43-13.98)  | (3-8)         | (4.84-14.81)  | (0.19 to 0.21) |
| Kuwait                                 | 2,151          | 227.83          | 6,674           | 232.29          | 0.06*          | 203         | 21.56         | 630           | 22.07         | 0.08*          |
|                                        | (1,458-2,970)  | (154.50-314.28) | (4,485-9,219)   | (159.10-317.85) | (0.05 to 0.07) | (112-328)   | (11.97-34.69) | (354-1,013)   | (12.57-35.23) | (0.07 to 0.1)  |
| Kyrgyzstan                             | 2,369          | 120.20          | 3,891           | 126.91          | 0.20*          | 232         | 11.72         | 379           | 12.35         | 0.19*          |
|                                        | (1,611-3,309)  | (80.83-168.75)  | (2,648-5,411)   | (86.24-176.60)  | (0.18 to 0.22) | (128-367)   | (6.45-18.65)  | (211-618)     | (6.90-20.14)  | (0.16 to 0.21) |
| Lao People's<br>Democratic<br>Republic | 1,451          | 87.38           | 3,448           | 96.12           | 0.31*          | 141         | 8.49          | 336           | 9.37          | 0.31*          |
|                                        | (932-2,083)    | (55.45-126.32)  | (2,246-4,885)   | (62.32-136.55)  | (0.3 to 0.32)  | (76-237)    | (4.53-14.41)  | (185-535)     | (5.14-14.94)  | (0.29 to 0.33) |
| Latvia                                 | 1,527          | 137.90          | 920             | 142.74          | 0.13*          | 142         | 12.88         | 86            | 13.35         | 0.12*          |
|                                        | (1,042-2,120)  | (94.54-191.10)  | (614-1,296)     | (96.30-198.91)  | (0.11 to 0.14) | (78-237)    | (7.07-21.37)  | (47-144)      | (7.31-22.26)  | (0.1 to 0.14)  |
| Lebanon                                | 2,468          | 197.41          | 5,890           | 215.15          | 0.27*          | 240         | 19.16         | 574           | 20.99         | 0.31*          |
|                                        | (1,705-3,350)  | (134.80-269.70) | (3,989-8,131)   | (146.62-295.92) | (0.26 to 0.29) | (135-377)   | (10.63-30.24) | (323-907)     | (11.92-33.04) | (0.29 to 0.32) |
| Lesotho                                | 910            | 153.63          | 1,456           | 161.02          | 0.15*          | 89          | 14.93         | 141           | 15.61         | 0.14*          |
|                                        | (592-1,288)    | (99.46-217.58)  | (975-2,048)     | (107.10-227.41) | (0.15 to 0.16) | (47-144)    | (7.95-24.31)  | (79-234)      | (8.73-25.79)  | (0.13 to 0.16) |
| Liberia                                | 1,528          | 158.14          | 4,332           | 172.62          | 0.29*          | 149         | 15.39         | 423           | 16.83         | 0.30*          |
|                                        | (1,039-2,097)  | (106.43-218.02) | (2,991-5,922)   | (118.38-236.80) | (0.29 to 0.3)  | (83-238)    | (8.55-24.72)  | (240-664)     | (9.50-26.48)  | (0.29 to 0.31) |
| Libya                                  | 3,302          | 191.64          | 7,362           | 198.48          | 0.11*          | 316         | 18.29         | 702           | 18.95         | 0.11*          |
|                                        | (2,222-4,572)  | (126.82-267.44) | (4,947-10,182)  | (133.88-273.76) | (0.1 to 0.12)  | (177-513)   | (10.15-29.93) | (395-1,120)   | (10.68-30.20) | (0.1 to 0.13)  |
| Lithuania                              | 2,198          | 136.96          | 1,361           | 142.74          | 0.16*          | 207         | 12.90         | 130           | 13.62         | 0.20*          |
|                                        | (1,512-3,040)  | (94.45-189.37)  | (934-1,888)     | (98.87-196.60)  | (0.14 to 0.17) | (115-330)   | (7.15-20.55)  | (72-210)      | (7.64-21.95)  | (0.18 to 0.21) |
| Luxembourg                             | 203            | 117.01          | 316             | 119.29          | 0.06*          | 19          | 11.22         | 31            | 11.51         | 0.08*          |
|                                        | (135-284)      | (78.22-163.72)  | (218-433)       | (83.00-162.23)  | (0.04 to 0.09) | (10-32)     | (6.08-18.34)  | (18-49)       | (6.68-18.20)  | (0.04 to 0.11) |
| Madagascar                             | 8,256          | 178.19          | 22,942          | 185.07          | 0.13*          | 811         | 17.42         | 2,251 (1,283- | 18.09         | 0.14*          |
|                                        | (5,492-11,566) | (117.45-251.11) | (15,475-31,905) | (123.98-258.50) | (0.11 to 0.14) | (444-1,299) | (9.44-27.98)  | 3,541)        | (10.26-28.57) | (0.12 to 0.15) |
| Malawi                                 | 6,146          | 157.92          | 14,791          | 172.42          | 0.29*          | 598         | 15.30         | 1,450         | 16.84         | 0.31*          |
|                                        | (4,098-8,523)  | (104.16-220.94) | (10,003-20,487) | (115.21-241.15) | (0.27 to 0.3)  | (329-958)   | (8.31-24.68)  | (826-2,294)   | (9.52-26.74)  | (0.3 to 0.32)  |
| Malaysia                               | 9,087          | 111.09          | 18,848          | 118.26          | 0.20*          | 878         | 10.74         | 1,845 (1,014- | 11.58         | 0.25*          |
|                                        | (5,959-12,767) | (72.36-156.84)  | (12,539-26,660) | (78.72-167.30)  | (0.2 to 0.21)  | (486-1,419) | (5.90-17.40)  | 3,036)        | (6.37-19.04)  | (0.23 to 0.26) |
| Maldives                               | 95             | 113.40          | 396             | 126.22          | 0.35*          | 9           | 11.21         | 39            | 12.46         | 0.35*          |
|                                        | (63-134)       | (74.24-161.96)  | (255-567)       | (82.71-178.83)  | (0.35 to 0.36) | (5-15)      | (6.01-18.32)  | (21-65)       | (6.76-20.52)  | (0.34 to 0.37) |
| Mali                                   | 5,032          | 156.26          | 15,698          | 167.96          | 0.24*          | 494         | 15.29         | 1,543         | 16.44         | 0.23*          |
|                                        | (3,419-6,964)  | (105.07-217.95) | (10,927-21,538) | (114.97-232.74) | (0.23 to 0.24) | (278-788)   | (8.54-24.49)  | (911-2,421)   | (9.51-25.90)  | (0.22 to 0.24) |

|                  |                 |                 |                  |                 |                 |               |               |                |               |                |
|------------------|-----------------|-----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|---------------|----------------|
| Malta            | 175             | 104.07          | 169              | 104.34          | 0.01            | 17            | 9.85          | 16             | 9.98          | 0.05*          |
|                  | (118-245)       | (70.73-145.10)  | (116-231)        | (73.01-141.95)  | (-0.02 to 0.04) | (9-27)        | (5.29-16.29)  | (9-26)         | (5.74-15.91)  | (0.02 to 0.07) |
| Marshall Islands | 17              | 92.51           | 27               | 97.40           | 0.17*           | 2             | 8.89          | 3              | 9.42          | 0.19*          |
|                  | (11-25)         | (58.36-134.79)  | (17-38)          | (62.35-140.17)  | (0.16 to 0.17)  | (1-3)         | (4.63-14.67)  | (1-4)          | (5.06-15.58)  | (0.18 to 0.2)  |
| Mauritania       | 1,380           | 169.89          | 3,367            | 183.78          | 0.26*           | 136           | 16.66         | 329            | 17.88         | 0.24*          |
|                  | (931-1,893)     | (113.23-234.49) | (2,319-4,597)    | (125.54-252.02) | (0.25 to 0.27)  | (76-217)      | (9.24-26.68)  | (194-516)      | (10.51-28.12) | (0.23 to 0.26) |
| Mauritius        | 612             | 111.11          | 659              | 116.54          | 0.16*           | 61            | 11.05         | 66             | 11.61         | 0.16*          |
|                  | (402-857)       | (72.79-156.16)  | (433-935)        | (77.03-164.70)  | (0.15 to 0.17)  | (33-99)       | (6.04-18.06)  | (36-106)       | (6.39-18.69)  | (0.15 to 0.17) |
| Mexico           | 67,397          | 181.42          | 110,174          | 182.20          | 0.02*           | 6,528         | 17.30         | 10,758         | 17.80         | 0.09*          |
|                  | (52,101-85,257) | (138.90-230.98) | (84,419-139,606) | (139.63-230.84) | (0.02 to 0.03)  | (4,079-9,701) | (10.78-25.81) | (6,725-16,114) | (11.13-26.66) | (0.08 to 0.09) |
| Micronesia       | 40              | 91.84           | 47               | 98.40           | 0.22*           | 4             | 8.80          | 5              | 9.51          | 0.24*          |
|                  | (2-57)          | (58.60-132.56)  | (30-67)          | (62.72-141.59)  | (0.21 to 0.22)  | (2-6)         | (4.59-14.67)  | (2-8)          | (5.01-15.95)  | (0.23 to 0.25) |
| Monaco           | 11              | 101.34          | 12               | 102.18          | 0.02*           | 1             | 9.60          | 1              | 9.67          | 0.03*          |
|                  | (8-16)          | (69.01-140.40)  | (8-16)           | (71.73-140.58)  | (0.02 to 0.03)  | (1-2)         | (5.39-15.71)  | (1-2)          | (5.48-15.82)  | (0.02 to 0.03) |
| Mongolia         | 1,056           | 108.91          | 1,720            | 118.28          | 0.28*           | 103           | 10.58         | 166            | 11.43         | 0.26*          |
|                  | (707-1,475)     | (71.76-153.65)  | (1,168-2,414)    | (80.86-165.23)  | (0.26 to 0.29)  | (58-164)      | (5.82-16.96)  | (91-268)       | (6.31-18.41)  | (0.24 to 0.28) |
| Montenegro       | 375             | 130.28          | 322              | 132.05          | 0.05*           | 36            | 12.49         | 31             | 12.66         | 0.05*          |
|                  | (254-522)       | (88.28-181.65)  | (219-451)        | (90.11-184.44)  | (0.04 to 0.05)  | (20-59)       | (6.79-20.37)  | (17-51)        | (7.02-20.98)  | (0.04 to 0.06) |
| Morocco          | 19,571          | 179.26          | 32,761           | 189.11          | 0.17*           | 1,852         | 16.91         | 3,126          | 18.06         | 0.20*          |
|                  | (12,787-27,589) | (116.23-253.58) | (21,667-45,959)  | (125.22-265.11) | (0.16 to 0.18)  | (1,019-3,060) | (9.28-27.94)  | (1,703-5,110)  | (9.85-29.50)  | (0.19 to 0.21) |
| Mozambique       | 7,940           | 155.20          | 21,006           | 167.61          | 0.25*           | 796           | 15.53         | 2,106          | 16.76         | 0.25*          |
|                  | (5,238-11,084)  | (101.65-217.67) | (14,355-29,058)  | (112.60-233.94) | (0.25 to 0.26)  | (443-1,281)   | (8.59-25.05)  | (1,207-3,328)  | (9.46-26.61)  | (0.24 to 0.26) |
| Myanmar          | 15,992          | 86.99           | 25,387           | 97.26           | 0.36*           | 1,563         | 8.51          | 2,518          | 9.65          | 0.40*          |
|                  | (10,271-22,815) | (55.13-125.15)  | (16,391-36,206)  | (62.65-138.91)  | (0.35 to 0.36)  | (849-2,551)   | (4.57-13.97)  | (1,367-4,110)  | (5.23-15.77)  | (0.39 to 0.41) |
| Namibia          | 1,022           | 175.81          | 2,118            | 183.80          | 0.15*           | 100           | 17.13         | 206            | 17.86         | 0.15*          |
|                  | (680-1,414)     | (115.93-245.01) | (1,435-2,935)    | (123.79-255.39) | (0.14 to 0.15)  | (56-160)      | (9.48-27.53)  | (118-330)      | (10.17-28.64) | (0.14 to 0.15) |
| Nauru            | 4               | 90.52           | 5                | 96.95           | 0.22*           | 0             | 8.68          | 0              | 9.33          | 0.24*          |
|                  | (3-6)           | (56.79-130.68)  | (3-7)            | (61.61-139.71)  | (0.21 to 0.22)  | (0-1)         | (4.48-14.66)  | (0-1)          | (4.98-15.35)  | (0.23 to 0.26) |
| Nepal            | 11,529          | 143.68          | 23,454           | 157.02          | 0.29*           | 1,093         | 13.61         | 2,247          | 15.03         | 0.32*          |
|                  | (7,418-16,137)  | (91.71-202.13)  | (15,431-33,086)  | (102.64-222.38) | (0.29 to 0.3)   | (574-1,806)   | (7.10-22.49)  | (1,222-3,701)  | (8.13-24.79)  | (0.31 to 0.33) |
| Netherlands      | 6,315           | 87.85           | 6,921            | 110.84          | 0.79*           | 597           | 8.30          | 657            | 10.51         | 0.81*          |
|                  | (4,340-8,671)   | (60.70-120.36)  | (4,807-9,440)    | (77.24-150.95)  | (0.69 to 0.92)  | (334-972)     | (4.65-13.51)  | (374-1,043)    | (6.00-16.66)  | (0.72 to 0.94) |
| New Zealand      | 2,296           | 141.86          | 3,271            | 156.55          | 0.35*           | 216           | 13.33         | 307            | 14.67         | 0.34*          |

|                          |                 |                 |                   |                 |                  |               |               |                 |               |                 |
|--------------------------|-----------------|-----------------|-------------------|-----------------|------------------|---------------|---------------|-----------------|---------------|-----------------|
|                          | (1,694-3,016)   | (104.77-186.22) | (2,458-4,237)     | (117.79-202.52) | (0.32 to 0.38)   | (125-337)     | (7.73-20.79)  | (185-469)       | (8.87-22.45)  | (0.31 to 0.38)  |
| Nicaragua                | 2,683           | 177.78          | 5,656             | 175.60          | -0.04*           | 255           | 16.61         | 564             | 17.49         | 0.16*           |
|                          | (1,866-3,651)   | (123.48-242.18) | (3,905-7,707)     | (120.96-239.43) | (-0.04 to -0.04) | (148-404)     | (9.58-26.25)  | (330-882)       | (10.21-27.33) | (0.16 to 0.17)  |
| Niger                    | 4,713           | 158.59          | 15,537            | 168.24          | 0.19*            | 465           | 15.60         | 1,533           | 16.53         | 0.18*           |
|                          | (3,155-6,527)   | (105.15-220.96) | (10,762-21,107)   | (114.75-230.22) | (0.19 to 0.19)   | (262-753)     | (8.71-25.28)  | (889-2,409)     | (9.46-26.10)  | (0.17 to 0.2)   |
| Nigeria                  | 64,212          | 177.23          | 179,058           | 186.48          | 0.17*            | 6,477         | 17.79         | 18,045          | 18.68         | 0.17*           |
|                          | (48,290-82,415) | (131.97-228.55) | (135,350-228,346) | (139.58-238.45) | (0.17 to 0.18)   | (3,949-9,696) | (10.81-26.67) | (11,214-26,812) | (11.58-27.81) | (0.16 to 0.18)  |
| Niue                     | 1               | 106.29          | 1                 | 111.46          | 0.15*            | 0             | 10.21         | 0               | 10.74         | 0.17*           |
|                          | (1-1)           | (68.11-150.57)  | (0-1)             | (71.94-157.86)  | (0.15 to 0.15)   | (0-0)         | (5.39-16.73)  | (0-0)           | (5.83-17.59)  | (0.16 to 0.18)  |
| North Macedonia          | 1,186           | 128.37          | 1,191             | 132.57          | 0.11*            | 113           | 12.24         | 113             | 12.63         | 0.11*           |
|                          | (819-1,640)     | (88.73-177.48)  | (815-1,671)       | (91.48-184.43)  | (0.1 to 0.12)    | (62-182)      | (6.75-19.72)  | (62-185)        | (6.99-20.49)  | (0.09 to 0.12)  |
| Northern Mariana Islands | 31              | 116.92          | 24                | 120.00          | 0.08*            | 3             | 11.59         | 2               | 11.83         | 0.07*           |
|                          | (20-44)         | (76.20-165.61)  | (16-34)           | (79.22-171.19)  | (0.07 to 0.09)   | (2-5)         | (6.40-18.93)  | (1-4)           | (6.50-19.15)  | (0.05 to 0.08)  |
| Norway                   | 2,269           | 118.78          | 2,494             | 118.92          | -0.03            | 214           | 11.22         | 235             | 11.20         | -0.04           |
|                          | (1,709-2,921)   | (89.78-152.68)  | (1,868-3,239)     | (89.32-154.05)  | (-0.13 to 0.04)  | (132-326)     | (6.94-17.04)  | (143-359)       | (6.81-17.12)  | (-0.15 to 0.03) |
| Oman                     | 1,692           | 190.06          | 5,835             | 205.71          | 0.25*            | 160           | 17.93         | 553             | 19.53         | 0.27*           |
|                          | (1,133-2,333)   | (126.93-262.26) | (3,854-8,196)     | (136.84-287.73) | (0.25 to 0.26)   | (88-261)      | (9.93-29.19)  | (300-905)       | (10.67-31.80) | (0.25 to 0.28)  |
| Pakistan                 | 66,333          | 149.40          | 174,153           | 158.43          | 0.19*            | 6,351         | 14.28         | 16,663          | 15.14         | 0.19*           |
|                          | (48,833-86,658) | (109.07-195.78) | (128,657-226,002) | (116.51-205.89) | (0.19 to 0.2)    | (3,775-9,746) | (8.41-21.97)  | (9,921-25,237)  | (9.01-22.96)  | (0.18 to 0.19)  |
| Palau                    | 8               | 101.21          | 8                 | 108.10          | 0.21*            | 1             | 9.75          | 1               | 10.48         | 0.23*           |
|                          | (5-11)          | (64.27-143.32)  | (5-12)            | (69.39-154.23)  | (0.21 to 0.21)   | (0-1)         | (5.17-15.99)  | (0-1)           | (5.62-17.35)  | (0.22 to 0.24)  |
| Palestine                | 1,565           | 204.48          | 4,957             | 212.03          | 0.12*            | 150           | 19.51         | 477             | 20.37         | 0.14*           |
|                          | (1,069-2,149)   | (136.48-283.65) | (3,382-6,820)     | (143.46-292.69) | (0.11 to 0.13)   | (86-235)      | (10.99-30.82) | (273-762)       | (11.62-32.60) | (0.13 to 0.15)  |
| Panama                   | 1,887           | 173.40          | 3,361             | 175.87          | 0.04*            | 176           | 16.06         | 321             | 16.80         | 0.14*           |
|                          | (1,321-2,559)   | (120.82-235.23) | (2,344-4,549)     | (122.49-238.23) | (0.04 to 0.05)   | (102-279)     | (9.24-25.60)  | (186-506)       | (9.73-26.48)  | (0.13 to 0.15)  |
| Papua New Guinea         | 1,740           | 97.47           | 4,802             | 100.32          | 0.09*            | 164           | 9.20          | 455             | 9.50          | 0.10*           |
|                          | (1,110-2,507)   | (61.46-141.25)  | (3,047-6,908)     | (63.28-144.95)  | (0.09 to 0.09)   | (84-273)      | (4.69-15.30)  | (240-757)       | (5.01-15.86)  | (0.09 to 0.11)  |
| Paraguay                 | 2,979           | 178.53          | 6,105             | 176.05          | -0.05*           | 276           | 16.42         | 580             | 16.70         | 0.06*           |
|                          | (2,053-4,071)   | (122.74-244.13) | (4,164-8,374)     | (119.95-241.86) | (-0.05 to -0.04) | (155-438)     | (9.21-26.06)  | (327-915)       | (9.41-26.36)  | (0.05 to 0.07)  |
| Peru                     | 16,026          | 170.71          | 30,438            | 176.70          | 0.11*            | 1,528         | 16.08         | 2,993           | 17.38         | 0.25*           |
|                          | (11,194-21,563) | (118.65-230.08) | (21,345-41,140)   | (123.87-238.94) | (0.1 to 0.12)    | (892-2,409)   | (9.34-25.42)  | (1,734-4,724)   | (10.07-27.42) | (0.24 to 0.26)  |
| Philippines              | 29,936          | 106.79          | 59,642            | 111.07          | 0.13*            | 2,907         | 10.35         | 5,809           | 10.81         | 0.14*           |
|                          | (22,058-38,820) | (77.81-139.10)  | (43,870-77,625)   | (81.43-144.76)  | (0.12 to 0.13)   | (1,760-4,389) | (6.22-15.66)  | (3,536-8,778)   | (6.57-16.34)  | (0.14 to 0.15)  |

|                                     |                  |                 |                  |                 |                  |                |               |                |               |                    |
|-------------------------------------|------------------|-----------------|------------------|-----------------|------------------|----------------|---------------|----------------|---------------|--------------------|
| Poland                              | 30,582           | 179.86          | 25,558           | 178.10          | -0.05*           | 2,940          | 17.31         | 2,484          | 17.30         | -0.03*             |
|                                     | (23,406-38,745)  | (138.84-226.78) | (20,222-31,765)  | (141.35-220.93) | (-0.07 to -0.02) | (1,798-4,424)  | (10.61-26.01) | (1,557-3,674)  | (10.87-25.62) | (-0.06 to 0)       |
| Portugal                            | 4,224            | 95.15           | 3,736            | 101.04          | 0.18*            | 417            | 9.41          | 361            | 9.77          | 0.10*              |
|                                     | (2,919-5,816)    | (65.71-131.03)  | (2,618-5,124)    | (71.75-137.49)  | (0.16 to 0.2)    | (232-672)      | (5.22-15.15)  | (208-575)      | (5.68-15.46)  | (0.07 to 0.14)     |
| Puerto Rico                         | 2,665            | 161.86          | 2,234            | 175.77          | 0.27*            | 257            | 15.62         | 217            | 17.10         | 0.29*              |
|                                     | (1,786-3,657)    | (108.34-222.22) | (1,510-3,114)    | (119.51-243.99) | (0.26 to 0.27)   | (142-413)      | (8.62-25.10)  | (124-342)      | (9.83-26.92)  | (0.28 to 0.3)      |
| Qatar                               | 619              | 223.77          | 5,064            | 236.53          | 0.18*            | 59             | 21.35         | 485            | 22.71         | 0.19*              |
|                                     | (405-867)        | (147.80-312.85) | (3,369-7,023)    | (160.52-325.00) | (0.17 to 0.19)   | (31-95)        | (11.50-34.18) | (272-804)      | (12.89-37.10) | (0.18 to 0.2)      |
| Republic of Korea                   | 31,630           | 137.85          | 32,307           | 151.41          | 0.29*            | 3,174          | 13.88         | 3,183          | 14.85         | 0.22*              |
|                                     | (21,237-44,196)  | (91.97-193.19)  | (22,586-43,317)  | (106.62-202.51) | (0.26 to 0.32)   | (1,792-5,114)  | (7.82-22.37)  | (1,788-5,025)  | (8.36-23.43)  | (0.19 to 0.24)     |
| Republic of                         | 2,603            | 133.40          | 2,093            | 141.37          | 0.21*            | 254            | 13.01         | 203            | 13.78         | 0.20*              |
| Moldova                             | (1,754-3,595)    | (90.25-183.60)  | (1,418-2,934)    | (97.86-195.55)  | (0.19 to 0.23)   | (144-404)      | (7.41-20.68)  | (113-333)      | (7.78-22.27)  | (0.19 to 0.22)     |
| Romania                             | 12,405           | 123.20          | 8,637            | 130.28          | 0.19*            | 1,191          | 11.83         | 825            | 12.48         | 0.18*              |
|                                     | (8,646-17,194)   | (86.07-170.35)  | (5,964-11,898)   | (91.23-178.08)  | (0.18 to 0.19)   | (666-1,894)    | (6.62-18.79)  | (467-1,334)    | (7.17-19.98)  | (0.16 to 0.19)     |
| Russian Federation                  | 89,649           | 135.33          | 79,869           | 142.69          | 0.18*            | 8,435          | 12.75         | 7,455          | 13.34         | 0.16*              |
|                                     | (66,879-115,486) | (101.63-173.71) | (59,377-104,384) | (107.76-185.08) | (0.17 to 0.19)   | (5,107-12,669) | (7.75-19.10)  | (4,535-11,287) | (8.19-20.12)  | (0.15 to 0.17)     |
| Rwanda                              | 4,688            | 168.85          | 11,159           | 182.24          | 0.25*            | 458            | 16.43         | 1,084          | 17.66         | 0.23*              |
|                                     | (3,160-6,515)    | (112.79-236.83) | (7,570-15,586)   | (123.13-255.61) | (0.24 to 0.25)   | (255-747)      | (9.07-26.90)  | (618-1,715)    | (10.05-28.04) | (0.22 to 0.24)     |
| Saint Kitts and                     | 26               | 143.72          | 43               | 156.63          | 0.28*            | 3              | 13.84         | 4              | 15.12         | 0.28*              |
| Nevis                               | (17-37)          | (93.88-201.89)  | (29-61)          | (104.21-220.23) | (0.27 to 0.29)   | (1-4)          | (7.61-22.66)  | (2-7)          | (8.40-24.45)  | (0.28 to 0.29)     |
| Saint Lucia                         | 91               | 150.61          | 129              | 160.99          | 0.21*            | 9              | 14.40         | 12             | 15.50         | 0.22*              |
|                                     | (61-126)         | (99.59-210.93)  | (85-184)         | (106.71-227.78) | (0.21 to 0.22)   | (5-14)         | (7.82-23.34)  | (7-20)         | (8.69-25.17)  | (0.21 to 0.23)     |
| Saint Vincent and<br>the Grenadines | 70               | 143.35          | 75               | 152.34          | 0.19*            | 7              | 13.70         | 7              | 14.64         | 0.21*              |
|                                     | (47-96)          | (94.99-200.59)  | (50-107)         | (101.53-215.19) | (0.19 to 0.2)    | (4-11)         | (7.60-22.22)  | (4-11)         | (8.23-23.15)  | (0.2 to 0.22)      |
| Samoa                               | 74               | 104.78          | 97               | 109.03          | 0.13*            | 7              | 10.05         | 9              | 10.49         | 0.14*              |
|                                     | (48-105)         | (66.97-150.69)  | (62-140)         | (69.61-157.39)  | (0.12 to 0.13)   | (4-12)         | (5.27-16.58)  | (5-15)         | (5.64-17.43)  | (0.13 to 0.15)     |
| San Marino                          | 12               | 108.68          | 12               | 106.93          | -0.05*           | 1              | 10.34         | 1              | 10.27         | -0.02* (-0.04 to - |
|                                     | (8-17)           | (71.81-152.22)  | (8-16)           | (72.73-147.57)  | (-0.06 to -0.05) | (1-2)          | (5.68-16.94)  | (1-2)          | (5.75-16.40)  | 0.01)              |
| Sao Tome and                        | 79               | 179.09          | 194              | 191.95          | 0.23*            | 8              | 17.55         | 19             | 18.79         | 0.22*              |
| Principe                            | (53-109)         | (119.68-249.65) | (131-267)        | (129.47-265.50) | (0.22 to 0.23)   | (4-12)         | (9.93-28.18)  | (11-30)        | (10.72-29.87) | (0.21 to 0.24)     |
| Saudi Arabia                        | 13,069           | 182.42          | 46,804           | 199.76          | 0.29*            | 1,255          | 17.48         | 4,501          | 19.28         | 0.31*              |
|                                     | (8,765-18,049)   | (121.02-252.88) | (31,079-65,522)  | (133.69-278.06) | (0.28 to 0.3)    | (678-2,023)    | (9.37-28.31)  | (2,483-7,267)  | (10.71-31.01) | (0.3 to 0.32)      |
| Senegal                             | 4,848            | 166.70          | 12,264           | 177.81          | 0.21*            | 478            | 16.41         | 1,209          | 17.50         | 0.22*              |

|                 |                 |                 |                 |                 |                  |               |               |               |               |                    |
|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|---------------|---------------|---------------|---------------|--------------------|
|                 | (3,256-6,648)   | (110.57-230.12) | (8,540-16,674)  | (122.68-243.32) | (0.19 to 0.21)   | (264-767)     | (9.00-26.35)  | (702-1,897)   | (10.05-27.58) | (0.21 to 0.23)     |
| Serbia          | 4,496           | 108.73          | 3,993           | 114.17          | 0.18*            | 432           | 10.46         | 380           | 10.87         | 0.15*              |
|                 | (3,099-6,174)   | (75.28-148.99)  | (2,723-5,542)   | (78.65-157.69)  | (0.15 to 0.22)   | (243-703)     | (5.91-16.96)  | (212-618)     | (6.11-17.59)  | (0.12 to 0.19)     |
| Seychelles      | 36              | 106.98          | 54              | 113.59          | 0.20*            | 3             | 10.19         | 5             | 10.99         | 0.24*              |
|                 | (23-50)         | (69.48-152.13)  | (35-76)         | (75.46-159.73)  | (0.19 to 0.2)    | (2-6)         | (5.49-16.80)  | (3-8)         | (6.15-17.85)  | (0.23 to 0.24)     |
| Sierra Leone    | 2,657           | 156.29          | 6,715           | 168.84          | 0.25*            | 262           | 15.39         | 664           | 16.66         | 0.25*              |
|                 | (1,774-3,680)   | (103.47-217.88) | (4,614-9,229)   | (114.56-233.70) | (0.25 to 0.25)   | (145-421)     | (8.44-24.80)  | (386-1,045)   | (9.58-26.30)  | (0.24 to 0.26)     |
| Singapore       | 2,435           | 143.00          | 4,124           | 146.73          | 0.08*            | 229           | 13.44         | 390           | 13.86         | 0.10*              |
|                 | (1,638-3,392)   | (96.17-199.49)  | (2,730-5,790)   | (99.10-203.35)  | (0.08 to 0.09)   | (127-372)     | (7.46-21.84)  | (215-629)     | (7.80-22.28)  | (0.08 to 0.11)     |
| Slovakia        | 2,965           | 125.63          | 2,683           | 131.48          | 0.15*            | 287           | 12.16         | 261           | 12.80         | 0.16*              |
|                 | (2,076-4,036)   | (88.56-170.28)  | (1,876-3,692)   | (94.15-178.10)  | (0.14 to 0.16)   | (165-454)     | (7.03-19.18)  | (148-419)     | (7.40-20.35)  | (0.15 to 0.17)     |
| Slovenia        | 1,127           | 127.90          | 966             | 139.47          | 0.31*            | 107           | 12.15         | 92            | 13.27         | 0.31*              |
|                 | (793-1,544)     | (90.49-174.56)  | (672-1,328)     | (99.07-189.23)  | (0.23 to 0.38)   | (60-173)      | (6.83-19.57)  | (52-149)      | (7.57-21.38)  | (0.25 to 0.37)     |
| Solomon Islands | 124             | 90.59           | 296             | 96.02           | 0.19*            | 12            | 8.68          | 28            | 9.22          | 0.19*              |
|                 | (79-176)        | (56.91-129.81)  | (193-429)       | (62.14-139.38)  | (0.18 to 0.19)   | (6-20)        | (4.54-14.49)  | (15-47)       | (5.00-15.32)  | (0.18 to 0.21)     |
| Somalia         | 5,137           | 165.26          | 15,225          | 171.49          | 0.13*            | 497           | 15.96         | 1,476         | 16.57         | 0.13*              |
|                 | (3,379-7,269)   | (108.09-234.86) | (10,275-21,188) | (114.76-240.49) | (0.11 to 0.14)   | (276-793)     | (8.80-25.50)  | (838-2,350)   | (9.30-26.47)  | (0.11 to 0.15)     |
| South Africa    | 30,217          | 179.56          | 53,163          | 189.73          | 0.18*            | 2,985         | 17.68         | 5,186         | 18.52         | 0.15*              |
|                 | (22,485-38,865) | (132.39-231.56) | (39,409-68,646) | (140.95-244.80) | (0.17 to 0.18)   | (1,812-4,449) | (10.68-26.41) | (3,187-7,732) | (11.40-27.57) | (0.14 to 0.16)     |
| South Sudan     | 4,107           | 174.22          | 7,091           | 180.98          | 0.13*            | 400           | 16.90         | 689           | 17.52         | 0.13*              |
|                 | (2,743-5,685)   | (114.67-243.51) | (4,800-9,839)   | (121.34-252.10) | (0.12 to 0.14)   | (223-649)     | (9.36-27.56)  | (387-1,099)   | (9.74-28.05)  | (0.12 to 0.14)     |
| Spain           | 17,500          | 101.09          | 17,424          | 107.21          | 0.1              | 1,673         | 9.67          | 1,644         | 10.14         | 0.07               |
|                 | (12,040-24,168) | (69.39-139.86)  | (12,876-22,913) | (78.63-142.17)  | (-0.07 to 0.21)  | (908-2,693)   | (5.24-15.56)  | (950-2,651)   | (5.84-16.30)  | (-0.09 to 0.18)    |
| Sri Lanka       | 8,894           | 107.57          | 11,449          | 116.86          | 0.27*            | 861           | 10.42         | 1,109         | 11.32         | 0.27*              |
|                 | (5,948-12,371)  | (71.41-150.37)  | (7,689-16,079)  | (78.86-163.54)  | (0.26 to 0.27)   | (493-1,370)   | (5.92-16.63)  | (628-1,789)   | (6.44-18.22)  | (0.27 to 0.28)     |
| Sudan           | 13,279          | 165.81          | 35,221          | 177.07          | 0.21*            | 1,261         | 15.72         | 3,349         | 16.78         | 0.21*              |
|                 | (8,825-18,492)  | (108.88-232.27) | (23,593-49,335) | (117.37-249.61) | (0.2 to 0.22)    | (693-2,057)   | (8.53-25.74)  | (1,905-5,322) | (9.46-26.76)  | (0.19 to 0.22)     |
| Suriname        | 247             | 140.10          | 374             | 148.08          | 0.18*            | 24            | 13.58         | 37            | 14.48         | 0.21*              |
|                 | (162-349)       | 199.40          | (249-526)       | (98.72-208.28)  | (0.18 to 0.18)   | (13-39)       | (7.34-22.23)  | (20-58)       | (8.06-23.08)  | (0.2 to 0.22)      |
| Sweden          | 9,078           | 253.39          | 7,427           | 194.08          | -0.91*           | 858           | 23.95         | 698           | 18.24         | -0.92* (-0.99 to - |
|                 | (6,925-11,641)  | (193.97-324.55) | (5,619-9,594)   | (147.45-250.14) | (-0.98 to -0.85) | (515-1,318)   | (14.35-36.75) | (417-1,080)   | (10.93-28.18) | 0.86)              |
| Switzerland     | 2,871           | 92.01           | 3,096           | 93.08           | 0.05*            | 272           | 8.71          | 293           | 8.81          | 0.04*              |
|                 | (1,973-3,992)   | (63.53-127.52)  | (2,146-4,294)   | (65.35-127.78)  | (0.01 to 0.11)   | (154-439)     | (4.96-14.05)  | (170-472)     | (5.19-14.05)  | (0 to 0.1)         |

|                            |                           |                           |                            |                           |                         |                        |                        |                         |                        |                         |
|----------------------------|---------------------------|---------------------------|----------------------------|---------------------------|-------------------------|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| Syrian Arab Republic       | 9,353<br>(6,228-13,033)   | 192.69<br>(126.93-269.57) | 12,539<br>(8,390-17,498)   | 201.06<br>(134.77-279.58) | 0.13*<br>(0.11 to 0.14) | 893<br>(491-1,434)     | 18.30<br>(10.03-29.53) | 1,207<br>(673-1,924)    | 19.26<br>(10.64-30.68) | 0.15*<br>(0.13 to 0.16) |
| Taiwan (Province of China) | 9,345<br>(6,171-13,266)   | 91.69<br>(60.37-130.40)   | 10,207<br>(6,718-14,613)   | 101.84<br>(67.91-144.87)  | 0.34*<br>(0.34 to 0.35) | 934<br>(527-1,496)     | 9.17<br>(5.15-14.70)   | 1,000<br>(548-1,618)    | 9.94<br>(5.51-15.98)   | 0.26*<br>(0.25 to 0.26) |
| Tajikistan                 | 2,768<br>(1,884-3,860)    | 121.31<br>(81.39-170.77)  | 5,769<br>(3,911-7,998)     | 123.89<br>(83.65-172.13)  | 0.10*<br>(0.08 to 0.13) | 271<br>(152-440)       | 11.83<br>(6.52-19.32)  | 571<br>(322-902)        | 12.26<br>(6.89-19.37)  | 0.13*<br>(0.11 to 0.15) |
| Thailand                   | 28,752<br>(18,798-40,966) | 101.32<br>(65.72-144.91)  | 30,845<br>(20,128-44,249)  | 112.35<br>(74.02-159.91)  | 0.33*<br>(0.32 to 0.33) | 2,920<br>(1,651-4,720) | 10.30<br>(5.78-16.72)  | 3,174 (1,738-5,119)     | 11.53<br>(6.37-18.54)  | 0.35*<br>(0.34 to 0.36) |
| Timor-Leste                | 332<br>(214-474)          | 96.48<br>(61.42-138.69)   | 624<br>(409-883)           | 102.15<br>(65.99-145.83)  | 0.18*<br>(0.18 to 0.19) | 32<br>(18-53)          | 9.38<br>(5.06-15.43)   | 61<br>(34-98)           | 9.93<br>(5.42-16.25)   | 0.18*<br>(0.17 to 0.19) |
| Togo                       | 2,227<br>(1,493-3,083)    | 155.02<br>(102.63-216.28) | 6,242<br>(4,247-8,628)     | 167.99<br>(113.46-233.54) | 0.27*<br>(0.26 to 0.28) | 220<br>(124-354)       | 15.28<br>(8.51-24.66)  | 615<br>(349-966)        | 16.51<br>(9.34-25.99)  | 0.26*<br>(0.25 to 0.27) |
| Tokelau                    | 1<br>(0-1)                | 101.20<br>(65.47-142.76)  | 1<br>(0-1)                 | 108.73<br>(69.78-153.12)  | 0.22*<br>(0.21 to 0.23) | 0<br>(0-0)             | 9.68<br>(5.16-15.93)   | 0<br>(0-0)              | 10.46<br>(5.68-17.17)  | 0.25*<br>(0.22 to 0.27) |
| Tonga                      | 45<br>(29-63)             | 112.63<br>(72.21-161.53)  | 50<br>(32-72)              | 115.05<br>(73.96-164.92)  | 0.07*<br>(0.06 to 0.07) | 4<br>(2-7)             | 10.97<br>(5.78-17.95)  | 5<br>(3-8)              | 11.22<br>(6.16-17.94)  | 0.07*<br>(0.06 to 0.08) |
| Trinidad and Tobago        | 816<br>(542-1,141)        | 146.04<br>(96.44-204.88)  | 960<br>(641-1,344)         | 156.39<br>(105.54-217.55) | 0.22*<br>(0.22 to 0.22) | 78<br>(44-125)         | 13.92<br>(7.83-22.37)  | 92<br>(52-149)          | 15.02<br>(8.57-24.31)  | 0.24*<br>(0.23 to 0.25) |
| Tunisia                    | 7,137<br>(4,895-9,831)    | 198.96<br>(135.03-275.82) | 11,503<br>(7,729-15,963)   | 209.93<br>(142.26-289.92) | 0.16*<br>(0.14 to 0.17) | 682<br>(378-1,099)     | 18.97<br>(10.42-30.61) | 1,099<br>(599-1,765)    | 20.10<br>(11.04-32.12) | 0.19*<br>(0.17 to 0.2)  |
| Turkey                     | 54,587<br>(37,476-75,042) | 213.62<br>(145.03-295.80) | 88,666<br>(59,727-122,178) | 225.77<br>(152.65-309.86) | 0.27*<br>(0.18 to 0.4)  | 5,246<br>(2,971-8,207) | 20.50<br>(11.51-32.14) | 8,497<br>(4,851-13,586) | 21.65<br>(12.40-34.62) | 0.27*<br>(0.18 to 0.39) |
| Turkmenistan               | 1,902<br>(1,232-2,691)    | 115.34<br>(73.93-164.28)  | 2,951<br>(1,996-4,156)     | 123.88<br>(83.70-174.53)  | 0.25*<br>(0.23 to 0.27) | 181<br>(97-301)        | 10.95<br>(5.81-18.29)  | 287<br>(155-475)        | 12.03<br>(6.50-19.90)  | 0.32*<br>(0.3 to 0.34)  |
| Tuvalu                     | 4<br>(2-5)                | 93.46<br>(59.06-132.71)   | 6<br>(4-8)                 | 101.67<br>(65.95-146.77)  | 0.27*<br>(0.27 to 0.27) | 0<br>(0-1)             | 8.96<br>(4.67-14.81)   | 1<br>(0-1)              | 9.76<br>(5.12-16.30)   | 0.28*<br>(0.27 to 0.3)  |
| Uganda                     | 10,535<br>(7,068-14,408)  | 162.59<br>(107.35-224.35) | 30,997<br>(21,157-42,682)  | 175.20<br>(117.61-243.34) | 0.24*<br>(0.24 to 0.25) | 1,028<br>(573-1,640)   | 15.81<br>(8.67-25.40)  | 3,017<br>(1,742-4,806)  | 17.00<br>(9.71-27.30)  | 0.24*<br>(0.22 to 0.25) |
| Ukraine                    | 30,450<br>(22,644-39,125) | 139.98<br>(104.49-179.37) | 23,604<br>(17,397-31,016)  | 142.07<br>(106.75-184.55) | 0.05*<br>(0.04 to 0.05) | 2,837<br>(1,622-4,531) | 13.04<br>(7.49-20.83)  | 2,205<br>(1,228-3,488)  | 13.29<br>(7.54-21.05)  | 0.07*<br>(0.05 to 0.08) |
| United Arab Emirates       | 2,309<br>(1,503-3,246)    | 207.71<br>(136.23-291.28) | 14,882<br>(9,713-21,384)   | 215.54<br>(144.87-301.93) | 0.11*<br>(0.11 to 0.12) | 217<br>(115-354)       | 19.54<br>(10.50-31.72) | 1,403<br>(762-2,343)    | 20.41<br>(11.40-33.61) | 0.13*<br>(0.12 to 0.14) |
| United Kingdom             | 22,566                    | 90.57                     | 28,144                     | 110.16                    | 0.61*                   | 2,142                  | 8.60                   | 2,679                   | 10.48                  | 0.61*                   |

|                      |                   |                 |                   |                 |                  |                 |               |                 |               |                    |
|----------------------|-------------------|-----------------|-------------------|-----------------|------------------|-----------------|---------------|-----------------|---------------|--------------------|
|                      | (16,497-29,496)   | (66.42-118.25)  | (21,099-36,430)   | (82.91-142.19)  | (0.47 to 0.72)   | (1,297-3,273)   | (5.22-13.12)  | (1,646-4,057)   | (6.45-15.87)  | (0.48 to 0.72)     |
| United Republic of   | 16,942            | 171.43          | 45,251            | 181.58          | 0.23*            | 1,639           | 16.54         | 4,412           | 17.65         | 0.24*              |
| Tanzania             | (11,353-23,334)   | (113.34-238.60) | (30,533-62,058)   | (121.35-250.42) | (0.17 to 0.33)   | (918-2,617)     | (9.15-26.63)  | (2,538-7,035)   | (10.08-28.24) | (0.19 to 0.32)     |
| United States of     | 307,959           | 253.26          | 328,680           | 248.10          | -0.06*           | 29,018          | 23.86         | 30,878          | 23.32         | -0.07* (-0.09 to - |
| America              | (232,454-390,658) | (191.76-320.94) | (257,438-410,313) | (194.30-310.10) | (-0.08 to -0.05) | (17,947-43,298) | (14.78-35.59) | (19,369-45,711) | (14.62-34.53) | 0.06)              |
| United States Virgin | 75                | 155.30          | 48                | 164.74          | 0.19*            | 7               | 14.68         | 5               | 15.69         | 0.21*              |
| Islands              | (49-106)          | (102.47-217.88) | (32-67)           | (110.51-229.59) | (0.18 to 0.19)   | (4-11)          | (8.03-23.59)  | (3-7)           | (8.74-25.80)  | (0.19 to 0.22)     |
| Uruguay              | 2,109             | 160.34          | 2,090             | 145.68          | -0.30*           | 191             | 14.53         | 197             | 13.74         | -0.18* (-0.19 to - |
|                      | (1,473-2,859)     | (111.98-217.35) | (1,462-2,841)     | (102.16-197.87) | (-0.31 to -0.3)  | (110-303)       | (8.38-22.98)  | (112-315)       | (7.80-21.94)  | 0.16)              |
| Uzbekistan           | 10,779            | 118.21          | 19,357            | 123.54          | 0.16*            | 1,063           | 11.61         | 1,910           | 12.21         | 0.18*              |
|                      | (7,188-15,113)    | (77.79-166.94)  | (13,043-27,019)   | (83.46-171.98)  | (0.14 to 0.17)   | (588-1,754)     | (6.34-19.26)  | (1,067-3,099)   | (6.84-19.78)  | (0.16 to 0.19)     |
| Vanuatu              | 60                | 93.93           | 136               | 97.71           | 0.13*            | 6               | 8.97          | 13              | 9.34          | 0.14*              |
|                      | (38-87)           | (59.36-137.07)  | (87-196)          | (61.82-140.43)  | (0.12 to 0.13)   | (3-10)          | (4.59-15.07)  | (7-22)          | (4.99-15.64)  | (0.11 to 0.16)     |
| Venezuela            | 15,756            | 187.43          | 22,646            | 189.44          | 0.03*            | 1,383           | 16.24         | 2,025           | 17.12         | 0.16*              |
| (Bolivarian          | (11,102-21,313)   | (132.10-253.48) | (16,218-30,329)   | (135.87-253.19) | (0.02 to 0.04)   | (802-2,165)     | (9.41-25.41)  | (1,194-3,208)   | (10.10-27.10) | (0.14 to 0.18)     |
| Republic of)         |                   |                 |                   |                 |                  |                 |               |                 |               |                    |
| Viet Nam             | 31,156            | 106.56          | 54,301            | 117.37          | 0.31*            | 3,136           | 10.71         | 5,461           | 11.82         | 0.31*              |
|                      | (20,786-43,167)   | (69.70-149.79)  | (35,144-77,293)   | (76.47-165.64)  | (0.31 to 0.32)   | (1,801-4,958)   | (6.04-17.19)  | (3,011-8,930)   | (6.56-19.18)  | (0.31 to 0.32)     |
| Yemen                | 7,867             | 164.18          | 26,006            | 172.69          | 0.14*            | 746             | 15.52         | 2,468           | 16.35         | 0.14*              |
|                      | (5,161-10,918)    | (106.40-229.44) | (17,468-36,105)   | (115.39-240.81) | (0.13 to 0.15)   | (409-1,203)     | (8.39-25.22)  | (1,346-3,938)   | (8.88-26.21)  | (0.12 to 0.16)     |
| Zambia               | 4,803             | 155.99          | 14,756            | 172.57          | 0.33*            | 469             | 15.17         | 1,433           | 16.71         | 0.32*              |
|                      | (3,219-6,655)     | (102.58-219.04) | (9,932-20,447)    | (114.69-240.47) | (0.32 to 0.34)   | (260-750)       | (8.22-24.41)  | (816-2,282)     | (9.45-26.72)  | (0.31 to 0.33)     |
| Zimbabwe             | 6,718             | 164.01          | 11,591            | 166.75          | 0.06*            | 642             | 15.65         | 1,108           | 15.94         | 0.06*              |
|                      | (4,408-9,426)     | (106.56-230.83) | (7,648-16,169)    | (109.47-233.11) | (0.05 to 0.06)   | (346-1,050)     | (8.40-25.67)  | (607-1,803)     | (8.73-25.97)  | (0.05 to 0.08)     |

AAPC =average annual percentage change; AYA =adolescent and young adult; CI =confidence interval; HF =heart failure; UI =uncertainty interval; YLDs, years lived with disability; \* =P <0.05.

