Supplemental Material 2. Model estimates for age-standardized mortality rates (ASMRs) (per 100,000 people) and cancer deaths among 20 years and older population from the year 2020 to the year 2035 in AAPC-Joinpoint regression model

A. Model estimates for age-standardized mortality rates (ASMRs) (per 100,000 people)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **AAPC, %** | **2020** | **2025** | **2030** | **2035** |
|  |  | **Men** | **Women** | **Men** | **Women** | **Total** | **Men** | **Women** | **Total** | **Men** | **Women** | **Total** | **Men** | **Women** | **Total** |
| **All cancer**  | **C00-96** | **-3.4** | **-1.9** | **111.75** | **80.99** | **100.39** | **95.93** | **74.44** | **88.85** | **82.35** | **68.43** | **78.50** | **70.69** | **62.89** | **69.33** |
| Oral cavity, pharynx, Lip  | C00-14 | -2.6 | -2.1 | 2.12 | 0.83 | 1.55 | 1.92 | 0.78 | 1.43 | 1.74 | 0.73 | 1.32 | 1.58 | 0.69 | 1.21