**Supplementary Table 3. The ASPR and ASYR of HF in AYA at different age groups, SDI level, 21 GBD regions, and 204 countries and territories in 2021 by sex.**

|                              | Male                   |                     | Female                 |                     |
|------------------------------|------------------------|---------------------|------------------------|---------------------|
|                              | ASPR (95% UI)          | ASYR (95% UI)       | ASPR (95% UI)          | ASYR (95% UI)       |
| <b>Age groups</b>            |                        |                     |                        |                     |
| 15-19                        | 154.52 (119.02-199.18) | 15.19 (9.65-22.81)  | 134.95 (104.03-174.11) | 13.20 (8.41-19.88)  |
| 20-24                        | 151.31 (119.36-189.92) | 14.73 (9.47-21.34)  | 130.96 (102.84-162.28) | 12.70 (8.06-18.42)  |
| 25-29                        | 148.07 (113.27-190.24) | 14.33 (8.81-21.87)  | 127.01 (96.70-162.32)  | 12.26 (7.63-18.66)  |
| 30-34                        | 153.16 (108.47-205.31) | 14.65 (8.86-23.33)  | 127.37 (91.98-172.02)  | 12.20 (7.39-19.47)  |
| 35-39                        | 183.49 (134.84-235.28) | 17.49 (10.80-25.71) | 146.89 (109.45-188.14) | 14.02 (8.70-20.89)  |
| 40-44                        | 254.28 (180.35-342.51) | 24.18 (14.54-36.32) | 191.96 (133.91-259.65) | 18.35 (11.01-27.28) |
| <b>SDI level</b>             |                        |                     |                        |                     |
| High                         | 209.51 (159.78-269.35) | 19.80 (12.40-29.56) | 155.88 (120.20-198.76) | 14.94 (9.42-22.32)  |
| High-middle                  | 150.39 (111.16-197.23) | 14.40 (8.84-21.86)  | 119.52 (89.57-154.65)  | 11.54 (7.17-17.39)  |
| Middle                       | 158.65 (118.32-205.59) | 15.38 (9.45-23.12)  | 138.16 (103.06-179.13) | 13.40 (8.32-20.09)  |
| Low-middle                   | 174.44 (128.20-228.42) | 16.78 (10.15-25.39) | 147.93 (107.10-194.65) | 14.15 (8.54-21.44)  |
| Low                          | 187.61 (133.61-250.55) | 18.32 (11.09-28.07) | 152.67 (108.37-204.20) | 14.70 (8.88-22.56)  |
| <b>21 GBD regions</b>        |                        |                     |                        |                     |
| Andean Latin America         | 200.44 (143.75-267.82) | 18.62 (10.98-29.29) | 169.18 (118.63-229.53) | 16.29 (9.56-25.44)  |
| Australasia                  | 192.83 (134.62-263.76) | 17.95 (9.80-29.28)  | 125.90 (88.35-172.56)  | 11.92 (6.61-18.99)  |
| Caribbean                    | 163.03 (109.85-225.97) | 15.60 (8.95-24.75)  | 143.67 (96.18-200.62)  | 13.86 (7.90-21.70)  |
| Central Asia                 | 153.71 (103.01-214.37) | 14.87 (8.45-23.60)  | 96.92 (66.83-136.36)   | 9.49 (5.47-15.27)   |
| Central Europe               | 184.91 (136.94-242.46) | 17.67 (10.83-27.04) | 106.64 (80.81-137.65)  | 10.50 (6.50-15.97)  |
| Central Latin America        | 190.32 (142.37-246.63) | 18.06 (11.21-27.43) | 163.29 (121.52-212.70) | 16.00 (9.88-23.99)  |
| Central Sub-Saharan Africa   | 188.03 (125.74-259.91) | 18.70 (10.49-29.83) | 155.64 (103.99-219.53) | 15.12 (8.44-24.82)  |
| East Asia                    | 120.33 (88.07-157.08)  | 11.82 (7.15-17.88)  | 108.62 (80.01-141.09)  | 10.60 (6.54-16.13)  |
| Eastern Europe               | 174.56 (128.52-228.09) | 16.28 (9.88-24.57)  | 110.95 (83.51-144.12)  | 10.45 (6.31-15.99)  |
| Eastern Sub-Saharan Africa   | 208.83 (147.65-279.84) | 20.42 (12.42-31.51) | 159.68 (112.48-213.64) | 15.39 (9.35-23.83)  |
| High-income Asia Pacific     | 160.80 (118.88-210.07) | 15.40 (9.08-23.33)  | 133.33 (101.13-171.69) | 12.97 (8.07-19.71)  |
| High-income North America    | 283.42 (220.71-354.92) | 26.53 (16.54-39.22) | 216.75 (169.05-272.45) | 20.53 (12.92-30.58) |
| North Africa and Middle East | 221.99 (151.08-303.96) | 21.20 (12.62-33.14) | 176.63 (122.24-240.69) | 16.97 (9.98-26.25)  |
| Oceania                      | 108.62 (69.36-156.76)  | 10.33 (5.52-17.21)  | 93.03 (58.65-135.76)   | 8.83 (4.54-15.06)   |
| South Asia                   | 173.47 (128.45-224.90) | 16.65 (9.97-24.99)  | 152.56 (111.82-198.14) | 14.51 (8.75-21.75)  |

|                                      |                        |                     |                        |                     |
|--------------------------------------|------------------------|---------------------|------------------------|---------------------|
| South-East Asia Region               | 114.28 (80.80-153.29)  | 11.48 (6.82-17.63)  | 103.87 (73.40-140.02)  | 10.36 (6.21-15.96)  |
| Southern Latin America               | 203.74 (146.06-273.24) | 17.95 (10.09-28.42) | 129.41 (90.68-176.52)  | 11.92 (6.77-19.30)  |
| Southern Sub-Saharan Africa          | 202.94 (146.76-267.05) | 19.90 (12.08-30.02) | 164.92 (119.36-216.63) | 15.84 (9.52-24.02)  |
| Tropical Latin America               | 197.47 (149.71-253.02) | 17.86 (11.10-26.86) | 168.09 (126.62-216.74) | 15.74 (9.63-23.59)  |
| Western Europe                       | 154.06 (113.59-203.58) | 14.52 (8.83-21.97)  | 101.28 (75.56-133.13)  | 9.75 (5.99-14.96)   |
| Western Sub-Saharan Africa           | 196.14 (141.31-259.10) | 19.61 (11.98-29.73) | 159.79 (115.21-211.97) | 15.62 (9.59-23.88)  |
| <b>204 countries and territories</b> |                        |                     |                        |                     |
| Afghanistan                          | 181.54 (119.51-260.78) | 17.30 (9.15-29.36)  | 133.52 (89.18-187.51)  | 12.95 (7.02-21.55)  |
| Albania                              | 161.34 (109.03-227.47) | 15.43 (8.13-26.16)  | 95.25 (64.73-135.50)   | 9.37 (5.19-15.20)   |
| Algeria                              | 225.97 (149.99-316.53) | 21.56 (11.40-35.24) | 174.85 (117.98-244.76) | 16.79 (8.92-28.04)  |
| American Samoa                       | 114.61 (73.32-163.39)  | 11.13 (5.60-18.96)  | 104.20 (66.34-149.34)  | 10.17 (5.55-16.88)  |
| Andorra                              | 129.58 (85.84-181.07)  | 12.27 (6.38-20.68)  | 85.92 (56.76-120.23)   | 8.17 (4.24-13.61)   |
| Angola                               | 189.25 (127.12-265.06) | 18.89 (10.33-30.62) | 156.79 (104.49-221.70) | 15.31 (8.06-25.34)  |
| Antigua and Barbuda                  | 178.55 (117.98-249.54) | 17.22 (9.37-28.56)  | 166.17 (111.04-234.98) | 16.12 (8.88-26.13)  |
| Argentina                            | 208.82 (149.18-281.96) | 18.09 (9.77-29.51)  | 130.21 (89.61-179.79)  | 11.79 (6.39-19.91)  |
| Armenia                              | 172.50 (114.77-243.58) | 16.53 (8.88-27.46)  | 114.38 (79.26-160.03)  | 11.07 (6.49-17.53)  |
| Australia                            | 196.65 (133.98-272.61) | 18.30 (9.59-30.61)  | 123.36 (83.97-171.81)  | 11.69 (6.14-19.42)  |
| Austria                              | 138.28 (95.41-190.45)  | 12.99 (6.71-21.76)  | 92.33 (62.71-128.57)   | 8.72 (4.71-14.67)   |
| Azerbaijan                           | 159.64 (104.84-225.80) | 15.10 (7.48-26.40)  | 101.21 (66.36-144.38)  | 9.61 (4.84-16.34)   |
| Bahamas                              | 157.88 (103.27-222.41) | 14.96 (7.76-24.92)  | 144.45 (94.13-204.49)  | 13.86 (7.30-23.36)  |
| Bahrain                              | 240.03 (156.51-338.02) | 22.92 (11.83-37.90) | 190.96 (126.63-265.62) | 18.52 (10.11-30.37) |
| Bangladesh                           | 173.73 (115.85-244.50) | 17.06 (9.05-28.47)  | 152.05 (98.44-215.25)  | 14.60 (7.67-24.52)  |
| Barbados                             | 174.95 (116.28-246.27) | 16.73 (8.94-28.14)  | 159.39 (109.30-220.15) | 15.45 (8.37-25.29)  |
| Belarus                              | 176.58 (118.65-250.84) | 16.51 (8.39-28.33)  | 113.18 (77.77-156.15)  | 10.64 (5.67-17.86)  |
| Belgium                              | 113.05 (76.13-158.57)  | 10.71 (5.79-17.83)  | 78.12 (53.11-110.09)   | 7.61 (4.27-12.24)   |
| Belize                               | 159.54 (105.58-225.87) | 15.44 (8.21-25.49)  | 147.09 (96.01-207.54)  | 14.35 (7.61-23.87)  |
| Benin                                | 190.52 (129.37-264.39) | 18.71 (10.38-30.29) | 158.00 (107.22-223.64) | 15.40 (8.51-24.95)  |
| Bermuda                              | 196.62 (130.51-276.07) | 18.52 (10.04-30.33) | 187.11 (125.90-259.38) | 17.96 (9.82-29.37)  |
| Bhutan                               | 174.31 (116.48-243.85) | 16.81 (8.78-28.35)  | 153.99 (100.51-216.97) | 14.82 (7.70-24.90)  |
| Bolivia                              | 256.28 (184.69-343.70) | 21.41 (12.19-33.82) | 202.91 (140.26-281.44) | 17.54 (10.24-27.37) |
| Bosnia and Herzegovina               | 166.85 (112.04-235.21) | 15.81 (8.30-26.72)  | 100.44 (69.89-141.34)  | 9.75 (5.23-16.44)   |
| Botswana                             | 190.14 (126.52-266.77) | 18.70 (10.11-30.70) | 155.97 (102.92-220.27) | 14.93 (7.84-24.57)  |
| Brazil                               | 197.62 (150.10-252.89) | 17.85 (11.11-26.85) | 168.36 (127.06-216.70) | 15.75 (9.63-23.61)  |

|                                       |                        |                     |                        |                     |
|---------------------------------------|------------------------|---------------------|------------------------|---------------------|
| Brunei Darussalam                     | 134.77 (85.38-194.04)  | 12.73 (6.28-22.11)  | 105.31 (69.64-147.91)  | 10.05 (5.15-17.36)  |
| Bulgaria                              | 149.32 (102.06-206.63) | 14.26 (7.36-24.14)  | 90.10 (64.13-123.74)   | 8.82 (4.93-14.40)   |
| Burkina Faso                          | 181.36 (121.42-250.04) | 17.81 (9.79-28.79)  | 149.35 (101.71-207.85) | 14.51 (7.80-23.92)  |
| Burundi                               | 198.90 (131.96-279.47) | 19.45 (10.31-31.90) | 151.44 (101.13-210.31) | 14.63 (7.89-24.31)  |
| Cabo Verde                            | 208.71 (142.68-287.45) | 20.66 (11.68-33.68) | 187.44 (125.44-259.56) | 18.28 (10.11-29.61) |
| Cambodia                              | 105.99 (68.55-151.21)  | 10.73 (5.72-17.51)  | 93.03 (59.29-134.15)   | 9.24 (4.99-15.18)   |
| Cameroon                              | 185.30 (124.56-260.63) | 18.45 (10.25-30.20) | 149.36 (100.15-207.19) | 14.73 (8.18-23.87)  |
| Canada                                | 295.79 (207.46-395.35) | 27.83 (15.60-44.74) | 242.28 (171.56-322.80) | 23.26 (13.33-35.91) |
| Central African Republic              | 164.80 (109.40-231.75) | 16.38(8.76-27.08)   | 136.62 (90.42-193.02)  | 13.34 (6.96-22.40)  |
| Chad                                  | 180.86 (122.26-252.00) | 17.71 (9.74-28.44)  | 146.55 (97.70-206.39)  | 14.28 (7.78-23.58)  |
| Chile                                 | 196.71 (138.29-264.96) | 17.92 (9.99-29.50)  | 129.57 (90.52-177.27)  | 12.36 (7.07-19.69)  |
| China                                 | 121.18 (88.81-157.88)  | 11.91 (7.20-18.01)  | 109.29 (80.55-142.01)  | 10.66 (6.58-16.21)  |
| Colombia                              | 172.41 (119.20-235.80) | 16.26 (8.71-26.50)  | 158.65 (109.50-217.87) | 15.25 (8.66-24.28)  |
| Comoros                               | 220.13 (145.47-306.83) | 21.41 (11.59-35.06) | 170.63 (112.92-237.05) | 16.48 (8.64-27.22)  |
| Congo                                 | 187.88 (127.25-261.51) | 18.69 (10.47-29.90) | 152.75 (102.37-216.10) | 14.76 (7.83-24.60)  |
| Cook Islands                          | 125.39 (81.33-175.55)  | 12.02 (5.99-20.76)  | 118.27 (75.15-170.57)  | 11.23 (5.45-19.34)  |
| Costa Rica                            | 193.87 (135.67-261.93) | 18.28 (10.11-28.92) | 170.66 (119.64-230.08) | 16.41 (9.34-26.27)  |
| Côte d'Ivoire                         | 182.99 (122.46-255.15) | 18.05 (9.82-29.27)  | 148.34 (100.02-205.41) | 14.43 (7.89-23.61)  |
| Croatia                               | 132.15 (90.92-180.82)  | 12.72 (6.98-20.76)  | 86.00 (62.11-114.70)   | 8.53 (4.99-13.31)   |
| Cuba                                  | 187.60 (127.23-259.70) | 17.69 (9.43-29.05)  | 169.04 (115.26-234.05) | 16.13 (8.98-26.09)  |
| Cyprus                                | 113.52 (74.84-159.97)  | 10.73 (5.64-17.76)  | 72.38 (49.86-100.24)   | 7.00 (4.08-11.06)   |
| Czechia                               | 193.97 (134.69-263.99) | 18.66 (10.23-30.29) | 115.79 (84.08-155.00)  | 11.68 (6.91-18.29)  |
| Democratic People's Republic of Korea | 94.55 (61.58-135.25)   | 9.31 (4.78-15.79)   | 86.27 (56.12-122.00)   | 8.42 (4.54-13.73)   |
| Democratic Republic of the Congo      | 188.72 (125.55-263.26) | 18.74 (10.13-30.80) | 156.44 (103.08-222.02) | 15.17 (8.13-25.60)  |
| Denmark                               | 120.43 (83.49-163.73)  | 11.47 (6.37-18.65)  | 74.99 (51.73-103.11)   | 7.27 (4.26-11.33)   |
| Djibouti                              | 214.05 (143.74-301.88) | 20.83 (11.25-33.77) | 166.30 (110.28-232.97) | 15.98 (8.52-26.56)  |
| Dominica                              | 161.92 (105.58-228.57) | 15.35 (8.08-25.62)  | 145.86 (95.06-205.59)  | 14.05 (7.14-23.76)  |
| Dominican                             | 161.54 (105.18-226.69) | 15.66 (8.34-26.10)  | 146.18 (95.90-207.23)  | 14.21 (7.56-23.31)  |
| Ecuador                               | 183.90 (129.08-249.02) | 17.13 (9.37-27.92)  | 161.33 (112.42-221.57) | 15.53 (8.80-24.68)  |
| Egypt                                 | 214.93 (142.47-302.48) | 20.58 (10.57-34.31) | 168.71 (111.87-239.15) | 16.14 (8.41-27.37)  |
| El Salvador                           | 169.97 (117.45-232.00) | 16.81 (9.22-27.22)  | 153.91 (103.68-211.31) | 15.49 (8.70-25.03)  |
| Equatorial Guinea                     | 195.01 (130.36-271.34) | 19.36 (10.77-31.20) | 158.40 (105.62-220.81) | 15.45 (8.23-25.70)  |
| Eritrea                               | 196.44 (130.10-274.69) | 19.28 (10.32-31.49) | 157.71 (106.85-220.54) | 15.21 (8.06-25.45)  |

|                            |                        |                     |                        |                     |
|----------------------------|------------------------|---------------------|------------------------|---------------------|
| Estonia                    | 181.82 (120.16-256.16) | 17.25 (9.16-28.90)  | 117.06 (77.70-164.81)  | 11.56 (6.43-18.74)  |
| Eswatini                   | 183.42 (121.39-258.50) | 17.88 (9.79-29.29)  | 149.29 (99.13-210.15)  | 14.25 (7.38-24.11)  |
| Ethiopia                   | 220.37 (162.39-287.87) | 21.55 (13.02-32.64) | 168.26 (123.86-219.20) | 16.17 (9.75-24.93)  |
| Fiji                       | 114.74 (73.92-164.74)  | 10.94 (5.52-18.80)  | 99.38 (61.82-145.65)   | 9.55 (4.82-16.44)   |
| Finland                    | 143.71 (97.72-198.41)  | 13.42 (7.06-22.32)  | 97.33 (68.75-132.26)   | 9.40 (5.46-14.85)   |
| France                     | 228.10 (159.80-309.06) | 21.56 (11.85-34.62) | 138.84 (98.42-187.19)  | 13.38 (7.69-21.38)  |
| Gabon                      | 196.37 (131.72-274.32) | 19.48 (10.67-31.76) | 164.66 (110.31-231.16) | 15.90 (8.51-25.99)  |
| Gambia                     | 189.59 (127.54-263.91) | 18.70 (10.41-29.83) | 158.11 (106.01-220.97) | 15.32 (8.22-25.45)  |
| Georgia                    | 159.13 (105.75-222.01) | 15.41 (8.19-25.45)  | 106.77 (71.52-150.36)  | 10.39 (5.92-16.51)  |
| Germany                    | 155.53 (107.45-216.38) | 14.66 (7.95-24.16)  | 102.07 (69.84-141.93)  | 9.82 (5.53-15.98)   |
| Ghana                      | 191.00 (132.18-263.24) | 18.19 (10.11-29.62) | 156.55 (107.81-215.76) | 14.86 (8.34-24.49)  |
| Greece                     | 107.52 (73.68-148.16)  | 10.12 (5.00-17.17)  | 67.33 (47.32-92.05)    | 6.58 (3.83-10.47)   |
| Greenland                  | 234.73 (158.95-322.83) | 21.96 (11.51-35.73) | 186.19 (127.03-255.88) | 18.06 (9.69-30.07)  |
| Grenada                    | 169.45 (112.75-236.67) | 16.20 (8.62-26.45)  | 148.12 (98.35-205.67)  | 14.26 (7.90-23.07)  |
| Guam                       | 117.90 (75.20-169.99)  | 11.39 (5.62-19.54)  | 111.05 (70.21-161.35)  | 10.82 (5.51-18.26)  |
| Guatemala                  | 167.96 (116.13-231.85) | 16.59 (9.16-27.29)  | 139.89 (94.19-193.86)  | 14.18 (7.84-22.71)  |
| Guinea                     | 184.13 (124.82-256.76) | 18.17 (10.06-29.62) | 148.08 (98.38-206.53)  | 14.45 (7.82-23.85)  |
| Guinea-Bissau              | 172.34 (114.03-240.80) | 16.98 (9.03-27.45)  | 142.82 (95.11-199.46)  | 13.78 (7.42-22.82)  |
| Guyana                     | 143.96 (94.37-202.77)  | 13.83 (7.40-22.81)  | 130.15 (84.70-185.21)  | 12.53 (6.68-20.76)  |
| Haiti                      | 140.55 (93.85-200.11)  | 13.42 (7.20-22.30)  | 115.65 (74.90-166.00)  | 11.11 (6.07-18.28)  |
| Honduras                   | 181.54 (127.97-245.41) | 16.73 (9.11-27.04)  | 142.65 (99.02-194.60)  | 13.60 (7.60-21.92)  |
| Hungary                    | 162.15 (109.56-227.28) | 15.23 (8.09-25.44)  | 98.11 (68.21-133.77)   | 9.45 (5.51-15.18)   |
| Iceland                    | 95.53 (64.38-133.08)   | 8.96 (4.75-14.66)   | 61.96 (42.05-87.13)    | 5.96 (3.47-9.50)    |
| India                      | 174.33 (129.17-224.95) | 16.71 (10.02-25.05) | 153.36 (112.75-198.25) | 14.55 (8.79-21.87)  |
| Indonesia                  | 113.12 (82.90-148.12)  | 11.47 (6.91-17.37)  | 99.24 (71.87-129.64)   | 10.05 (6.05-15.21)  |
| Iran (Islamic Republic of) | 237.26 (177.51-304.70) | 22.65 (13.94-34.07) | 191.32 (143.34-244.67) | 18.31 (11.12-27.31) |
| Iraq                       | 213.10 (141.69-297.51) | 20.49 (10.65-33.91) | 169.25 (112.85-237.19) | 16.25 (8.45-27.09)  |
| Ireland                    | 127.90 (86.53-179.95)  | 11.95 (6.21-20.68)  | 83.53 (55.80-117.60)   | 8.01 (4.43-12.95)   |
| Israel                     | 113.89 (77.59-157.25)  | 10.94 (5.98-17.85)  | 73.00 (50.25-100.28)   | 7.20 (4.23-11.31)   |
| Italy                      | 155.08 (118.97-196.94) | 14.59 (9.01-22.08)  | 107.52 (83.36-136.97)  | 10.34 (6.51-15.45)  |
| Jamaica                    | 181.28 (120.30-252.75) | 17.34 (9.18-28.38)  | 155.85 (103.00-218.34) | 15.04 (8.23-24.42)  |
| Japan                      | 161.31 (121.60-207.79) | 15.32 (9.29-22.96)  | 129.20 (99.25-165.13)  | 12.49 (7.80-18.88)  |
| Jordan                     | 242.77 (165.68-338.98) | 23.43 (12.58-37.78) | 185.77 (126.39-257.77) | 18.05 (9.74-29.61)  |

|                                  |                        |                     |                        |                     |
|----------------------------------|------------------------|---------------------|------------------------|---------------------|
| Kazakhstan                       | 149.59 (98.50-213.39)  | 14.09 (6.91-24.55)  | 98.87 (67.16-140.56)   | 9.37 (4.64-16.35)   |
| Kenya                            | 220.90(166.24-281.98)  | 21.38 (13.38-32.00) | 167.99 (126.25-216.10) | 15.98 (9.89-23.84)  |
| Kiribati                         | 96.66 (62.03-139.89)   | 9.38 (4.78-16.06)   | 87.96 (54.91-129.28)   | 8.56 (4.45-14.50)   |
| Kuwait                           | 253.47 (170.95-347.09) | 23.92 (12.97-39.40) | 208.75 (143.51-288.41) | 20.01 (10.86-32.44) |
| Kyrgyzstan                       | 154.41 (102.18-218.47) | 14.86 (7.84-25.16)  | 99.76 (67.01-140.50)   | 9.87 (5.44-16.05)   |
| Lao People's Democratic Republic | 102.77 (65.63-148.13)  | 10.06 (5.24-16.74)  | 89.33 (57.37-128.81)   | 8.66 (4.53-14.20)   |
| Latvia                           | 172.87 (112.62-246.03) | 16.10 (7.79-28.00)  | 111.80 (74.47-158.33)  | 10.52 (5.43-17.88)  |
| Lebanon                          | 240.42 (161.67-335.21) | 23.36 (12.95-37.90) | 189.94 (129.64-263.51) | 18.63 (10.26-29.56) |
| Lesotho                          | 176.41 (116.70-251.78) | 17.27 (9.10-28.41)  | 145.72 (95.52-206.64)  | 13.96 (7.40-23.93)  |
| Liberia                          | 191.72 (130.44-265.86) | 18.82 (10.40-30.53) | 152.96 (104.12-213.29) | 14.80 (8.15-23.79)  |
| Libya                            | 219.63 (148.21-306.76) | 20.89 (11.10-34.71) | 175.35 (116.43-244.15) | 16.82 (8.96-27.63)  |
| Lithuania                        | 172.72 (115.06-241.82) | 16.31 (8.52-27.30)  | 112.10 (75.98-156.11)  | 10.88 (6.00-17.56)  |
| Luxembourg                       | 142.53 (97.78-196.80)  | 13.57 (7.70-21.92)  | 95.19 (63.23-133.80)   | 9.38(5.36-14.83)    |
| Madagascar                       | 210.02 (139.49-295.77) | 20.65 (11.15-33.38) | 161.46 (106.20-227.41) | 15.67 (8.44-25.96)  |
| Malawi                           | 196.64 (130.44-277.52) | 19.29 (10.39-30.87) | 149.92 (99.51-211.52)  | 14.56 (7.77-24.36)  |
| Malaysia                         | 121.37 (79.27-173.90)  | 11.81 (6.07-20.06)  | 114.80 (74.98-163.52)  | 11.32 (6.13-18.67)  |
| Maldives                         | 134.47 (86.83-190.96)  | 13.31 (6.90-22.36)  | 110.73 (72.35-157.40)  | 10.90 (6.01-17.63)  |
| Mali                             | 188.43 (129.36-261.00) | 18.49 (10.39-29.54) | 149.42 (101.62-209.38) | 14.58 (8.08-23.66)  |
| Malta                            | 120.00 (80.68-166.33)  | 11.37 (6.10-18.89)  | 87.59 (60.51-120.98)   | 8.49 (4.95-13.41)   |
| Marshall Islands                 | 103.04 (65.52-149.24)  | 9.96 (5.03-16.98)   | 91.43 (56.81-133.85)   | 8.85 (4.52-15.04)   |
| Mauritania                       | 205.47 (140.34-281.98) | 20.07 (11.45-32.21) | 164.08 (110.44-228.98) | 15.89 (8.82-25.79)  |
| Mauritius                        | 120.78 (78.80-172.12)  | 11.93 (6.28-19.85)  | 112.21 (73.23-158.61)  | 11.28 (6.05-18.70)  |
| Mexico                           | 195.86 (150.28-248.02) | 18.86 (11.80-28.32) | 169.30 (128.93-216.15) | 16.79 (10.44-25.19) |
| Micronesia                       | 103.08 (64.60-147.88)  | 9.89 (4.97-16.99)   | 93.43 (57.69-136.13)   | 9.10 (4.57-15.75)   |
| Monaco                           | 123.84 (82.87-172.76)  | 11.60 (6.18-19.37)  | 81.16 (55.18-113.05)   | 7.81 (4.21-12.92)   |
| Mongolia                         | 144.60 (95.96-206.39)  | 13.89 (7.16-23.62)  | 91.99 (60.96-130.40)   | 8.98 (4.80-14.85)   |
| Montenegro                       | 164.75 (108.29-233.65) | 15.64 (7.97-27.01)  | 98.33 (65.95-139.19)   | 9.59 (4.95-16.14)   |
| Morocco                          | 213.82 (140.64-300.16) | 20.39 (10.55-33.97) | 164.41 (107.70-234.29) | 15.73 (8.26-26.30)  |
| Mozambique                       | 190.56 (127.06-268.00) | 19.25 (10.32-31.24) | 147.35 (97.89-206.36)  | 14.56 (7.91-23.62)  |
| Myanmar                          | 102.31 (65.10-147.97)  | 10.31 (5.51-17.04)  | 92.47 (58.79-134.01)   | 9.02 (4.69-15.08)   |
| Namibia                          | 201.09 (135.08-282.22) | 19.76 (10.85-32.39) | 167.53 (110.72-234.79) | 16.07 (8.45-27.16)  |
| Nauru                            | 101.60 (63.84-147.29)  | 9.74 (4.90-16.77)   | 92.24 (56.75-136.15)   | 8.92 (4.47-15.40)   |
| Nepal                            | 167.04 (107.96-236.79) | 16.12 (8.13-27.59)  | 148.96 (96.53-212.87)  | 14.15 (7.11-23.97)  |

|                                  |                        |                     |                        |                     |
|----------------------------------|------------------------|---------------------|------------------------|---------------------|
| Netherlands                      | 135.29 (92.40-185.68)  | 12.72 (6.88-20.76)  | 85.89 (57.73-120.59)   | 8.27 (4.70-13.08)   |
| New Zealand                      | 173.87 (129.10-226.42) | 16.20 (9.32-25.58)  | 138.30 (103.55-180.43) | 13.06 (7.66-20.22)  |
| Nicaragua                        | 190.32 (131.95-261.16) | 19.09 (10.71-30.50) | 161.31 (110.09-220.55) | 15.92 (8.85-25.18)  |
| Niger                            | 186.32 (125.49-257.78) | 18.38 (10.09-29.72) | 151.19 (100.96-207.47) | 14.78 (8.25-24.24)  |
| Nigeria                          | 206.98 (154.79-265.13) | 21.10 (12.89-31.56) | 168.31 (125.37-216.67) | 16.54 (10.16-24.77) |
| Niue                             | 115.87 (74.53-167.39)  | 11.12 (5.66-18.80)  | 106.91 (68.06-152.86)  | 10.35 (5.46-17.38)  |
| North Macedonia                  | 165.48 (110.12-236.61) | 15.64 (8.06-26.51)  | 97.16 (66.62-136.21)   | 9.38 (4.96-15.87)   |
| Northern Mariana Islands         | 125.03 (80.10-179.09)  | 12.22 (6.31-20.30)  | 113.73 (73.80-165.11)  | 11.36 (6.10-18.97)  |
| Norway                           | 143.81 (106.40-187.24) | 13.50 (8.07-20.80)  | 92.46 (69.12-120.29)   | 8.76 (5.27-13.55)   |
| Oman                             | 225.37 (147.50-317.20) | 21.35 (11.25-35.57) | 168.08 (111.32-236.12) | 16.02 (8.25-26.44)  |
| Pakistan                         | 168.40 (123.17-220.92) | 16.06 (9.42-24.91)  | 148.40 (108.66-193.04) | 14.22 (8.29-21.94)  |
| Palau                            | 111.76 (71.69-159.90)  | 10.74 (5.49-18.66)  | 102.88 (64.08-150.29)  | 10.11 (5.13-17.11)  |
| Palestine                        | 233.88 (155.86-327.56) | 22.31 (11.82-36.83) | 189.65 (127.97-263.67) | 18.39 (9.90-30.44)  |
| Panama                           | 189.00 (130.36-258.36) | 17.78 (9.89-29.13)  | 162.48 (113.04-221.63) | 15.79 (8.99-25.71)  |
| Papua New Guinea                 | 108.44 (68.77-157.60)  | 10.30 (5.34-17.58)  | 91.96 (57.27-134.18)   | 8.68 (4.28-15.27)   |
| Paraguay                         | 192.10 (131.98-264.92) | 18.08 (9.55-29.17)  | 159.44 (106.69-222.24) | 15.28 (8.38-24.60)  |
| Peru                             | 190.64 (133.08-258.91) | 18.45 (10.14-29.90) | 162.76 (112.36-221.77) | 16.31 (9.29-26.05)  |
| Philippines                      | 116.44 (85.58-151.98)  | 11.35 (6.87-17.15)  | 105.42 (77.28-137.40)  | 10.24 (6.17-15.53)  |
| Poland                           | 227.44 (177.49-283.70) | 21.87 (13.56-32.67) | 127.10 (99.71-159.45)  | 12.57 (7.95-18.86)  |
| Portugal                         | 130.37 (89.40-180.35)  | 12.43 (6.74-20.55)  | 72.28 (49.87-99.33)    | 7.16 (4.20-11.29)   |
| Puerto Rico                      | 176.39 (117.27-246.55) | 17.06 (9.41-27.53)  | 175.15 (118.16-243.37) | 17.13 (9.60-27.42)  |
| Qatar                            | 247.31 (166.06-341.91) | 23.63 (12.90-39.42) | 204.79 (139.36-282.84) | 19.95 (11.12-32.14) |
| Republic of Korea                | 159.41 (109.51-218.28) | 15.58 (8.07-25.32)  | 142.91 (101.25-191.66) | 14.08 (8.01-22.59)  |
| Republic of Moldova              | 173.54 (115.69-245.96) | 16.68 (8.76-27.96)  | 108.08 (74.37-152.58)  | 10.78 (6.05-17.39)  |
| Romania                          | 169.42 (113.84-237.39) | 16.06 (8.54-26.68)  | 89.13 (61.87-122.95)   | 8.71 (4.98-13.87)   |
| Russian Federation               | 174.73(129.15-227.31)  | 16.29 (9.90-24.54)  | 110.96 (83.61-144.54)  | 10.42 (6.35-15.88)  |
| Rwanda                           | 207.16 (139.95-294.83) | 20.17 (11.09-32.68) | 159.28 (105.24-225.51) | 15.34 (8.00-25.11)  |
| Saint Kitts and Nevis            | 162.84 (105.59-228.63) | 15.56 (8.17-25.68)  | 150.30 (99.65-212.71)  | 14.67 (7.67-24.19)  |
| Saint Lucia                      | 166.30 (109.20-237.82) | 15.86 (8.29-26.70)  | 155.54 (101.68-220.86) | 15.13 (8.17-24.75)  |
| Saint Vincent and the Grenadines | 161.51 (106.53-230.89) | 15.47 (8.46-25.18)  | 142.90 (93.69-202.21)  | 13.79 (7.28-22.43)  |
| Samoa                            | 116.72 (73.70-168.15)  | 11.16 (5.77-18.79)  | 100.91 (63.25-146.49)  | 9.79 (5.13-16.99)   |
| San Marino                       | 130.49 (86.76-183.60)  | 12.36 (6.34-20.93)  | 84.60 (56.33-118.41)   | 8.29 (4.58-13.10)   |

|                            |                        |                     |                        |                     |
|----------------------------|------------------------|---------------------|------------------------|---------------------|
| Sao Tome and Principe      | 209.61 (139.99-292.28) | 20.77 (11.34-33.71) | 173.83 (116.76-243.11) | 16.77 (9.07-28.13)  |
| Saudi Arabia               | 218.56 (144.79-305.60) | 20.96 (11.28-34.42) | 170.97 (114.54-239.27) | 16.72 (8.83-27.75)  |
| Senegal                    | 195.21(134.05-267.24)  | 19.30 (10.82-30.72) | 161.24 (110.60-223.46) | 15.77 (8.62-25.75)  |
| Serbia                     | 139.93 (92.77-196.22)  | 13.23 (6.89-22.37)  | 85.86 (59.22-120.29)   | 8.28 (4.40-14.06)   |
| Seychelles                 | 116.58 (76.44-165.18)  | 11.26(6.20-18.60)   | 109.90 (71.36-154.97)  | 10.66(5.71-17.82)   |
| Sierra Leone               | 186.30 (125.69-259.62) | 18.44 (10.47-29.77) | 152.05 (102.41-212.90) | 14.95 (8.09-24.39)  |
| Singapore                  | 163.67 (107.37-232.65) | 15.30 (8.09-25.85)  | 128.14 (86.50-176.59)  | 12.28 (6.83-19.72)  |
| Slovakia                   | 156.62 (106.82-217.15) | 15.01 (8.04-25.09)  | 105.05 (75.48-145.14)  | 10.47 (6.19-16.43)  |
| Slovenia                   | 168.41 (114.58-236.41) | 15.90 (8.42-26.59)  | 107.99 (75.72-146.56)  | 10.41 (5.80-17.00)  |
| Solomon Islands            | 101.42 (64.88-145.48)  | 9.70 (4.99-16.73)   | 90.62 (57.04-132.11)   | 8.74 (4.43-14.73)   |
| Somalia                    | 191.82 (127.44-271.70) | 18.63 (10.05-30.77) | 150.18 (99.09-214.04)  | 14.40 (7.76-24.00)  |
| South Africa               | 208.93 (154.52-269.26) | 20.57 (12.58-30.93) | 170.19 (125.69-220.25) | 16.43 (9.97-24.77)  |
| South Sudan                | 205.72 (137.14-290.72) | 19.98 (11.06-33.11) | 159.76 (105.34-224.27) | 15.39 (8.24-25.66)  |
| Spain                      | 132.06 (94.54-176.37)  | 12.38 (6.41-21.02)  | 81.94 (59.27-110.99)   | 7.86 (4.53-12.80)   |
| Sri Lanka                  | 120.05 (79.52-171.82)  | 11.62 (6.19-19.45)  | 113.76(75.09-159.47)   | 11.02 (6.18-17.85)  |
| Sudan                      | 201.79 (133.20-286.45) | 19.06 (10.36-31.49) | 154.14 (100.95-216.80) | 14.66 (7.62-24.83)  |
| Suriname                   | 157.62 (105.54-221.90) | 15.30 (8.19-25.39)  | 138.68 (90.16-195.98)  | 13.67 (7.27-22.25)  |
| Sweden                     | 224.13 (167.61-292.63) | 20.92 (11.94-32.88) | 162.17 (120.41-209.95) | 15.39 (8.95-24.17)  |
| Switzerland                | 111.35 (75.07-155.77)  | 10.45 (5.95-17.02)  | 73.90 (50.24-102.52)   | 7.08 (4.12-11.18)   |
| Syrian Arab Republic       | 230.58 (153.16-325.34) | 22.11 (11.79-36.41) | 178.12 (119.31-247.56) | 17.06 (8.93-28.03)  |
| Taiwan (Province of China) | 104.73 (67.11-150.82)  | 10.18 (5.50-16.71)  | 98.84 (65.55-138.84)   | 9.70 (5.42-15.77)   |
| Tajikistan                 | 153.84 (101.87-217.28) | 15.10 (7.93-25.00)  | 93.35 (61.91-133.52)   | 9.36 (5.30-14.91)   |
| Thailand                   | 114.63 (73.57-163.08)  | 11.83 (6.29-19.47)  | 110.15 (71.27-158.71)  | 11.24 (6.33-18.23)  |
| Timor-Leste                | 110.69 (70.21-157.97)  | 10.78 (5.61-17.89)  | 93.79 (58.87-135.40)   | 9.09 (4.80-15.22)   |
| Togo                       | 185.51 (124.36-258.48) | 18.33 (10.05-29.29) | 152.45 (102.19-214.01) | 14.88 (8.08-24.29)  |
| Tokelau                    | 116.25 (74.97-165.00)  | 11.15 (5.68-18.98)  | 100.96 (63.69-145.38)  | 9.75 (5.01-16.60)   |
| Tonga                      | 121.96 (78.77-172.13)  | 11.63 (6.04-19.49)  | 108.70 (67.06-158.52)  | 10.85 (5.73-17.90)  |
| Trinidad and Tobago        | 163.15 (109.29-227.63) | 15.59 (8.42-25.87)  | 149.41 (99.99-209.92)  | 14.43 (8.00-23.59)  |
| Tunisia                    | 233.33 (158.77-326.87) | 22.30 (11.99-36.73) | 187.30 (127.07-261.51) | 17.98 (9.43-29.28)  |
| Turkey                     | 239.99 (158.82-333.13) | 22.87 (12.39-38.02) | 211.20 (145.31-287.58) | 20.41 (11.28-32.40) |
| Turkmenistan               | 151.17 (98.52-214.65)  | 14.65 (7.31-24.94)  | 92.71 (60.23-132.79)   | 9.04 (4.66-15.49)   |
| Tuvalu                     | 107.53 (68.94-155.02)  | 10.29 (5.19-17.59)  | 94.84 (60.62-138.64)   | 9.14 (4.58-15.75)   |
| Uganda                     | 199.76 (134.11-280.45) | 19.44 (10.63-32.22) | 153.11 (101.47-214.20) | 14.81 (7.99-24.32)  |

|                                    |                        |                     |                        |                     |
|------------------------------------|------------------------|---------------------|------------------------|---------------------|
| Ukraine                            | 173.54 (126.95-227.61) | 16.13 (8.61-26.17)  | 110.40 (81.60-144.71)  | 10.44 (5.60-17.30)  |
| United Arab Emirates               | 230.50 (154.75-325.73) | 21.73 (11.67-36.40) | 180.15 (119.18-249.40) | 17.25 (8.99-29.05)  |
| United Kingdom                     | 126.95 (95.11-164.83)  | 11.96 (7.33-18.16)  | 93.72 (70.26-121.39)   | 9.02 (5.55-13.69)   |
| United Republic of Tanzania        | 208.06 (137.94-291.18) | 20.36 (11.13-33.32) | 157.85 (105.62-220.09) | 15.22 (8.22-25.57)  |
| United States of America           | 281.91 (220.26-351.50) | 26.37 (16.48-38.99) | 213.81 (167.35-268.03) | 20.22 (12.62-30.05) |
| United States Virgin Islands       | 163.90 (108.29-229.85) | 15.51 (8.18-26.08)  | 165.49 (110.64-233.99) | 15.85 (8.41-26.30)  |
| Uruguay                            | 174.31 (119.94-239.69) | 16.32 (8.86-27.18)  | 118.04 (81.14-162.14)  | 11.24 (6.29-18.05)  |
| Uzbekistan                         | 153.04 (100.74-215.27) | 15.05 (8.03-24.67)  | 94.11 (62.35-134.77)   | 9.38 (5.07-15.87)   |
| Vanuatu                            | 101.89 (63.91-147.64)  | 9.75 (4.70-16.84)   | 93.55 (58.47-135.55)   | 8.94 (4.53-15.48)   |
| Venezuela (Bolivarian Republic of) | 214.52 (154.51-286.51) | 18.70 (10.76-30.13) | 166.24 (114.19-227.14) | 15.65 (8.85-25.76)  |
| Viet Nam                           | 119.40 (75.39-169.47)  | 12.13 (6.52-20.08)  | 115.26 (75.36-165.25)  | 11.49 (6.30-18.79)  |
| Yemen                              | 195.61 (130.45-274.38) | 18.57 (9.84-30.71)  | 149.77 (98.97-210.26)  | 14.13 (7.20-23.51)  |
| Zambia                             | 196.69 (130.08-275.39) | 19.14 (10.43-31.54) | 148.74 (98.73-211.49)  | 14.33 (7.58-23.96)  |
| Zimbabwe                           | 185.65 (120.52-263.19) | 17.94 (9.34-30.00)  | 149.86 (97.49-210.05)  | 14.15 (7.28-23.98)  |

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ASPR =age-standardized prevalence rate; ASYR =age-standardized years lived with disability rate; AYA =adolescent and young adult; GBD =Global Burden of Disease; HF =heart failure; SDI =sociodemographic index; UI =uncertainty interval.

**Supplementary Table 4. The prevalence of HF in AYA and their AAPCs with main underlying causes at different age groups in 1990 and 2021.**

|                                                            | Prevalence (95% UI)         |                                           |                       |                               |                                           |                       | AAPC (95% CI)            |
|------------------------------------------------------------|-----------------------------|-------------------------------------------|-----------------------|-------------------------------|-------------------------------------------|-----------------------|--------------------------|
|                                                            | Cases (n) 1990              | Age-standardized rates per 100,000 (1990) | Proportion (%) (1990) | Cases (n) 2021                | Age-standardized rates per 100,000 (2021) | Proportion (%) (2021) |                          |
| 15-44 years                                                |                             |                                           |                       |                               |                                           |                       |                          |
| Amphetamine use disorders                                  | 5,791 (3,710-8,370)         | 0.23 (0.14-0.33)                          | 0.18%                 | 20,282 (13,063-29,687)        | 0.58 (0.38-0.85)                          | 0.40%                 | 3.01** (2.95 to 3.07)    |
| Atrial fibrillation and flutter                            | 1,630 (983-2,553)           | 0.08 (0.05-0.12)                          | 0.06%                 | 4,421 (2,471-7,101)           | 0.12 (0.07-0.2)                           | 0.08%                 | 1.53** (1.52 to 1.55)    |
| Cardiomyopathy and myocarditis                             | 814,189 (547,456-1,148,453) | 33.04 (22.11-46.73)                       | 26.46%                | 1,309,272 (837,405-1,928,416) | 37.77 (24.17-55.58)                       | 25.84%                | 0.44** (0.43 to 0.45)    |
| Chronic kidney disease due to other and unspecified causes | 72,449 (45,203-112,018)     | 2.81 (1.75-4.35)                          | 2.25%                 | 159,747 (93,205-255,287)      | 4.66 (2.72-7.45)                          | 3.19%                 | 1.62** (1.59 to 1.64)    |
| Chronic obstructive pulmonary disease                      | 72,124 (41,468-113,891)     | 3.00 (1.72-4.75)                          | 2.40%                 | 109,821 (60,438-178,464)      | 3.14 (1.73-5.1)                           | 2.15%                 | 0.11** (0.06 to 0.14)    |
| Cocaine use disorders                                      | 8,023 (5,109-11,903)        | 0.33 (0.21-0.48)                          | 0.26%                 | 28,401 (18,021-41,923)        | 0.81 (0.52-1.2)                           | 0.56%                 | 2.96** (2.91 to 3.00)    |
| Congenital birth defects                                   | 230,896 (156,328-329,526)   | 8.70 (5.88-12.44)                         | 6.97%                 | 379,671 (248,658-556,090)     | 11.21 (7.35-16.4)                         | 7.67%                 | 0.76** (0.72 to 0.80)    |
| Endocarditis                                               | 49,612 (32,269-72,981)      | 1.94 (1.26-2.87)                          | 1.56%                 | 122,587 (78,069-185,308)      | 3.57 (2.27-5.38)                          | 2.44%                 | 1.97** (1.95 to 1.98)    |
| Endocrine, metabolic, blood, and immune disorder           | 7,157 (4,531-10,797)        | 0.29 (0.18-0.43)                          | 0.23%                 | 24,604 (14,552-38,379)        | 0.71 (0.42-1.1)                           | 0.48%                 | 2.95** (2.89 to 2.99)    |
| Hypertensive heart disease                                 | 372,998 (231,651-558,922)   | 16.19 (10.04-24.34)                       | 12.96%                | 715,358 (431,831-1,114,815)   | 20.16 (12.18-31.42)                       | 13.79%                | 0.73** (0.70 to 0.76)    |
| Intracerebral hemorrhage                                   | 30,288 (18,314-46,867)      | 1.28 (0.77-1.99)                          | 1.02%                 | 48,001 (26,986-78,157)        | 1.37 (0.77-2.22)                          | 0.93%                 | 0.19** (0.14 to 0.22)    |
| Ischemic heart disease                                     | 722,670 (485,556-1,014,676) | 31.01 (20.78-43.61)                       | 24.83%                | 1,303,080 (852,924-1,866,138) | 36.77 (24.07-52.68)                       | 25.16%                | 0.57** (0.54 to 0.62)    |
| Ischemic stroke                                            | 5,510 (3,480-8,373)         | 0.23 (0.15-0.36)                          | 0.19%                 | 9,878 (5,857-15,700)          | 0.28 (0.17-0.45)                          | 0.19%                 | 0.57** (0.53 to 0.61)    |
| Non-rheumatic valvular heart disease                       | 5,965 (2,845-11,615)        | 0.26 (0.12-0.51)                          | 0.21%                 | 9,518 (5,354-16,649)          | 0.27 (0.15-0.48)                          | 0.19%                 | 0.16** (0.13 to 0.19)    |
| Other cardiovascular and circulatory diseases              | 23,379 (14,707-35,620)      | 0.94 (0.59-1.44)                          | 0.75%                 | 44,420 (25,586-70,960)        | 1.28 (0.74-2.05)                          | 0.88%                 | 0.98** (0.95 to 1.01)    |
| Pulmonary arterial hypertension                            | 42,064 (28,020-60,604)      | 1.76 (1.18-2.53)                          | 1.41%                 | 61,610 (40,851-89,007)        | 1.75 (1.16-2.53)                          | 1.20%                 | -0.02** (-0.02 to -0.02) |
| Rheumatic heart disease                                    | 580,736 (398,361-811,976)   | 22.81 (15.53-32.03)                       | 14.57%                | 744,760 (490,060-1,078,470)   | 21.71 (31.39-14.32)                       | 14.85%                | -0.16** (-0.18 to -0.14) |
| 15-19 years                                                |                             |                                           |                       |                               |                                           |                       |                          |
| Amphetamine use disorders                                  | 1,050 (637-1,621)           | 0.20 (0.12-0.31)                          | 0.18%                 | 1,830 (1,087-2,901)           | 0.29 (0.17-0.46)                          | 0.22%                 | 1.19* (1.12 to 1.24)     |
| Cardiomyopathy and myocarditis                             | 173,148 (116,277-248,545)   | 33.33 (22.39-47.85)                       | 29.53%                | 264,249 (164,407-395,548)     | 42.35 (26.35-63.39)                       | 31.66%                | 0.77* (0.76 to 0.78)     |
| Chronic kidney disease due to other and unspecified causes | 26,852 (16,578-41,740)      | 5.17 (3.19-8.04)                          | 4.58%                 | 51,447 (29,560-82,714)        | 8.24 (4.74-13.26)                         | 6.16%                 | 1.47* (1.43 to 1.52)     |
| Chronic obstructive pulmonary disease                      | 11,841 (6,791-18,710)       | 2.28 (1.31-3.6)                           | 2.02%                 | 15,520 (8,386-25,615)         | 2.49 (1.34-4.11)                          | 1.86%                 | 0.24* (0.13 to 0.29)     |
| Cocaine use disorders                                      | 859 (527-1,328)             | 0.17 (0.1-0.26)                           | 0.15%                 | 2,206 (1,270-3,510)           | 0.35 (0.2-0.56)                           | 0.27%                 | 2.46* (2.40 to 2.52)     |
| Congenital birth defects                                   | 112,980 (77,130-160,237)    | 21.75 (14.85-30.85)                       | 19.27%                | 171,403 (113,977-246,872)     | 27.47 (18.27-39.56)                       | 20.54%                | 0.72* (0.67 to 0.75)     |
| Endocarditis                                               | 11,553 (7,569-16,837)       | 2.22 (1.46-3.24)                          | 3.42%                 | 28,100 (17,898-42,009)        | 4.50 (2.87-6.73)                          | 3.37%                 | 2.27* (2.22 to 2.30)     |

|                                                  |                           |                    |       |                           |                    |        |                         |
|--------------------------------------------------|---------------------------|--------------------|-------|---------------------------|--------------------|--------|-------------------------|
| Endocrine, metabolic, blood, and immune disorder | 1,130 (699-1,753)         | 0.22(0.13-0.34)    | 0.19% | 2,950 (1,742-4,677)       | 0.47(0.28-0.75)    | 0.35%  | 2.53* (2.48 to 2.58)    |
| Hypertensive heart disease                       | 15,951 (9,954-24,062)     | 3.07(1.92-4.63)    | 2.72% | 22,791 (13,550-36,800)    | 3.65(2.17-5.9)     | 2.73%  | 0.58* (0.55 to 0.63)    |
| Intracerebral hemorrhage                         | 4,971 (3,090-7,569)       | 0.96(0.59-1.46)    | 0.85% | 6,037 (3,554-9,759)       | 0.97(0.57-1.56)    | 0.72%  | -0.03 (-0.12 to 0.02)   |
| Ischemic heart disease                           | 39,607 (24,864-57,012)    | 7.63(4.79-10.98)   | 6.75% | 33,733 (16,377-54,733)    | 5.41(2.62-8.77)    | 4.04%  | -0.84* (-1.23 to -0.32) |
| Ischemic stroke                                  | 821 (527-1,226)           | 0.16(0.1-0.24)     | 0.14% | 1,043 (630-1,627)         | 0.17(0.1-0.26)     | 0.12%  | 0.12* (0.01 to 0.19)    |
| Non-rheumatic valvular heart disease             | 831 (562-1,187)           | 0.16(0.11-0.23)    | 0.14% | 1,879 (1,232-2,705)       | 0.30(0.2-0.43)     | 0.23%  | 1.96* (1.91 to 2.02)    |
| Other cardiovascular and circulatory diseases    | 5,773 (3,598-8,780)       | 1.11(0.69-1.69)    | 0.98% | 9,818 (5,739-15,614)      | 1.57(0.92-2.5)     | 1.18%  | 1.06* (0.97 to 1.11)    |
| Pulmonary arterial hypertension                  | 4,869 (2,878-7,375)       | 0.94(0.55-1.42)    | 0.83% | 5,736 (3,366-8,768)       | 0.92(0.54-1.41)    | 0.69%  | -0.07* (-0.07 to -0.06) |
| Rheumatic heart disease                          | 174,158 (124,201-239,517) | 33.53(23.91-46.11) | 29.7% | 215,944 (148,174-304,902) | 34.61(23.75-48.86) | 25.87% | 0.09* (0.07 to 0.11)    |

## 20-24 years

|                                                            |                           |                    |        |                           |                    |        |                         |
|------------------------------------------------------------|---------------------------|--------------------|--------|---------------------------|--------------------|--------|-------------------------|
| Amphetamine use disorders                                  | 1,950 (1,309-2,732)       | 0.40(0.27-0.56)    | 0.36%  | 4,957 (3,295-7,243)       | 0.83(0.55-1.21)    | 0.63%  | 2.37* (2.3 to 2.44)     |
| Cardiomyopathy and myocarditis                             | 159,337 (115,420-210,714) | 32.38(23.46-42.82) | 29.42% | 242,022 (168,014-330,794) | 40.53(28.14-55.39) | 30.64% | 0.72* (0.69 to 0.74)    |
| Chronic kidney disease due to other and unspecified causes | 16,904 (11,180-25,805)    | 3.44(2.27-5.24)    | 3.12%  | 34,220 (21,540-54,846)    | 5.73(3.61-9.18)    | 4.33%  | 1.61* (1.57 to 1.66)    |
| Chronic obstructive pulmonary disease                      | 11,375 (6,926-17,017)     | 2.31(1.41-3.46)    | 2.10%  | 14,951 (8,734-23,175)     | 2.50(1.46-3.88)    | 1.89%  | 0.23* (0.13 to 0.29)    |
| Cocaine use disorders                                      | 2,060 (1,402-2,940)       | 0.42(0.28-0.6)     | 0.39%  | 6,095 (4,001-8,868)       | 1.02(0.67-1.48)    | 0.82%  | 2.88* (2.83 to 2.94)    |
| Congenital birth defects                                   | 59,720 (41,211-83,893)    | 12.14(8.37-17.05)  | 11.03% | 94,670 (63,265-135,793)   | 15.85(10.59-22.74) | 11.99% | 0.78* (0.72 to 0.83)    |
| Endocarditis                                               | 11,871 (7,982-16,877)     | 2.41(1.62-3.43)    | 2.19%  | 28,121 (18,382-41,244)    | 4.71(3.08-6.91)    | 3.56%  | 2.17* (2.14 to 2.2)     |
| Endocrine, metabolic, blood, and immune disorder           | 1,504 (994-2,217)         | 0.31(0.2-0.45)     | 0.28%  | 4,154 (2,619-6,548)       | 0.70(0.44-1.1)     | 0.53%  | 2.68* (2.63 to 2.73)    |
| Hypertensive heart disease                                 | 38,871 (25,687-55,361)    | 7.90(5.22-11.25)   | 7.18%  | 56,287 (36,054-85,060)    | 9.43(6.04-14.24)   | 7.13%  | 0.63* (0.58 to 0.68)    |
| Intracerebral hemorrhage                                   | 4,018 (2,651-6,115)       | 0.82(0.54-1.24)    | 0.74%  | 5,200 (3,214-8,450)       | 0.87(0.54-1.41)    | 0.66%  | 0.17* (0.06 to 0.23)    |
| Ischemic heart disease                                     | 88,601 (63,160-119,851)   | 18.01(12.84-24.36) | 16.36% | 111,418 (76,034-156,541)  | 18.66(12.73-26.21) | 14.11% | 0.19* (0.08 to 0.35)    |
| Ischemic stroke                                            | 735 (491-1,101)           | 0.15(0.1-0.22)     | 0.14%  | 1,014 (647-1,609)         | 0.17(0.11-0.27)    | 0.13%  | 0.36* (0.24 to 0.42)    |
| Non-rheumatic valvular heart disease                       | 564 (403-788)             | 0.11(0.08-0.16)    | 0.10%  | 1,318 (901-1,848)         | 0.22(0.15-0.31)    | 0.17%  | 2.08* (2.01 to 2.14)    |
| Other cardiovascular and circulatory diseases              | 4,478 (2,983-6,737)       | 0.91(0.61-1.37)    | 0.83%  | 7,857 (4,833-12,767)      | 1.32(0.81-2.14)    | 0.99%  | 1.11* (1.06 to 1.16)    |
| Pulmonary arterial hypertension                            | 6,168 (4,167-8,920)       | 1.25(0.85-1.81)    | 1.14%  | 7,380 (4,942-10,703)      | 1.24(0.83-1.79)    | 0.93%  | -0.04* (-0.05 to -0.04) |
| Rheumatic heart disease                                    | 135,575 (99,319-179,780)  | 27.55(20.18-36.53) | 25.03% | 170,158 (118,282-233,891) | 28.49(19.81-39.17) | 21.54% | 0.10* (0.07 to 0.12)    |

## 25-29 years

|                                                            |                          |                    |        |                           |                   |        |                      |
|------------------------------------------------------------|--------------------------|--------------------|--------|---------------------------|-------------------|--------|----------------------|
| Amphetamine use disorders                                  | 1,212 (795-1,681)        | 0.27(0.18-0.38)    | 0.25%  | 4,589 (2,998-6,452)       | 0.78(0.51-1.1)    | 0.60%  | 3.40* (3.31 to 3.49) |
| Cardiomyopathy and myocarditis                             | 134,329 (92,778-184,453) | 30.35(20.96-41.67) | 27.48% | 204,222 (133,547-294,139) | 34.71(22.7-49.99) | 26.79% | 0.46* (0.43 to 0.49) |
| Chronic kidney disease due to other and unspecified causes | 10,986 (7,139-16,587)    | 2.48(1.61-3.75)    | 2.25%  | 24,157 (14,484-37,131)    | 4.11(2.46-6.31)   | 3.17%  | 1.63* (1.61 to 1.65) |
| Chronic obstructive pulmonary disease                      | 11,172 (6,598-17,123)    | 2.52(1.49-3.87)    | 2.29%  | 15,680 (8,548-25,524)     | 2.67(1.45-4.34)   | 2.06%  | 0.14* (0.1 to 0.17)  |
| Cocaine use disorders                                      | 1,452 (927-2,110)        | 0.33(0.21-0.48)    | 0.31%  | 5,159 (3,351-7,397)       | 0.88(0.57-1.26)   | 0.72%  | 3.22* (3.15 to 3.27) |
| Congenital birth defects                                   | 27,951 (19,507-39,764)   | 6.31(4.41-8.98)    | 5.72%  | 45,216 (31,061-65,025)    | 7.69(5.28-11.05)  | 5.93%  | 0.60* (0.55 to 0.65) |

|                                                  |                          |                    |        |                           |                    |        |                         |
|--------------------------------------------------|--------------------------|--------------------|--------|---------------------------|--------------------|--------|-------------------------|
| Endocarditis                                     | 11,311 (7,709-16,417)    | 2.56(1.74-3.71)    | 2.31%  | 27,867 (18,972-41,176)    | 4.74(3.22-7)       | 3.66%  | 2.01* (1.98 to 2.05)    |
| Endocrine, metabolic, blood, and immune disorder | 1,633 (1,087-2,406)      | 0.37(0.25-0.54)    | 0.33%  | 5,315 (3,275-8,042)       | 0.90(0.56-1.37)    | 0.70%  | 3.01* (2.95 to 3.07)    |
| Hypertensive heart disease                       | 55,588 (35,263-78,556)   | 12.56(7.97-17.75)  | 11.37% | 86,199 (53,614-131,074)   | 14.65(9.11-22.28)  | 11.31% | 0.54* (0.45 to 0.64)    |
| Intracerebral hemorrhage                         | 3,980 (2,542-5,900)      | 0.90(0.57-1.33)    | 0.81%  | 5,047 (3,014-7,807)       | 0.86(0.51-1.33)    | 0.66%  | -0.17* (-0.21 to -0.14) |
| Ischemic heart disease                           | 117,822 (83,619-161,573) | 26.62(18.89-36.5)  | 24.10% | 196,591 (134,169-284,467) | 33.41(22.8-48.35)  | 25.79% | 0.74* (0.73 to 0.75)    |
| Ischemic stroke                                  | 773 (514-1,125)          | 0.17(0.12-0.25)    | 0.16%  | 1,054 (669-1,592)         | 0.18(0.11-0.27)    | 0.14%  | 0.04* (0.02 to 0.07)    |
| Non-rheumatic valvular heart disease             | 576 (365-946)            | 0.13(0.08-0.21)    | 0.12%  | 1,158 (791-1,652)         | 0.20(0.13-0.28)    | 0.15%  | 1.37* (1.34 to 1.4)     |
| Other cardiovascular and circulatory diseases    | 4,102 (2,749-6,078)      | 0.93(0.62-1.37)    | 0.84%  | 7,142 (4,264-10,865)      | 1.21(0.72-1.85)    | 0.94%  | 0.89* (0.86 to 0.92)    |
| Pulmonary arterial hypertension                  | 7,113 (4,793-10,347)     | 1.61(1.08-2.34)    | 1.46%  | 9,345 (6,238-13,584)      | 1.59(1.06-2.31)    | 1.23%  | -0.04* (-0.04 to -0.03) |
| Rheumatic heart disease                          | 98,803 (70,094-136,901)  | 22.32(15.84-30.93) | 20.21% | 123,435 (84,753-172,865)  | 20.98(14.41-29.38) | 16.20% | -0.20* (-0.21 to -0.18) |

### 30-34 years

|                                                            |                          |                    |        |                           |                    |        |                         |
|------------------------------------------------------------|--------------------------|--------------------|--------|---------------------------|--------------------|--------|-------------------------|
| Amphetamine use disorders                                  | 617 (378-917)            | 0.16(0.1-0.24)     | 0.14%  | 3,729 (2,343-5,536)       | 0.62(0.39-0.92)    | 0.47%  | 4.47* (4.39 to 4.55)    |
| Atrial fibrillation and flutter                            | 290 (175-446)            | 0.08(0.05-0.12)    | 0.07%  | 679 (381-1,077)           | 0.11(0.06-0.18)    | 0.09%  | 1.33* (1.3 to 1.36)     |
| Cardiomyopathy and myocarditis                             | 114,349 (75,104-171,572) | 29.67(19.49-44.52) | 25.84% | 185,486 (118,627-291,656) | 30.69(19.62-48.25) | 23.43% | 0.09* (0.07 to 0.12)    |
| Chronic kidney disease due to other and unspecified causes | 7,166 (4,145-11,339)     | 1.86(1.08-2.94)    | 1.62%  | 18,296 (10,022-29,497)    | 3.03(1.66-4.88)    | 2.31%  | 1.58* (1.56 to 1.59)    |
| Chronic obstructive pulmonary disease                      | 10,499 (6,053-16,598)    | 2.72(1.57-4.31)    | 2.37%  | 17,110 (9,603-27,952)     | 2.83(1.59-4.62)    | 2.16%  | 0.11* (0.08 to 0.14)    |
| Cocaine use disorders                                      | 1,540 (941-2,355)        | 0.40(0.24-0.61)    | 0.34%  | 6,271 (3,905-9,382)       | 1.04(0.65-1.55)    | 0.77%  | 3.12* (3.02 to 3.21)    |
| Congenital birth defects                                   | 13,765 (8,469-20,886)    | 3.57(2.2-5.42)     | 3.11%  | 28,468 (17,226-44,911)    | 4.71(2.85-7.43)    | 3.60%  | 0.92* (0.88 to 0.96)    |
| Endocarditis                                               | 8,196 (4,973-12,660)     | 2.13(1.29-3.28)    | 1.85%  | 20,837 (12,542-33,014)    | 3.45(2.07-5.46)    | 2.63%  | 1.59* (1.57 to 1.62)    |
| Endocrine, metabolic, blood, and immune disorder           | 1,359 (821-2,099)        | 0.35(0.21-0.54)    | 0.31%  | 5,349 (2,969-8,472)       | 0.88(0.49-1.4)     | 0.68%  | 3.00* (2.95 to 3.04)    |
| Hypertensive heart disease                                 | 67,129 (41,254-100,195)  | 17.42(10.7-26)     | 15.17% | 126,946 (77,515-188,828)  | 21.00(12.82-31.24) | 16.03% | 0.61* (0.55 to 0.68)    |
| Intracerebral hemorrhage                                   | 4,091 (2,384-6,434)      | 1.06(0.62-1.67)    | 0.92%  | 6,629 (3,521-10,990)      | 1.10(0.58-1.82)    | 0.84%  | 0.07* (0.03 to 0.1)     |
| Ischemic heart disease                                     | 132,203 (87,120-190,156) | 34.30(22.6-49.34)  | 29.88% | 260,280 (171,573-376,883) | 43.06(28.38-62.35) | 32.88% | 0.69* (0.67 to 0.71)    |
| Ischemic stroke                                            | 786 (488-1,227)          | 0.20(0.13-0.32)    | 0.18%  | 1,393 (799-2,234)         | 0.23(0.13-0.37)    | 0.18%  | 0.40* (0.37 to 0.42)    |
| Non-rheumatic valvular heart disease                       | 665 (295-1,472)          | 0.17(0.08-0.38)    | 0.15%  | 975 (563-1,772)           | 0.16(0.09-0.29)    | 0.12%  | -0.23* (-0.27 to -0.19) |
| Other cardiovascular and circulatory diseases              | 3,159 (1,852-4,878)      | 0.82(0.48-1.27)    | 0.71%  | 6,133 (3,310-9,865)       | 1.01(0.55-1.63)    | 0.77%  | 0.70* (0.67 to 0.73)    |
| Pulmonary arterial hypertension                            | 7,668 (4,967-11,298)     | 1.99(1.29-2.93)    | 1.73%  | 12,034 (7,694-17,877)     | 1.99(1.27-2.96)    | 1.52%  | 0.00 (0.00 to 0.01)     |
| Rheumatic heart disease                                    | 68,981 (42,222-102,159)  | 17.9(10.95-26.51)  | 15.59% | 91,072 (55,044-139,397)   | 15.07(9.11-23.06)  | 11.5%  | -0.57* (-0.59 to -0.55) |

### 35-39 years

|                                                            |                          |                    |        |                           |                    |        |                      |
|------------------------------------------------------------|--------------------------|--------------------|--------|---------------------------|--------------------|--------|----------------------|
| Amphetamine use disorders                                  | 554 (355-805)            | 0.16(0.1-0.23)     | 0.12%  | 2,968 (1,943-4,266)       | 0.53(0.35-0.76)    | 0.34%  | 3.91* (3.82 to 3.98) |
| Atrial fibrillation and flutter                            | 308 (192-474)            | 0.09(0.05-0.13)    | 0.07%  | 806 (465-1,263)           | 0.14(0.08-0.23)    | 0.09%  | 1.64* (1.61 to 1.66) |
| Cardiomyopathy and myocarditis                             | 112,698 (73,682-158,452) | 31.99(20.92-44.98) | 24.44% | 194,532 (122,786-285,036) | 34.68(21.89-50.82) | 22.49% | 0.31* (0.28 to 0.34) |
| Chronic kidney disease due to other and unspecified causes | 5,884 (3,492-9,036)      | 1.67(0.99-2.57)    | 1.28%  | 16,475 (9,423-25,995)     | 2.94(1.68-4.63)    | 1.90%  | 1.86* (1.84 to 1.88) |

|                                                  |                           |                    |        |                           |                    |        |                         |
|--------------------------------------------------|---------------------------|--------------------|--------|---------------------------|--------------------|--------|-------------------------|
| Chronic obstructive pulmonary disease            | 12,174 (7,014-19,880)     | 3.46(1.99-5.64)    | 2.64%  | 19,896 (10,902-32,315)    | 3.55(1.94-5.76)    | 2.30%  | 0.05 (-0.01 to 0.09)    |
| Cocaine use disorders                            | 1,206 (776-1,779)         | 0.34(0.22-0.5)     | 0.24%  | 4,908 (3,173-7,125)       | 0.88(0.57-1.27)    | 0.53%  | 3.06* (3.02 to 3.1)     |
| Congenital birth defects                         | 8,000 (5,040-11,515)      | 2.27(1.43-3.27)    | 1.73%  | 18,640 (11,091-27,871)    | 3.32(1.98-4.97)    | 2.16%  | 1.21* (1.18 to 1.24)    |
| Endocarditis                                     | 5,087 (3,118-7,630)       | 1.44(0.89-2.17)    | 1.10%  | 13,196 (7,779-20,249)     | 2.35(1.39-3.61)    | 1.53%  | 1.61* (1.58 to 1.64)    |
| Endocrine, metabolic, blood, and immune disorder | 1,081 (664-1,616)         | 0.31(0.19-0.46)    | 0.23%  | 4,632 (2,710-7,139)       | 0.83(0.48-1.27)    | 0.54%  | 3.25* (3.21 to 3.29)    |
| Hypertensive heart disease                       | 84,073 (50,156-126,943)   | 23.87(14.24-36.04) | 18.23% | 173,769 (100,478-273,051) | 30.98(17.91-48.68) | 20.09% | 0.85* (0.83 to 0.87)    |
| Intracerebral hemorrhage                         | 4,800 (2,846-7,465)       | 1.36(0.81-2.12)    | 1.04%  | 8,459 (4,853-13,616)      | 1.51(0.87-2.43)    | 0.98%  | 0.32* (0.27 to 0.37)    |
| Ischemic heart disease                           | 155,175 (104,219-214,411) | 44.05(29.59-60.87) | 33.65% | 306,780 (201,400-430,241) | 54.70(35.91-76.71) | 35.47% | 0.73* (0.7 to 0.76)     |
| Ischemic stroke                                  | 872 (560-1,316)           | 0.25(0.16-0.37)    | 0.19%  | 1,797 (1,113-2,822)       | 0.32(0.2-0.5)      | 0.21%  | 0.82* (0.77 to 0.85)    |
| Non-rheumatic valvular heart disease             | 1,162 (439-2,627)         | 0.33(0.12-0.75)    | 0.25%  | 1,495 (738-3,083)         | 0.27(0.13-0.55)    | 0.17%  | -0.67* (-0.7 to -0.65)  |
| Other cardiovascular and circulatory diseases    | 2,319 (1,440-3,567)       | 0.66(0.41-1.01)    | 0.50%  | 5,078 (2,880-8,064)       | 0.91(0.51-1.44)    | 0.59%  | 1.07* (1.04 to 1.1)     |
| Pulmonary arterial hypertension                  | 8,381 (5,814-11,738)      | 2.38(1.65-3.33)    | 1.82%  | 13,366 (9,219-18,800)     | 2.38(1.64-3.35)    | 1.55%  | 0 (0 to 0.01)           |
| Rheumatic heart disease                          | 57,393 (35,838-82,771)    | 16.29(10.17-23.5)  | 12.45% | 78,121 (46,488-117,298)   | 13.93(8.29-20.91)  | 9.03%  | -0.51* (-0.54 to -0.49) |

#### 40-44 years

|                                                            |                           |                    |        |                           |                    |        |                         |
|------------------------------------------------------------|---------------------------|--------------------|--------|---------------------------|--------------------|--------|-------------------------|
| Amphetamine use disorders                                  | 407 (236-613)             | 0.14(0.08-0.21)    | 0.08%  | 2,209 (1,396-3,290)       | 0.44(0.28-0.66)    | 0.21%  | 3.71* (3.6 to 3.84)     |
| Atrial fibrillation and flutter                            | 1,032 (616-1,633)         | 0.36(0.22-0.57)    | 0.20%  | 2,935 (1,625-4,761)       | 0.59(0.32-0.95)    | 0.28%  | 1.58* (1.56 to 1.59)    |
| Cardiomyopathy and myocarditis                             | 120,327 (74,195-174,716)  | 42.00(25.9-60.99)  | 23.01% | 218,761 (130,023-331,244) | 43.73(25.99-66.22) | 20.79% | 0.17* (0.14 to 0.2)     |
| Chronic kidney disease due to other and unspecified causes | 4,658 (2,667-7,511)       | 1.63(0.93-2.62)    | 0.89%  | 15,153 (8,175-25,105)     | 3.03(1.63-5.02)    | 1.44%  | 2.04* (2.02 to 2.06)    |
| Chronic obstructive pulmonary disease                      | 15,064 (8,086-24,563)     | 5.26(2.82-8.57)    | 2.88%  | 26,665 (14,265-43,884)    | 5.33(2.85-8.77)    | 2.53%  | 0.03 (-0.02 to 0.08)    |
| Cocaine use disorders                                      | 905 (537-1,392)           | 0.32(0.19-0.49)    | 0.18%  | 3,763 (2,322-5,640)       | 0.75(0.46-1.13)    | 0.36%  | 2.89* (2.82 to 2.95)    |
| Congenital birth defects                                   | 8,480 (4,970-13,232)      | 2.96(1.73-4.62)    | 1.62%  | 21,274 (12,037-35,617)    | 4.25(2.41-7.12)    | 2.02%  | 1.14* (1.11 to 1.16)    |
| Endocarditis                                               | 1,594 (917-2,560)         | 0.56(0.32-0.89)    | 0.30%  | 4,467 (2,496-7,616)       | 0.89(0.5-1.52)     | 0.42%  | 1.54* (1.51 to 1.57)    |
| Endocrine, metabolic, blood, and immune disorder           | 450 (267-705)             | 0.16(0.09-0.25)    | 0.09%  | 2,205 (1,238-3,502)       | 0.44(0.25-0.7)     | 0.21%  | 3.40* (3.34 to 3.45)    |
| Hypertensive heart disease                                 | 111,385 (69,338-173,805)  | 38.88(24.2-60.67)  | 21.30% | 249,365 (150,619-400,002) | 49.85(30.11-79.96) | 23.70% | 0.80* (0.79 to 0.82)    |
| Intracerebral hemorrhage                                   | 8,427 (4,801-13,384)      | 2.94(1.68-4.67)    | 1.61%  | 16,629 (8,831-27,535)     | 3.32(1.77-5.5)     | 1.81%  | 0.38* (0.33 to 0.42)    |
| Ischemic heart disease                                     | 189,261 (122,573-271,672) | 66.06(42.79-94.83) | 36.19% | 394,278 (253,371-563,274) | 78.82(50.65-112.6) | 37.47% | 0.60* (0.57 to 0.63)    |
| Ischemic stroke                                            | 1,524 (900-2,377)         | 0.53(0.31-0.83)    | 0.29%  | 3,578 (1,998-5,814)       | 0.72(0.4-1.16)     | 0.34%  | 0.94* (0.88 to 0.99)    |
| Non-rheumatic valvular heart disease                       | 2,167 (780-4,595)         | 0.76(0.27-1.6)     | 0.41%  | 2,693 (1,131-5,590)       | 0.54(0.23-1.12)    | 0.26%  | -1.09* (-1.11 to -1.07) |
| Other cardiovascular and circulatory diseases              | 3,549 (2,085-5,579)       | 1.24(0.73-1.95)    | 0.68%  | 8,392 (4,559-13,785)      | 1.68(0.91-2.76)    | 0.80%  | 1.00* (0.98 to 1.02)    |
| Pulmonary arterial hypertension                            | 7,865 (5,401-10,926)      | 2.75(1.89-3.81)    | 1.50%  | 13,750 (9,392-19,277)     | 2.75(1.88-3.85)    | 1.31%  | 0 (0 to 0.01)           |
| Rheumatic heart disease                                    | 45,825 (26,687-70,848)    | 16.00(9.32-24.73)  | 8.76%  | 66,029 (37,320-110,117)   | 13.20(7.46-22.01)  | 6.28%  | -0.62* (-0.66 to -0.59) |

AAPC =average annual percentage change; AYA =adolescent and young adult; CI =confidence interval; HF =heart failure; UI =uncertainty interval; \*\* =P <0.001; \* =P <0.05.

**Supplementary Table 5. The YLDs of HF in AYA and their AAPCs with main underlying causes at different age groups in 1990 and 2021.**

|                                                            | YLDs (95% UI)           |                                           |                       |                          |                                           |                       |                          |
|------------------------------------------------------------|-------------------------|-------------------------------------------|-----------------------|--------------------------|-------------------------------------------|-----------------------|--------------------------|
|                                                            | Cases (n) 1990          | Age-standardized rates per 100,000 (1990) | Proportion (%) (1990) | Cases (n) 2021           | Age-standardized rates per 100,000 (2021) | Proportion (%) (2021) | AAPC (95% CI)            |
| <b>15-44 years</b>                                         |                         |                                           |                       |                          |                                           |                       |                          |
| Amphetamine use disorders                                  | 537 (290-883)           | 0.02 (0.01-0.03)                          | 0.18%                 | 1,881 (1,043-3,053)      | 0.05 (0.03-0.09)                          | 0.39%                 | 3.01** (2.95 to 3.07)    |
| Atrial fibrillation and flutter                            | 151 (81-259)            | 0.01 (0-0.01)                             | 0.06%                 | 409(210-724)             | 0.01 (0.01-0.02)                          | 0.08%                 | 1.53** (1.51 to 1.55)    |
| Cardiomyopathy and myocarditis                             | 75,024 (42,819-120,543) | 3.04 (1.73-4.9)                           | 25.89%                | 120,582 (66,569-197,523) | 3.48 (1.92-5.7)                           | 25.20%                | 0.44** (0.43 to 0.45)    |
| Chronic kidney disease due to other and unspecified causes | 9,355 (5,046-15,767)    | 0.36 (0.2-0.61)                           | 3.08%                 | 20,612 (10,692-35,707)   | 0.60 (0.31-1.04)                          | 4.36%                 | 1.62** (1.59 to 1.64)    |
| Chronic obstructive pulmonary disease                      | 6,686 (3,387-11,902)    | 0.28 (0.14-0.5)                           | 2.36%                 | 10,177 (4,984-18,612)    | 0.29 (0.14-0.53)                          | 2.11%                 | 0.11** (0.06 to 0.14)    |
| Cocaine use disorders                                      | 744 (401-1,238)         | 0.03 (0.02-0.05)                          | 0.26%                 | 2,633 (1,438-4,312)      | 0.08 (0.04-0.12)                          | 0.55%                 | 2.96** (2.92 to 3)       |
| Congenital birth defects                                   | 21,391 (12,430-34,004)  | 0.81 (0.47-1.28)                          | 6.86%                 | 35,148 (19,851-56,409)   | 1.04 (0.59-1.66)                          | 7.52%                 | 0.76** (0.72 to 0.8)     |
| Endocarditis                                               | 4,590 (2,566-7,288)     | 0.18 (0.1-0.29)                           | 1.53%                 | 11,338 (6,179-18,637)    | 0.33 (0.18-0.54)                          | 2.39%                 | 1.97** (1.95 to 1.98)    |
| Endocrine, metabolic, blood, and immune disorder           | 663 (367-1,109)         | 0.03 (0.01-0.04)                          | 0.23%                 | 2,277 (1,206-3,880)      | 0.07 (0.03-0.11)                          | 0.47%                 | 2.95** (2.89 to 2.99)    |
| Hypertensive heart disease                                 | 34,308 (18,778-57,473)  | 1.49 (0.81-2.5)                           | 12.65%                | 65,684 (35,125-114,825)  | 1.85 (0.99-3.23)                          | 13.41%                | 0.73** (0.7 to 0.76)     |
| Intracerebral hemorrhage                                   | 6,182 (3,351-10,283)    | 0.26 (0.14-0.43)                          | 2.22%                 | 9,948 (5,039-17,105)     | 0.28 (0.14-0.49)                          | 2.05%                 | 0.24** (0.2 to 0.28)     |
| Ischemic heart disease                                     | 66,447 (37,772-104,617) | 2.85 (1.61-4.49)                          | 24.24%                | 119,628 (65,848-193,071) | 3.38 (1.86-5.45)                          | 24.46%                | 0.56** (0.53 to 0.61)    |
| Ischemic stroke                                            | 962 (491-1,657)         | 0.04 (0.02-0.07)                          | 0.35%                 | 1,804 (880-3,172)        | 0.05 (0.03-0.09)                          | 0.37%                 | 0.73** (0.67 to 0.77)    |
| Non-rheumatic valvular heart disease                       | 554 (229-1,162)         | 0.02 (0.01-0.05)                          | 0.20%                 | 883 (434-1,683)          | 0.03 (0.01-0.05)                          | 0.18%                 | 0.15** (0.13 to 0.19)    |
| Other cardiovascular and circulatory diseases              | 2,166 (1,168-3,610)     | 0.09 (0.05-0.15)                          | 0.74%                 | 4,113 (2,137-7,089)      | 0.12 (0.06-0.2)                           | 0.86%                 | 0.99** (0.96 to 1.01)    |
| Pulmonary arterial Hypertension                            | 3,893 (2,213-6,189)     | 0.16 (0.09-0.26)                          | 1.39%                 | 5,702 (3,228-9,093)      | 0.16 (0.09-0.26)                          | 1.17%                 | -0.02** (-0.02 to -0.02) |
| Rheumatic heart disease                                    | 53,205 (30,610-82,797)  | 2.09 (1.19-3.26)                          | 14.07%                | 68,264 (37,867-107,717)  | 1.99 (1.11-3.14)                          | 14.42%                | -0.16** (-0.18 to -0.14) |
| <b>15-19 years</b>                                         |                         |                                           |                       |                          |                                           |                       |                          |
| Amphetamine use disorders                                  | 98 (49-168)             | 0.02 (0.01-0.03)                          | 0.18%                 | 170 (86-294)             | 0.03 (0.01-0.05)                          | 0.21%                 | 1.19* (1.12 to 1.24)     |
| Cardiomyopathy and myocarditis                             | 15,966 (9,349-26,695)   | 3.07 (1.8-5.14)                           | 28.69%                | 24,367 (13,620-40,103)   | 3.91 (2.18-6.43)                          | 30.60%                | 0.77* (0.76 to 0.78)     |
| Chronic kidney disease due to other and unspecified causes | 3,471 (1,858-5,820)     | 0.67 (0.36-1.12)                          | 6.24%                 | 6,647 (3,441-11,557)     | 1.07 (0.55-1.85)                          | 8.35%                 | 1.47* (1.43 to 1.52)     |
| Chronic obstructive pulmonary disease                      | 1,096 (573-1,881)       | 0.21 (0.11-0.36)                          | 1.97%                 | 1,436 (741-2,543)        | 0.23 (0.12-0.41)                          | 1.80%                 | 0.24* (0.13 to 0.29)     |
| Cocaine use disorders                                      | 80 (41-137)             | 0.02 (0.01-0.03)                          | 0.14%                 | 205 (105-355)            | 0.03 (0.02-0.06)                          | 0.26%                 | 2.46* (2.41 to 2.52)     |
| Congenital birth defects                                   | 10,458 (6,215-16,549)   | 2.01 (1.2-3.19)                           | 18.79%                | 15,837 (9,177-25,043)    | 2.54 (1.47-4.01)                          | 19.88%                | 0.71*(0.67 to 0.75)      |
| Endocarditis                                               | 1,069 (591-1,728)       | 0.21 (0.11-0.33)                          | 1.92%                 | 2,600 (1,417-4,311)      | 0.42 (0.23-0.69)                          | 3.26%                 | 2.27* (2.23 to 2.3)      |
| Endocrine, metabolic, blood, and immune disorder           | 105 (55-173)            | 0.02 (0.01-0.03)                          | 0.19%                 | 274 (140-466)            | 0.04 (0.02-0.07)                          | 0.34%                 | 2.53* (2.48 to 2.58)     |

|                                               |                       |                  |        |                        |                  |        |                         |
|-----------------------------------------------|-----------------------|------------------|--------|------------------------|------------------|--------|-------------------------|
| Hypertensive heart disease                    | 1,477 (822-2,479)     | 0.28 (0.16-0.48) | 2.65%  | 2,108 (1,094-3,651)    | 0.34 (0.18-0.59) | 2.65%  | 0.58* (0.55 to 0.63)    |
| Intracerebral hemorrhage                      | 1,036 (563-1,729)     | 0.20 (0.11-0.33) | 1.86%  | 1,268 (660-2,204)      | 0.20 (0.11-0.35) | 1.59%  | 0 (-0.09 to 0.05)       |
| Ischemic heart disease                        | 3,663 (2,124-5,835)   | 0.71 (0.41-1.12) | 6.58%  | 3,125 (1,432-5,449)    | 0.50 (0.23-0.87) | 3.92%  | -0.91* (-1.26 to -0.41) |
| Ischemic stroke                               | 152 (80-259)          | 0.03 (0.02-0.05) | 0.27%  | 197 (101-349)          | 0.03 (0.02-0.06) | 0.25%  | 0.18* (0.05 to 0.27)    |
| Non-rheumatic valvular heart disease          | 77 (43-124)           | 0.01 (0.01-0.02) | 0.14%  | 174 (98-280)           | 0.03 (0.02-0.04) | 0.21%  | 1.96* (1.91 to 2.03)    |
| Other cardiovascular and circulatory diseases | 536 (281-879)         | 0.10 (0.05-0.17) | 0.96%  | 911 (476-1,562)        | 0.15 (0.08-0.25) | 1.14%  | 1.07* (0.97 to 1.11)    |
| Pulmonary arterial Hypertension               | 451 (253-737)         | 0.09 (0.05-0.14) | 0.81%  | 531 (292-874)          | 0.09 (0.05-0.14) | 0.67%  | -0.06* (-0.07 to -0.06) |
| Rheumatic heart disease                       | 15,918 (9,565-24,554) | 3.06 (1.84-4.73) | 28.60% | 19,793 (11,132-30,370) | 3.17 (1.78-4.87) | 24.85% | 0.10* (0.07 to 0.12)    |

## 20-24 years

|                                                            |                       |                  |        |                        |                  |        |                         |
|------------------------------------------------------------|-----------------------|------------------|--------|------------------------|------------------|--------|-------------------------|
| Amphetamine use disorders                                  | 181 (100-286)         | 0.04 (0.02-0.06) | 0.35%  | 460 (263-742)          | 0.08 (0.04-0.12) | 0.62%  | 2.37* (2.31 to 2.44)    |
| Cardiomyopathy and myocarditis                             | 14,682 (8,682-22,653) | 2.98 (1.76-4.6)  | 28.64% | 22,296 (13,174-34,632) | 3.73 (2.21-5.8)  | 29.81% | 0.72* (0.69 to 0.74)    |
| Chronic kidney disease due to other and unspecified causes | 2,184 (1,179-3,705)   | 0.44 (0.24-0.75) | 4.26%  | 4,420 (2,314-7,651)    | 0.74 (0.39-1.28) | 5.91%  | 1.62* (1.58 to 1.66)    |
| Chronic obstructive pulmonary disease                      | 1,055 (568-1,811)     | 0.21 (0.12-0.37) | 2.06%  | 1,386 (720-2,460)      | 0.23 (0.12-0.41) | 1.85%  | 0.23* (0.12 to 0.29)    |
| Cocaine use disorders                                      | 191 (107-311)         | 0.04 (0.02-0.06) | 0.37%  | 566 (317-925)          | 0.09 (0.05-0.15) | 0.76%  | 2.89* (2.83 to 2.94)    |
| Congenital birth defects                                   | 5,534 (3,253-8,756)   | 1.12 (0.66-1.78) | 10.80% | 8,771 (5,086-14,001)   | 1.47 (0.85-2.34) | 11.73% | 0.78* (0.72 to 0.84)    |
| Endocarditis                                               | 1,098 (662-1,723)     | 0.22 (0.13-0.35) | 2.14%  | 2,600 (1,487-4,202)    | 0.44 (0.25-0.7)  | 3.48%  | 2.17* (2.13 to 2.2)     |
| Endocrine, metabolic, blood, and immune disorder           | 140 (76-234)          | 0.03 (0.02-0.05) | 0.27%  | 385 (202-657)          | 0.06 (0.03-0.11) | 0.51%  | 2.68* (2.63 to 2.73)    |
| Hypertensive heart disease                                 | 3,600 (2,148-5,706)   | 0.73 (0.44-1.16) | 7.02%  | 5,202 (2,899-8,517)    | 0.87 (0.49-1.43) | 6.96%  | 0.59* (0.56 to 0.63)    |
| Intracerebral hemorrhage                                   | 826 (466-1,350)       | 0.17 (0.09-0.27) | 1.61%  | 1,080 (575-1,817)      | 0.18 (0.1-0.3)   | 1.44%  | 0.21* (0.1 to 0.27)     |
| Ischemic heart disease                                     | 8,180 (4,934-12,344)  | 1.66 (1-2.51)    | 15.96% | 10,294 (5,989-16,241)  | 1.72 (1-2.72)    | 13.76% | 0.19* (0.08 to 0.35)    |
| Ischemic stroke                                            | 131 (68-219)          | 0.03 (0.01-0.04) | 0.26%  | 188 (95-323)           | 0.03 (0.02-0.05) | 0.25%  | 0.47* (0.33 to 0.54)    |
| Non-rheumatic valvular heart disease                       | 52 (32-82)            | 0.01 (0.01-0.02) | 0.10%  | 122 (73-190)           | 0.02 (0.01-0.03) | 0.16%  | 2.08* (2.02 to 2.14)    |
| Other cardiovascular and circulatory diseases              | 415 (227-690)         | 0.08 (0.05-0.14) | 0.81%  | 728 (377-1,249)        | 0.12 (0.06-0.21) | 0.97%  | 1.17* (1.07 to 1.23)    |
| Pulmonary arterial Hypertension                            | 571 (331-896)         | 0.12 (0.07-0.18) | 1.11%  | 683 (393-1,078)        | 0.11 (0.07-0.18) | 0.91%  | -0.04* (-0.05 to -0.04) |
| Rheumatic heart disease                                    | 12,419 (7,606-18,772) | 2.52 (1.55-3.81) | 24.23% | 15,611 (9,354-24,098)  | 2.61 (1.57-4.04) | 20.87% | 0.10* (0.07 to 0.12)    |

## 25-29 years

|                                                            |                       |                  |        |                       |                  |        |                      |
|------------------------------------------------------------|-----------------------|------------------|--------|-----------------------|------------------|--------|----------------------|
| Amphetamine use disorders                                  | 112 (62-182)          | 0.03 (0.01-0.04) | 0.24%  | 425 (239-677)         | 0.07 (0.04-0.12) | 0.59%  | 3.40* (3.32 to 3.48) |
| Cardiomyopathy and myocarditis                             | 12,400 (6,947-19,530) | 2.80 (1.57-4.41) | 26.97% | 18,844 (9,938-31,125) | 3.20 (1.69-5.29) | 26.25% | 0.46* (0.43 to 0.48) |
| Chronic kidney disease due to other and unspecified causes | 1,417 (797-2,281)     | 0.32 (0.18-0.52) | 3.08%  | 3,113 (1,657-5,074)   | 0.53 (0.28-0.86) | 4.34%  | 1.63* (1.61 to 1.65) |
| Chronic obstructive pulmonary disease                      | 1,037 (521-1,797)     | 0.23 (0.12-0.41) | 2.26%  | 1,455 (713-2,647)     | 0.25 (0.12-0.45) | 2.03%  | 0.14* (0.1 to 0.17)  |
| Cocaine use disorders                                      | 135 (74-223)          | 0.03 (0.02-0.05) | 0.29%  | 478 (267-768)         | 0.08 (0.05-0.13) | 0.67%  | 3.22* (3.16 to 3.27) |
| Congenital birth defects                                   | 2,594 (1,490-4,083)   | 0.59 (0.34-0.92) | 5.64%  | 4,197 (2,399-6,600)   | 0.71 (0.41-1.12) | 5.85%  | 0.61* (0.56 to 0.65) |
| Endocarditis                                               | 1,046 (594-1,601)     | 0.24 (0.13-0.36) | 2.27%  | 2,576 (1,443-4,042)   | 0.44 (0.25-0.69) | 3.59%  | 2.01* (1.98 to 2.05) |

|                                                  |                       |                  |        |                        |                  |        |                         |
|--------------------------------------------------|-----------------------|------------------|--------|------------------------|------------------|--------|-------------------------|
| Endocrine, metabolic, blood, and immune disorder | 151 (88-243)          | 0.03 (0.02-0.05) | 0.33%  | 492 (273-799)          | 0.08 (0.05-0.14) | 0.69%  | 2.99* (2.94 to 3.04)    |
| Hypertensive heart disease                       | 5,136 (2,922-8,260)   | 1.16 (0.66-1.87) | 11.17% | 7,954 (4,487-13,321)   | 1.35 (0.76-2.26) | 11.08% | 0.51* (0.41 to 0.6)     |
| Intracerebral hemorrhage                         | 806 (462-1,266)       | 0.18 (0.1-0.29)  | 1.75%  | 1,036 (563-1,680)      | 0.18 (0.1-0.29)  | 1.44%  | -0.12* (-0.16 to -0.09) |
| Ischemic heart disease                           | 10,851 (6,465-16,981) | 2.45 (1.46-3.84) | 23.60% | 18,088 (10,484-29,475) | 3.07 (1.78-5.01) | 25.20% | 0.74* (0.72 to 0.75)    |
| Ischemic stroke                                  | 135 (73-220)          | 0.03 (0.02-0.05) | 0.29%  | 189 (99-315)           | 0.03 (0.02-0.05) | 0.26%  | 0.12* (0.09 to 0.16)    |
| Non-rheumatic valvular heart disease             | 53 (29-97)            | 0.01 (0.01-0.02) | 0.11%  | 107 (61-169)           | 0.02 (0.01-0.03) | 0.14%  | 1.37* (1.34 to 1.4)     |
| Other cardiovascular and circulatory diseases    | 380 (213-608)         | 0.09 (0.05-0.14) | 0.83%  | 661 (359-1,082)        | 0.11 (0.06-0.18) | 0.92%  | 0.89* (0.86 to 0.91)    |
| Pulmonary arterial Hypertension                  | 658 (372-1,040)       | 0.15 (0.08-0.23) | 1.43%  | 865 (483-1,371)        | 0.15 (0.08-0.23) | 1.20%  | -0.04* (-0.04 to -0.03) |
| Rheumatic heart disease                          | 9,072 (5,124-13,432)  | 2.05 (1.16-3.03) | 19.73% | 11,305 (6,548-17,197)  | 1.92 (1.11-2.92) | 15.75% | -0.20* (-0.23 to -0.18) |

### 30-34 years

|                                                            |                       |                  |        |                        |                  |        |                         |
|------------------------------------------------------------|-----------------------|------------------|--------|------------------------|------------------|--------|-------------------------|
| Amphetamine use disorders                                  | 57 (30-98)            | 0.01 (0.01-0.03) | 0.14%  | 345 (188-560)          | 0.06 (0.03-0.09) | 0.46%  | 4.47* (4.4 to 4.55)     |
| Atrial fibrillation and flutter                            | 27 (15-45)            | 0.01 (0-0.01)    | 0.06%  | 63 (33-110)            | 0.01 (0.01-0.02) | 0.08%  | 1.32* (1.3 to 1.35)     |
| Cardiomyopathy and myocarditis                             | 10,552 (5,811-16,803) | 2.74 (1.51-4.36) | 25.40% | 17,089 (8,992-29,227)  | 2.83 (1.49-4.84) | 22.97% | 0.09* (0.07 to 0.12)    |
| Chronic kidney disease due to other and unspecified causes | 923 (499-1,584)       | 0.24 (0.13-0.41) | 2.22%  | 2,356 (1,203-4,100)    | 0.39 (0.2-0.68)  | 3.17%  | 1.57* (1.56 to 1.59)    |
| Chronic obstructive pulmonary disease                      | 974(477-1,749)        | 0.25 (0.12-0.45) | 2.34%  | 1,587 (753-2,861)      | 0.26 (0.12-0.47) | 2.13%  | 0.11* (0.08 to 0.14)    |
| Cocaine use disorders                                      | 143 (74-239)          | 0.04 (0.02-0.06) | 0.34%  | 581 (311-948)          | 0.10 (0.05-0.16) | 0.78%  | 3.12* (3.03 to 3.2)     |
| Congenital birth defects                                   | 1,279 (692-2,052)     | 0.33 (0.18-0.53) | 3.08%  | 2,645 (1,360-4,235)    | 0.44 (0.23-0.7)  | 3.56%  | 0.92* (0.88 to 0.96)    |
| Endocarditis                                               | 758 (391-1,248)       | 0.20 (0.1-0.32)  | 1.82%  | 1,927 (980-3,317)      | 0.32 (0.16-0.55) | 2.59%  | 1.59* (1.57 to 1.62)    |
| Endocrine, metabolic, blood, and immune disorder           | 126 (70-214)          | 0.03 (0.02-0.06) | 0.30%  | 495 (263-862)          | 0.08 (0.04-0.14) | 0.66%  | 3.00* (2.96 to 3.03)    |
| Hypertensive heart disease                                 | 6,188 (3,313-10,463)  | 1.61 (0.86-2.71) | 14.89% | 11,711 (6,354-20,868)  | 1.94 (1.05-3.45) | 15.74% | 0.61* (0.56 to 0.68)    |
| Intracerebral hemorrhage                                   | 824 (454-1,406)       | 0.21 (0.12-0.36) | 1.98%  | 1,361 (685-2,410)      | 0.23 (0.11-0.4)  | 1.83%  | 0.13* (0.1 to 0.16)     |
| Ischemic heart disease                                     | 12,169 (6,828-19,946) | 3.16 (1.77-5.17) | 29.29% | 23,872 (13,648-39,251) | 3.95 (2.26-6.49) | 32.09% | 0.68* (0.66 to 0.7)     |
| Ischemic stroke                                            | 133 (68-232)          | 0.03 (0.02-0.06) | 0.32%  | 247 (120-455)          | 0.04 (0.02-0.08) | 0.33%  | 0.55* (0.52 to 0.57)    |
| Non-rheumatic valvular heart disease                       | 62 (24-141)           | 0.02 (0.01-0.04) | 0.13%  | 90 (45-182)            | 0.01 (0.01-0.03) | 0.10%  | -0.23* (-0.27 to -0.19) |
| Other cardiovascular and circulatory diseases              | 292 (159-499)         | 0.08 (0.04-0.13) | 0.70%  | 567 (295-999)          | 0.09 (0.05-0.17) | 0.76%  | 0.70* (0.67 to 0.73)    |
| Pulmonary arterial Hypertension                            | 710 (380-1,134)       | 0.18 (0.1-0.29)  | 1.71%  | 1,114 (592-1,789)      | 0.18 (0.1-0.3)   | 1.50%  | 0 (0 to 0.01)           |
| Rheumatic heart disease                                    | 6,331 (3,402-10,352)  | 1.64 (0.88-2.69) | 15.24% | 8,343 (4,178-13,930)   | 1.38 (0.69-2.3)  | 11.22% | -0.57* (-0.59 to -0.54) |

### 35-39 years

|                                                            |                       |                  |        |                       |                  |        |                      |
|------------------------------------------------------------|-----------------------|------------------|--------|-----------------------|------------------|--------|----------------------|
| Amphetamine use disorders                                  | 51 (29-84)            | 0.01 (0.01-0.02) | 0.12%  | 275 (155-437)         | 0.05 (0.03-0.08) | 0.34%  | 3.91* (3.82 to 3.98) |
| Atrial fibrillation and flutter                            | 29 (16-49)            | 0.01 (0-0.01)    | 0.07%  | 75 (39-129)           | 0.01 (0.01-0.02) | 0.09%  | 1.64* (1.61 to 1.66) |
| Cardiomyopathy and myocarditis                             | 10,371 (5,787-16,596) | 2.94 (1.64-4.71) | 23.99% | 17,906 (9,854-29,116) | 3.19 (1.76-5.19) | 22.04% | 0.28* (0.25 to 0.33) |
| Chronic kidney disease due to other and unspecified causes | 758 (400-1,315)       | 0.22 (0.11-0.37) | 1.75%  | 2,122 (1,089-3,764)   | 0.38 (0.19-0.67) | 2.61%  | 1.85* (1.83 to 1.87) |
| Chronic obstructive pulmonary disease                      | 1,128 (576-2,109)     | 0.32 (0.16-0.6)  | 2.61%  | 1,842 (887-3,457)     | 0.33 (0.16-0.62) | 2.27%  | 0.05 (-0.01 to 0.08) |

|                                                            |                       |                  |        |                        |                   |        |                         |
|------------------------------------------------------------|-----------------------|------------------|--------|------------------------|-------------------|--------|-------------------------|
| Cocaine use disorders                                      | 112 (60-182)          | 0.03 (0.02-0.05) | 0.26%  | 455 (252-731)          | 0.08 (0.04-0.13)  | 0.56%  | 3.06* (3.02 to 3.1)     |
| Congenital birth defects                                   | 742 (391-1,203)       | 0.21 (0.11-0.34) | 1.72%  | 1,729 (863-3,006)      | 0.31 (0.15-0.54)  | 2.13%  | 1.21* (1.18 to 1.24)    |
| Endocarditis                                               | 471 (257-737)         | 0.13 (0.07-0.21) | 1.09%  | 1,221 (648-2,011)      | 0.22 (0.12-0.36)  | 1.50%  | 1.60* (1.55 to 1.63)    |
| Endocrine, metabolic, blood, and immune disorder           | 100 (55-173)          | 0.03 (0.02-0.05) | 0.23%  | 428 (221-738)          | 0.08 (0.04-0.13)  | 0.53%  | 3.25* (3.21 to 3.29)    |
| Hypertensive heart disease                                 | 7,737 (4,250-13,399)  | 2.20 (1.21-3.8)  | 17.90% | 15,961 (8,423-29,191)  | 2.85 (1.5-5.2)    | 19.64% | 0.84* (0.82 to 0.86)    |
| Intracerebral hemorrhage                                   | 969 (522-1,639)       | 0.28 (0.15-0.47) | 2.24%  | 1,742 (884-2,997)      | 0.31 (0.16-0.53)  | 2.14%  | 0.38* (0.34 to 0.43)    |
| Ischemic heart disease                                     | 14,247 (8,008-22,237) | 4.04 (2.27-6.31) | 32.96% | 28,167 (15,401-45,221) | 5.02 (2.75-8.06)  | 34.67% | 0.73* (0.69 to 0.75)    |
| Ischemic stroke                                            | 144 (74-259)          | 0.04 (0.02-0.07) | 0.33%  | 318 (157-549)          | 0.06 (0.03-0.1)   | 0.39%  | 1.03* (0.99 to 1.08)    |
| Non-rheumatic valvular heart disease                       | 108 (36-255)          | 0.03 (0.01-0.07) | 0.18%  | 139 (61-302)           | 0.02 (0.01-0.05)  | 0.13%  | -0.67* (-0.7 to -0.65)  |
| Other cardiovascular and circulatory diseases              | 214 (117-363)         | 0.06 (0.03-0.1)  | 0.50%  | 469 (240-805)          | 0.08 (0.04-0.14)  | 0.58%  | 1.07* (1.04 to 1.09)    |
| Pulmonary arterial Hypertension                            | 776 (442-1,217)       | 0.22 (0.13-0.35) | 1.79%  | 1,237 (705-1,944)      | 0.22 (0.13-0.35)  | 1.52%  | 0 (0 to 0.01)           |
| Rheumatic heart disease                                    | 5,268 (2,847-8,404)   | 1.50 (0.81-2.39) | 12.19% | 7,165 (3,741-11,765)   | 1.28 (0.67-2.1)   | 8.82%  | -0.51* (-0.53 to -0.48) |
| <b>40-44 years</b>                                         |                       |                  |        |                        |                   |        |                         |
| Amphetamine use disorders                                  | 38 (20-65)            | 0.01 (0.01-0.02) | 0.08%  | 205 (112-342)          | 0.04 (0.02-0.07)  | 0.21%  | 3.71* (3.6 to 3.83)     |
| Atrial fibrillation and flutter                            | 96 (50-165)           | 0.03 (0.02-0.06) | 0.19%  | 272 (138-485)          | 0.05 (0.03-0.1)   | 0.27%  | 1.58* (1.56 to 1.59)    |
| Cardiomyopathy and myocarditis                             | 11,053 (6,243-18,267) | 3.86 (2.18-6.38) | 22.47% | 20,081 (10,990-33,319) | 4.01 (2.2-6.66)   | 20.24% | 0.17* (0.13 to 0.2)     |
| Chronic kidney disease due to other and unspecified causes | 601 (313-1,061)       | 0.21 (0.11-0.37) | 1.22%  | 1,955 (989-3,562)      | 0.39 (0.2-0.71)   | 1.97%  | 2.04* (2.02 to 2.06)    |
| Chronic obstructive pulmonary disease                      | 1,395 (672-2,555)     | 0.49 (0.23-0.89) | 2.84%  | 2,470 (1,169-4,644)    | 0.49 (0.23-0.93)  | 2.49%  | 0.04 (-0.02 to 0.08)    |
| Cocaine use disorders                                      | 84 (43-146)           | 0.03 (0.02-0.05) | 0.17%  | 349 (186-585)          | 0.07 (0.04-0.12)  | 0.35%  | 2.89* (2.82 to 2.96)    |
| Congenital birth defects                                   | 785 (388-1,361)       | 0.27 (0.14-0.48) | 1.60%  | 1,969 (967-3,524)      | 0.39 (0.19-0.7)   | 1.98%  | 1.14* (1.12 to 1.16)    |
| Endocarditis                                               | 148 (73-252)          | 0.05 (0.03-0.09) | 0.30%  | 414 (204-754)          | 0.08 (0.04-0.15)  | 0.42%  | 1.54* (1.51 to 1.57)    |
| Endocrine, metabolic, blood, and immune disorder           | 42 (22-72)            | 0.01 (0.01-0.03) | 0.08%  | 204 (106-358)          | 0.04 (0.02-0.07)  | 0.21%  | 3.40* (3.34 to 3.45)    |
| Hypertensive heart disease                                 | 10,171 (5,324-17,166) | 3.55 (1.86-5.99) | 20.68% | 22,747 (11,868-39,276) | 4.55 (2.37-7.85)  | 22.93% | 0.80* (0.78 to 0.82)    |
| Intracerebral hemorrhage                                   | 1,721 (885-2,893)     | 0.60 (0.31-1.01) | 3.50%  | 3,460 (1,672-5,997)    | 0.69 (0.33-1.2)   | 3.49%  | 0.45* (0.4 to 0.49)     |
| Ischemic heart disease                                     | 17,336 (9,414-27,273) | 6.05 (3.29-9.52) | 35.24% | 36,082 (18,895-57,432) | 7.21 (3.78-11.48) | 36.37% | 0.59* (0.56 to 0.64)    |
| Ischemic stroke                                            | 266 (127-468)         | 0.09 (0.04-0.16) | 0.54%  | 666 (307-1,181)        | 0.13 (0.06-0.24)  | 0.67%  | 1.16* (1.1 to 1.21)     |
| Non-rheumatic valvular heart disease                       | 201 (65-463)          | 0.07 (0.02-0.16) | 0.62%  | 250 (96-559)           | 0.05 (0.02-0.11)  | 0.38%  | -1.09* (-1.11 to -1.07) |
| Other cardiovascular and circulatory diseases              | 329 (173-570)         | 0.11 (0.06-0.2)  | 0.67%  | 777 (390-1,391)        | 0.16 (0.08-0.28)  | 0.78%  | 1.00* (0.98 to 1.02)    |
| Pulmonary arterial Hypertension                            | 728 (435-1,166)       | 0.25 (0.15-0.41) | 1.48%  | 1,273 (763-2,037)      | 0.25 (0.15-0.41)  | 1.28%  | 0 (0 to 0.01)           |
| Rheumatic heart disease                                    | 4,196 (2,065-7,284)   | 1.46 (0.72-2.54) | 8.53%  | 6,046 (2,915-10,356)   | 1.21 (0.58-2.07)  | 6.09%  | -0.62* (-0.66 to -0.59) |

AAPC =average annual percentage change; AYA =adolescent and young adult; CI =confidence interval; HF =heart failure; UI =uncertainty interval; YLDs, years lived with disability; \*\* =P <0.001; \* =P <0.05.

**Supplementary Table 6. Prediction of disease burden for prevalence and YLDs number and rate of HF in AYA across both sex and age groups from 2022 to 2050 in global.**

| Both sex           | Prevalence (95% UI)             |                                     | YLDs (95% UI)             |                                     |
|--------------------|---------------------------------|-------------------------------------|---------------------------|-------------------------------------|
|                    | Cases                           | Age-standardized rate (per 100,000) | Cases                     | Age-standardized rate (per 100,000) |
| <b>15-44 years</b> |                                 |                                     |                           |                                     |
| 2022               | 5,602,744 (5,520,756-5,684,731) | 157.42 (155.12-159.72)              | 539,949 (531,648-548,250) | 15.17 (14.94-15.4)                  |
| 2023               | 5,667,606 (5,562,506-5,772,706) | 158.16 (155.23-161.09)              | 546,362 (535,825-556,898) | 15.25 (14.96-15.54)                 |
| 2024               | 5,732,212 (5,605,236-5,859,188) | 158.88 (155.36-162.4)               | 552,758 (540,084-565,432) | 15.32 (14.97-15.67)                 |
| 2025               | 5,795,524 (5,646,442-5,944,606) | 159.57 (155.47-163.67)              | 559,054 (544,207-573,900) | 15.39 (14.99-15.8)                  |
| 2026               | 5,856,932 (5,684,337-6,029,526) | 160.25 (155.53-164.97)              | 565,191 (548,028-582,354) | 15.46 (15-15.93)                    |
| 2027               | 5,916,307 (5,717,834-6,114,780) | 160.94 (155.55-166.34)              | 571,125 (551,414-590,835) | 15.54 (15-16.07)                    |
| 2028               | 5,972,577 (5,745,797-6,199,357) | 161.66 (155.52-167.8)               | 576,766 (554,267-599,265) | 15.61 (15-16.22)                    |
| 2029               | 6,026,208 (5,768,341-6,284,074) | 162.39 (155.45-169.34)              | 582,167 (556,603-607,730) | 15.69 (15-16.38)                    |
| 2030               | 6,078,282 (5,786,006-6,370,558) | 163.16 (155.31-171)                 | 587,434 (558,478-616,389) | 15.77 (14.99-16.54)                 |
| 2031               | 6,130,100 (5,799,432-6,460,767) | 163.96 (155.11-172.8)               | 592,690 (559,952-625,428) | 15.85 (14.98-16.73)                 |
| 2032               | 6,183,864 (5,810,150-6,557,577) | 164.80 (154.84-174.76)              | 598,124 (561,151-635,098) | 15.94 (14.96-16.92)                 |
| 2033               | 6,232,474 (5,811,500-6,653,448) | 165.65 (154.46-176.84)              | 603,077 (561,456-644,699) | 16.03 (14.92-17.13)                 |
| 2034               | 6,277,560 (5,804,899-6,750,221) | 166.49 (153.96-179.03)              | 607,717 (561,012-654,422) | 16.12 (14.88-17.36)                 |
| 2035               | 6,320,663 (5,791,481-6,849,845) | 167.31 (153.3-181.32)               | 612,197 (559,934-664,460) | 16.21 (14.82-17.59)                 |
| 2036               | 6,363,680 (5,772,562-6,954,798) | 168.11 (152.5-183.73)               | 616,692 (558,340-675,043) | 16.29 (14.75-17.83)                 |
| 2037               | 6,408,886 (5,749,778-7,067,994) | 168.90 (151.53-186.27)              | 621,392 (556,363-686,421) | 16.38 (14.66-18.09)                 |
| 2038               | 6,455,887 (5,722,752-7,189,022) | 169.68 (150.41-188.95)              | 626,268 (553,970-698,566) | 16.46 (14.56-18.36)                 |
| 2039               | 6,502,297 (5,689,175-7,315,419) | 170.45 (149.13-191.76)              | 631,104 (550,952-711,256) | 16.54 (14.44-18.64)                 |
| 2040               | 6,547,505 (5,648,203-7,446,808) | 171.20 (147.68-194.71)              | 635,844 (547,230-724,459) | 16.63 (14.31-18.94)                 |
| 2041               | 6,591,188 (5,599,147-7,583,229) | 171.94 (146.06-197.81)              | 640,453 (542,733-738,173) | 16.71 (14.16-19.26)                 |
| 2042               | 6,633,152 (5,541,469-7,724,835) | 172.67 (144.25-201.09)              | 644,883 (537,383-752,383) | 16.79 (13.99-19.59)                 |
| 2043               | 6,673,123 (5,474,970-7,871,277) | 173.40 (142.27-204.53)              | 649,124 (531,172-767,075) | 16.87 (13.8-19.93)                  |
| 2044               | 6,711,010 (5,399,416-8,022,604) | 174.12 (140.09-208.15)              | 653,176 (524,086-782,265) | 16.95 (13.6-20.3)                   |
| 2045               | 6,746,819 (5,314,472-8,179,166) | 174.83 (137.72-211.95)              | 657,047 (516,100-797,994) | 17.03 (13.37-20.68)                 |
| 2046               | 6,780,645 (5,219,785-8,341,505) | 175.55 (135.14-215.96)              | 660,742 (507,179-814,306) | 17.11 (13.13-21.08)                 |
| 2047               | 6,812,591 (5,115,189-8,509,994) | 176.27 (132.35-220.19)              | 664,260 (497,300-831,220) | 17.19 (12.87-21.51)                 |
| 2048               | 6,842,505 (5,001,073-8,683,936) | 176.99 (129.36-224.62)              | 667,581 (486,495-848,668) | 17.27 (12.58-21.95)                 |

|                    |                                 |                        |                           |                     |
|--------------------|---------------------------------|------------------------|---------------------------|---------------------|
| 2049               | 6,870,221 (4,877,792-8,862,650) | 177.71 (126.17-229.25) | 670,694 (474,798-866,590) | 17.35 (12.28-22.42) |
| 2050               | 6,895,715 (4,745,769-9,045,662) | 178.44 (122.81-234.07) | 673,591 (462,245-884,937) | 17.43 (11.96-22.90) |
| <b>15-19 years</b> |                                 |                        |                           |                     |
| 2022               | 924,408 (896,723-952,093)       | 145.74 (141.38-150.09) | 90,645 (87,761-93,530)    | 14.29 (13.85-14.74) |
| 2023               | 934,860 (898,559-971,162)       | 146.34 (140.67-152.02) | 91,727 (88,003-95,450)    | 14.36 (13.78-14.93) |
| 2024               | 945,969 (899,091-992,847)       | 146.96 (139.68-154.24) | 92,873 (88,118-97,628)    | 14.43 (13.7-15.16)  |
| 2025               | 957,341 (898,144-1,016,538)     | 147.59 (138.47-156.71) | 94,047 (88,089-100,006)   | 14.50 (13.58-15.41) |
| 2026               | 968,566 (895,478-1,041,653)     | 148.23 (137.05-159.41) | 95,208 (87,890-102,526)   | 14.57 (13.45-15.69) |
| 2027               | 979,225 (890,817-1,067,633)     | 148.88 (135.44-162.32) | 96,315 (87,495-105,134)   | 14.64 (13.31-15.98) |
| 2028               | 989,315 (884,250-1,094,380)     | 149.55 (133.67-165.43) | 97,366 (86,913-107,819)   | 14.72 (13.14-16.3)  |
| 2029               | 998,999 (875,992-1,122,005)     | 150.24 (131.74-168.73) | 98,379 (86,165-110,594)   | 14.80 (12.96-16.63) |
| 2030               | 1,008,081 (865,930-1,150,232)   | 150.94 (129.66-172.23) | 99,334 (85,238-113,430)   | 14.87 (12.77-16.98) |
| 2031               | 1,016,347 (853,936-1,178,757)   | 151.67 (127.44-175.91) | 100,209 (84,121-116,297)  | 14.95 (12.56-17.35) |
| 2032               | 1,024,787 (840,888-1,208,687)   | 152.42 (125.07-179.78) | 101,103 (82,900-119,305)  | 15.04 (12.33-17.74) |
| 2033               | 1,028,958 (823,226-1,234,689)   | 153.20 (122.57-183.83) | 101,575 (81,222-121,928)  | 15.12 (12.09-18.15) |
| 2034               | 1,032,036 (803,704-1,260,368)   | 154.00 (119.93-188.08) | 101,940 (79,360-124,521)  | 15.21 (11.84-18.58) |
| 2035               | 1,034,516 (782,776-1,286,256)   | 154.84 (117.16-192.52) | 102,246 (77,357-127,136)  | 15.30 (11.58-19.03) |
| 2036               | 1,036,757 (760,755-1,312,759)   | 155.70 (114.25-197.15) | 102,529 (75,244-129,814)  | 15.40 (11.3-19.49)  |
| 2037               | 1,038,096 (737,192-1,338,999)   | 156.60 (111.21-201.99) | 102,722 (72,976-132,468)  | 15.50 (11.01-19.98) |
| 2038               | 1,042,683 (715,002-1,370,364)   | 157.53 (108.03-207.04) | 103,237 (70,843-135,630)  | 15.6 (10.7-20.49)   |
| 2039               | 1,046,728 (691,437-1,402,019)   | 158.51 (104.71-212.31) | 103,698 (68,571-138,824)  | 15.70 (10.38-21.02) |
| 2040               | 1,050,121 (666,459-1,433,782)   | 159.52 (101.24-217.8)  | 104,095 (66,158-142,031)  | 15.81 (10.05-21.57) |
| 2041               | 1,053,073 (640,239-1,465,906)   | 160.57 (97.63-223.52)  | 104,448 (63,619-145,276)  | 15.93 (9.7-22.15)   |
| 2042               | 1,055,737 (612,889-1,498,585)   | 161.68 (93.86-229.49)  | 104,772 (60,965-148,578)  | 16.04 (9.34-22.75)  |
| 2043               | 1,058,268 (584,505-1,532,032)   | 162.82 (89.93-235.72)  | 105,083 (58,207-151,959)  | 16.17 (8.96-23.38)  |
| 2044               | 1,060,927(555,217-1,566,637)    | 164.02 (85.84-242.21)  | 105,407 (55,356-155,457)  | 16.30 (8.56-24.03)  |
| 2045               | 1,063,932 (525,104-1,602,761)   | 165.28 (81.57-248.98)  | 105,765 (52,421-159,108)  | 16.43 (8.14-24.72)  |
| 2046               | 1,067,405 (494,167-1,640,643)   | 166.59 (77.12-256.05)  | 106,169 (49,401-162,936)  | 16.57 (7.71-25.43)  |
| 2047               | 1,071,327 (462,328-1,680,326)   | 167.96 (72.48-263.43)  | 106,618 (46,289-166,946)  | 16.71 (7.26-26.17)  |
| 2048               | 1,075,654 (429,495-1,721,813)   | 169.39 (67.63-271.14)  | 107,106 (43,076-171,137)  | 16.87 (6.78-26.95)  |
| 2049               | 1,080,447 (395,614-1,765,279)   | 170.89 (62.57-279.2)   | 107,642 (39,756-175,528)  | 17.02 (6.29-27.76)  |
| 2050               | 1,085,795(360,628-1,810,962)    | 172.45 (57.28-287.63)  | 108,232 (36,323-180,142)  | 17.19 (5.77-28.61)  |

**20-24 years**

|      |                               |                        |                          |                     |
|------|-------------------------------|------------------------|--------------------------|---------------------|
| 2022 | 871,861 (851,257-892,464)     | 142.13 (138.79-145.48) | 84,533 (82,388-86,678)   | 13.78 (13.44-14.12) |
| 2023 | 880,304 (857,267-903,341)     | 142.80 (139.08-146.53) | 85,377 (83,000-87,754)   | 13.85 (13.48-14.22) |
| 2024 | 888,959 (863,630-914,288)     | 143.44 (139.36-147.51) | 86,249 (83,649-88,850)   | 13.92 (13.51-14.33) |
| 2025 | 897,888 (870,100-925,677)     | 144.04 (139.59-148.49) | 87,160 (84,314-90,006)   | 13.98 (13.54-14.43) |
| 2026 | 907,187 (876,059-938,315)     | 144.64 (139.68-149.59) | 88,116 (84,935-91,297)   | 14.05 (13.55-14.55) |
| 2027 | 916,942 (880,624-953,260)     | 145.23 (139.49-150.98) | 89,118 (85,424-92,812)   | 14.12 (13.54-14.69) |
| 2028 | 927,377 (883,735-971,019)     | 145.84 (138.98-152.7)  | 90,187 (85,778-94,596)   | 14.18 (13.5-14.87)  |
| 2029 | 938,471 (885,404-991,538)     | 146.46 (138.18-154.73) | 91,322 (85,997-96,647)   | 14.25 (13.43-15.08) |
| 2030 | 949,826 (885,403-1,014,248)   | 147.08 (137.11-157.05) | 92,484 (86,055-98,912)   | 14.32 (13.33-15.31) |
| 2031 | 961,037 (883,519-1,038,555)   | 147.72 (135.81-159.63) | 93,632 (85,933-101,332)  | 14.39 (13.21-15.57) |
| 2032 | 971,685 (879,511-1,063,860)   | 148.37 (134.3-162.44)  | 94,728 (85,604-103,851)  | 14.46 (13.07-15.85) |
| 2033 | 981,767 (873,499-1,090,036)   | 149.04 (132.61-165.47) | 95,769 (85,081-106,457)  | 14.54 (12.92-16.16) |
| 2034 | 991,445 (865,724-1,117,167)   | 149.73 (130.74-168.71) | 96,772 (84,386-109,158)  | 14.61 (12.75-16.48) |
| 2035 | 1,000,528 (856,093-1,144,962) | 150.43 (128.72-172.14) | 97,718 (83,509-111,926)  | 14.69 (12.56-16.83) |
| 2036 | 1,008,799 (844,495-1,173,104) | 151.16 (126.54-175.77) | 98,585 (82,441-114,730)  | 14.77 (12.35-17.19) |
| 2037 | 1,017,248 (831,809-1,202,687) | 151.91 (124.22-179.6)  | 99,471 (81,265-117,677)  | 14.85 (12.14-17.57) |
| 2038 | 1,021,448 (814,513-1,228,382) | 152.68 (121.75-183.61) | 99,942 (79,638-120,246)  | 14.94 (11.91-17.97) |
| 2039 | 1,024,561 (795,342-1,253,781) | 153.48 (119.15-187.82) | 100,307 (77,826-122,788) | 15.03 (11.66-18.39) |
| 2040 | 1,027,076 (774,748-1,279,404) | 154.31 (116.4-192.22)  | 100,613 (75,873-125,353) | 15.12 (11.4-18.83)  |
| 2041 | 1,029,346 (753,044-1,305,649) | 155.18 (113.52-196.83) | 100,896 (73,810-127,981) | 15.21 (11.13-19.29) |
| 2042 | 1,030,709 (729,785-1,331,634) | 156.07 (110.51-201.64) | 101,089 (71,592-130,586) | 15.31 (10.84-19.77) |
| 2043 | 1,035,305 (707,873-1,362,737) | 157.00 (107.35-206.66) | 101,600 (69,505-133,695) | 15.41 (10.54-20.27) |
| 2044 | 1,039,364 (684,585-1,394,142) | 157.97 (104.05-211.89) | 102,058 (67,281-136,835) | 15.51 (10.23-20.8)  |
| 2045 | 1,042,776 (659,886-1,425,667) | 158.98 (100.61-217.36) | 102,453 (64,916-139,990) | 15.62 (9.9-21.34)   |
| 2046 | 1,045,750 (633,942-1,457,558) | 160.03 (97.02-223.05)  | 102,804 (62,426-143,183) | 15.73 (9.55-21.91)  |
| 2047 | 1,048,438 (606,868-1,490,009) | 161.13 (93.27-229)     | 103,128 (59,823-146,433) | 15.85 (9.19-22.5)   |
| 2048 | 1,050,996 (578,759-1,523,233) | 162.28 (89.36-235.19)  | 103,438 (57,116-149,761) | 15.97 (8.82-23.12)  |
| 2049 | 1,053,677 (549,743-1,557,611) | 163.47 (85.29-241.66)  | 103,761 (54,317-153,205) | 16.10 (8.43-23.77)  |
| 2050 | 1,056,699 (519,898-1,593,500) | 164.72 (81.05-248.4)   | 104,117 (51,433-156,800) | 16.23 (8.02-24.44)  |

#### 25-29 years

|      |                           |                        |                        |                     |
|------|---------------------------|------------------------|------------------------|---------------------|
| 2022 | 830,814 (811,490-850,138) | 138.29 (135.09-141.49) | 80,367 (78,353-82,380) | 13.38 (13.05-13.7)  |
| 2023 | 836,470 (814,911-858,029) | 139.14 (135.57-142.72) | 80,946 (78,721-83,172) | 13.47 (13.11-13.82) |
| 2024 | 843,214 (819,514-866,914) | 139.97 (136.04-143.89) | 81,633 (79,201-84,064) | 13.55 (13.16-13.94) |

|      |                               |                        |                          |                     |
|------|-------------------------------|------------------------|--------------------------|---------------------|
| 2025 | 850,740 (824,925-876,554)     | 140.75 (136.49-145.01) | 82,398 (79,762-85,035)   | 13.63 (13.21-14.06) |
| 2026 | 858,795 (830,808-886,781)     | 141.49 (136.89-146.09) | 83,215 (80,367-86,062)   | 13.71 (13.25-14.17) |
| 2027 | 867,121 (836,862-897,381)     | 142.20 (137.25-147.16) | 84,048 (80,980-87,116)   | 13.78 (13.29-14.28) |
| 2028 | 875,569 (843,092-908,046)     | 142.88 (137.59-148.17) | 84,892 (81,609-88,176)   | 13.85 (13.33-14.38) |
| 2029 | 884,233 (849,600-918,867)     | 143.51 (137.9-149.12)  | 85,765 (82,269-89,262)   | 13.92 (13.36-14.48) |
| 2030 | 893,174 (856,231-930,118)     | 144.12 (138.16-150.07) | 86,676 (82,947-90,405)   | 13.99 (13.39-14.58) |
| 2031 | 902,489 (862,527-942,451)     | 144.71 (138.31-151.11) | 87,633 (83,599-91,668)   | 14.05 (13.41-14.69) |
| 2032 | 912,262 (867,734-956,791)     | 145.31 (138.22-152.4)  | 88,636 (84,147-93,125)   | 14.12 (13.41-14.83) |
| 2033 | 922,716 (871,684-973,748)     | 145.92 (137.85-153.98) | 89,707 (84,579-94,835)   | 14.19 (13.38-14.99) |
| 2034 | 933,828 (874,237-993,419)     | 146.53 (137.19-155.88) | 90,843 (84,879-96,807)   | 14.25 (13.32-15.19) |
| 2035 | 945,205 (875,071-1,015,338)   | 147.16 (136.25-158.08) | 92,006 (85,016-98,996)   | 14.32 (13.24-15.41) |
| 2036 | 956,438 (873,928-1,038,948)   | 147.80 (135.05-160.55) | 93,156 (84,963-101,349)  | 14.40 (13.13-15.66) |
| 2037 | 967,112 (870,567-1,063,656)   | 148.45 (133.64-163.27) | 94,253 (84,697-103,810)  | 14.47 (13-15.93)    |
| 2038 | 977,223 (865,120-1,089,326)   | 149.12 (132.02-166.23) | 95,297 (84,227-106,366)  | 14.54 (12.86-16.23) |
| 2039 | 986,934 (857,839-1,116,028)   | 149.81 (130.22-169.4)  | 96,303 (83,580-109,025)  | 14.62 (12.69-16.55) |
| 2040 | 996,054 (848,648-1,143,460)   | 150.51 (128.24-172.79) | 97,252 (82,747-111,756)  | 14.70 (12.51-16.89) |
| 2041 | 1,004,371 (837,449-1,171,293) | 151.24 (126.11-176.38) | 98,123 (81,718-114,529)  | 14.78 (12.31-17.24) |
| 2042 | 1,012,868 (825,124-1,200,613) | 151.99 (123.82-180.16) | 99,013 (80,577-117,449)  | 14.86 (12.09-17.62) |
| 2043 | 1,017,118 (808,170-1,226,066) | 152.77 (121.39-184.15) | 99,489 (78,984-119,993)  | 14.94 (11.86-18.02) |
| 2044 | 1,020,281 (789,314-1,251,248) | 153.57 (118.81-188.33) | 99,858 (77,204-122,512)  | 15.03 (11.62-18.44) |
| 2045 | 1,022,841 (769,011-1,276,672) | 154.40 (116.09-192.72) | 100,168 (75,280-125,057) | 15.12 (11.37-18.88) |
| 2046 | 1,025,151 (747,574-1,302,729) | 155.27 (113.23-197.31) | 100,454 (73,243-127,665) | 15.21 (11.09-19.33) |
| 2047 | 1,026,550 (724,566-1,328,535) | 156.16 (110.23-202.1)  | 100,651 (71,051-130,251) | 15.31 (10.81-19.81) |
| 2048 | 1,031,177 (702,881-1,359,473) | 157.10 (107.08-207.11) | 101,164 (68,986-133,342) | 15.41 (10.51-20.31) |
| 2049 | 1,035,268 (679,812-1,390,724) | 158.07 (103.8-212.34)  | 101,625 (66,784-136,467) | 15.52 (10.2-20.84)  |
| 2050 | 1,038,711 (655,322-1,422,100) | 159.08 (100.36-217.79) | 102,022 (64,440-139,605) | 15.62 (9.87-21.38)  |

### 30-34 years

|      |                           |                        |                        |                     |
|------|---------------------------|------------------------|------------------------|---------------------|
| 2022 | 871,624 (851,478-891,770) | 142.53 (139.25-145.81) | 83,380 (81,307-85,454) | 13.63 (13.31-13.96) |
| 2023 | 876,276 (853,839-898,713) | 143.58 (139.92-147.25) | 83,834 (81,546-86,122) | 13.74 (13.37-14.1)  |
| 2024 | 877,523 (853,015-902,031) | 144.65 (140.62-148.68) | 83,972 (81,488-86,456) | 13.84 (13.44-14.24) |
| 2025 | 877,180 (850,732-903,629) | 145.67 (141.29-150.05) | 83,967 (81,299-86,635) | 13.94 (13.51-14.38) |
| 2026 | 877,412 (849,016-905,807) | 146.65 (141.91-151.38) | 84,024 (81,169-86,879) | 14.04 (13.58-14.51) |
| 2027 | 880,532 (850,045-911,020) | 147.59 (142.49-152.69) | 84,357 (81,302-87,413) | 14.14 (13.64-14.64) |

|      |                               |                        |                          |                     |
|------|-------------------------------|------------------------|--------------------------|---------------------|
| 2028 | 886,577 (853,941-919,213)     | 148.50 (143.04-153.96) | 84,970 (81,708-88,233)   | 14.23 (13.69-14.77) |
| 2029 | 893,776 (858,999-928,553)     | 149.38 (143.57-155.18) | 85,696 (82,226-89,166)   | 14.32 (13.75-14.89) |
| 2030 | 901,803 (864,862-938,745)     | 150.21 (144.07-156.36) | 86,504 (82,823-90,186)   | 14.41 (13.8-15.01)  |
| 2031 | 910,396 (871,207-949,586)     | 151.01 (144.51-157.5)  | 87,367 (83,466-91,267)   | 14.49 (13.85-15.13) |
| 2032 | 919,283 (877,732-960,834)     | 151.77 (144.92-158.62) | 88,247 (84,117-92,377)   | 14.57 (13.89-15.24) |
| 2033 | 928,301 (884,415-972,188)     | 152.49 (145.29-159.69) | 89,140 (84,783-93,497)   | 14.64 (13.93-15.35) |
| 2034 | 937,552 (891,368-983,735)     | 153.17 (145.63-160.7)  | 90,062 (85,479-94,645)   | 14.71 (13.97-15.46) |
| 2035 | 947,100 (898,478-995,722)     | 153.81 (145.92-161.7)  | 91,025 (86,199-95,852)   | 14.78 (14-15.56)    |
| 2036 | 957,048 (905,356-1,008,740)   | 154.45 (146.11-162.78) | 92,038 (86,902-97,173)   | 14.85 (14.03-15.68) |
| 2037 | 967,487 (911,315-1,023,659)   | 155.09 (146.09-164.09) | 93,098 (87,519-98,678)   | 14.92 (14.03-15.81) |
| 2038 | 978,653 (916,149-1,041,157)   | 155.74 (145.8-165.68)  | 94,231 (88,031-100,430)  | 15.00 (14.01-15.98) |
| 2039 | 990,523 (919,616-1,061,429)   | 156.40 (145.2-167.59)  | 95,432 (88,416-102,447)  | 15.07 (13.96-16.17) |
| 2040 | 1,002,675 (921,280-1,084,070) | 157.06 (144.32-169.81) | 96,662 (88,633-104,691)  | 15.14 (13.89-16.4)  |
| 2041 | 1,014,676 (920,806-1,108,547) | 157.75 (143.16-172.34) | 97,879 (88,647-107,110)  | 15.22 (13.78-16.65) |
| 2042 | 1,026,084 (917,909-1,134,258) | 158.45 (141.74-175.15) | 99,039 (88,430-109,649)  | 15.29 (13.66-16.93) |
| 2043 | 1,036,894 (912,722-1,161,067) | 159.16 (140.1-178.22)  | 100,144 (87,994-112,295) | 15.37 (13.51-17.23) |
| 2044 | 1,047,284 (905,517-1,189,051) | 159.89 (138.25-181.54) | 101,209 (87,363-115,055) | 15.45 (13.34-17.56) |
| 2045 | 1,057,051 (896,224-1,217,878) | 160.65 (136.21-185.09) | 102,215 (86,532-117,898) | 15.53 (13.15-17.92) |
| 2046 | 1,065,967 (884,746-1,247,188) | 161.42 (133.98-188.87) | 103,140 (85,489-120,791) | 15.62 (12.95-18.29) |
| 2047 | 1,075,079 (872,025-1,278,133) | 162.23 (131.59-192.86) | 104,084 (84,326-123,843) | 15.71 (12.73-18.69) |
| 2048 | 1,079,668 (854,351-1,304,985) | 163.05 (129.03-197.08) | 104,592 (82,682-126,501) | 15.80 (12.49-19.1)  |
| 2049 | 1,083,101 (834,622-1,331,580) | 163.91 (126.31-201.51) | 104,987 (80,839-129,136) | 15.89 (12.24-19.54) |
| 2050 | 1,085,886 (813,320-1,358,451) | 164.80 (123.44-206.17) | 105,320 (78,840-131,800) | 15.98 (11.97-20)    |

### 35-39 years

|      |                               |                        |                         |                     |
|------|-------------------------------|------------------------|-------------------------|---------------------|
| 2022 | 963,768 (941,572-985,963)     | 165.97 (162.16-169.77) | 91,892 (89,622-94,162)  | 15.82 (15.45-16.2)  |
| 2023 | 978,073 (953,110-1,003,035)   | 166.15 (161.92-170.38) | 93,274 (90,744-95,805)  | 15.85 (15.43-16.26) |
| 2024 | 991,535 (963,920-1,019,151)   | 166.49 (161.87-171.12) | 94,568 (91,786-97,349)  | 15.88 (15.42-16.34) |
| 2025 | 1,004,104 (973,902-1,034,306) | 167.07 (162.06-172.09) | 95,769 (92,741-98,797)  | 15.93 (15.44-16.43) |
| 2026 | 1,015,541 (982,759-1,048,323) | 167.94 (162.52-173.35) | 96,857 (93,583-100,132) | 16.02 (15.48-16.55) |
| 2027 | 1,025,155 (989,767-1,060,542) | 169.07 (163.24-174.89) | 97,772 (94,249-101,294) | 16.12 (15.55-16.7)  |
| 2028 | 1,030,698 (992,879-1,068,517) | 170.32 (164.08-176.56) | 98,310 (94,555-102,065) | 16.25 (15.63-16.86) |
| 2029 | 1,032,218 (992,184-1,072,253) | 171.58 (164.93-178.23) | 98,477 (94,509-102,445) | 16.37 (15.72-17.02) |
| 2030 | 1,031,859 (989,729-1,073,989) | 172.79 (165.75-179.84) | 98,475 (94,305-102,646) | 16.49 (15.8-17.18)  |

|      |                                 |                        |                           |                     |
|------|---------------------------------|------------------------|---------------------------|---------------------|
| 2031 | 1,032,176 (987,909-1,076,443)   | 173.95 (166.5-181.4)   | 98,546 (94,168-102,924)   | 16.61 (15.88-17.34) |
| 2032 | 1,035,902 (989,282-1,082,523)   | 175.07 (167.2-182.94)  | 98,943 (94,337-103,549)   | 16.72 (15.95-17.49) |
| 2033 | 1,043,077 (993,972-1,092,183)   | 176.16 (167.87-184.44) | 99,668 (94,820-104,516)   | 16.83 (16.02-17.64) |
| 2034 | 1,051,611 (999,993-1,103,230)   | 177.20 (168.51-185.89) | 100,525 (95,432-105,618)  | 16.94 (16.09-17.79) |
| 2035 | 1,061,124 (1,006,941-1,115,307) | 178.19 (169.09-187.28) | 101,480 (96,136-106,824)  | 17.04 (16.15-17.93) |
| 2036 | 1,071,306 (1,014,455-1,128,157) | 179.13 (169.63-188.63) | 102,498 (96,893-108,104)  | 17.14 (16.21-18.07) |
| 2037 | 1,081,839 (1,022,187-1,141,492) | 180.03 (170.11-189.95) | 103,539 (97,660-109,417)  | 17.23 (16.26-18.2)  |
| 2038 | 1,092,537 (1,030,096-1,154,977) | 180.89 (170.56-191.22) | 104,594 (98,443-110,744)  | 17.32 (16.3-18.33)  |
| 2039 | 1,103,515 (1,038,315-1,168,715) | 181.69 (170.96-192.42) | 105,685 (99,263-112,107)  | 17.40 (16.35-18.45) |
| 2040 | 1,114,851 (1,046,743-1,182,959) | 182.46 (171.32-193.6)  | 106,825 (100,112-113,537) | 17.48 (16.39-18.58) |
| 2041 | 1,126,662 (1,055,001-1,198,322) | 183.22 (171.57-194.86) | 108,023 (100,953-115,092) | 17.57 (16.42-18.71) |
| 2042 | 1,139,052 (1,062,380-1,215,724) | 183.98 (171.6-196.36)  | 109,277 (101,710-116,844) | 17.65 (16.43-18.87) |
| 2043 | 1,152,302 (1,068,643-1,235,960) | 184.75 (171.34-198.16) | 110,616 (102,364-118,868) | 17.73 (16.42-19.05) |
| 2044 | 1,166,384 (1,073,451-1,259,317) | 185.53 (170.75-200.31) | 112,036 (102,884-121,189) | 17.82 (16.37-19.27) |
| 2045 | 1,180,803 (1,076,212-1,285,394) | 186.32 (169.82-202.82) | 113,491 (103,212-123,769) | 17.91 (16.29-19.53) |
| 2046 | 1,195,046 (1,076,460-1,313,631) | 187.13 (168.57-205.7)  | 114,930 (103,304-126,556) | 18.00 (16.18-19.81) |
| 2047 | 1,208,592 (1,073,820-1,343,365) | 187.96 (167-208.92)    | 116,304 (103,122-129,486) | 18.09 (16.04-20.14) |
| 2048 | 1,221,438 (1,068,419-1,374,458) | 188.81 (165.16-212.46) | 117,612 (102,677-132,547) | 18.18 (15.87-20.49) |
| 2049 | 1,233,792 (1,060,575-1,407,009) | 189.68 (163.05-216.31) | 118,874 (101,998-135,750) | 18.28 (15.68-20.87) |
| 2050 | 1,245,413 (1,050,202-1,440,624) | 190.58 (160.71-220.45) | 120,066 (101,076-139,056) | 18.37 (15.47-21.28) |

#### 40-44 years

|      |                                 |                        |                           |                     |
|------|---------------------------------|------------------------|---------------------------|---------------------|
| 2022 | 1,166,624 (1,139,809-1,193,439) | 225.04 (219.88-230.19) | 111,440 (108,708-114,173) | 21.50 (20.98-22.01) |
| 2023 | 1,194,461 (1,164,038-1,224,884) | 226.21 (220.47-231.96) | 114,117 (111,042-117,192) | 21.61 (21.04-22.18) |
| 2024 | 1,225,793 (1,191,721-1,259,866) | 227.08 (220.78-233.37) | 117,123 (113,699-120,547) | 21.70 (21.07-22.32) |
| 2025 | 1,257,316 (1,219,567-1,295,064) | 227.62 (220.8-234.44)  | 120,151 (116,373-123,928) | 21.75 (21.08-22.42) |
| 2026 | 1,285,942 (1,244,502-1,327,382) | 227.88 (220.55-235.22) | 122,915 (118,782-127,049) | 21.78 (21.06-22.5)  |
| 2027 | 1,309,500 (1,264,371-1,354,630) | 228.07 (220.22-235.92) | 125,197 (120,708-129,686) | 21.80 (21.03-22.58) |
| 2028 | 1,329,149 (1,280,453-1,377,844) | 228.32 (219.96-236.68) | 127,101 (122,267-131,934) | 21.83 (21.01-22.65) |
| 2029 | 1,347,666 (1,295,468-1,399,864) | 228.79 (219.94-237.64) | 128,884 (123,712-134,057) | 21.88 (21.01-22.75) |
| 2030 | 1,364,963 (1,309,301-1,420,625) | 229.59 (220.23-238.94) | 130,542 (125,034-136,050) | 21.96 (21.04-22.88) |
| 2031 | 1,380,703 (1,321,569-1,439,836) | 230.78 (220.9-240.65)  | 132,044 (126,201-137,888) | 22.07 (21.1-23.04)  |
| 2032 | 1,393,928 (1,331,302-1,456,554) | 232.33 (221.9-242.76)  | 133,305 (127,124-139,486) | 22.22 (21.2-23.24)  |
| 2033 | 1,401,573 (1,335,718-1,467,429) | 234.05 (223.06-245.04) | 134,049 (127,555-140,544) | 22.39 (21.31-23.46) |

|      |                                 |                        |                           |                     |
|------|---------------------------------|------------------------|---------------------------|---------------------|
| 2034 | 1,403,720 (1,334,954-1,472,485) | 235.79 (224.24-247.33) | 134,285 (127,508-141,063) | 22.56 (21.42-23.69) |
| 2035 | 1,403,301 (1,331,795-1,474,807) | 237.45 (225.36-249.55) | 134,290 (127,244-141,335) | 22.72 (21.54-23.91) |
| 2036 | 1,403,804 (1,329,486-1,478,123) | 239.05 (226.4-251.7)   | 134,393 (127,072-141,715) | 22.89 (21.64-24.13) |
| 2037 | 1,408,962 (1,331,490-1,486,434) | 240.59 (227.36-253.81) | 134,942 (127,312-142,573) | 23.04 (21.74-24.34) |
| 2038 | 1,418,826 (1,337,957-1,499,694) | 242.08 (228.29-255.87) | 135,941 (127,977-143,905) | 23.19 (21.84-24.55) |
| 2039 | 1,430,543 (1,346,204-1,514,882) | 243.51 (229.16-257.86) | 137,121 (128,816-145,427) | 23.34 (21.93-24.75) |
| 2040 | 1,443,600 (1,355,701-1,531,499) | 244.87 (229.97-259.77) | 138,435 (129,778-147,091) | 23.48 (22.02-24.95) |
| 2041 | 1,457,574 (1,365,966-1,549,182) | 246.17 (230.7-261.63)  | 139,836 (130,813-148,859) | 23.62 (22.1-25.14)  |
| 2042 | 1,472,036 (1,376,540-1,567,531) | 247.41 (231.37-263.46) | 141,268 (131,864-150,671) | 23.74 (22.17-25.32) |
| 2043 | 1,486,734 (1,387,354-1,586,114) | 248.59 (231.98-265.2)  | 142,721 (132,936-152,506) | 23.86 (22.23-25.49) |
| 2044 | 1,501,826 (1,398,584-1,605,069) | 249.69 (232.53-266.86) | 144,225 (134,058-154,392) | 23.98 (22.29-25.66) |
| 2045 | 1,517,415 (1,410,125-1,624,704) | 250.75 (233.03-268.48) | 145,796 (135,222-156,369) | 24.09 (22.35-25.84) |
| 2046 | 1,533,656 (1,421,538-1,645,773) | 251.79 (233.39-270.19) | 147,446 (136,386-158,506) | 24.21 (22.4-26.02)  |
| 2047 | 1,550,690 (1,431,970-1,669,411) | 252.84 (233.48-272.19) | 149,175 (137,456-160,894) | 24.32 (22.42-26.23) |
| 2048 | 1,568,900 (1,441,121-1,696,678) | 253.90 (233.22-274.57) | 151,019 (138,406-163,631) | 24.44 (22.4-26.48)  |
| 2049 | 1,588,248 (1,448,496-1,728,000) | 254.97 (232.54-277.4)  | 152,975 (139,193-166,757) | 24.56 (22.35-26.77) |
| 2050 | 1,608,056 (1,453,214-1,762,898) | 256.06 (231.41-280.72) | 154,978 (139,731-170,225) | 24.68 (22.25-27.1)  |

AYA =adolescent and young adult; HF=heart failure; UI =uncertainty interval; YLDs, years lived with disability.

**Supplementary Table 7. Prediction of disease burden for prevalence and YLDs number and rate of HF in AYA in different age groups of females from 2022 to 2050 in global.**

| Female             | Prevalence (95% UI)            | YLDs (95% UI)                          |                           |                                        |
|--------------------|--------------------------------|----------------------------------------|---------------------------|----------------------------------------|
|                    | Cases                          | Age-standardized rate<br>(per 100,000) | Cases                     | Age-standardized rate (per<br>100,000) |
| <b>15-44 years</b> |                                |                                        |                           |                                        |
| 2022               | 2,496,875(2,457,440-2,536,309) | 142.26(140.02-144.5)                   | 240,598 (236,483-244,713) | 13.71 (13.48-13.94)                    |
| 2023               | 2,524,420(2,473,817-2,575,022) | 142.94(140.08-145.8)                   | 243,313 (238,126-248,499) | 13.78 (13.49-14.07)                    |
| 2024               | 2,551,883(2,490,791-2,612,974) | 143.60(140.17-147.03)                  | 246,018 (239,807-252,229) | 13.84 (13.5-14.19)                     |
| 2025               | 2,578,839(2,507,255-2,650,422) | 144.25(140.25-148.25)                  | 248,684 (241,436-255,931) | 13.91 (13.51-14.31)                    |
| 2026               | 2,604,911(2,522,320-2,687,503) | 144.89(140.3-149.48)                   | 251,274 (242,932-259,617) | 13.98 (13.52-14.44)                    |
| 2027               | 2,629,891(2,535,370-2,724,412) | 145.54(140.31-150.76)                  | 253,763 (244,231-263,296) | 14.04 (13.52-14.57)                    |
| 2028               | 2,653,453(2,546,021-2,760,886) | 146.20(140.28-152.12)                  | 256,115 (245,290-266,939) | 14.11 (13.52-14.71)                    |
| 2029               | 2,675,849(2,554,360-2,797,338) | 146.89(140.22-153.56)                  | 258,357 (246,123-270,592) | 14.18 (13.51-14.85)                    |
| 2030               | 2,697,499(2,560,573-2,834,426) | 147.61(140.12-155.1)                   | 260,532 (246,746-274,317) | 14.26 (13.5-15.01)                     |
| 2031               | 2,718,810(2,564,792-2,872,828) | 148.35(139.95-156.76)                  | 262,681 (247,177-278,184) | 14.33 (13.49-15.18)                    |
| 2032               | 2,740,616(2,567,572-2,913,659) | 149.13(139.71-158.54)                  | 264,874 (247,460-282,288) | 14.41 (13.47-15.36)                    |
| 2033               | 2,760,104(2,566,272-2,953,936) | 149.92(139.39-160.44)                  | 266,848 (247,346-286,350) | 14.49 (13.44-15.55)                    |
| 2034               | 2,777,951(2,561,474-2,994,429) | 150.70(138.96-162.44)                  | 268,671 (246,894-290,447) | 14.57 (13.39-15.75)                    |
| 2035               | 2,794,953(2,553,789-3,036,117) | 151.46(138.4-164.53)                   | 270,425 (246,170-294,681) | 14.65 (13.34-15.97)                    |
| 2036               | 2,811,973(2,543,832-3,080,114) | 152.21(137.7-166.72)                   | 272,191 (245,227-299,154) | 14.73 (13.28-16.19)                    |
| 2037               | 2,830,101(2,532,407-3,127,795) | 152.94(136.86-169.03)                  | 274,067 (244,139-303,995) | 14.81 (13.19-16.43)                    |
| 2038               | 2,849,194(2,519,363-3,179,026) | 153.66(135.87-171.45)                  | 276,036 (242,886-309,185) | 14.89 (13.1-16.67)                     |
| 2039               | 2,868,160(2,503,647-3,232,674) | 154.37(134.75-173.99)                  | 277,997 (241,371-314,624) | 14.96 (12.99-16.93)                    |
| 2040               | 2,886,797(2,484,953-3,288,641) | 155.07(133.48-176.65)                  | 279,933 (239,564-320,302) | 15.04 (12.87-17.2)                     |
| 2041               | 2,904,972(2,462,997-3,346,946) | 155.76(132.06-179.45)                  | 281,833 (237,441-326,224) | 15.11 (12.73-17.49)                    |
| 2042               | 2,922,632(2,437,580-3,407,684) | 156.44(130.48-182.4)                   | 283,679 (234,972-332,386) | 15.18 (12.58-17.79)                    |
| 2043               | 2,939,762(2,408,687-3,470,836) | 157.12(128.74-185.51)                  | 285,476 (232,158-338,794) | 15.26 (12.41-18.11)                    |
| 2044               | 2,956,322(2,376,214-3,536,429) | 157.80(126.84-188.76)                  | 287,222 (228,991-345,454) | 15.33 (12.22-18.44)                    |
| 2045               | 2,972,240(2,339,965-3,604,514) | 158.48(124.76-192.19)                  | 288,916 (225,457-352,375) | 15.40 (12.02-18.79)                    |
| 2046               | 2,987,454(2,299,729-3,675,179) | 159.15(122.52-195.79)                  | 290,547 (221,535-359,560) | 15.48 (11.8-19.15)                     |
| 2047               | 3,001,917(2,255,391-3,748,444) | 159.83(120.08-199.58)                  | 292,108 (217,211-367,006) | 15.55 (11.57-19.54)                    |
| 2048               | 3,015,614(2,207,134-3,824,093) | 160.51(117.48-203.55)                  | 293,595 (212,501-374,689) | 15.63 (11.31-19.94)                    |

|                    |                                |                        |                           |                     |
|--------------------|--------------------------------|------------------------|---------------------------|---------------------|
| 2049               | 3,028,533(2,155,132-3,901,935) | 161.20(114.71-207.69)  | 295,009 (207,422-382,595) | 15.70 (11.04-20.36) |
| 2050               | 3,040,588(2,099,489-3,981,686) | 161.89(111.78-211.99)  | 296,337 (201,982-390,691) | 15.78 (10.75-20.8)  |
| <b>15-19 years</b> |                                |                        |                           |                     |
| 2022               | 50,005(48,351-51,660)          | 135.66 (131.4-139.91)  | 40,689 (39,263-42,116)    | 13.26 (12.81-13.7)  |
| 2023               | 50,624(48,495-52,752)          | 136.25 (130.78-141.71) | 41,157 (39,355-42,959)    | 13.32 (12.75-13.89) |
| 2024               | 51,263(48,547-53,979)          | 136.84 (129.93-143.76) | 41,668 (39,407-43,929)    | 13.39 (12.67-14.1)  |
| 2025               | 51,907(48,504-55,311)          | 137.45 (128.87-146.04) | 42,200 (39,404-44,995)    | 13.45 (12.57-14.34) |
| 2026               | 52,542(48,360-56,723)          | 138.07 (127.63-148.51) | 42,728 (39,329-46,128)    | 13.52 (12.45-14.59) |
| 2027               | 53,149(48,108-58,191)          | 138.70 (126.23-151.18) | 43,230 (39,165-47,296)    | 13.59 (12.32-14.86) |
| 2028               | 53,727(47,749-59,705)          | 139.35 (124.68-154.02) | 43,708 (38,917-48,498)    | 13.66 (12.17-15.15) |
| 2029               | 54,280(47,292-61,267)          | 140.01 (122.99-157.04) | 44,171 (38,598-49,744)    | 13.74 (12.01-15.46) |
| 2030               | 54,802(46,736-62,867)          | 140.69 (121.16-160.22) | 44,607 (38,200-51,015)    | 13.81 (11.83-15.79) |
| 2031               | 55,285(46,077-64,494)          | 141.39 (119.2-163.58)  | 45,004 (37,713-52,295)    | 13.89 (11.64-16.13) |
| 2032               | 55,791(45,366-66,216)          | 142.11 (117.12-167.1)  | 45,398 (37,171-53,625)    | 13.96 (11.44-16.49) |
| 2033               | 56,055(44,396-67,715)          | 142.85 (114.91-170.79) | 45,612 (36,433-54,791)    | 14.05 (11.22-16.87) |
| 2034               | 56,259(43,320-69,198)          | 143.62 (112.58-174.65) | 45,779 (35,614-55,944)    | 14.13 (10.99-17.26) |
| 2035               | 56,426(42,162-70,691)          | 144.41 (110.13-178.68) | 45,924 (34,735-57,112)    | 14.21 (10.75-17.68) |
| 2036               | 56,572(40,935-72,210)          | 145.23 (107.56-182.89) | 46,065 (33,813-58,317)    | 14.30 (10.5-18.11)  |
| 2037               | 56,657(39,613-73,702)          | 146.08 (104.87-187.28) | 46,177 (32,830-59,525)    | 14.40 (10.24-18.55) |
| 2038               | 56,931(38,369-75,493)          | 146.96 (102.05-191.86) | 46,424 (31,899-60,949)    | 14.49 (9.96-19.02)  |
| 2039               | 57,178(37,049-77,307)          | 147.87 (99.11-196.62)  | 46,646 (30,906-62,386)    | 14.59 (9.67-19.51)  |
| 2040               | 57,391(35,650-79,132)          | 148.82 (96.04-201.59)  | 46,837 (29,848-63,826)    | 14.69 (9.36-20.02)  |
| 2041               | 57,582(34,181-80,983)          | 149.80 (92.84-206.77)  | 47,009 (28,734-65,283)    | 14.80 (9.05-20.55)  |
| 2042               | 57,758(32,647-82,870)          | 150.83 (89.5-212.16)   | 47,166 (27,568-66,764)    | 14.91 (8.72-21.1)   |
| 2043               | 57,929(31,053-84,806)          | 151.90 (86.03-217.77)  | 47,317 (26,354-68,279)    | 15.02 (8.37-21.68)  |
| 2044               | 58,109(29,406-86,812)          | 153.01 (82.4-223.62)   | 47,472 (25,099-69,845)    | 15.14 (8.01-22.28)  |
| 2045               | 58,310(27,710-88,910)          | 154.17 (78.62-229.72)  | 47,642 (23,805-71,478)    | 15.27 (7.63-22.91)  |
| 2046               | 58,538(25,963-91,113)          | 155.38 (74.69-236.07)  | 47,831 (22,474-73,188)    | 15.40 (7.24-23.56)  |
| 2047               | 58,794(24,162-93,425)          | 156.64 (70.58-242.7)   | 48,040 (21,101-74,978)    | 15.53 (6.82-24.24)  |
| 2048               | 59,074(22,300-95,847)          | 157.96 (66.29-249.62)  | 48,264 (19,683-76,846)    | 15.67 (6.39-24.95)  |
| 2049               | 59,382(20,375-98,389)          | 159.33 (61.82-256.84)  | 48,509 (18,217-78,802)    | 15.82 (5.94-25.7)   |
| 2050               | 59,723(18,381-101,065)         | 160.76 (57.15-264.38)  | 48,777 (16,701-80,853)    | 15.97 (5.47-26.48)  |

**20-24 years**

|                    |                       |                        |                        |                     |
|--------------------|-----------------------|------------------------|------------------------|---------------------|
| 2022               | 46,494(45,271-47,718) | 131.61 (128.31-134.91) | 38,111 (37,026-39,196) | 12.74 (12.4-13.08)  |
| 2023               | 47,047(45,702-48,392) | 132.23 (128.54-135.92) | 38,419 (37,224-39,614) | 12.80 (12.43-13.18) |
| 2024               | 47,602(46,140-49,064) | 132.83 (128.77-136.88) | 38,750 (37,447-40,054) | 12.86 (12.45-13.28) |
| 2025               | 48,164(46,570-49,758) | 133.41 (128.97-137.84) | 39,111 (37,686-40,535) | 12.93 (12.47-13.38) |
| 2026               | 48,740(46,960-50,520) | 133.98 (129.04-138.92) | 39,500 (37,914-41,086) | 12.99 (12.48-13.49) |
| 2027               | 49,331(47,260-51,403) | 134.56 (128.88-140.24) | 39,919 (38,097-41,741) | 13.05 (12.47-13.63) |
| 2028               | 49,945(47,462-52,428) | 135.15 (128.46-141.84) | 40,381 (38,238-42,524) | 13.12 (12.43-13.8)  |
| 2029               | 50,580(47,568-53,592) | 135.74 (127.78-143.7)  | 40,886 (38,336-43,436) | 13.18 (12.37-13.99) |
| 2030               | 51,220(47,571-54,869) | 136.35 (126.87-145.82) | 41,410 (38,373-44,448) | 13.25 (12.28-14.21) |
| 2031               | 51,850(47,468-56,233) | 136.96 (125.76-148.16) | 41,932 (38,333-45,532) | 13.31 (12.18-14.45) |
| 2032               | 52,454(47,250-57,659) | 137.59 (124.47-150.71) | 42,428 (38,200-46,655) | 13.38 (12.05-14.71) |
| 2033               | 53,028(46,921-59,136) | 138.23 (123-153.46)    | 42,899 (37,980-47,818) | 13.45 (11.91-14.99) |
| 2034               | 53,578(46,492-60,664) | 138.89 (121.38-156.39) | 43,356 (37,688-49,025) | 13.52 (11.76-15.29) |
| 2035               | 54,097(45,961-62,233) | 139.56 (119.62-159.5)  | 43,788 (37,314-50,262) | 13.60 (11.59-15.6)  |
| 2036               | 54,579(45,326-63,831) | 140.26 (117.72-162.79) | 44,179 (36,850-51,508) | 13.67 (11.41-15.94) |
| 2037               | 55,082(44,639-65,525) | 140.97 (115.69-166.25) | 44,570 (36,332-52,807) | 13.75 (11.21-16.29) |
| 2038               | 55,346(43,693-67,000) | 141.71 (113.54-169.88) | 44,782 (35,619-53,945) | 13.83 (11-16.65)    |
| 2039               | 55,551(42,642-68,461) | 142.47 (111.25-173.68) | 44,948 (34,825-55,072) | 13.91 (10.78-17.04) |
| 2040               | 55,719(41,508-69,931) | 143.25 (108.84-177.66) | 45,092 (33,971-56,213) | 14.00 (10.55-17.44) |
| 2041               | 55,866(40,304-71,428) | 144.07 (106.31-181.82) | 45,233 (33,074-57,392) | 14.08 (10.3-17.87)  |
| 2042               | 55,952(39,006-72,898) | 144.91 (103.66-186.16) | 45,345 (32,115-58,574) | 14.17 (10.04-18.31) |
| 2043               | 56,225(37,784-74,666) | 145.78 (100.88-190.68) | 45,589 (31,208-59,971) | 14.27 (9.77-18.77)  |
| 2044               | 56,471(36,486-76,456) | 146.69 (97.98-195.4)   | 45,808 (30,238-61,379) | 14.36 (9.48-19.25)  |
| 2045               | 56,684(35,110-78,258) | 147.63 (94.94-200.32)  | 45,998 (29,204-62,792) | 14.47 (9.19-19.75)  |
| 2046               | 56,875(33,664-80,086) | 148.61 (91.78-205.44)  | 46,168 (28,114-64,221) | 14.57 (8.87-20.27)  |
| 2047               | 57,052(32,153-81,951) | 149.63 (88.48-210.78)  | 46,324 (26,973-65,675) | 14.68 (8.55-20.81)  |
| 2048               | 57,224(30,583-83,864) | 150.69 (85.04-216.34)  | 46,474 (25,785-67,162) | 14.79 (8.21-21.38)  |
| 2049               | 57,404(28,960-85,848) | 151.79 (81.45-222.14)  | 46,628 (24,556-68,700) | 14.91 (7.85-21.97)  |
| 2050               | 57,604(27,287-87,921) | 152.95 (77.71-228.18)  | 46,796 (23,288-70,304) | 15.03 (7.48-22.58)  |
| <b>25-29 years</b> |                       |                        |                        |                     |
| 2022               | 43,845(42,704-44,986) | 127.41(124.26-130.56)  | 36,529 (35,499-37,559) | 12.30 (11.97-12.62) |
| 2023               | 44,254(43,003-45,505) | 128.20(124.67-131.73)  | 36,713 (35,582-37,845) | 12.38 (12.02-12.74) |
| 2024               | 44,746(43,387-46,104) | 128.95(125.07-132.83)  | 36,925 (35,696-38,154) | 12.45 (12.06-12.85) |

|                    |                       |                        |                        |                     |
|--------------------|-----------------------|------------------------|------------------------|---------------------|
| 2025               | 45,290(43,823-46,758) | 129.67(125.44-133.89)  | 37,164 (35,838-38,490) | 12.53 (12.1-12.95)  |
| 2026               | 45,861(44,280-47,442) | 130.35(125.77-134.92)  | 37,428 (36,003-38,853) | 12.60 (12.13-13.06) |
| 2027               | 46,426(44,726-48,126) | 130.99(126.07-135.92)  | 37,715 (36,187-39,243) | 12.66 (12.16-13.16) |
| 2028               | 46,980(45,164-48,797) | 131.61(126.35-136.88)  | 38,022 (36,392-39,651) | 12.72 (12.19-13.25) |
| 2029               | 47,538(45,606-49,470) | 132.21(126.61-137.8)   | 38,352 (36,620-40,084) | 12.79 (12.22-13.35) |
| 2030               | 48,103(46,044-50,162) | 132.79(126.84-138.73)  | 38,711 (36,866-40,556) | 12.85 (12.25-13.45) |
| 2031               | 48,682(46,451-50,912) | 133.36(126.97-139.74)  | 39,100 (37,108-41,092) | 12.91 (12.26-13.55) |
| 2032               | 49,276(46,784-51,768) | 133.94(126.91-140.96)  | 39,517 (37,316-41,719) | 12.97 (12.26-13.68) |
| 2033               | 49,893(47,029-52,758) | 134.52(126.61-142.43)  | 39,978 (37,489-42,466) | 13.04 (12.23-13.84) |
| 2034               | 50,532(47,180-53,883) | 135.11(126.07-144.16)  | 40,480 (37,622-43,338) | 13.10 (12.18-14.02) |
| 2035               | 51,176(47,227-55,126) | 135.71(125.29-146.14)  | 41,003 (37,693-44,312) | 13.17 (12.11-14.22) |
| 2036               | 51,810(47,160-56,460) | 136.33(124.29-148.37)  | 41,522 (37,685-45,359) | 13.23 (12.02-14.45) |
| 2037               | 52,418(46,975-57,862) | 136.95(123.09-150.82)  | 42,016 (37,581-46,451) | 13.30 (11.9-14.7)   |
| 2038               | 52,997(46,674-59,320) | 137.59(121.71-153.48)  | 42,485 (37,388-47,583) | 13.37 (11.77-14.97) |
| 2039               | 53,551(46,269-60,833) | 138.25(120.16-156.33)  | 42,942 (37,119-48,764) | 13.44 (11.62-15.26) |
| 2040               | 54,075(45,759-62,390) | 138.92(118.47-159.37)  | 43,371 (36,767-49,976) | 13.51 (11.46-15.57) |
| 2041               | 54,561(45,143-63,980) | 139.61(116.62-162.6)   | 43,762 (36,324-51,200) | 13.59 (11.28-15.89) |
| 2042               | 55,070(44,472-65,668) | 140.32(114.64-166)     | 44,152 (35,825-52,479) | 13.67 (11.09-16.24) |
| 2043               | 55,339(43,540-67,137) | 141.06(112.53-169.58)  | 44,365 (35,132-53,598) | 13.74 (10.89-16.6)  |
| 2044               | 55,547(42,502-68,593) | 141.81(110.28-173.34)  | 44,532 (34,356-54,708) | 13.83 (10.67-16.98) |
| 2045               | 55,719(41,378-70,060) | 142.60(107.91-177.28)  | 44,677 (33,520-55,833) | 13.91 (10.44-17.38) |
| 2046               | 55,869(40,184-71,553) | 143.41(105.42-181.39)  | 44,818 (32,640-56,996) | 14.00 (10.2-17.8)   |
| 2047               | 55,957(38,894-73,020) | 144.25(102.8-185.7)    | 44,930 (31,697-58,163) | 14.09 (9.94-18.23)  |
| 2048               | 56,233(37,679-74,787) | 145.12(100.05-190.18)  | 45,174 (30,805-59,543) | 14.18 (9.67-18.69)  |
| 2049               | 56,483(36,388-76,577) | 146.02(97.17-194.87)   | 45,393 (29,850-60,937) | 14.28 (9.39-19.17)  |
| 2050               | 56,698(35,017-78,379) | 146.96(94.17-199.75)   | 45,583 (28,831-62,335) | 14.38 (9.1-19.66)   |
| <b>30-34 years</b> |                       |                        |                        |                     |
| 2022               | 45,745(44,564-46,925) | 128.79 (125.62-131.95) | 37,592 (36,539-38,644) | 12.33 (12.01-12.65) |
| 2023               | 46,002(44,713-47,291) | 129.77 (126.23-133.32) | 37,781 (36,625-38,936) | 12.42 (12.06-12.78) |
| 2024               | 46,108(44,719-47,497) | 130.79 (126.87-134.7)  | 37,812 (36,563-39,062) | 12.52 (12.13-12.91) |
| 2025               | 46,156(44,671-47,640) | 131.77 (127.5-136.04)  | 37,766 (36,428-39,105) | 12.62 (12.19-13.04) |
| 2026               | 46,255(44,673-47,837) | 132.69 (128.07-137.32) | 37,735 (36,307-39,162) | 12.71 (12.24-13.17) |
| 2027               | 46,519(44,829-48,208) | 133.56 (128.57-138.55) | 37,818 (36,297-39,340) | 12.80 (12.3-13.29)  |

|      |                       |                        |                        |                     |
|------|-----------------------|------------------------|------------------------|---------------------|
| 2028 | 46,955(45,154-48,757) | 134.39 (129.05-139.73) | 38,011 (36,392-39,630) | 12.88 (12.35-13.41) |
| 2029 | 47,480(45,565-49,396) | 135.18 (129.49-140.86) | 38,232 (36,516-39,948) | 12.96 (12.39-13.53) |
| 2030 | 48,062(46,029-50,094) | 135.93 (129.9-141.95)  | 38,481 (36,668-40,295) | 13.03 (12.43-13.63) |
| 2031 | 48,671(46,516-50,825) | 136.64 (130.27-143.01) | 38,758 (36,843-40,672) | 13.11 (12.47-13.74) |
| 2032 | 49,274(46,992-51,556) | 137.32 (130.6-144.04)  | 39,056 (37,037-41,076) | 13.18 (12.51-13.84) |
| 2033 | 49,867(47,458-52,275) | 137.97 (130.91-145.03) | 39,377 (37,252-41,502) | 13.24 (12.54-13.94) |
| 2034 | 50,462(47,929-52,996) | 138.59 (131.19-145.99) | 39,722 (37,491-41,953) | 13.30 (12.57-14.04) |
| 2035 | 51,066(48,396-53,736) | 139.20 (131.45-146.95) | 40,096 (37,749-42,444) | 13.37 (12.6-14.14)  |
| 2036 | 51,685(48,839-54,530) | 139.80 (131.61-147.99) | 40,502 (38,007-42,996) | 13.43 (12.62-14.25) |
| 2037 | 52,321(49,216-55,425) | 140.41 (131.61-149.21) | 40,937 (38,240-43,634) | 13.50 (12.62-14.38) |
| 2038 | 52,981(49,511-56,451) | 141.02 (131.38-150.66) | 41,417 (38,444-44,389) | 13.56 (12.6-14.53)  |
| 2039 | 53,664(49,712-57,617) | 141.64 (130.92-152.37) | 41,940 (38,610-45,270) | 13.63 (12.56-14.71) |
| 2040 | 54,354(49,802-58,905) | 142.27 (130.21-154.34) | 42,485 (38,715-46,254) | 13.70 (12.49-14.91) |
| 2041 | 55,033(49,771-60,295) | 142.92 (129.26-156.57) | 43,026 (38,737-47,316) | 13.77 (12.4-15.14)  |
| 2042 | 55,684(49,609-61,759) | 143.57 (128.1-159.05)  | 43,541 (38,657-48,424) | 13.84 (12.29-15.39) |
| 2043 | 56,304(49,321-63,287) | 144.25 (126.74-161.75) | 44,030 (38,483-49,578) | 13.91 (12.16-15.66) |
| 2044 | 56,898(48,917-64,878) | 144.93 (125.19-164.68) | 44,506 (38,227-50,785) | 13.99 (12.02-15.96) |
| 2045 | 57,460(48,400-66,520) | 145.64 (123.47-167.81) | 44,955 (37,882-52,027) | 14.06 (11.85-16.27) |
| 2046 | 57,983(47,766-68,199) | 146.36 (121.59-171.13) | 45,363 (37,441-53,284) | 14.14 (11.67-16.61) |
| 2047 | 58,530(47,073-69,987) | 147.11 (119.56-174.66) | 45,770 (36,940-54,600) | 14.22 (11.48-16.96) |
| 2048 | 58,820(46,100-71,541) | 147.88 (117.39-178.37) | 45,993 (36,236-55,751) | 14.30 (11.27-17.34) |
| 2049 | 59,047(45,011-73,084) | 148.68 (115.07-182.28) | 46,169 (35,445-56,893) | 14.39 (11.05-17.73) |
| 2050 | 59,234(43,830-74,638) | 149.50 (112.62-186.37) | 46,321 (34,590-58,052) | 14.48 (10.81-18.14) |

### 35-39 years

|      |                       |                        |                        |                     |
|------|-----------------------|------------------------|------------------------|---------------------|
| 2022 | 51,177(49,870-52,484) | 147.38 (143.76-150.99) | 40,681 (39,551-41,811) | 14.07 (13.71-14.44) |
| 2023 | 51,896(50,455-53,336) | 147.55 (143.52-151.57) | 41,338 (40,083-42,593) | 14.09 (13.69-14.5)  |
| 2024 | 52,547(50,977-54,116) | 147.87 (143.45-152.28) | 41,968 (40,590-43,345) | 14.13 (13.68-14.57) |
| 2025 | 53,143(51,447-54,838) | 148.41 (143.61-153.21) | 42,558 (41,060-44,056) | 14.18 (13.7-14.66)  |
| 2026 | 53,687(51,865-55,510) | 149.21 (144.02-154.4)  | 43,083 (41,465-44,702) | 14.26 (13.74-14.77) |
| 2027 | 54,170(52,217-56,122) | 150.25 (144.65-155.84) | 43,500 (41,762-45,239) | 14.35 (13.8-14.91)  |
| 2028 | 54,479(52,404-56,554) | 151.40 (145.4-157.4)   | 43,721 (41,872-45,571) | 14.46 (13.87-15.06) |
| 2029 | 54,609(52,421-56,797) | 152.58 (146.19-158.98) | 43,760 (41,809-45,712) | 14.58 (13.94-15.21) |
| 2030 | 54,668(52,371-56,965) | 153.73 (146.93-160.52) | 43,708 (41,660-45,756) | 14.69 (14.01-15.36) |

|                    |                       |                        |                        |                     |
|--------------------|-----------------------|------------------------|------------------------|---------------------|
| 2031               | 54,789(52,380-57,199) | 154.81 (147.62-162)    | 43,673 (41,528-45,818) | 14.80 (14.08-15.51) |
| 2032               | 55,105(52,570-57,641) | 155.82 (148.22-163.42) | 43,772 (41,521-46,022) | 14.90 (14.15-15.65) |
| 2033               | 55,628(52,957-58,298) | 156.79 (148.79-164.79) | 43,997 (41,635-46,359) | 15.00 (14.2-15.79)  |
| 2034               | 56,254(53,445-59,063) | 157.71 (149.31-166.1)  | 44,255 (41,781-46,729) | 15.09 (14.26-15.92) |
| 2035               | 56,947(53,996-59,899) | 158.59 (149.8-167.37)  | 44,546 (41,959-47,134) | 15.18 (14.31-16.05) |
| 2036               | 57,673(54,572-60,775) | 159.42 (150.24-168.6)  | 44,869 (42,163-47,574) | 15.26 (14.35-16.17) |
| 2037               | 58,394(55,137-61,651) | 160.21 (150.62-169.8)  | 45,218 (42,389-48,046) | 15.34 (14.39-16.29) |
| 2038               | 59,102(55,691-62,513) | 160.97 (150.98-170.96) | 45,591 (42,639-48,543) | 15.42 (14.43-16.41) |
| 2039               | 59,814(56,250-63,379) | 161.70 (151.32-172.07) | 45,994 (42,916-49,072) | 15.49 (14.46-16.52) |
| 2040               | 60,536(56,807-64,266) | 162.41 (151.63-173.19) | 46,431 (43,217-49,645) | 15.57 (14.5-16.63)  |
| 2041               | 61,277(57,342-65,212) | 163.11 (151.84-174.38) | 46,904 (43,523-50,284) | 15.64 (14.52-16.76) |
| 2042               | 62,038(57,810-66,265) | 163.82 (151.88-175.75) | 47,411 (43,805-51,017) | 15.72 (14.53-16.9)  |
| 2043               | 62,828(58,192-67,463) | 164.53 (151.69-177.37) | 47,970 (44,062-51,878) | 15.80 (14.52-17.07) |
| 2044               | 63,644(58,470-68,819) | 165.26 (151.24-179.28) | 48,580 (44,282-52,878) | 15.87 (14.48-17.27) |
| 2045               | 64,470(58,621-70,318) | 166.00 (150.52-181.47) | 49,215 (44,433-53,996) | 15.95 (14.41-17.5)  |
| 2046               | 65,282(58,628-71,936) | 166.75 (149.53-183.97) | 49,845 (44,490-55,201) | 16.03 (14.32-17.75) |
| 2047               | 66,062(58,477-73,647) | 167.52 (148.27-186.76) | 50,445 (44,428-56,462) | 16.12 (14.2-18.03)  |
| 2048               | 66,805(58,173-75,436) | 168.30 (146.78-189.82) | 51,016 (44,255-57,777) | 16.20 (14.06-18.34) |
| 2049               | 67,517(57,729-77,305) | 169.10 (145.06-193.14) | 51,571 (43,985-59,157) | 16.29 (13.9-18.68)  |
| 2050               | 68,192(57,146-79,238) | 169.93 (143.13-196.72) | 52,094 (43,610-60,579) | 16.38 (13.71-19.04) |
| <b>40-44 years</b> |                       |                        |                        |                     |
| 2022               | 63,447(61,848-65,046) | 193.85 (189.1-198.6)   | 47,915 (46,598-49,232) | 18.57 (18.09-19.05) |
| 2023               | 64,937(63,156-66,719) | 194.82 (189.51-200.13) | 49,084 (47,608-50,561) | 18.66 (18.13-19.2)  |
| 2024               | 66,618(64,649-68,586) | 195.53 (189.7-201.37)  | 50,394 (48,754-52,034) | 18.73 (18.15-19.32) |
| 2025               | 68,306(66,148-70,464) | 195.99 (189.66-202.32) | 51,721 (49,914-53,527) | 18.78 (18.14-19.42) |
| 2026               | 69,838(67,489-72,188) | 196.23 (189.41-203.05) | 52,943 (50,969-54,918) | 18.81 (18.12-19.49) |
| 2027               | 71,088(68,547-73,629) | 196.40 (189.09-203.7)  | 53,967 (51,825-56,109) | 18.83 (18.1-19.56)  |
| 2028               | 72,099(69,374-74,824) | 196.62 (188.84-204.41) | 54,846 (52,540-57,152) | 18.86 (18.08-19.63) |
| 2029               | 73,018(70,113-75,923) | 197.05 (188.8-205.31)  | 55,689 (53,221-58,158) | 18.90 (18.08-19.72) |
| 2030               | 73,858(70,776-76,941) | 197.78 (189.05-206.51) | 56,479 (53,849-59,110) | 18.97 (18.1-19.84)  |
| 2031               | 74,628(71,367-77,890) | 198.85 (189.62-208.08) | 57,183 (54,391-59,976) | 19.07 (18.15-19.99) |
| 2032               | 75,309(71,865-78,752) | 200.22 (190.48-209.97) | 57,741 (54,789-60,693) | 19.20 (18.23-20.17) |
| 2033               | 75,747(72,133-79,361) | 201.76 (191.49-212.04) | 58,038 (54,940-61,136) | 19.35 (18.33-20.37) |

|      |                       |                        |                        |                     |
|------|-----------------------|------------------------|------------------------|---------------------|
| 2034 | 75,934(72,164-79,703) | 203.34 (192.54-214.15) | 58,091 (54,861-61,321) | 19.50 (18.43-20.57) |
| 2035 | 76,023(72,104-79,941) | 204.87 (193.54-216.2)  | 58,024 (54,670-61,377) | 19.65 (18.53-20.78) |
| 2036 | 76,197(72,123-80,272) | 206.31 (194.45-218.17) | 57,979 (54,500-61,458) | 19.80 (18.62-20.97) |
| 2037 | 76,644(72,393-80,895) | 207.66 (195.26-220.06) | 58,113 (54,495-61,730) | 19.93 (18.7-21.16)  |
| 2038 | 77,378(72,935-81,821) | 208.95 (196.01-221.88) | 58,415 (54,648-62,181) | 20.06 (18.78-21.35) |
| 2039 | 78,258(73,615-82,900) | 210.18 (196.71-223.64) | 58,761 (54,845-62,678) | 20.19 (18.85-21.52) |
| 2040 | 79,231(74,381-84,080) | 211.35 (197.36-225.33) | 59,152 (55,082-63,222) | 20.30 (18.92-21.69) |
| 2041 | 80,250(75,185-85,315) | 212.46 (197.94-226.97) | 59,585 (55,355-63,814) | 20.42 (18.98-21.86) |
| 2042 | 81,262(75,973-86,552) | 213.52 (198.46-228.57) | 60,052 (55,656-64,447) | 20.52 (19.03-22.02) |
| 2043 | 82,258(76,745-87,770) | 214.53 (198.94-230.12) | 60,553 (55,990-65,117) | 20.63 (19.08-22.17) |
| 2044 | 83,260(77,526-88,994) | 215.50 (199.39-231.61) | 61,093 (56,358-65,828) | 20.73 (19.13-22.32) |
| 2045 | 84,277(78,307-90,246) | 216.45 (199.8-233.1)   | 61,678 (56,759-66,598) | 20.83 (19.17-22.48) |
| 2046 | 85,319(79,062-91,575) | 217.38 (200.1-234.67)  | 62,311 (57,171-67,452) | 20.93 (19.21-22.65) |
| 2047 | 86,390(79,738-93,041) | 218.33 (200.2-236.46)  | 62,991 (57,560-68,422) | 21.03 (19.22-22.84) |
| 2048 | 87,501(80,308-94,695) | 219.28 (200.02-238.54) | 63,739 (57,923-69,555) | 21.13 (19.21-23.05) |
| 2049 | 88,651(80,744-96,558) | 220.25 (199.53-240.98) | 64,556 (58,244-70,867) | 21.24 (19.17-23.31) |
| 2050 | 89,811(81,009-98,614) | 221.24 (198.68-243.79) | 65,404 (58,479-72,328) | 21.34 (19.09-23.6)  |

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AYA =adolescent and young adult; HF=heart failure; UI =uncertainty interval; YLDs, years lived with disability.

**Supplementary Table 8. Prediction of disease burden for prevalence and YLDs number and rate of HF in AYA in different age groups of males from 2022 to 2050 in global.**

| Male               | Prevalence (95% UI)             | YLDs (95% UI)                          |                           |                                        |
|--------------------|---------------------------------|----------------------------------------|---------------------------|----------------------------------------|
|                    | Cases                           | Age-standardized rate<br>(per 100,000) | Cases                     | Age-standardized rate (per<br>100,000) |
| <b>15-44 years</b> |                                 |                                        |                           |                                        |
| 2022               | 3,106,517 (3,062,055-3,150,978) | 172.20 (169.75-174.66)                 | 299,455 (294,813-304,098) | 16.60 (16.35-16.85)                    |
| 2023               | 3,144,043 (3,087,255-3,200,831) | 173.01 (169.89-176.12)                 | 303,177 (297,350-309,004) | 16.68 (16.37-17)                       |
| 2024               | 3,181,395 (3,112,855-3,249,935) | 173.77 (170.03-177.51)                 | 306,893 (299,918-313,869) | 16.76 (16.39-17.14)                    |
| 2025               | 3,217,962 (3,137,455-3,298,470) | 174.49 (170.13-178.85)                 | 310,552 (302,395-318,708) | 16.84 (16.4-17.28)                     |
| 2026               | 3,253,544 (3,160,183-3,346,904) | 175.20 (170.18-180.22)                 | 314,128 (304,697-323,558) | 16.92 (16.41-17.42)                    |
| 2027               | 3,288,253 (3,180,599-3,395,908) | 175.94 (170.18-181.7)                  | 317,608 (306,762-328,454) | 16.99 (16.42-17.57)                    |
| 2028               | 3,321,278 (3,197,881-3,444,675) | 176.70 (170.14-183.26)                 | 320,933 (308,526-333,339) | 17.07 (16.42-17.73)                    |
| 2029               | 3,352,815 (3,212,038-3,493,592) | 177.47 (170.03-184.92)                 | 324,127 (309,997-338,258) | 17.16 (16.41-17.9)                     |
| 2030               | 3,383,537 (3,223,427-3,543,646) | 178.27 (169.84-186.71)                 | 327,254 (311,205-343,303) | 17.24 (16.4-18.09)                     |
| 2031               | 3,414,390 (3,232,604-3,596,176) | 179.12 (169.58-188.65)                 | 330,397 (312,199-348,595) | 17.33 (16.38-18.29)                    |
| 2032               | 3,446,792 (3,240,586-3,652,997) | 180.02 (169.25-190.79)                 | 333,676 (313,063-354,290) | 17.43 (16.35-18.5)                     |
| 2033               | 3,476,367 (3,243,270-3,709,465) | 180.93 (168.8-193.06)                  | 336,698 (313,425-359,970) | 17.52 (16.31-18.73)                    |
| 2034               | 3,504,079 (3,241,492-3,766,667) | 181.83 (168.21-195.46)                 | 339,560 (313,373-365,748) | 17.62 (16.26-18.98)                    |
| 2035               | 3,530,664 (3,235,757-3,825,572) | 182.70 (167.44-197.96)                 | 342,338 (312,956-371,720) | 17.71 (16.2-19.23)                     |
| 2036               | 3,557,166 (3,226,774-3,887,557) | 183.56 (166.51-200.6)                  | 345,119 (312,232-378,005) | 17.81 (16.11-19.5)                     |
| 2037               | 3,584,768 (3,215,370-3,954,166) | 184.41 (165.4-203.41)                  | 347,999 (311,265-384,733) | 17.90 (16.01-19.79)                    |
| 2038               | 3,613,180 (3,201,274-4,025,086) | 185.25 (164.13-206.36)                 | 350,959 (310,033-391,884) | 17.99 (15.9-20.09)                     |
| 2039               | 3,641,103 (3,183,222-4,098,983) | 186.07 (162.67-209.46)                 | 353,885 (308,427-399,344) | 18.08 (15.76-20.41)                    |
| 2040               | 3,668,111 (3,160,657-4,175,565) | 186.87 (161.02-212.72)                 | 356,735 (306,390-407,081) | 18.17 (15.61-20.74)                    |
| 2041               | 3,694,031 (3,133,189-4,254,873) | 187.66 (159.17-216.15)                 | 359,487 (303,879-415,096) | 18.26 (15.44-21.09)                    |
| 2042               | 3,718,726 (3,100,484-4,336,967) | 188.45 (157.12-219.78)                 | 362,110 (300,847-423,373) | 18.35 (15.25-21.45)                    |
| 2043               | 3,741,896 (3,062,317-4,421,475) | 189.23 (154.86-223.6)                  | 364,590 (297,284-431,896) | 18.44 (15.03-21.84)                    |
| 2044               | 3,763,474 (3,018,542-4,508,406) | 190.00 (152.39-227.61)                 | 366,923 (293,176-440,670) | 18.52 (14.8-22.25)                     |
| 2045               | 3,783,552 (2,969,029-4,598,074) | 190.76 (149.69-231.82)                 | 369,121 (288,515-449,728) | 18.61 (14.55-22.67)                    |
| 2046               | 3,802,308 (2,913,660-4,690,956) | 191.51 (146.75-236.27)                 | 371,199 (283,291-459,108) | 18.70 (14.27-23.12)                    |
| 2047               | 3,819,921 (2,852,410-4,787,433) | 192.27 (143.57-240.97)                 | 373,170 (277,501-468,839) | 18.78 (13.97-23.6)                     |
| 2048               | 3,836,239 (2,785,479-4,886,999) | 193.03 (140.16-245.91)                 | 375,015 (271,160-478,869) | 18.87 (13.64-24.1)                     |

|      |                                 |                        |                           |                     |
|------|---------------------------------|------------------------|---------------------------|---------------------|
| 2049 | 3,851,098 (2,713,048-4,989,148) | 193.80 (136.53-251.07) | 376,721 (264,286-489,156) | 18.96 (13.3-24.62)  |
| 2050 | 3,864,574 (2,635,449-5,093,699) | 194.57 (132.68-256.45) | 378,291 (256,906-499,676) | 19.05 (12.93-25.16) |

#### 15-19 years

|      |                             |                        |                         |                     |
|------|-----------------------------|------------------------|-------------------------|---------------------|
| 2022 | 508,467 (493,250-523,683)   | 155.31 (150.68-159.94) | 50,005 (48,351-51,659)  | 15.27 (14.79-15.76) |
| 2023 | 514,408 (494,312-534,504)   | 155.94 (149.86-162.02) | 50,624 (48,495-52,752)  | 15.35 (14.72-15.98) |
| 2024 | 520,549 (494,428-546,670)   | 156.58 (148.73-164.42) | 51,263 (48,547-53,978)  | 15.42 (14.61-16.23) |
| 2025 | 526,739 (493,586-559,891)   | 157.23 (147.34-167.11) | 51,907 (48,504-55,311)  | 15.49 (14.49-16.5)  |
| 2026 | 532,815 (491,728-573,901)   | 157.89 (145.72-170.06) | 52,542 (48,360-56,723)  | 15.57 (14.34-16.8)  |
| 2027 | 538,612 (488,767-588,457)   | 158.57 (143.9-173.24)  | 53,149 (48,108-58,190)  | 15.65 (14.17-17.13) |
| 2028 | 544,099 (484,729-603,469)   | 159.27 (141.9-176.64)  | 53,727 (47,750-59,704)  | 15.73 (13.98-17.47) |
| 2029 | 549,325 (479,699-618,952)   | 159.99 (139.71-180.26) | 54,280 (47,293-61,266)  | 15.81 (13.78-17.84) |
| 2030 | 554,233 (473,660-634,805)   | 160.73 (137.36-184.09) | 54,802 (46,737-62,866)  | 15.89 (13.56-18.23) |
| 2031 | 558,751 (466,585-650,917)   | 161.49 (134.86-188.12) | 55,286 (46,078-64,493)  | 15.98 (13.32-18.64) |
| 2032 | 563,483 (458,996-667,971)   | 162.28 (132.19-192.37) | 55,791 (45,368-66,214)  | 16.07 (13.07-19.07) |
| 2033 | 565,775 (448,779-682,770)   | 163.10 (129.37-196.82) | 56,055 (44,398-67,713)  | 16.16 (12.8-19.52)  |
| 2034 | 567,457 (437,511-697,402)   | 163.95 (126.41-201.49) | 56,259 (43,322-69,196)  | 16.25 (12.52-19.99) |
| 2035 | 568,765 (425,415-712,116)   | 164.83 (123.29-206.37) | 56,426 (42,164-70,688)  | 16.35 (12.22-20.48) |
| 2036 | 569,864 (412,640-727,088)   | 165.75 (120.02-211.48) | 56,572 (40,938-72,207)  | 16.45 (11.91-21)    |
| 2037 | 570,345 (398,919-741,772)   | 166.71 (116.6-216.81)  | 56,657 (39,616-73,698)  | 16.56 (11.58-21.54) |
| 2038 | 572,733 (386,001-759,464)   | 167.71 (113.03-222.38) | 56,931 (38,373-75,490)  | 16.67 (11.24-22.1)  |
| 2039 | 574,845 (372,324-777,365)   | 168.75 (109.3-228.2)   | 57,178 (37,053-77,303)  | 16.78 (10.88-22.69) |
| 2040 | 576,619 (357,865-795,372)   | 169.84 (105.41-234.27) | 57,391 (35,654-79,128)  | 16.90 (10.5-23.3)   |
| 2041 | 578,167 (342,712-813,623)   | 170.97 (101.35-240.6)  | 57,582 (34,186-80,978)  | 17.03 (10.11-23.94) |
| 2042 | 579,575 (326,925-832,226)   | 172.16 (97.11-247.21)  | 57,758 (32,652-82,864)  | 17.16 (9.7-24.61)   |
| 2043 | 580,928 (310,551-851,305)   | 173.41 (92.7-254.11)   | 57,929 (31,059-84,800)  | 17.29 (9.27-25.31)  |
| 2044 | 582,370 (293,660-871,081)   | 174.71 (88.1-261.32)   | 58,109 (29,412-86,805)  | 17.43 (8.82-26.04)  |
| 2045 | 584,026 (276,288-891,764)   | 176.07 (83.3-268.85)   | 58,309 (27,716-88,903)  | 17.58 (8.36-26.8)   |
| 2046 | 585,959 (258,429-913,489)   | 177.50 (78.29-276.72)  | 58,537 (25,970-91,105)  | 17.73 (7.87-27.6)   |
| 2047 | 588,166 (240,038-936,294)   | 179.00 (73.05-284.95)  | 58,793 (24,170-93,416)  | 17.89 (7.36-28.43)  |
| 2048 | 590,621 (221,057-960,185)   | 180.57 (67.58-293.56)  | 59,073 (22,309-95,837)  | 18.06 (6.82-29.3)   |
| 2049 | 593,359 (201,450-985,268)   | 182.22 (61.87-302.57)  | 59,381 (20,384-98,379)  | 18.24 (6.26-30.21)  |
| 2050 | 596,431 (181,177-1,011,685) | 183.94 (55.88-312.01)  | 59,723 (18,391-101,054) | 18.42 (5.67-31.16)  |

#### 20-24 years

|                    |                           |                        |                        |                     |
|--------------------|---------------------------|------------------------|------------------------|---------------------|
| 2022               | 478,821 (467,621-490,020) | 152.36 (148.82-155.9)  | 46,494 (45,271-47,718) | 14.79 (14.43-15.16) |
| 2023               | 484,321 (471,827-496,815) | 153.09 (149.17-157.02) | 47,047 (45,702-48,392) | 14.87 (14.47-15.27) |
| 2024               | 489,803 (476,097-503,509) | 153.77 (149.49-158.05) | 47,602 (46,140-49,064) | 14.94 (14.51-15.38) |
| 2025               | 495,298 (480,291-510,305) | 154.41 (149.75-159.06) | 48,164 (46,570-49,758) | 15.01 (14.54-15.49) |
| 2026               | 500,882 (484,058-517,706) | 155.02 (149.83-160.21) | 48,740 (46,960-50,520) | 15.08 (14.55-15.62) |
| 2027               | 506,615 (486,866-526,365) | 155.64 (149.59-161.7)  | 49,331 (47,259-51,403) | 15.16 (14.53-15.78) |
| 2028               | 512,572 (488,626-536,518) | 156.27 (148.99-163.56) | 49,945 (47,461-52,428) | 15.23 (14.48-15.97) |
| 2029               | 518,735 (489,361-548,109) | 156.91 (148.04-165.79) | 50,580 (47,567-53,592) | 15.30 (14.4-16.2)   |
| 2030               | 524,946 (489,025-560,866) | 157.57 (146.79-168.34) | 51,220 (47,571-54,869) | 15.37 (14.29-16.46) |
| 2031               | 531,045 (487,578-574,512) | 158.23 (145.29-171.18) | 51,850 (47,468-56,233) | 15.45 (14.15-16.75) |
| 2032               | 536,866 (484,952-588,779) | 158.91 (143.55-174.27) | 52,454 (47,250-57,658) | 15.53 (13.99-17.06) |
| 2033               | 542,376 (481,192-603,560) | 159.61 (141.61-177.61) | 53,028 (46,922-59,135) | 15.61 (13.81-17.4)  |
| 2034               | 547,627 (476,398-618,855) | 160.33 (139.48-181.18) | 53,578 (46,493-60,663) | 15.69 (13.62-17.76) |
| 2035               | 552,560 (470,564-634,555) | 161.07 (137.18-184.97) | 54,097 (45,962-62,232) | 15.77 (13.4-18.14)  |
| 2036               | 557,105 (463,670-650,539) | 161.84 (134.7-188.98)  | 54,579 (45,328-63,830) | 15.86 (13.17-18.54) |
| 2037               | 561,866 (456,243-667,488) | 162.63 (132.06-193.2)  | 55,082 (44,641-65,523) | 15.94 (12.92-18.96) |
| 2038               | 564,187 (446,179-682,194) | 163.45 (129.27-197.64) | 55,346 (43,695-66,998) | 16.03 (12.66-19.41) |
| 2039               | 565,899 (435,051-696,746) | 164.31 (126.32-202.3)  | 55,551 (42,644-68,458) | 16.13 (12.38-19.87) |
| 2040               | 567,235 (423,084-711,387) | 165.19 (123.21-207.17) | 55,719 (41,510-69,928) | 16.23 (12.09-20.36) |
| 2041               | 568,358 (410,425-726,290) | 166.11 (119.96-212.27) | 55,866 (40,307-71,425) | 16.33 (11.78-20.87) |
| 2042               | 568,856 (396,810-740,903) | 167.07 (116.55-217.6)  | 55,952 (39,009-72,894) | 16.43 (11.46-21.41) |
| 2043               | 571,261 (383,987-758,534) | 168.08 (112.98-223.17) | 56,225 (37,788-74,662) | 16.54 (11.12-21.97) |
| 2044               | 573,393 (370,403-776,382) | 169.12 (109.25-228.99) | 56,471 (36,490-76,452) | 16.66 (10.76-22.55) |
| 2045               | 575,189 (356,034-794,344) | 170.21 (105.36-235.06) | 56,684 (35,114-78,254) | 16.77 (10.39-23.16) |
| 2046               | 576,760 (340,968-812,553) | 171.35 (101.3-241.4)   | 56,875 (33,668-80,082) | 16.90 (10-23.79)    |
| 2047               | 578,191 (325,264-831,119) | 172.54 (97.07-248.02)  | 57,052 (32,158-81,946) | 17.03 (9.6-24.45)   |
| 2048               | 579,568 (308,971-850,165) | 173.79 (92.65-254.93)  | 57,223 (30,588-83,858) | 17.16 (9.17-25.14)  |
| 2049               | 581,033 (292,157-869,909) | 175.10 (88.04-262.15)  | 57,403 (28,966-85,841) | 17.3 (8.73-25.87)   |
| 2050               | 582,707 (274,857-890,558) | 176.47 (83.24-269.69)  | 57,604 (27,294-87,914) | 17.44 (8.27-26.62)  |
| <b>25-29 years</b> |                           |                        |                        |                     |
| 2022               | 452,326 (441,919-462,732) | 148.93 (145.53-152.33) | 43,845 (42,704-44,986) | 14.44 (14.09-14.79) |
| 2023               | 456,327 (444,744-467,909) | 149.85 (146.07-153.63) | 44,254 (43,003-45,505) | 14.53 (14.14-14.92) |
| 2024               | 461,147 (448,427-473,867) | 150.73 (146.6-154.87)  | 44,745 (43,387-46,104) | 14.63 (14.2-15.05)  |

|                    |                           |                        |                        |                     |
|--------------------|---------------------------|------------------------|------------------------|---------------------|
| 2025               | 466,487 (452,635-480,339) | 151.58 (147.1-156.06)  | 45,290 (43,822-46,758) | 14.72 (14.26-15.17) |
| 2026               | 472,105 (457,079-487,131) | 152.38 (147.55-157.22) | 45,861 (44,279-47,442) | 14.80 (14.31-15.29) |
| 2027               | 477,739 (461,474-494,005) | 153.17 (147.97-158.37) | 46,426 (44,725-48,127) | 14.88 (14.36-15.41) |
| 2028               | 483,256 (465,787-500,726) | 153.91 (148.36-159.45) | 46,980 (45,163-48,798) | 14.96 (14.4-15.52)  |
| 2029               | 488,758 (470,127-507,390) | 154.59 (148.71-160.46) | 47,538 (45,605-49,471) | 15.04 (14.44-15.63) |
| 2030               | 494,275 (474,403-514,148) | 155.22 (149-161.45)    | 48,102 (46,043-50,162) | 15.11 (14.47-15.74) |
| 2031               | 499,886 (478,360-521,412) | 155.84 (149.15-162.54) | 48,681 (46,450-50,913) | 15.18 (14.49-15.86) |
| 2032               | 505,649 (481,538-529,760) | 156.47 (149.02-163.92) | 49,276 (46,783-51,769) | 15.25 (14.49-16.01) |
| 2033               | 511,637 (483,780-539,494) | 157.11 (148.56-165.65) | 49,893 (47,028-52,758) | 15.32 (14.45-16.19) |
| 2034               | 517,833 (485,015-550,651) | 157.75 (147.76-167.74) | 50,532 (47,179-53,884) | 15.39 (14.38-16.41) |
| 2035               | 524,081 (485,142-563,019) | 158.41 (146.64-170.17) | 51,176 (47,226-55,126) | 15.47 (14.28-16.65) |
| 2036               | 530,218 (484,097-576,338) | 159.08 (145.25-172.91) | 51,810 (47,160-56,461) | 15.54 (14.16-16.93) |
| 2037               | 536,077 (481,816-590,338) | 159.76 (143.6-175.93)  | 52,418 (46,975-57,862) | 15.62 (14-17.24)    |
| 2038               | 541,627 (478,349-604,905) | 160.47 (141.72-179.21) | 52,997 (46,675-59,319) | 15.70 (13.83-17.57) |
| 2039               | 546,919 (473,807-620,031) | 161.19 (139.65-182.73) | 53,551 (46,270-60,832) | 15.78 (13.64-17.92) |
| 2040               | 551,896 (468,193-635,599) | 161.94 (137.38-186.49) | 54,075 (45,760-62,389) | 15.87 (13.43-18.3)  |
| 2041               | 556,489 (461,494-651,484) | 162.71 (134.94-190.48) | 54,561 (45,144-63,979) | 15.95 (13.2-18.7)   |
| 2042               | 561,301 (454,240-668,361) | 163.50 (132.32-194.69) | 55,070 (44,473-65,667) | 16.04 (12.96-19.13) |
| 2043               | 563,663 (444,328-682,997) | 164.33 (129.54-199.12) | 55,339 (43,542-67,135) | 16.13 (12.7-19.57)  |
| 2044               | 565,412 (433,335-697,490) | 165.19 (126.6-203.77)  | 55,547 (42,503-68,591) | 16.23 (12.42-20.04) |
| 2045               | 566,783 (421,486-712,081) | 166.08 (123.51-208.65) | 55,719 (41,380-70,057) | 16.33 (12.13-20.53) |
| 2046               | 567,936 (408,931-726,940) | 167.01 (120.25-213.76) | 55,869 (40,187-71,551) | 16.43 (11.82-21.04) |
| 2047               | 568,460 (395,407-741,512) | 167.97 (116.84-219.1)  | 55,957 (38,897-73,017) | 16.53 (11.5-21.57)  |
| 2048               | 570,895 (382,668-759,121) | 168.98 (113.27-224.69) | 56,233 (37,683-74,783) | 16.64 (11.16-22.13) |
| 2049               | 573,056 (369,159-776,953) | 170.03 (109.53-230.53) | 56,482 (36,392-76,573) | 16.76 (10.8-22.72)  |
| 2050               | 574,879 (354,858-794,899) | 171.13 (105.63-236.62) | 56,698 (35,021-78,375) | 16.88 (10.43-23.33) |
| <b>30-34 years</b> |                           |                        |                        |                     |
| 2022               | 478,287 (467,357-489,217) | 156.00 (152.46-159.54) | 45,744 (44,564-46,925) | 14.92 (14.56-15.28) |
| 2023               | 480,929 (468,807-493,052) | 157.10 (153.16-161.03) | 46,002 (44,713-47,291) | 15.03 (14.63-15.42) |
| 2024               | 481,901 (468,698-495,104) | 158.19 (153.88-162.5)  | 46,108 (44,719-47,497) | 15.14 (14.7-15.57)  |
| 2025               | 482,181 (467,958-496,404) | 159.23 (154.55-163.91) | 46,156 (44,671-47,640) | 15.24 (14.77-15.71) |
| 2026               | 482,955 (467,696-498,214) | 160.24 (155.2-165.29)  | 46,255 (44,672-47,838) | 15.35 (14.84-15.85) |
| 2027               | 485,463 (469,075-501,852) | 161.25 (155.83-166.68) | 46,518 (44,828-48,209) | 15.45 (14.91-16)    |

|      |                           |                        |                        |                     |
|------|---------------------------|------------------------|------------------------|---------------------|
| 2028 | 489,791 (472,233-507,349) | 162.25 (156.45-168.05) | 46,955 (45,153-48,758) | 15.55 (14.97-16.13) |
| 2029 | 494,999 (476,266-513,733) | 163.21 (157.05-169.37) | 47,480 (45,564-49,396) | 15.65 (15.04-16.27) |
| 2030 | 500,765 (480,835-520,696) | 164.12 (157.6-170.64)  | 48,061 (46,028-50,094) | 15.75 (15.1-16.4)   |
| 2031 | 506,832 (485,651-528,014) | 165.00 (158.12-171.88) | 48,670 (46,515-50,826) | 15.84 (15.16-16.53) |
| 2032 | 512,921 (490,420-535,423) | 165.85 (158.58-173.11) | 49,274 (46,991-51,557) | 15.93 (15.21-16.66) |
| 2033 | 518,885 (495,086-542,684) | 166.64 (159.01-174.27) | 49,867 (47,457-52,276) | 16.02 (15.25-16.78) |
| 2034 | 524,834 (499,770-549,898) | 167.38 (159.4-175.36)  | 50,462 (47,927-52,997) | 16.09 (15.3-16.89)  |
| 2035 | 530,802 (504,402-557,203) | 168.07 (159.73-176.42) | 51,066 (48,395-53,737) | 16.17 (15.34-17)    |
| 2036 | 536,873 (508,765-564,981) | 168.75 (159.92-177.57) | 51,685 (48,838-54,532) | 16.25 (15.36-17.13) |
| 2037 | 543,110 (512,437-573,784) | 169.42 (159.87-178.98) | 52,321 (49,215-55,427) | 16.32 (15.36-17.28) |
| 2038 | 549,594 (515,229-583,959) | 170.11 (159.48-180.74) | 52,981 (49,510-56,452) | 16.40 (15.33-17.46) |
| 2039 | 556,303 (517,001-595,605) | 170.81 (158.75-182.87) | 53,664 (49,711-57,618) | 16.48 (15.27-17.68) |
| 2040 | 563,070 (517,589-608,551) | 171.52 (157.67-185.37) | 54,354 (49,801-58,906) | 16.56 (15.18-17.94) |
| 2041 | 569,718 (516,885-622,551) | 172.25 (156.28-188.21) | 55,033 (49,770-60,296) | 16.64 (15.05-18.22) |
| 2042 | 576,068 (514,807-637,328) | 172.99 (154.6-191.38)  | 55,684 (49,608-61,759) | 16.72 (14.9-18.54)  |
| 2043 | 582,086 (511,410-652,762) | 173.75 (152.66-194.85) | 56,304 (49,320-63,287) | 16.81 (14.73-18.89) |
| 2044 | 587,829 (506,816-668,843) | 174.54 (150.49-198.59) | 56,898 (48,917-64,878) | 16.89 (14.53-19.26) |
| 2045 | 593,238 (501,035-685,441) | 175.35 (148.1-202.6)   | 57,460 (48,400-66,520) | 16.98 (14.31-19.66) |
| 2046 | 598,234 (494,057-702,412) | 176.18 (145.5-206.86)  | 57,983 (47,767-68,198) | 17.08 (14.07-20.08) |
| 2047 | 603,471 (486,458-720,484) | 177.05 (142.72-211.37) | 58,530 (47,074-69,985) | 17.17 (13.81-20.53) |
| 2048 | 606,064 (475,978-736,151) | 177.94 (139.75-216.13) | 58,820 (46,101-71,540) | 17.27 (13.54-21)    |
| 2049 | 607,998 (464,315-751,681) | 178.87 (136.6-221.14)  | 59,047 (45,013-73,082) | 17.37 (13.25-21.5)  |
| 2050 | 609,518 (451,710-767,325) | 179.84 (133.28-226.4)  | 59,234 (43,832-74,635) | 17.48 (12.93-22.02) |

### 35-39 years

|      |                           |                        |                        |                     |
|------|---------------------------|------------------------|------------------------|---------------------|
| 2022 | 537,268 (525,043-549,493) | 184.21 (180.05-188.38) | 51,177 (49,870-52,484) | 17.55 (17.13-17.97) |
| 2023 | 544,670 (530,994-558,346) | 184.40 (179.8-189.01)  | 51,895 (50,455-53,336) | 17.57 (17.11-18.03) |
| 2024 | 551,415 (536,357-566,473) | 184.75 (179.73-189.77) | 52,546 (50,977-54,116) | 17.61 (17.1-18.11)  |
| 2025 | 557,624 (541,223-574,025) | 185.34 (179.91-190.77) | 53,142 (51,446-54,838) | 17.66 (17.12-18.21) |
| 2026 | 563,364 (545,617-581,111) | 186.24 (180.39-192.08) | 53,687 (51,864-55,510) | 17.75 (17.16-18.33) |
| 2027 | 568,473 (549,348-587,598) | 187.44 (181.15-193.73) | 54,169 (52,216-56,122) | 17.86 (17.23-18.49) |
| 2028 | 571,662 (551,244-592,081) | 188.76 (182.03-195.48) | 54,479 (52,403-56,555) | 17.99 (17.32-18.66) |
| 2029 | 572,858 (551,254-594,461) | 190.07 (182.92-197.22) | 54,609 (52,420-56,797) | 18.12 (17.41-18.83) |
| 2030 | 573,225 (550,492-595,957) | 191.32 (183.75-198.89) | 54,668 (52,370-56,966) | 18.25 (17.49-19)    |

|                    |                           |                        |                        |                     |
|--------------------|---------------------------|------------------------|------------------------|---------------------|
| 2031               | 574,181 (550,282-598,080) | 192.54 (184.54-200.54) | 54,789 (52,378-57,200) | 18.37 (17.58-19.17) |
| 2032               | 577,205 (552,006-602,405) | 193.76 (185.31-202.2)  | 55,105 (52,568-57,642) | 18.50 (17.66-19.34) |
| 2033               | 582,398 (555,814-608,982) | 194.95 (186.07-203.84) | 55,627 (52,956-58,299) | 18.62 (17.74-19.5)  |
| 2034               | 588,638 (560,639-616,637) | 196.11 (186.79-205.42) | 56,253 (53,443-59,064) | 18.74 (17.82-19.66) |
| 2035               | 595,544 (566,093-624,996) | 197.20 (187.46-206.94) | 56,947 (53,994-59,900) | 18.86 (17.89-19.82) |
| 2036               | 602,810 (571,840-633,780) | 198.26 (188.08-208.43) | 57,673 (54,570-60,776) | 18.97 (17.96-19.98) |
| 2037               | 610,106 (577,539-642,672) | 199.28 (188.65-209.9)  | 58,394 (55,135-61,653) | 19.07 (18.02-20.13) |
| 2038               | 617,259 (583,115-651,404) | 200.24 (189.17-211.3)  | 59,102 (55,688-62,515) | 19.17 (18.08-20.27) |
| 2039               | 624,402 (588,710-660,094) | 201.13 (189.64-212.61) | 59,814 (56,247-63,381) | 19.27 (18.13-20.41) |
| 2040               | 631,572 (594,259-668,884) | 201.96 (190.04-213.88) | 60,536 (56,805-64,268) | 19.36 (18.17-20.54) |
| 2041               | 638,866 (599,553-678,178) | 202.77 (190.3-215.23)  | 61,277 (57,339-65,214) | 19.45 (18.21-20.69) |
| 2042               | 646,359 (604,150-688,568) | 203.58 (190.3-216.87)  | 62,037 (57,807-66,267) | 19.54 (18.22-20.86) |
| 2043               | 654,146 (607,827-700,464) | 204.41 (189.94-218.87) | 62,827 (58,190-67,465) | 19.63 (18.19-21.07) |
| 2044               | 662,204 (610,380-714,027) | 205.25 (189.19-221.3)  | 63,644 (58,468-68,820) | 19.73 (18.13-21.32) |
| 2045               | 670,332 (611,560-729,105) | 206.10 (188.04-224.17) | 64,469 (58,619-70,319) | 19.82 (18.03-21.61) |
| 2046               | 678,321 (611,197-745,445) | 206.98 (186.5-227.45)  | 65,282 (58,626-71,938) | 19.92 (17.89-21.94) |
| 2047               | 685,958 (609,171-762,745) | 207.87 (184.61-231.14) | 66,062 (58,476-73,648) | 20.02 (17.73-22.31) |
| 2048               | 693,203 (605,532-780,873) | 208.79 (182.39-235.19) | 66,804 (58,172-75,437) | 20.12 (17.53-22.72) |
| 2049               | 700,122 (600,426-799,818) | 209.73 (179.87-239.59) | 67,517 (57,729-77,305) | 20.23 (17.3-23.15)  |
| 2050               | 706,642 (593,865-819,419) | 210.71 (177.08-244.33) | 68,191 (57,146-79,237) | 20.33 (17.04-23.62) |
| <b>40-44 years</b> |                           |                        |                        |                     |
| 2022               | 665,556 (650,455-680,656) | 255.61 (249.84-261.38) | 63,447 (61,848-65,046) | 24.37 (23.78-24.95) |
| 2023               | 681,074 (664,023-698,126) | 256.96 (250.56-263.37) | 64,937 (63,155-66,719) | 24.50 (23.85-25.15) |
| 2024               | 698,599 (679,574-717,624) | 257.96 (250.96-264.95) | 66,617 (64,649-68,586) | 24.60 (23.9-25.3)   |
| 2025               | 716,164 (695,154-737,175) | 258.57 (251-266.13)    | 68,306 (66,148-70,464) | 24.66 (23.9-25.42)  |
| 2026               | 731,978 (708,974-754,983) | 258.84 (250.73-266.95) | 69,838 (67,488-72,188) | 24.70 (23.89-25.51) |
| 2027               | 744,844 (719,840-769,847) | 259.03 (250.36-267.71) | 71,087 (68,546-73,629) | 24.72 (23.86-25.59) |
| 2028               | 755,241 (728,320-782,162) | 259.30 (250.07-268.52) | 72,099 (69,372-74,825) | 24.75 (23.84-25.67) |
| 2029               | 764,737 (735,949-793,525) | 259.78 (250.02-269.55) | 73,017 (70,111-75,923) | 24.80 (23.83-25.77) |
| 2030               | 773,487 (742,862-804,113) | 260.61 (250.31-270.91) | 73,858 (70,774-76,942) | 24.89 (23.86-25.91) |
| 2031               | 781,579 (749,103-814,055) | 261.88 (251.01-272.74) | 74,628 (71,365-77,891) | 25.01 (23.93-26.08) |
| 2032               | 788,775 (754,410-823,140) | 263.57 (252.1-275.04)  | 75,308 (71,863-78,753) | 25.16 (24.03-26.3)  |
| 2033               | 793,283 (757,155-829,412) | 265.43 (253.35-277.5)  | 75,747 (72,131-79,362) | 25.34 (24.15-26.54) |

|      |                             |                        |                        |                     |
|------|-----------------------------|------------------------|------------------------|---------------------|
| 2034 | 795,010 (757,282-832,738)   | 267.27 (254.6-279.94)  | 75,933 (72,162-79,705) | 25.53 (24.27-26.78) |
| 2035 | 795,584 (756,333-834,835)   | 269.04 (255.78-282.3)  | 76,022 (72,102-79,943) | 25.71 (24.39-27.02) |
| 2036 | 796,978 (756,143-837,813)   | 270.75 (256.89-284.61) | 76,197 (72,120-80,274) | 25.89 (24.51-27.26) |
| 2037 | 801,250 (758,619-843,881)   | 272.46 (257.97-286.94) | 76,644 (72,391-80,897) | 26.06 (24.63-27.5)  |
| 2038 | 808,538 (763,956-853,121)   | 274.14 (259.04-289.25) | 77,378 (72,932-81,823) | 26.24 (24.74-27.73) |
| 2039 | 817,286 (770,688-863,884)   | 275.76 (260.05-291.48) | 78,257 (73,612-82,902) | 26.41 (24.85-27.96) |
| 2040 | 826,963 (778,283-875,643)   | 277.31 (260.99-293.62) | 79,230 (74,378-84,082) | 26.57 (24.95-28.18) |
| 2041 | 837,146 (786,290-888,001)   | 278.79 (261.87-295.72) | 80,250 (75,181-85,318) | 26.73 (25.05-28.4)  |
| 2042 | 847,376 (794,242-900,510)   | 280.23 (262.67-297.79) | 81,262 (75,969-86,554) | 26.87 (25.13-28.61) |
| 2043 | 857,418 (802,025-912,811)   | 281.58 (263.4-299.76)  | 82,257 (76,742-87,773) | 27.01 (25.21-28.82) |
| 2044 | 867,454 (809,836-925,072)   | 282.83 (264.06-301.61) | 83,259 (77,522-88,997) | 27.15 (25.28-29.01) |
| 2045 | 877,533 (817,601-937,465)   | 284.00 (264.61-303.39) | 84,276 (78,303-90,250) | 27.27 (25.35-29.2)  |
| 2046 | 887,788 (825,077-950,499)   | 285.14 (265.01-305.27) | 85,318 (79,058-91,579) | 27.40 (25.4-29.4)   |
| 2047 | 898,322 (831,720-964,923)   | 286.29 (265.07-307.51) | 86,389 (79,734-93,045) | 27.53 (25.42-29.64) |
| 2048 | 909,265 (837,236-981,294)   | 287.45 (264.69-310.22) | 87,501 (80,304-94,698) | 27.66 (25.39-29.93) |
| 2049 | 920,588 (841,313-999,863)   | 288.63 (263.79-313.48) | 88,651 (80,740-96,561) | 27.79 (25.32-30.27) |
| 2050 | 932,009 (843,554-1,020,464) | 289.84 (262.34-317.34) | 89,811 (81,005-98,617) | 27.93 (25.2-30.66)  |

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AYA =adolescent and young adult; HF=heart failure; UI =uncertainty interval; YLDs, years lived with disability.

**Supplementary Table 9. Prediction of disease burden for prevalence and YLDs number and rate of HF in AYA in different main underlying causes from 2022 to 2050 in global.**

|                                  | Prevalence (95% UI)    |                                        | YLDs (95% UI)       |                                        |
|----------------------------------|------------------------|----------------------------------------|---------------------|----------------------------------------|
|                                  | Cases                  | Age-standardized rate<br>(per 100,000) | Cases               | Age-standardized rate<br>(per 100,000) |
| <b>Amphetamine use disorders</b> |                        |                                        |                     |                                        |
| 2022                             | 20,666 (18,631-22,701) | 0.581(0.524-0.637)                     | 1,946 (1,772-2,121) | 0.055(0.05-0.059)                      |
| 2023                             | 21,131 (18,697-23,564) | 0.59(0.522-0.657)                      | 1,991 (1,775-2,208) | 0.056(0.05-0.061)                      |
| 2024                             | 21,589 (18,766-24,412) | 0.598(0.521-0.676)                     | 2,036 (1,778-2,293) | 0.056(0.05-0.063)                      |
| 2025                             | 22,042 (18,829-25,254) | 0.607(0.519-0.695)                     | 2,079 (1,782-2,377) | 0.057(0.049-0.065)                     |
| 2026                             | 22,479 (18,873-26,084) | 0.615(0.517-0.713)                     | 2,121 (1,784-2,459) | 0.058(0.049-0.067)                     |
| 2027                             | 22,902 (18,894-26,909) | 0.623(0.514-0.732)                     | 2,162 (1,784-2,540) | 0.059(0.049-0.069)                     |
| 2028                             | 23,300 (18,880-27,719) | 0.631(0.511-0.75)                      | 2,200 (1,780-2,620) | 0.06(0.048-0.071)                      |
| 2029                             | 23,681 (18,836-28,526) | 0.638(0.508-0.768)                     | 2,236 (1,774-2,699) | 0.06(0.048-0.072)                      |
| 2030                             | 24,042 (18,755-29,328) | 0.645(0.504-0.787)                     | 2,271 (1,765-2,777) | 0.061(0.048-0.074)                     |
| 2031                             | 24,394 (18,644-30,143) | 0.652(0.499-0.806)                     | 2,304 (1,752-2,856) | 0.062(0.047-0.076)                     |
| 2032                             | 24,738 (18,500-30,977) | 0.659(0.493-0.825)                     | 2,336 (1,737-2,936) | 0.062(0.046-0.078)                     |
| 2033                             | 25,061 (18,311-31,812) | 0.666(0.487-0.845)                     | 2,366 (1,717-3,016) | 0.063(0.046-0.08)                      |
| 2034                             | 25,366 (18,076-32,656) | 0.673(0.48-0.866)                      | 2,394 (1,693-3,096) | 0.063(0.045-0.082)                     |
| 2035                             | 25,669 (17,805-33,533) | 0.679(0.471-0.887)                     | 2,422 (1,665-3,179) | 0.064(0.044-0.084)                     |
| 2036                             | 25,972 (17,496-34,447) | 0.686(0.462-0.91)                      | 2,449 (1,634-3,264) | 0.065(0.043-0.086)                     |
| 2037                             | 26,290 (17,156-35,424) | 0.693(0.452-0.933)                     | 2,477 (1,599-3,354) | 0.065(0.042-0.088)                     |
| 2038                             | 26,618 (16,778-36,458) | 0.7(0.441-0.958)                       | 2,506 (1,562-3,449) | 0.066(0.041-0.091)                     |
| 2039                             | 26,953 (16,357-37,549) | 0.707(0.429-0.984)                     | 2,535 (1,520-3,549) | 0.066(0.04-0.093)                      |
| 2040                             | 27,286 (15,885-38,687) | 0.713(0.415-1.011)                     | 2,563 (1,474-3,653) | 0.067(0.039-0.095)                     |
| 2041                             | 27,622 (15,362-39,883) | 0.721(0.401-1.04)                      | 2,592 (1,423-3,761) | 0.068(0.037-0.098)                     |
| 2042                             | 27,952 (14,780-41,124) | 0.728(0.385-1.07)                      | 2,620 (1,366-3,873) | 0.068(0.036-0.101)                     |
| 2043                             | 28,283 (14,142-42,424) | 0.735(0.368-1.102)                     | 2,647 (1,305-3,990) | 0.069(0.034-0.104)                     |
| 2044                             | 28,606 (13,443-43,769) | 0.742(0.349-1.136)                     | 2,674 (1,238-4,110) | 0.069(0.032-0.107)                     |
| 2045                             | 28,929 (12,685-45,173) | 0.75(0.329-1.171)                      | 2,701 (1,167-4,236) | 0.07(0.03-0.11)                        |
| 2046                             | 29,243 (11,863-46,622) | 0.757(0.307-1.207)                     | 2,727 (1,089-4,364) | 0.071(0.028-0.113)                     |
| 2047                             | 29,555 (10,981-48,130) | 0.765(0.284-1.245)                     | 2,752 (1,007-4,498) | 0.071(0.026-0.116)                     |
| 2048                             | 29,857 (10,035-49,679) | 0.772(0.26-1.285)                      | 2,777 (919-4,635)   | 0.072(0.024-0.12)                      |

|                                        |                       |                    |                     |                    |
|----------------------------------------|-----------------------|--------------------|---------------------|--------------------|
| 2049                                   | 30,157 (9,030-51,283) | 0.78(0.234-1.326)  | 2,801 (826-4,777)   | 0.072(0.021-0.123) |
| 2050                                   | 30,442 (7,963-52,921) | 0.788(0.206-1.369) | 2,824 (727-4,921)   | 0.073(0.019-0.127) |
| <b>Atrial fibrillation and flutter</b> |                       |                    |                     |                    |
| 2022                                   | 4,639 (4,411-4,867)   | 0.271(0.26-0.282)  | 1,946 (1,772-2,121) | 0.025(0.023-0.027) |
| 2023                                   | 4,731 (4,486-4,977)   | 0.274(0.262-0.286) | 1,991 (1,775-2,208) | 0.025(0.023-0.028) |
| 2024                                   | 4,815 (4,550-5,081)   | 0.276(0.263-0.289) | 2,036 (1,778-2,293) | 0.026(0.023-0.028) |
| 2025                                   | 4,891 (4,603-5,179)   | 0.279(0.264-0.293) | 2,079 (1,782-2,377) | 0.026(0.023-0.029) |
| 2026                                   | 4,959 (4,643-5,275)   | 0.281(0.265-0.297) | 2,121 (1,784-2,459) | 0.026(0.023-0.029) |
| 2027                                   | 5,020 (4,668-5,371)   | 0.282(0.264-0.301) | 2,162 (1,784-2,540) | 0.027(0.023-0.03)  |
| 2028                                   | 5,071 (4,676-5,467)   | 0.284(0.264-0.305) | 2,200 (1,780-2,620) | 0.027(0.023-0.031) |
| 2029                                   | 5,115 (4,665-5,565)   | 0.286(0.262-0.31)  | 2,236 (1,774-2,699) | 0.027(0.023-0.032) |
| 2030                                   | 5,153 (4,637-5,670)   | 0.288(0.26-0.315)  | 2,271 (1,765-2,777) | 0.028(0.022-0.033) |
| 2031                                   | 5,190 (4,592-5,788)   | 0.289(0.257-0.322) | 2,304 (1,752-2,856) | 0.028(0.022-0.034) |
| 2032                                   | 5,227 (4,533-5,922)   | 0.291(0.253-0.329) | 2,336 (1,737-2,936) | 0.028(0.022-0.035) |
| 2033                                   | 5,264 (4,459-6,069)   | 0.292(0.248-0.337) | 2,366 (1,717-3,016) | 0.028(0.021-0.036) |
| 2034                                   | 5,297 (4,370-6,224)   | 0.294(0.243-0.345) | 2,394 (1,693-3,096) | 0.029(0.02-0.037)  |
| 2035                                   | 5,331 (4,270-6,392)   | 0.296(0.237-0.354) | 2,422 (1,665-3,179) | 0.029(0.02-0.038)  |
| 2036                                   | 5,369 (4,163-6,576)   | 0.297(0.231-0.364) | 2,449 (1,634-3,264) | 0.029(0.019-0.04)  |
| 2037                                   | 5,416 (4,051-6,781)   | 0.299(0.224-0.374) | 2,477 (1,599-3,354) | 0.03(0.018-0.041)  |
| 2038                                   | 5,471 (3,935-7,007)   | 0.301(0.217-0.385) | 2,506 (1,562-3,449) | 0.03(0.017-0.042)  |
| 2039                                   | 5,531 (3,813-7,250)   | 0.303(0.209-0.396) | 2,535 (1,520-3,549) | 0.03(0.017-0.044)  |
| 2040                                   | 5,595 (3,682-7,509)   | 0.304(0.201-0.408) | 2,563 (1,474-3,653) | 0.031(0.016-0.046) |
| 2041                                   | 5,662 (3,542-7,782)   | 0.306(0.192-0.42)  | 2,592 (1,423-3,761) | 0.031(0.015-0.047) |
| 2042                                   | 5,729 (3,391-8,067)   | 0.308(0.182-0.433) | 2,620 (1,366-3,873) | 0.031(0.013-0.049) |
| 2043                                   | 5,797 (3,230-8,364)   | 0.309(0.173-0.446) | 2,647 (1,305-3,990) | 0.032(0.012-0.051) |
| 2044                                   | 5,867 (3,059-8,675)   | 0.311(0.162-0.46)  | 2,674 (1,238-4,110) | 0.032(0.011-0.053) |
| 2045                                   | 5,937 (2,877-8,997)   | 0.313(0.152-0.474) | 2,701 (1,167-4,236) | 0.032(0.01-0.055)  |
| 2046                                   | 6,006 (2,683-9,329)   | 0.315(0.141-0.489) | 2,727 (1,089-4,364) | 0.033(0.008-0.057) |
| 2047                                   | 6,074 (2,478-9,671)   | 0.317(0.129-0.504) | 2,752 (1,007-4,498) | 0.033(0.007-0.059) |
| 2048                                   | 6,134 (2,259-10,009)  | 0.318(0.117-0.519) | 2,777 (919-4,635)   | 0.033(0.006-0.061) |
| 2049                                   | 6,192 (2,029-10,355)  | 0.32(0.105-0.535)  | 2,801 (826-4,777)   | 0.034(0.004-0.063) |
| 2050                                   | 6,247 (1,787-10,706)  | 0.322(0.092-0.552) | 2,824 (727-4,921)   | 0.034(0.002-0.065) |

**Cardiomyopathy and myocarditis**

|      |                                 |                     |                           |                  |
|------|---------------------------------|---------------------|---------------------------|------------------|
| 2022 | 1,356,132 (1,332,954-1,379,310) | 38.10 (37.45-38.75) | 124,979 (122,622-127,336) | 3.51 (3.45-3.57) |
| 2023 | 1,374,488 (1,344,906-1,404,070) | 38.36 (37.53-39.18) | 126,675 (123,724-129,626) | 3.54 (3.46-3.62) |
| 2024 | 1,392,758 (1,356,361-1,429,155) | 38.60(37.6-39.61)   | 128,365 (124,775-131,954) | 3.56 (3.46-3.66) |
| 2025 | 1,410,858 (1,366,704-1,455,013) | 38.85 (37.63-40.06) | 130,039 (125,720-134,358) | 3.58 (3.46-3.7)  |
| 2026 | 1,428,986 (1,375,572-1,482,399) | 39.10 (37.64-40.56) | 131,709 (126,522-136,896) | 3.60 (3.46-3.74) |
| 2027 | 1,446,927 (1,382,298-1,511,556) | 39.36 (37.6-41.12)  | 133,358 (127,125-139,592) | 3.63 (3.46-3.8)  |
| 2028 | 1,464,235 (1,386,552-1,541,918) | 39.63 (37.53-41.73) | 134,954 (127,505-142,404) | 3.65 (3.45-3.85) |
| 2029 | 1,481,109 (1,388,479-1,573,740) | 39.91 (37.42-42.41) | 136,513 (127,673-145,354) | 3.68 (3.44-3.92) |
| 2030 | 1,498,030 (1,388,374-1,607,685) | 40.21 (37.27-43.15) | 138,072 (127,647-148,498) | 3.71 (3.43-3.99) |
| 2031 | 1,515,521 (1,386,489-1,644,552) | 40.53 (37.08-43.98) | 139,672 (127,445-151,899) | 3.74 (3.41-4.06) |
| 2032 | 1,533,628 (1,382,597-1,684,659) | 40.87 (36.85-44.89) | 141,326 (127,058-155,594) | 3.77 (3.39-4.15) |
| 2033 | 1,550,360 (1,374,983-1,725,737) | 41.21 (36.55-45.87) | 142,860 (126,334-159,386) | 3.80 (3.36-4.24) |
| 2034 | 1,566,231 (1,364,135-1,768,327) | 41.54 (36.18-46.9)  | 144,321 (125,318-163,323) | 3.83 (3.32-4.33) |
| 2035 | 1,581,899 (1,350,563-1,813,235) | 41.87 (35.75-48)    | 145,763 (124,051-167,475) | 3.86 (3.28-4.43) |
| 2036 | 1,598,075 (1,334,722-1,861,427) | 42.22 (35.26-49.17) | 147,244 (122,566-171,922) | 3.89 (3.24-4.54) |
| 2037 | 1,614,902 (1,316,464-1,913,341) | 42.56 (34.7-50.43)  | 148,785 (120,860-176,709) | 3.92 (3.19-4.66) |
| 2038 | 1,632,244 (1,295,686-1,968,801) | 42.90 (34.06-51.75) | 150,373 (118,922-181,824) | 3.95 (3.13-4.78) |
| 2039 | 1,649,630 (1,271,976-2,027,284) | 43.24 (33.34-53.14) | 151,967 (116,715-187,219) | 3.98 (3.06-4.91) |
| 2040 | 1,667,117 (1,245,292-2,088,942) | 43.59 (32.56-54.62) | 153,566 (114,229-192,902) | 4.02 (2.99-5.04) |
| 2041 | 1,684,708 (1,215,465-2,153,950) | 43.95 (31.71-56.19) | 155,170 (111,450-198,889) | 4.05 (2.91-5.19) |
| 2042 | 1,701,847 (1,181,781-2,221,912) | 44.30 (30.76-57.84) | 156,735 (108,321-205,150) | 4.08 (2.82-5.34) |
| 2043 | 1,718,404 (1,144,179-2,292,629) | 44.65 (29.73-59.57) | 158,251 (104,834-211,668) | 4.11 (2.72-5.5)  |
| 2044 | 1,734,458 (1,102,709-2,366,207) | 45.00 (28.61-61.39) | 159,721 (100,992-218,450) | 4.14 (2.62-5.67) |
| 2045 | 1,750,173 (1,057,408-2,442,939) | 45.35 (27.4-63.31)  | 161,157 (96,792-225,521)  | 4.18 (2.51-5.84) |
| 2046 | 1,765,660 (1,008,172-2,523,149) | 45.71 (26.1-65.32)  | 162,566 (92,227-232,905)  | 4.21 (2.39-6.03) |
| 2047 | 1,780,749 (954,658-2,606,840)   | 46.07 (24.7-67.45)  | 163,939 (87,271-240,606)  | 4.24 (2.26-6.23) |
| 2048 | 1,795,393 (897,007-2,693,780)   | 46.44 (23.2-69.68)  | 165,270 (81,939-248,601)  | 4.27 (2.12-6.43) |
| 2049 | 1,809,545 (835,348-2,783,741)   | 46.81 (21.61-72.01) | 166,556 (76,241-256,870)  | 4.31 (1.97-6.64) |
| 2050 | 1,823,190 (769,820-2,876,561)   | 47.18 (19.92-74.44) | 167,794 (70,190-265,398)  | 4.34 (1.82-6.87) |

**Chronic kidney disease due to other and unspecified causes**

|      |                           |                  |                        |                  |
|------|---------------------------|------------------|------------------------|------------------|
| 2022 | 166,906 (163,312-170,500) | 4.69 (4.59-4.79) | 21,472 (20,865-22,079) | 0.60 (0.59-0.62) |
| 2023 | 170,541 (165,926-175,157) | 4.76 (4.63-4.89) | 21,947 (21,218-22,676) | 0.61 (0.59-0.63) |
| 2024 | 174,262 (168,581-179,944) | 4.83 (4.67-4.99) | 22,433 (21,567-23,299) | 0.62 (0.6-0.64)  |

|                                              |                           |                   |                        |                    |
|----------------------------------------------|---------------------------|-------------------|------------------------|--------------------|
| 2025                                         | 178,058 (171,213-184,904) | 4.9 (4.72-5.09)   | 22,930 (21,907-23,953) | 0.63 (0.6-0.66)    |
| 2026                                         | 181,907 (173,755-190,058) | 4.98 (4.76-5.2)   | 23,432 (22,227-24,637) | 0.64 (0.61-0.67)   |
| 2027                                         | 185,730 (176,098-195,362) | 5.05 (4.79-5.31)  | 23,932 (22,517-25,347) | 0.65 (0.61-0.69)   |
| 2028                                         | 189,508 (178,210-200,805) | 5.13 (4.82-5.43)  | 24,428 (22,774-26,082) | 0.66 (0.62-0.71)   |
| 2029                                         | 193,264 (180,102-206,427) | 5.21 (4.85-5.56)  | 24,921 (22,998-26,845) | 0.67 (0.62-0.72)   |
| 2030                                         | 197,034 (181,790-212,279) | 5.29 (4.88-5.7)   | 25,416 (23,190-27,642) | 0.68 (0.62-0.74)   |
| 2031                                         | 200,857 (183,290-218,432) | 5.37 (4.9-5.84)   | 25,917 (23,352-28,481) | 0.69 (0.63-0.76)   |
| 2032                                         | 204,755 (184,605-224,905) | 5.46 (4.92-5.99)  | 26,428 (23,487-29,369) | 0.70 (0.63-0.78)   |
| 2033                                         | 208,537 (185,556-231,517) | 5.54 (4.93-6.15)  | 26,925 (23,572-30,278) | 0.72 (0.63-0.8)    |
| 2034                                         | 212,273 (186,204-238,341) | 5.63 (4.94-6.32)  | 27,417 (23,613-31,220) | 0.73 (0.63-0.83)   |
| 2035                                         | 216,033 (186,601-245,466) | 5.72 (4.94-6.5)   | 27,913 (23,619-32,206) | 0.74 (0.63-0.85)   |
| 2036                                         | 219,873 (186,780-25,2967) | 5.81 (4.93-6.68)  | 28,419 (23,591-33,246) | 0.75 (0.62-0.88)   |
| 2037                                         | 223,832 (186,752-260,912) | 5.9 (4.92-6.88)   | 28,943 (23,535-34,351) | 0.76 (0.62-0.91)   |
| 2038                                         | 227,914 (186,514-269,313) | 5.99 (4.9-7.08)   | 29,484 (23,447-35,521) | 0.77 (0.62-0.93)   |
| 2039                                         | 232,059 (186,005-278,112) | 6.08 (4.88-7.29)  | 30,034 (23,319-36,748) | 0.79 (0.61-0.96)   |
| 2040                                         | 236,252 (185,202-287,302) | 6.18 (4.84-7.51)  | 30,589 (23,148-38,031) | 0.80 (0.61-0.99)   |
| 2041                                         | 240,842 (184,079-296,884) | 6.27 (4.8-7.74)   | 31,149 (22,929-39,370) | 0.81 (0.6-1.03)    |
| 2042                                         | 244,695 (182,577-306,814) | 6.37 (4.75-7.99)  | 31,709 (22,658-40,761) | 0.83 (0.59-1.06)   |
| 2043                                         | 248,908 (180,703-317,114) | 6.47 (4.7-8.24)   | 32,270 (22,333-42,207) | 0.84 (0.58-1.1)    |
| 2044                                         | 253,123 (178,454-327,793) | 6.57 (4.63-8.5)   | 32,831 (21,955-43,708) | 0.85 (0.57-1.13)   |
| 2045                                         | 257,352 (175,830-338,874) | 6.67 (4.56-8.78)  | 33,394 (21,521-45,267) | 0.87 (0.56-1.17)   |
| 2046                                         | 261,587 (172,815-350,359) | 6.77 (4.47-9.07)  | 33,957 (21,031-46,883) | 0.88 (0.54-1.21)   |
| 2047                                         | 265,815 (169,386-362,243) | 6.88 (4.38-9.37)  | 34,520 (20,482-48,557) | 0.89 (0.53-1.26)   |
| 2048                                         | 270,021 (165,536-374,507) | 6.98 (4.28-9.69)  | 35,080 (19,873-50,287) | 0.91 (0.51-1.3)    |
| 2049                                         | 274,205 (161,264-387,146) | 7.09 (4.17-10.01) | 35,638 (19,204-52,071) | 0.92 (0.5-1.35)    |
| 2050                                         | 278,354 (156,564-400,143) | 7.2 (4.05-10.35)  | 36,191 (18,475-53,908) | 0.94 (0.48-1.39)   |
| <b>Chronic obstructive pulmonary disease</b> |                           |                   |                        |                    |
| 2022                                         | 110,986 (107,731-114,241) | 3.12 (3.03-3.21)  | 10,197 (9,802-10,593)  | 0.287(0.277-0.296) |
| 2023                                         | 112,144 (107,901-116,388) | 3.13 (3.01-3.25)  | 10,303 (9,826-10,780)  | 0.288(0.275-0.3)   |
| 2024                                         | 113,349 (108,220-118,479) | 3.14 (3-3.28)     | 10,413 (9,859-10,967)  | 0.289(0.274-0.303) |
| 2025                                         | 114,594 (108,620-120,567) | 3.16 (2.99-3.32)  | 10,527 (9,895-11,158)  | 0.29(0.273-0.306)  |
| 2026                                         | 115,846 (109,038-122,654) | 3.17 (2.98-3.35)  | 10,640 (9,931-11,350)  | 0.291(0.273-0.31)  |
| 2027                                         | 117,054 (109,399-124,709) | 3.18 (2.98-3.39)  | 10,752 (9,961-11,542)  | 0.292(0.272-0.313) |

|      |                           |                  |                        |                    |
|------|---------------------------|------------------|------------------------|--------------------|
| 2028 | 118,219 (109,697-126,741) | 3.20 (2.97-3.43) | 10,859 (9,985-11,734)  | 0.294(0.271-0.317) |
| 2029 | 119,379 (109,956-128,803) | 3.22 (2.96-3.47) | 10,966 (10,003-11,929) | 0.296(0.27-0.321)  |
| 2030 | 120,561 (110,189-130,934) | 3.24 (2.96-3.51) | 11,074 (10,017-12,131) | 0.297(0.269-0.325) |
| 2031 | 121,791 (110,404-133,177) | 3.26 (2.95-3.56) | 11,185 (10,026-12,344) | 0.299(0.269-0.33)  |
| 2032 | 123,063 (110,583-135,544) | 3.28 (2.95-3.61) | 11,300 (10,031-12,569) | 0.301(0.268-0.334) |
| 2033 | 124,271 (110,622-137,921) | 3.3 0(2.94-3.67) | 11,409 (10,023-12,796) | 0.303(0.267-0.34)  |
| 2034 | 125,460 (110,556-140,365) | 3.33 (2.93-3.72) | 11,516 (10,003-13,030) | 0.305(0.266-0.345) |
| 2035 | 126,672 (110,412-142,931) | 3.35 (2.92-3.78) | 11,625 (9,975-13,276)  | 0.308(0.264-0.351) |
| 2036 | 127,924 (110,194-145,654) | 3.38 (2.91-3.85) | 11,738 (9,938-13,538)  | 0.31(0.263-0.357)  |
| 2037 | 129,216 (109,884-148,548) | 3.41 (2.9-3.91)  | 11,856 (9,894-13,818)  | 0.312(0.261-0.364) |
| 2038 | 130,544 (109,472-151,616) | 3.43 (2.88-3.98) | 11,978 (9,839-14,117)  | 0.315(0.259-0.371) |
| 2039 | 131,879 (108,926-154,832) | 3.46 (2.86-4.06) | 12,102 (9,772-14,432)  | 0.317(0.256-0.378) |
| 2040 | 133,212 (108,228-158,197) | 3.48 (2.83-4.14) | 12,225 (9,689-14,762)  | 0.32(0.254-0.386)  |
| 2041 | 134,539 (107,362-161,717) | 3.51 (2.8-4.22)  | 12,348 (9,588-15,107)  | 0.322(0.25-0.394)  |
| 2042 | 135,805 (106,266-165,345) | 3.54 (2.77-4.3)  | 12,466 (9,467-15,465)  | 0.325(0.247-0.402) |
| 2043 | 137,034 (104,955-169,113) | 3.56 (2.73-4.39) | 12,583 (9,326-15,839)  | 0.327(0.243-0.411) |
| 2044 | 138,240 (103,435-173,044) | 3.59 (2.68-4.49) | 12,696 (9,164-16,228)  | 0.329(0.238-0.421) |
| 2045 | 139,443 (101,714-177,171) | 3.61 (2.64-4.59) | 12,808 (8,981-16,635)  | 0.332(0.233-0.431) |
| 2046 | 140,639 (99,777-181,500)  | 3.64 (2.58-4.7)  | 12,918 (8,777-17,059)  | 0.334(0.227-0.441) |
| 2047 | 141,805 (97,598-186,013)  | 3.67 (2.53-4.81) | 13,025 (8,551-17,499)  | 0.337(0.221-0.453) |
| 2048 | 142,933 (95,176-190,690)  | 3.70 (2.46-4.93) | 13,129 (8,303-17,955)  | 0.34(0.215-0.464)  |
| 2049 | 144,024 (92,522-195,526)  | 3.73 (2.39-5.06) | 13,229 (8,034-18,425)  | 0.342(0.208-0.476) |
| 2050 | 145,069 (89,638-200,501)  | 3.75 (2.32-5.19) | 13,325 (7,743-18,907)  | 0.345(0.2-0.489)   |

#### Cocaine use disorders

|      |                        |                  |                     |                    |
|------|------------------------|------------------|---------------------|--------------------|
| 2022 | 29,486 (27,894-31,079) | 0.83 (0.78-0.87) | 2,747 (2,584-2,910) | 0.077(0.074-0.081) |
| 2023 | 30,498 (28,642-32,353) | 0.85 (0.8-0.9)   | 2,845 (2,657-3,033) | 0.079(0.075-0.084) |
| 2024 | 31,525 (29,396-33,655) | 0.87 (0.82-0.93) | 2,945 (2,731-3,159) | 0.082(0.076-0.087) |
| 2025 | 32,571 (30,148-34,993) | 0.90 (0.83-0.96) | 3,047 (2,804-3,290) | 0.084(0.078-0.09)  |
| 2026 | 33,634 (30,890-36,378) | 0.92 (0.85-0.99) | 3,151 (2,875-3,427) | 0.086(0.079-0.093) |
| 2027 | 34,713 (31,610-37,815) | 0.94 (0.86-1.03) | 3,257 (2,944-3,569) | 0.089(0.081-0.097) |
| 2028 | 35,800 (32,295-39,304) | 0.97 (0.87-1.06) | 3,363 (3,009-3,717) | 0.091(0.082-0.1)   |
| 2029 | 36,899 (32,943-40,856) | 0.99 (0.89-1.1)  | 3,471 (3,070-3,871) | 0.094(0.083-0.104) |
| 2030 | 38,014 (33,545-42,483) | 1.02 (0.9-1.14)  | 3,580 (3,127-4,033) | 0.096(0.084-0.108) |

|      |                         |                  |                      |                    |
|------|-------------------------|------------------|----------------------|--------------------|
| 2031 | 39,155 (34,100-44,209)  | 1.05 (0.91-1.18) | 3,691 (3,178-4,205)  | 0.099(0.085-0.112) |
| 2032 | 40,325 (34,599-46,051)  | 1.07 (0.92-1.23) | 3,806 (3,224-4,388)  | 0.101(0.086-0.117) |
| 2033 | 41,485 (35,001-47,970)  | 1.10 (0.93-1.27) | 3,920 (3,261-4,579)  | 0.104(0.087-0.121) |
| 2034 | 42,641 (35,300-49,982)  | 1.13 (0.94-1.33) | 4,034 (3,288-4,779)  | 0.107(0.087-0.126) |
| 2035 | 43,805 (35,495-52,115)  | 1.16 (0.94-1.38) | 4,149 (3,306-4,992)  | 0.11(0.088-0.132)  |
| 2036 | 44,988 (35,583-54,394)  | 1.19 (0.94-1.44) | 4,267 (3,314-5,220)  | 0.113(0.088-0.138) |
| 2037 | 46,208 (35,563-56,852)  | 1.22 (0.94-1.5)  | 4,389 (3,313-5,465)  | 0.116(0.088-0.144) |
| 2038 | 47,461 (35,426-59,497)  | 1.25 (0.93-1.56) | 4,515 (3,301-5,729)  | 0.119(0.087-0.15)  |
| 2039 | 48,740 (35,152-62,327)  | 1.28 (0.92-1.63) | 4,644 (3,276-6,011)  | 0.122(0.086-0.157) |
| 2040 | 50,038 (34,728-65,348)  | 1.31 (0.91-1.71) | 4,775 (3,238-6,312)  | 0.125(0.085-0.165) |
| 2041 | 51,362 (34,146-68,579)  | 1.34 (0.89-1.79) | 4,910 (3,186-6,634)  | 0.128(0.083-0.173) |
| 2042 | 52,703 (33,386-72,019)  | 1.37 (0.87-1.87) | 5,046 (3,117-6,975)  | 0.131(0.081-0.181) |
| 2043 | 54,060 (32,441-75,679)  | 1.40 (0.84-1.97) | 5,185 (3,032-7,338)  | 0.135(0.079-0.191) |
| 2044 | 55,429 (31,299-79,558)  | 1.44 (0.81-2.06) | 5,326 (2,929-7,722)  | 0.138(0.076-0.2)   |
| 2045 | 56,815 (29,954-83,676)  | 1.47 (0.78-2.17) | 5,469 (2,807-8,130)  | 0.142(0.073-0.211) |
| 2046 | 58,216 (28,396-88,035)  | 1.51 (0.74-2.28) | 5,613 (2,667-8,560)  | 0.145(0.069-0.222) |
| 2047 | 59,635 (26,620-92,651)  | 1.54 (0.69-2.4)  | 5,761 (2,506-9,015)  | 0.149(0.065-0.233) |
| 2048 | 61,067 (24,619-97,516)  | 1.58 (0.64-2.52) | 5,910 (2,325-9,494)  | 0.153(0.06-0.246)  |
| 2049 | 62,516 (22,392-102,639) | 1.62 (0.58-2.65) | 6,061 (2,123-9,999)  | 0.157(0.055-0.259) |
| 2050 | 63,972 (19,932-108,012) | 1.66 (0.52-2.79) | 6,213 (1,899-10,527) | 0.161(0.049-0.272) |

#### **Congenital birth defects**

|      |                        |                     |                        |                  |
|------|------------------------|---------------------|------------------------|------------------|
| 2022 | 29,486 (27,894-31,079) | 11.19 (10.86-11.51) | 36,855 (35,642-38,069) | 1.04 (1.00-1.07) |
| 2023 | 30,498 (28,642-32,353) | 11.30 (10.87-11.72) | 37,464 (35,925-39,002) | 1.05 (1.00-1.09) |
| 2024 | 31,525 (29,396-33,655) | 11.41 (10.89-11.93) | 38,092 (36,208-39,975) | 1.06 (1.00-1.11) |
| 2025 | 32,571 (30,148-34,993) | 11.53 (10.9-12.16)  | 38,736 (36,474-40,997) | 1.07 (1.01-1.13) |
| 2026 | 33,634 (30,890-36,378) | 11.65 (10.91-12.4)  | 39,387 (36,702-42,072) | 1.08 (1.00-1.15) |
| 2027 | 34,713 (31,610-37,815) | 11.78 (10.9-12.65)  | 40,030 (36,869-43,190) | 1.09 (1.00-1.17) |
| 2028 | 35,800 (32,295-39,304) | 11.90 (10.89-12.92) | 40,656 (36,966-44,345) | 1.10 (1.00-1.2)  |
| 2029 | 36,899 (32,943-40,856) | 12.03 (10.86-13.2)  | 41,269 (36,996-45,543) | 1.11 (1.00-1.23) |
| 2030 | 38,014 (33,545-42,483) | 12.16 (10.82-13.51) | 41,874 (36,958-46,790) | 1.12 (0.99-1.26) |
| 2031 | 39,155 (34,100-44,209) | 12.30 (10.77-13.83) | 42,479 (36,859-48,099) | 1.14 (0.99-1.29) |
| 2032 | 40,325 (34,599-46,051) | 12.43 (10.7-14.16)  | 43,092 (36,703-49,482) | 1.15 (0.98-1.32) |
| 2033 | 41,485 (35,001-47,970) | 12.57 (10.62-14.52) | 43,676 (36,457-50,894) | 1.16 (0.97-1.35) |

|      |                         |                     |                        |                  |
|------|-------------------------|---------------------|------------------------|------------------|
| 2034 | 42,641 (35,300-49,982)  | 12.71 (10.53-14.9)  | 44,245 (36,136-52,354) | 1.17 (0.96-1.39) |
| 2035 | 43,805 (35,495-52,115)  | 12.85 (10.42-15.29) | 44,819 (35,756-53,883) | 1.19 (0.95-1.43) |
| 2036 | 44,988 (35,583-54,394)  | 13.00 (10.3-15.71)  | 45,410 (35,324-55,496) | 1.20 (0.93-1.47) |
| 2037 | 46,208 (35,563-56,852)  | 13.15 (10.16-16.14) | 46,033 (34,850-57,215) | 1.21 (0.92-1.51) |
| 2038 | 47,461 (35,426-59,497)  | 13.30 (10.01-16.6)  | 46,681 (34,327-59,035) | 1.23 (0.90-1.55) |
| 2039 | 48,740 (35,152-62,327)  | 13.46 (9.84-17.08)  | 47,341 (33,743-60,940) | 1.24 (0.88-1.6)  |
| 2040 | 50,038 (34,728-65,348)  | 13.62 (9.66-17.58)  | 48,006 (33,092-62,920) | 1.26 (0.87-1.64) |
| 2041 | 51,362 (34,146-68,579)  | 13.78 (9.46-18.1)   | 48,673 (32,370-64,975) | 1.27 (0.84-1.69) |
| 2042 | 52,703 (33,386-72,019)  | 13.94 (9.24-18.64)  | 49,334 (31,571-67,097) | 1.28 (0.82-1.75) |
| 2043 | 54,060 (32,441-75,679)  | 14.10 (9.01-19.2)   | 49,993 (30,696-69,290) | 1.30 (0.8-1.8)   |
| 2044 | 55,429 (31,299-79,558)  | 14.27 (8.76-19.78)  | 50,646 (29,743-71,549) | 1.31 (0.77-1.86) |
| 2045 | 56,815 (29,954-83,676)  | 14.44 (8.49-20.38)  | 51,297 (28,714-73,880) | 1.33 (0.74-1.91) |
| 2046 | 58,216 (28,396-88,035)  | 14.61 (8.21-21.01)  | 51,940 (27,604-76,276) | 1.34 (0.71-1.97) |
| 2047 | 59,635 (26,620-92,651)  | 14.78 (7.9-21.66)   | 52,578 (26,414-78,741) | 1.36 (0.68-2.04) |
| 2048 | 61,067 (24,619-97,516)  | 14.96 (7.58-22.34)  | 53,204 (25,142-81,267) | 1.38(0.65-2.1)   |
| 2049 | 62,516 (22,392-102,639) | 15.14 (7.23-23.04)  | 53,822 (23,788-83,856) | 1.39(0.62-2.17)  |
| 2050 | 63,972 (19,932-108,012) | 15.32 (6.87-23.76)  | 54,426 (22,353-86,498) | 1.41(0.58-2.24)  |

#### Endocarditis

|      |                           |                  |                        |                  |
|------|---------------------------|------------------|------------------------|------------------|
| 2022 | 130,525 (127,592-133,457) | 3.67 (3.59-3.75) | 12,149 (11,761-12,536) | 0.34 (0.33-0.35) |
| 2023 | 134,685 (130,978-138,392) | 3.76 (3.66-3.86) | 12,529 (12,077-12,981) | 0.35 (0.34-0.36) |
| 2024 | 138,977 (134,413-143,541) | 3.85 (3.73-3.98) | 12,921 (12,392-13,451) | 0.36 (0.34-0.37) |
| 2025 | 143,377 (137,816-148,938) | 3.95 (3.8-4.1)   | 13,324 (12,701-13,948) | 0.37 (0.35-0.38) |
| 2026 | 147,912 (141,148-154,677) | 4.05 (3.86-4.23) | 13,738 (12,998-14,478) | 0.38 (0.36-0.4)  |
| 2027 | 152,555 (144,324-160,786) | 4.15 (3.93-4.37) | 14,160 (13,279-15,041) | 0.39 (0.36-0.41) |
| 2028 | 157,252 (147,281-167,224) | 4.26 (3.99-4.53) | 14,585 (13,535-15,635) | 0.39 (0.37-0.42) |
| 2029 | 161,982 (149,970-173,994) | 4.37 (4.04-4.69) | 15,012 (13,763-16,261) | 0.40 (0.37-0.44) |
| 2030 | 166,758 (152,362-181,154) | 4.48 (4.09-4.86) | 15,443 (13,962-16,924) | 0.41 (0.38-0.45) |
| 2031 | 171,641 (154,461-188,820) | 4.59 (4.13-5.05) | 15,882 (14,131-17,633) | 0.42 (0.38-0.47) |
| 2032 | 176,666 (156,248-197,083) | 4.71 (4.16-5.25) | 16,333 (14,270-18,396) | 0.44 (0.38-0.49) |
| 2033 | 181,659 (157,561-205,758) | 4.83 (4.19-5.47) | 16,780 (14,364-19,195) | 0.45 (0.38-0.51) |
| 2034 | 186,671 (158,424-214,918) | 4.95 (4.2-5.7)   | 17,227 (14,415-20,038) | 0.46 (0.38-0.53) |
| 2035 | 191,765 (158,862-224,668) | 5.08 (4.21-5.95) | 17,680 (14,425-20,935) | 0.47 (0.38-0.55) |
| 2036 | 197,014 (158,892-235,136) | 5.20 (4.2-6.21)  | 18,145 (14,396-21,894) | 0.48 (0.38-0.58) |

|      |                           |                   |                        |                  |
|------|---------------------------|-------------------|------------------------|------------------|
| 2037 | 202,468 (158,503-246,433) | 5.34 (4.18-6.49)  | 18,629 (14,329-22,929) | 0.49 (0.38-0.6)  |
| 2038 | 208,124 (157,674-258,574) | 5.47 (4.14-6.8)   | 19,129 (14,221-24,038) | 0.50 (0.37-0.63) |
| 2039 | 213,917 (156,324-271,509) | 5.61 (4.1-7.12)   | 19,641 (14,064-25,219) | 0.51 (0.37-0.66) |
| 2040 | 219,834 (154,413-285,256) | 5.75 (4.04-7.46)  | 20,163 (13,856-26,470) | 0.53 (0.36-0.69) |
| 2041 | 225,879 (151,904-299,854) | 5.89 (3.96-7.82)  | 20,694 (13,592-27,797) | 0.54 (0.35-0.72) |
| 2042 | 232,024 (148,739-315,309) | 6.04 (3.87-8.21)  | 21,233 (13,269-29,197) | 0.55 (0.35-0.76) |
| 2043 | 238,267 (144,898-331,635) | 6.19 (3.77-8.62)  | 21,780 (12,886-30,675) | 0.57 (0.33-0.8)  |
| 2044 | 244,600 (140,356-348,844) | 6.35 (3.64-9.05)  | 22,334 (12,439-32,229) | 0.58 (0.32-0.84) |
| 2045 | 251,028 (135,092-366,964) | 6.51 (3.5-9.51)   | 22,895 (11,928-33,862) | 0.59 (0.31-0.88) |
| 2046 | 257,547 (129,079-386,016) | 6.67 (3.34-9.99)  | 23,463 (11,350-35,576) | 0.61 (0.29-0.92) |
| 2047 | 264,159 (122,290-406,028) | 6.83 (3.16-10.51) | 24,038 (10,704-37,372) | 0.62 (0.28-0.97) |
| 2048 | 270,852 (114,700-427,004) | 7.01 (2.97-11.04) | 24,619 (9,986-39,252)  | 0.64 (0.26-1.02) |
| 2049 | 277,622 (106,287-448,957) | 7.18 (2.75-11.61) | 25,206 (9,196-41,215)  | 0.65 (0.24-1.07) |
| 2050 | 284,462 (97,029-471,894)  | 7.36 (2.51-12.21) | 25,797 (8,332-43,262)  | 0.67 (0.22-1.12) |

**Endocrine, metabolic, blood, and immune disorder**

|      |                        |                  |                     |                    |
|------|------------------------|------------------|---------------------|--------------------|
| 2022 | 25,813 (24,421-27,205) | 0.73 (0.69-0.76) | 2,402 (2,209-2,595) | 0.067(0.063-0.072) |
| 2023 | 26,674 (24,750-28,599) | 0.74 (0.69-0.8)  | 2,482 (2,237-2,726) | 0.069(0.063-0.076) |
| 2024 | 27,570 (25,158-29,982) | 0.76 (0.7-0.83)  | 2,564 (2,270-2,859) | 0.071(0.063-0.079) |
| 2025 | 28,505 (25,617-31,393) | 0.78 (0.71-0.86) | 2,650 (2,305-2,995) | 0.073(0.064-0.082) |
| 2026 | 29,471 (26,103-32,839) | 0.81 (0.71-0.9)  | 2,738 (2,341-3,135) | 0.075(0.064-0.085) |
| 2027 | 30,471 (26,608-34,334) | 0.83 (0.72-0.93) | 2,829 (2,378-3,281) | 0.077(0.065-0.089) |
| 2028 | 31,493 (27,116-35,870) | 0.85 (0.73-0.97) | 2,922 (2,414-3,431) | 0.079(0.066-0.093) |
| 2029 | 32,545 (27,629-37,462) | 0.88 (0.74-1.01) | 3,017 (2,449-3,586) | 0.081(0.066-0.096) |
| 2030 | 33,627 (28,138-39,115) | 0.90 (0.76-1.05) | 3,115 (2,481-3,748) | 0.084(0.067-0.1)   |
| 2031 | 34,752 (28,650-40,853) | 0.93 (0.77-1.09) | 3,216 (2,513-3,918) | 0.086(0.067-0.105) |
| 2032 | 35,922 (29,159-42,685) | 0.96 (0.78-1.14) | 3,320 (2,543-4,098) | 0.088(0.068-0.109) |
| 2033 | 37,111 (29,637-44,586) | 0.99 (0.79-1.18) | 3,426 (2,568-4,285) | 0.091(0.068-0.114) |
| 2034 | 38,324 (30,082-46,567) | 1.02 (0.8-1.23)  | 3,534 (2,589-4,479) | 0.094(0.069-0.119) |
| 2035 | 39,582 (30,503-48,662) | 1.05 (0.81-1.29) | 3,646 (2,605-4,686) | 0.097(0.069-0.124) |
| 2036 | 40,889 (30,893-50,884) | 1.08 (0.82-1.34) | 3,761 (2,617-4,904) | 0.099(0.069-0.129) |
| 2037 | 42,264 (31,259-53,268) | 1.11 (0.82-1.4)  | 3,882 (2,625-5,139) | 0.102(0.069-0.135) |
| 2038 | 43,699 (31,585-55,814) | 1.15 (0.83-1.47) | 4,008 (2,627-5,390) | 0.105(0.069-0.142) |
| 2039 | 45,193 (31,860-58,526) | 1.18 (0.84-1.53) | 4,139 (2,622-5,657) | 0.109(0.069-0.148) |

|      |                         |                  |                     |                    |
|------|-------------------------|------------------|---------------------|--------------------|
| 2040 | 46,732 (32,064-61,399)  | 1.22 (0.84-1.61) | 4,274 (2,609-5,939) | 0.112(0.068-0.155) |
| 2041 | 48,324 (32,194-64,455)  | 1.26 (0.84-1.68) | 4,413 (2,587-6,239) | 0.115(0.068-0.163) |
| 2042 | 49,954 (32,227-67,680)  | 1.30 (0.84-1.76) | 4,554 (2,554-6,555) | 0.119(0.067-0.171) |
| 2043 | 51,631 (32,163-71,100)  | 1.34 (0.84-1.85) | 4,700 (2,510-6,889) | 0.122(0.065-0.179) |
| 2044 | 53,344 (31,985-74,704)  | 1.38 (0.83-1.94) | 4,848 (2,454-7,241) | 0.126(0.064-0.188) |
| 2045 | 55,106 (31,693-78,519)  | 1.43 (0.82-2.03) | 5,000 (2,387-7,613) | 0.13(0.062-0.197)  |
| 2046 | 56,903 (31,270-82,536)  | 1.47 (0.81-2.14) | 5,154 (2,305-8,004) | 0.133(0.06-0.207)  |
| 2047 | 58,749 (30,716-86,782)  | 1.52 (0.79-2.25) | 5,313 (2,210-8,416) | 0.137(0.057-0.218) |
| 2048 | 60,627 (30,014-91,241)  | 1.57 (0.78-2.36) | 5,474 (2,100-8,848) | 0.142(0.054-0.229) |
| 2049 | 62,552 (29,165-95,940)  | 1.62 (0.75-2.48) | 5,639 (1,974-9,303) | 0.146(0.051-0.241) |
| 2050 | 64,505 (28,153-100,857) | 1.67 (0.73-2.61) | 5,805 (1,833-9,777) | 0.15(0.047-0.253)  |

#### **Hypertensive heart disease**

|      |                           |                    |                        |                    |
|------|---------------------------|--------------------|------------------------|--------------------|
| 2022 | 716,737 (696,864-736,610) | 20.14(19.58-20.69) | 66,257 (64,355-68,160) | 1.862(1.81-1.913)  |
| 2023 | 725,443 (700,248-750,638) | 20.24(19.54-20.95) | 67,068 (64,707-69,429) | 1.872(1.807-1.936) |
| 2024 | 733,913 (703,956-763,869) | 20.34(19.51-21.17) | 67,853 (65,075-70,631) | 1.881(1.805-1.956) |
| 2025 | 741,980 (707,578-776,382) | 20.43(19.48-21.37) | 68,602 (65,430-71,773) | 1.889(1.803-1.975) |
| 2026 | 749,560 (710,888-788,232) | 20.51(19.45-21.57) | 69,304 (65,751-72,856) | 1.896(1.8-1.992)   |
| 2027 | 756,900 (714,026-799,774) | 20.59(19.42-21.76) | 69,983 (66,052-73,913) | 1.904(1.798-2.01)  |
| 2028 | 763,766 (716,763-810,769) | 20.67(19.4-21.94)  | 70,614 (66,309-74,919) | 1.911(1.796-2.027) |
| 2029 | 770,148 (719,065-821,230) | 20.75(19.38-22.13) | 71,200 (66,522-75,877) | 1.919(1.793-2.044) |
| 2030 | 776,117 (720,962-831,272) | 20.83(19.35-22.31) | 71,745 (66,692-76,798) | 1.926(1.791-2.061) |
| 2031 | 781,909 (722,618-841,201) | 20.91(19.33-22.5)  | 72,277 (66,838-77,716) | 1.933(1.788-2.078) |
| 2032 | 788,280 (724,671-851,890) | 21.01(19.31-22.7)  | 72,857 (67,011-78,703) | 1.942(1.786-2.097) |
| 2033 | 794,010 (725,982-862,038) | 21.1(19.3-22.91)   | 73,383 (67,115-79,651) | 1.95(1.784-2.116)  |
| 2034 | 799,193 (726,610-871,776) | 21.2(19.27-23.12)  | 73,861 (67,152-80,570) | 1.959(1.782-2.136) |
| 2035 | 804,054 (726,711-881,397) | 21.28(19.24-23.33) | 74,315 (67,139-81,491) | 1.967(1.778-2.157) |
| 2036 | 808,968 (726,552-891,383) | 21.37(19.19-23.55) | 74,776 (67,095-82,458) | 1.975(1.773-2.178) |
| 2037 | 814,680 (726,728-902,633) | 21.47(19.15-23.79) | 75,310 (67,073-83,546) | 1.985(1.768-2.201) |
| 2038 | 820,791 (726,825-914,757) | 21.57(19.1-24.04)  | 75,881 (67,034-84,727) | 1.994(1.762-2.226) |
| 2039 | 826,858 (726,382-927,334) | 21.67(19.04-24.31) | 76,454 (66,940-85,967) | 2.004(1.755-2.253) |
| 2040 | 832,728 (725,177-940,279) | 21.77(18.96-24.58) | 77,012 (66,766-87,257) | 2.014(1.746-2.281) |
| 2041 | 838,344 (723,057-953,631) | 21.87(18.86-24.88) | 77,553 (66,502-88,605) | 2.023(1.735-2.311) |
| 2042 | 843,805 (720,006-967,605) | 21.97(18.74-25.19) | 78,081 (66,139-90,023) | 2.033(1.722-2.343) |

|      |                             |                    |                         |                    |
|------|-----------------------------|--------------------|-------------------------|--------------------|
| 2043 | 849,006 (715,863-982,149)   | 22.06(18.6-25.52)  | 78,589 (65,666-91,511)  | 2.042(1.707-2.378) |
| 2044 | 853,897 (710,500-997,294)   | 22.15(18.43-25.87) | 79,069 (65,071-93,067)  | 2.051(1.689-2.414) |
| 2045 | 858,465 (703,808-1,013,123) | 22.25(18.24-26.25) | 79,524 (64,348-94,701)  | 2.061(1.668-2.454) |
| 2046 | 862,698 (695,681-1,029,715) | 22.34(18.01-26.66) | 79,950 (63,487-96,413)  | 2.07(1.644-2.496)  |
| 2047 | 866,695 (686,156-1,047,234) | 22.42(17.75-27.1)  | 80,356 (62,496-98,217)  | 2.079(1.617-2.541) |
| 2048 | 870,428 (675,260-1,065,595) | 22.51(17.47-27.56) | 80,737 (61,374-100,099) | 2.088(1.588-2.589) |
| 2049 | 873,885 (663,042-1,084,728) | 22.6(17.15-28.06)  | 81,093 (60,130-102,057) | 2.098(1.556-2.64)  |
| 2050 | 877,053 (649,548-1,104,557) | 22.7(16.81-28.58)  | 81,421 (58,764-104,078) | 2.107(1.521-2.693) |

#### **Intracerebral hemorrhage**

|      |                        |                    |                       |                    |
|------|------------------------|--------------------|-----------------------|--------------------|
| 2022 | 48,333 (46,610-50,057) | 1.358(1.311-1.405) | 9,952 (9,521-10,382)  | 0.28(0.269-0.29)   |
| 2023 | 48,678 (46,508-50,847) | 1.358(1.299-1.418) | 10,028 (9,504-10,551) | 0.28(0.266-0.293)  |
| 2024 | 49,036 (46,463-51,609) | 1.359(1.289-1.429) | 10,106 (9,495-10,716) | 0.28(0.264-0.296)  |
| 2025 | 49,402 (46,448-52,357) | 1.36(1.28-1.441)   | 10,185 (9,491-10,879) | 0.28(0.262-0.299)  |
| 2026 | 49,758 (46,431-53,084) | 1.361(1.271-1.452) | 10,261 (9,485-11,037) | 0.281(0.26-0.301)  |
| 2027 | 50,082 (46,387-53,778) | 1.362(1.263-1.462) | 10,331 (9,472-11,190) | 0.281(0.258-0.304) |
| 2028 | 50,367 (46,303-54,431) | 1.363(1.254-1.473) | 10,392 (9,451-11,334) | 0.281(0.256-0.306) |
| 2029 | 50,620 (46,185-55,055) | 1.364(1.245-1.483) | 10,447 (9,421-11,473) | 0.282(0.254-0.309) |
| 2030 | 50,845 (46,032-55,658) | 1.365(1.236-1.493) | 10,496 (9,383-11,608) | 0.282(0.252-0.311) |
| 2031 | 51,054 (45,851-56,256) | 1.365(1.227-1.504) | 10,542 (9,340-11,744) | 0.282(0.25-0.314)  |
| 2032 | 51,257 (45,647-56,867) | 1.366(1.217-1.515) | 10,586 (9,290-11,882) | 0.282(0.248-0.316) |
| 2033 | 51,423 (45,391-57,455) | 1.367(1.207-1.527) | 10,623 (9,230-12,017) | 0.282(0.246-0.319) |
| 2034 | 51,579 (45,105-58,053) | 1.368(1.197-1.539) | 10,658 (9,162-12,154) | 0.283(0.243-0.322) |
| 2035 | 51,751 (44,809-58,693) | 1.37(1.187-1.553)  | 10,695 (9,090-12,299) | 0.283(0.241-0.325) |
| 2036 | 51,951 (44,509-59,392) | 1.372(1.176-1.569) | 10,736 (9,015-12,457) | 0.284(0.238-0.329) |
| 2037 | 52,186 (44,207-60,165) | 1.375(1.165-1.585) | 10,786 (8,939-12,632) | 0.284(0.236-0.333) |
| 2038 | 52,451 (43,895-61,007) | 1.379(1.154-1.603) | 10,841 (8,860-12,822) | 0.285(0.233-0.337) |
| 2039 | 52,730 (43,556-61,905) | 1.382(1.142-1.622) | 10,900 (8,774-13,026) | 0.286(0.23-0.341)  |
| 2040 | 53,010 (43,173-62,847) | 1.386(1.129-1.643) | 10,959 (8,678-13,241) | 0.287(0.227-0.346) |
| 2041 | 53,283 (42,736-63,831) | 1.39(1.115-1.665)  | 11,018 (8,569-13,467) | 0.287(0.224-0.351) |
| 2042 | 53,526 (42,216-64,835) | 1.393(1.099-1.688) | 11,073 (8,444-13,701) | 0.288(0.22-0.356)  |
| 2043 | 53,759 (41,629-65,888) | 1.397(1.082-1.712) | 11,126 (8,304-13,948) | 0.289(0.216-0.362) |
| 2044 | 53,990 (40,977-67,003) | 1.401(1.063-1.738) | 11,178 (8,147-14,208) | 0.29(0.212-0.368)  |
| 2045 | 54,227 (40,261-68,194) | 1.405(1.044-1.767) | 11,230 (7,975-14,485) | 0.291(0.207-0.375) |

|      |                        |                    |                       |                    |
|------|------------------------|--------------------|-----------------------|--------------------|
| 2046 | 54,462 (39,467-69,456) | 1.41(1.022-1.798)  | 11,280 (7,784-14,776) | 0.292(0.202-0.382) |
| 2047 | 54,683 (38,584-70,782) | 1.415(0.998-1.831) | 11,328 (7,574-15,081) | 0.293(0.196-0.39)  |
| 2048 | 54,885 (37,611-72,160) | 1.42(0.973-1.866)  | 11,371 (7,344-15,398) | 0.294(0.19-0.398)  |
| 2049 | 55,072 (36,553-73,591) | 1.425(0.946-1.903) | 11,412 (7,096-15,727) | 0.295(0.184-0.407) |
| 2050 | 55,237 (35,411-75,063) | 1.429(0.916-1.942) | 11,447 (6,830-16,065) | 0.296(0.177-0.416) |

#### Ischemic heart disease

|      |                                 |                    |                           |                 |
|------|---------------------------------|--------------------|---------------------------|-----------------|
| 2022 | 1,305,867 (1,259,501-1,352,233) | 36.69(35.39-37.99) | 120,162 (116,124-124,200) | 3.38(3.26-3.49) |
| 2023 | 1,314,948 (1,258,931-1,370,965) | 36.7(35.13-38.26)  | 120,967 (116,041-125,893) | 3.38(3.24-3.51) |
| 2024 | 1,321,003 (1,257,011-1,384,995) | 36.61(34.84-38.39) | 121,356 (115,695-127,017) | 3.36(3.21-3.52) |
| 2025 | 1,312,487 (1,241,968-1,383,005) | 36.14(34.2-38.08)  | 120,514 (114,301-126,728) | 3.32(3.15-3.49) |
| 2026 | 1,282,111 (1,207,772-1,356,450) | 35.08(33.05-37.11) | 118,218 (111,592-124,843) | 3.23(3.05-3.41) |
| 2027 | 1,268,709 (1,186,134-1,351,284) | 34.51(32.27-36.76) | 117,118 (109,736-124,501) | 3.19(2.99-3.39) |
| 2028 | 1,262,095 (1,172,984-1,351,205) | 34.16(31.75-36.57) | 116,485 (108,494-124,476) | 3.15(2.94-3.37) |
| 2029 | 1,253,517 (1,158,993-1,348,041) | 33.78(31.23-36.33) | 115,465 (106,970-123,959) | 3.11(2.88-3.34) |
| 2030 | 1,225,885 (1,127,719-1,324,051) | 32.91(30.27-35.54) | 112,800 (104,030-121,571) | 3.03(2.79-3.26) |
| 2031 | 1,168,378 (1,070,696-1,266,059) | 31.25(28.64-33.86) | 108,155 (99,312-116,998)  | 2.89(2.66-3.13) |
| 2032 | 1,135,757 (1,032,371-1,239,144) | 30.27(27.51-33.02) | 105,320 (95,913-114,728)  | 2.81(2.56-3.06) |
| 2033 | 1,113,469 (1,006,131-1,220,807) | 29.59(26.74-32.45) | 103,231 (93,432-113,030)  | 2.74(2.48-3)    |
| 2034 | 1,091,388 (981,379-1,201,397)   | 28.95(26.03-31.86) | 100,887 (90,835-110,939)  | 2.68(2.41-2.94) |
| 2035 | 1,046,854 (936,656-1,157,052)   | 27.71(24.79-30.63) | 96,593 (86,585-106,601)   | 2.56(2.29-2.82) |
| 2036 | 961,988 (857,497-1,066,479)     | 25.41(22.65-28.17) | 89,570 (79,913-99,227)    | 2.37(2.11-2.62) |
| 2037 | 915,246 (807,577-1,022,916)     | 24.12(21.28-26.96) | 85,430 (75,406-95,455)    | 2.25(1.99-2.52) |
| 2038 | 881,295 (772,172-990,418)       | 23.16(20.3-26.03)  | 82,264 (72,052-92,476)    | 2.16(1.89-2.43) |
| 2039 | 848,923 (740,051-957,794)       | 22.25(19.4-25.11)  | 78,866 (68,666-89,066)    | 2.07(1.8-2.33)  |
| 2040 | 788,578 (683,588-893,567)       | 20.62(17.87-23.36) | 73,022 (63,233-82,810)    | 1.91(1.65-2.16) |
| 2041 | 673,702 (580,795-766,609)       | 17.57(15.15-20)    | 63,479 (54,526-72,433)    | 1.66(1.42-1.89) |
| 2042 | 615,369 (521,145-709,593)       | 16.02(13.57-18.47) | 58,313 (49,121-67,505)    | 1.52(1.28-1.76) |
| 2043 | 570,540 (476,826-664,254)       | 14.83(12.39-17.26) | 54,189 (44,944-63,435)    | 1.41(1.17-1.65) |
| 2044 | 527,700 (437,435-617,965)       | 13.69(11.35-16.03) | 49,788 (40,812-58,764)    | 1.29(1.06-1.52) |
| 2045 | 455,123 (372,824-537,423)       | 11.79(9.66-13.93)  | 42,812 (34,553-51,072)    | 1.11(0.9-1.32)  |
| 2046 | 325,198 (258,174-392,222)       | 8.42(6.68-10.15)   | 32,042 (24,767-39,316)    | 0.83(0.64-1.02) |
| 2047 | 232,377 (164,141-300,613)       | 6.01(4.25-7.78)    | 23,978 (16,415-31,541)    | 0.62(0.42-0.82) |
| 2048 | 166,047 (95,904-236,189)        | 4.29(2.48-6.11)    | 17,941 (10,081-25,801)    | 0.46(0.26-0.67) |

|                        |                          |                       |                       |                       |
|------------------------|--------------------------|-----------------------|-----------------------|-----------------------|
| 2049                   | 118,648 (50,492-186,805) | 3.07(1.31-4.83)       | 13,422 (5,647-21,197) | 0.35(0.15-0.55)       |
| 2050                   | 84,779 (21,728-147,831)  | 2.19(0.56-3.83)       | 10,040 (2,673-17,407) | 0.26(0.07-0.45)       |
| <b>Ischemic stroke</b> |                          |                       |                       |                       |
| 2022                   | 9,881 (9,451-10,311)     | 0.2776(0.2669-0.2884) | 1,787 (1,663-1,911)   | 0.0502(0.0476-0.0528) |
| 2023                   | 9,962 (9,436-10,488)     | 0.278(0.2644-0.2916)  | 1,803 (1,665-1,942)   | 0.0503(0.0472-0.0534) |
| 2024                   | 10,041 (9,427-10,656)    | 0.2783(0.2622-0.2944) | 1,820 (1,666-1,973)   | 0.0504(0.0469-0.054)  |
| 2025                   | 10,118 (9,419-10,816)    | 0.2786(0.2601-0.297)  | 1,835 (1,667-2,003)   | 0.0505(0.0465-0.0545) |
| 2026                   | 10,187 (9,407-10,968)    | 0.2787(0.2581-0.2994) | 1,850 (1,667-2,032)   | 0.0506(0.0462-0.055)  |
| 2027                   | 10,249 (9,387-11,110)    | 0.2788(0.256-0.3016)  | 1,863 (1,664-2,061)   | 0.0507(0.0458-0.0555) |
| 2028                   | 10,299 (9,357-11,241)    | 0.2788(0.2538-0.3037) | 1,873 (1,660-2,087)   | 0.0507(0.0454-0.056)  |
| 2029                   | 10,341 (9,318-11,364)    | 0.2787(0.2516-0.3057) | 1,883 (1,653-2,113)   | 0.0507(0.045-0.0565)  |
| 2030                   | 10,376 (9,272-11,480)    | 0.2785(0.2494-0.3077) | 1,891 (1,644-2,137)   | 0.0508(0.0445-0.057)  |
| 2031                   | 10,406 (9,219-11,594)    | 0.2783(0.247-0.3096)  | 1,898 (1,634-2,162)   | 0.0508(0.0441-0.0574) |
| 2032                   | 10,436 (9,162-11,710)    | 0.2781(0.2446-0.3116) | 1,904 (1,622-2,187)   | 0.0508(0.0436-0.0579) |
| 2033                   | 10,457 (9,095-11,820)    | 0.2779(0.2421-0.3138) | 1,909 (1,608-2,211)   | 0.0507(0.0431-0.0584) |
| 2034                   | 10,475 (9,020-11,930)    | 0.2778(0.2396-0.316)  | 1,913 (1,591-2,235)   | 0.0507(0.0425-0.059)  |
| 2035                   | 10,495 (8,942-12,047)    | 0.2778(0.2371-0.3185) | 1,917 (1,573-2,261)   | 0.0508(0.0419-0.0596) |
| 2036                   | 10,518 (8,863-12,174)    | 0.2779(0.2345-0.3213) | 1,922 (1,555-2,289)   | 0.0508(0.0413-0.0602) |
| 2037                   | 10,550 (8,783-12,316)    | 0.278(0.2318-0.3243)  | 1,927 (1,535-2,320)   | 0.0508(0.0407-0.0609) |
| 2038                   | 10,587 (8,701-12,472)    | 0.2783(0.229-0.3275)  | 1,934 (1,514-2,354)   | 0.0508(0.04-0.0616)   |
| 2039                   | 10,626 (8,614-12,639)    | 0.2786(0.2261-0.331)  | 1,941 (1,491-2,390)   | 0.0509(0.0393-0.0624) |
| 2040                   | 10,666 (8,517-12,816)    | 0.2789(0.2229-0.3348) | 1,948 (1,466-2,429)   | 0.0509(0.0385-0.0633) |
| 2041                   | 10,706 (8,409-13,003)    | 0.2793(0.2196-0.339)  | 1,954 (1,438-2,471)   | 0.051(0.0377-0.0643)  |
| 2042                   | 10,742 (8,287-13,197)    | 0.2796(0.2159-0.3433) | 1,960 (1,407-2,514)   | 0.051(0.0368-0.0653)  |
| 2043                   | 10,776 (8,151-13,402)    | 0.28(0.212-0.348)     | 1,966 (1,372-2,560)   | 0.0511(0.0358-0.0664) |
| 2044                   | 10,809 (8,000-13,618)    | 0.2805(0.2078-0.3531) | 1,972 (1,335-2,609)   | 0.0512(0.0348-0.0675) |
| 2045                   | 10,843 (7,835-13,850)    | 0.281(0.2032-0.3587)  | 1,977 (1,294-2,660)   | 0.0512(0.0337-0.0688) |
| 2046                   | 10,874 (7,654-14,094)    | 0.2815(0.1983-0.3647) | 1,981 (1,249-2,714)   | 0.0513(0.0325-0.0701) |
| 2047                   | 10,903 (7,455-14,350)    | 0.2821(0.193-0.3711)  | 1,986 (1,201-2,770)   | 0.0514(0.0312-0.0715) |
| 2048                   | 10,927 (7,238-14,617)    | 0.2826(0.1874-0.3779) | 1,989 (1,150-2,828)   | 0.0514(0.0299-0.073)  |
| 2049                   | 10,949 (7,005-14,893)    | 0.2832(0.1813-0.3851) | 1,992 (1,095-2,889)   | 0.0515(0.0284-0.0746) |
| 2050                   | 10,966 (6,755-15,177)    | 0.2838(0.1749-0.3926) | 1,994 (1,037-2,951)   | 0.0516(0.0269-0.0762) |

**Non-rheumatic valvular heart disease**

|      |                        |                    |                     |                       |
|------|------------------------|--------------------|---------------------|-----------------------|
| 2022 | 9,954 (9,541-10,366)   | 0.28(0.269-0.29)   | 937 (859-1,015)     | 0.0263(0.0249-0.0277) |
| 2023 | 10,229 (9,726-10,732)  | 0.285(0.273-0.298) | 962 (878-1,046)     | 0.0268(0.0252-0.0285) |
| 2024 | 10,511 (9,914-11,108)  | 0.291(0.276-0.307) | 987 (896-1,079)     | 0.0274(0.0255-0.0292) |
| 2025 | 10,801 (10,102-11,499) | 0.297(0.279-0.316) | 1,013 (914-1,113)   | 0.0279(0.0258-0.03)   |
| 2026 | 11,099 (10,289-11,908) | 0.304(0.282-0.325) | 1,040 (930-1,150)   | 0.0285(0.026-0.0309)  |
| 2027 | 11,406 (10,472-12,340) | 0.31(0.286-0.335)  | 1,067 (946-1,188)   | 0.029(0.0262-0.0318)  |
| 2028 | 11,718 (10,645-12,790) | 0.317(0.289-0.346) | 1,094 (960-1,228)   | 0.0296(0.0264-0.0328) |
| 2029 | 12,035 (10,807-13,263) | 0.324(0.292-0.357) | 1,122 (973-1,270)   | 0.0302(0.0266-0.0338) |
| 2030 | 12,363 (10,961-13,765) | 0.332(0.295-0.369) | 1,150 (984-1,315)   | 0.0309(0.0268-0.0349) |
| 2031 | 12,707 (11,109-14,304) | 0.34(0.298-0.382)  | 1,178 (994-1,362)   | 0.0315(0.0269-0.0361) |
| 2032 | 13,069 (11,251-14,888) | 0.348(0.3-0.396)   | 1,208 (1,003-1,414) | 0.0322(0.027-0.0374)  |
| 2033 | 13,436 (11,372-15,499) | 0.357(0.303-0.412) | 1,238 (1,009-1,467) | 0.0329(0.0271-0.0387) |
| 2034 | 13,807 (11,472-16,142) | 0.366(0.305-0.428) | 1,268 (1,013-1,523) | 0.0336(0.0271-0.0401) |
| 2035 | 14,186 (11,551-16,822) | 0.376(0.306-0.445) | 1,298 (1,014-1,582) | 0.0344(0.0271-0.0416) |
| 2036 | 14,578 (11,610-17,546) | 0.385(0.307-0.463) | 1,329 (1,013-1,645) | 0.0351(0.027-0.0432)  |
| 2037 | 14,986 (11,649-18,323) | 0.395(0.307-0.483) | 1,362 (1,010-1,713) | 0.0359(0.0268-0.045)  |
| 2038 | 15,411 (11,667-19,156) | 0.405(0.307-0.503) | 1,396 (1,005-1,786) | 0.0367(0.0266-0.0468) |
| 2039 | 15,850 (11,656-20,044) | 0.415(0.306-0.525) | 1,430 (996-1,864)   | 0.0375(0.0263-0.0487) |
| 2040 | 16,298 (11,610-20,985) | 0.426(0.304-0.549) | 1,465 (984-1,946)   | 0.0383(0.0259-0.0507) |
| 2041 | 16,755 (11,526-21,985) | 0.437(0.301-0.573) | 1,501 (968-2,034)   | 0.0392(0.0254-0.0529) |
| 2042 | 17,215 (11,391-23,039) | 0.448(0.297-0.6)   | 1,537 (947-2,126)   | 0.04(0.0248-0.0552)   |
| 2043 | 17,685 (11,209-24,160) | 0.46(0.291-0.628)  | 1,573 (922-2,225)   | 0.0409(0.0241-0.0577) |
| 2044 | 18,164 (10,977-25,352) | 0.471(0.285-0.658) | 1,610 (892-2,328)   | 0.0418(0.0233-0.0603) |
| 2045 | 18,657 (10,691-26,624) | 0.483(0.277-0.69)  | 1,647 (857-2,438)   | 0.0427(0.0223-0.0631) |
| 2046 | 19,162 (10,345-27,979) | 0.496(0.268-0.724) | 1,685 (816-2,554)   | 0.0436(0.0212-0.066)  |
| 2047 | 19,675 (9,931-29,419)  | 0.509(0.257-0.761) | 1,723 (769-2,676)   | 0.0446(0.02-0.0692)   |
| 2048 | 20,194 (9,447-30,942)  | 0.522(0.244-0.8)   | 1,761 (717-2,805)   | 0.0456(0.0186-0.0725) |
| 2049 | 20,722 (8,891-32,552)  | 0.536(0.23-0.842)  | 1,800 (659-2,940)   | 0.0465(0.0171-0.076)  |
| 2050 | 21,254 (8,263-34,245)  | 0.55(0.214-0.886)  | 1,838 (596-3,081)   | 0.0476(0.0155-0.0796) |

**Other cardiovascular and circulatory diseases**

|      |                        |                 |                     |                    |
|------|------------------------|-----------------|---------------------|--------------------|
| 2022 | 45,835 (44,597-47,073) | 1.29(1.26-1.32) | 4,224 (4,031-4,417) | 0.119(0.115-0.123) |
| 2023 | 46,648 (45,067-48,229) | 1.3(1.26-1.34)  | 4,301 (4,083-4,518) | 0.12(0.115-0.125)  |
| 2024 | 47,465 (45,543-49,387) | 1.32(1.26-1.37) | 4,378 (4,133-4,624) | 0.121(0.116-0.127) |

|                                        |                         |                    |                      |                       |
|----------------------------------------|-------------------------|--------------------|----------------------|-----------------------|
| 2025                                   | 48,290 (46,009-50,571)  | 1.33(1.27-1.39)    | 4,457 (4,181-4,734)  | 0.123(0.116-0.129)    |
| 2026                                   | 49,127 (46,452-51,802)  | 1.34(1.27-1.42)    | 4,536 (4,224-4,849)  | 0.124(0.116-0.132)    |
| 2027                                   | 49,961 (46,843-53,079)  | 1.36(1.28-1.44)    | 4,616 (4,262-4,969)  | 0.126(0.117-0.134)    |
| 2028                                   | 50,789 (47,175-54,403)  | 1.37(1.28-1.47)    | 4,694 (4,293-5,095)  | 0.127(0.117-0.137)    |
| 2029                                   | 51,626 (47,457-55,795)  | 1.39(1.28-1.5)     | 4,773 (4,319-5,227)  | 0.129(0.117-0.14)     |
| 2030                                   | 52,487 (47,693-57,281)  | 1.41(1.28-1.54)    | 4,853 (4,339-5,367)  | 0.13(0.117-0.144)     |
| 2031                                   | 53,391 (47,892-58,890)  | 1.43(1.28-1.57)    | 4,935 (4,353-5,517)  | 0.132(0.117-0.147)    |
| 2032                                   | 54,332 (48,037-60,626)  | 1.45(1.28-1.62)    | 5,020 (4,362-5,677)  | 0.134(0.117-0.151)    |
| 2033                                   | 55,248 (48,072-62,424)  | 1.47(1.28-1.66)    | 5,103 (4,362-5,844)  | 0.136(0.116-0.155)    |
| 2034                                   | 56,153 (48,006-64,301)  | 1.49(1.27-1.71)    | 5,185 (4,352-6,018)  | 0.138(0.116-0.159)    |
| 2035                                   | 57,070 (47,853-66,286)  | 1.51(1.27-1.75)    | 5,268 (4,334-6,202)  | 0.139(0.115-0.164)    |
| 2036                                   | 58,015 (47,622-68,409)  | 1.53(1.26-1.81)    | 5,353 (4,309-6,398)  | 0.141(0.114-0.169)    |
| 2037                                   | 58,993 (47,306-70,681)  | 1.55(1.25-1.86)    | 5,442 (4,277-6,608)  | 0.143(0.113-0.174)    |
| 2038                                   | 60,002 (46,899-73,104)  | 1.58(1.23-1.92)    | 5,534 (4,237-6,831)  | 0.145(0.112-0.179)    |
| 2039                                   | 61,026 (46,389-75,663)  | 1.6(1.22-1.98)     | 5,627 (4,188-7,067)  | 0.148(0.11-0.185)     |
| 2040                                   | 62,061 (45,767-78,355)  | 1.62(1.2-2.05)     | 5,721 (4,128-7,314)  | 0.15(0.108-0.191)     |
| 2041                                   | 63,104 (45,024-81,185)  | 1.65(1.17-2.12)    | 5,815 (4,057-7,573)  | 0.152(0.106-0.197)    |
| 2042                                   | 64,125 (44,125-84,124)  | 1.67(1.15-2.19)    | 5,909 (3,974-7,844)  | 0.154(0.104-0.204)    |
| 2043                                   | 65,141 (43,086-87,197)  | 1.69(1.12-2.27)    | 6,002 (3,878-8,127)  | 0.156(0.101-0.211)    |
| 2044                                   | 66,163 (41,910-90,416)  | 1.72(1.09-2.35)    | 6,096 (3,769-8,422)  | 0.158(0.098-0.218)    |
| 2045                                   | 67,201 (40,600-93,802)  | 1.74(1.05-2.43)    | 6,189 (3,648-8,730)  | 0.16(0.095-0.226)     |
| 2046                                   | 68,252 (39,146-97,359)  | 1.77(1.01-2.52)    | 6,282 (3,512-9,051)  | 0.163(0.091-0.234)    |
| 2047                                   | 69,301 (37,525-101,077) | 1.79(0.97-2.62)    | 6,375 (3,363-9,386)  | 0.165(0.087-0.243)    |
| 2048                                   | 70,341 (35,735-104,947) | 1.82(0.92-2.71)    | 6,466 (3,200-9,733)  | 0.167(0.083-0.252)    |
| 2049                                   | 71,375 (33,781-108,969) | 1.85(0.87-2.82)    | 6,557 (3,023-10,092) | 0.17(0.078-0.261)     |
| 2050                                   | 72,396 (31,659-113,134) | 1.87(0.82-2.93)    | 6,647 (2,831-10,463) | 0.172(0.073-0.271)    |
| <b>Pulmonary arterial hypertension</b> |                         |                    |                      |                       |
| 2022                                   | 62,541 (61,483-63,600)  | 1.757(1.731-1.784) | 5,803 (5,595-6,010)  | 0.163(0.159-0.1671)   |
| 2023                                   | 62,918 (61,716-64,120)  | 1.756(1.725-1.786) | 5,836 (5,615-6,058)  | 0.1629(0.1583-0.1674) |
| 2024                                   | 63,293 (61,948-64,638)  | 1.754(1.72-1.789)  | 5,870 (5,634-6,106)  | 0.1627(0.1576-0.1677) |
| 2025                                   | 63,655 (62,161-65,148)  | 1.753(1.714-1.791) | 5,902 (5,650-6,154)  | 0.1625(0.1569-0.1681) |
| 2026                                   | 63,993 (62,341-65,646)  | 1.751(1.708-1.794) | 5,932 (5,661-6,202)  | 0.1623(0.1561-0.1684) |
| 2027                                   | 64,300 (62,472-66,127)  | 1.749(1.701-1.797) | 5,958 (5,667-6,249)  | 0.1621(0.1553-0.1688) |

|      |                        |                    |                     |                       |
|------|------------------------|--------------------|---------------------|-----------------------|
| 2028 | 64,557 (62,540-66,574) | 1.747(1.694-1.8)   | 5,979 (5,665-6,294) | 0.1618(0.1544-0.1693) |
| 2029 | 64,769 (62,543-66,995) | 1.745(1.687-1.804) | 5,997 (5,656-6,337) | 0.1616(0.1534-0.1698) |
| 2030 | 64,943 (62,485-67,401) | 1.743(1.679-1.808) | 6,010 (5,640-6,380) | 0.1613(0.1523-0.1704) |
| 2031 | 65,093 (62,373-67,814) | 1.741(1.669-1.813) | 6,022 (5,618-6,425) | 0.1611(0.1511-0.1711) |
| 2032 | 65,244 (62,226-68,262) | 1.739(1.659-1.818) | 6,033 (5,591-6,474) | 0.1608(0.1497-0.1718) |
| 2033 | 65,331 (61,983-68,680) | 1.736(1.648-1.824) | 6,038 (5,554-6,521) | 0.1605(0.1483-0.1727) |
| 2034 | 65,382 (61,666-69,098) | 1.734(1.636-1.832) | 6,039 (5,508-6,570) | 0.1602(0.1467-0.1736) |
| 2035 | 65,419 (61,294-69,543) | 1.732(1.623-1.84)  | 6,039 (5,456-6,622) | 0.1599(0.145-0.1747)  |
| 2036 | 65,462 (60,882-70,042) | 1.729(1.609-1.85)  | 6,039 (5,399-6,680) | 0.1595(0.1431-0.176)  |
| 2037 | 65,536 (60,448-70,624) | 1.727(1.594-1.861) | 6,042 (5,337-6,747) | 0.1592(0.1411-0.1774) |
| 2038 | 65,635 (59,986-71,284) | 1.725(1.577-1.873) | 6,047 (5,271-6,822) | 0.1589(0.1389-0.1789) |
| 2039 | 65,734 (59,471-71,997) | 1.723(1.559-1.887) | 6,051 (5,198-6,904) | 0.1586(0.1366-0.1806) |
| 2040 | 65,825 (58,892-72,759) | 1.721(1.54-1.902)  | 6,055 (5,118-6,991) | 0.1583(0.1341-0.1825) |
| 2041 | 65,905 (58,242-73,568) | 1.719(1.52-1.919)  | 6,057 (5,030-7,084) | 0.158(0.1315-0.1845)  |
| 2042 | 65,970 (57,516-74,424) | 1.717(1.498-1.937) | 6,058 (4,933-7,182) | 0.1577(0.1287-0.1867) |
| 2043 | 66,017 (56,712-75,323) | 1.715(1.474-1.957) | 6,057 (4,828-7,285) | 0.1574(0.1257-0.1891) |
| 2044 | 66,046 (55,828-76,264) | 1.714(1.449-1.978) | 6,054 (4,715-7,393) | 0.1571(0.1226-0.1916) |
| 2045 | 66,055 (54,863-77,248) | 1.712(1.422-2.001) | 6,050 (4,593-7,506) | 0.1568(0.1192-0.1943) |
| 2046 | 66,044 (53,815-78,272) | 1.71(1.394-2.026)  | 6,043 (4,464-7,623) | 0.1565(0.1158-0.1972) |
| 2047 | 66,013 (52,687-79,339) | 1.708(1.363-2.053) | 6,035 (4,327-7,744) | 0.1562(0.1121-0.2002) |
| 2048 | 65,960 (51,482-80,438) | 1.706(1.332-2.08)  | 6,025 (4,182-7,868) | 0.1559(0.1083-0.2034) |
| 2049 | 65,886 (50,207-81,564) | 1.704(1.299-2.11)  | 6,013 (4,032-7,995) | 0.1555(0.1044-0.2067) |
| 2050 | 65,788 (48,865-82,712) | 1.702(1.265-2.14)  | 5,999 (3,874-8,124) | 0.1552(0.1004-0.2101) |

#### **Rheumatic heart disease**

|      |                           |                    |                        |                    |
|------|---------------------------|--------------------|------------------------|--------------------|
| 2022 | 768,632 (751,046-786,219) | 21.6(21.1-22.09)   | 70,346 (68,598-72,094) | 1.976(1.93-2.023)  |
| 2023 | 773,572 (750,609-796,534) | 21.59(20.95-22.23) | 70,812 (68,590-73,033) | 1.976(1.916-2.036) |
| 2024 | 778,486 (750,321-806,651) | 21.58(20.8-22.36)  | 71,274 (68,581-73,967) | 1.975(1.902-2.049) |
| 2025 | 783,311 (749,765-816,857) | 21.57(20.64-22.49) | 71,730 (68,541-74,920) | 1.975(1.888-2.062) |
| 2026 | 787,803 (748,447-827,160) | 21.55(20.48-22.63) | 72,158 (68,425-75,890) | 1.974(1.873-2.075) |
| 2027 | 791,585 (745,813-837,357) | 21.53(20.29-22.78) | 72,523 (68,187-76,859) | 1.973(1.856-2.09)  |
| 2028 | 794,684 (741,878-847,491) | 21.51(20.08-22.94) | 72,825 (67,824-77,827) | 1.971(1.837-2.106) |
| 2029 | 797,314 (736,810-857,818) | 21.49(19.86-23.12) | 73,087 (67,355-78,819) | 1.97(1.816-2.123)  |
| 2030 | 799,684 (730,753-868,615) | 21.47(19.62-23.32) | 73,324 (66,790-79,858) | 1.968(1.793-2.143) |

|      |                             |                    |                         |                    |
|------|-----------------------------|--------------------|-------------------------|--------------------|
| 2031 | 801,867 (723,707-880,028)   | 21.45(19.36-23.54) | 73,546 (66,132-80,959)  | 1.967(1.769-2.165) |
| 2032 | 803,937 (715,671-892,203)   | 21.42(19.07-23.78) | 73,755 (65,379-82,132)  | 1.966(1.743-2.188) |
| 2033 | 805,135 (706,017-904,253)   | 21.4(18.77-24.03)  | 73,887 (64,476-83,298)  | 1.964(1.714-2.214) |
| 2034 | 805,799 (695,079-916,519)   | 21.37(18.43-24.31) | 73,970 (63,452-84,487)  | 1.962(1.683-2.24)  |
| 2035 | 806,170 (683,069-929,271)   | 21.34(18.08-24.6)  | 74,028 (62,330-85,727)  | 1.96(1.65-2.269)   |
| 2036 | 806,399 (670,088-942,709)   | 21.3(17.7-24.9)    | 74,074 (61,115-87,033)  | 1.957(1.615-2.299) |
| 2037 | 806,576 (656,165-956,987)   | 21.26(17.29-25.22) | 74,117 (59,813-88,422)  | 1.953(1.577-2.33)  |
| 2038 | 806,735 (641,361-972,109)   | 21.2(16.86-25.55)  | 74,159 (58,426-89,891)  | 1.949(1.536-2.362) |
| 2039 | 806,667 (625,531-987,803)   | 21.15(16.4-25.89)  | 74,182 (56,945-91,419)  | 1.945(1.493-2.396) |
| 2040 | 806,355 (608,675-1,004,035) | 21.08(15.92-26.25) | 74,182 (55,366-92,998)  | 1.94(1.448-2.431)  |
| 2041 | 805,754 (590,755-1,020,752) | 21.02(15.41-26.63) | 74,157 (53,687-94,627)  | 1.934(1.401-2.468) |
| 2042 | 804,730 (571,654-1,037,806) | 20.95(14.88-27.02) | 74,093 (51,897-96,289)  | 1.929(1.351-2.506) |
| 2043 | 803,364 (551,497-1,055,232) | 20.88(14.33-27.42) | 73,998 (50,007-97,990)  | 1.923(1.3-2.546)   |
| 2044 | 801,728 (530,387-1,073,069) | 20.8(13.76-27.84)  | 73,877 (48,025-99,729)  | 1.917(1.246-2.587) |
| 2045 | 799,874 (508,397-1,091,351) | 20.73(13.17-28.28) | 73,736 (45,960-101,513) | 1.911(1.191-2.63)  |
| 2046 | 797,820 (485,558-1,110,083) | 20.66(12.57-28.74) | 73,575 (43,812-103,338) | 1.905(1.134-2.675) |
| 2047 | 795,534 (461,863-1,129,205) | 20.58(11.95-29.22) | 73,394 (41,585-105,204) | 1.899(1.076-2.722) |
| 2048 | 793,000 (437,371-1,148,629) | 20.51(11.31-29.71) | 73,189 (39,281-107,097) | 1.893(1.016-2.77)  |
| 2049 | 790,207 (412,143-1,168,271) | 20.44(10.66-30.22) | 72,961 (36,907-109,015) | 1.887(0.955-2.82)  |
| 2050 | 787,157 (386,244-1,188,070) | 20.37(9.99-30.74)  | 72,707 (34,468-110,945) | 1.881(0.892-2.871) |

AYA =adolescent and young adult; HF=heart failure; UI =uncertainty interval; YLDs, years lived with disability.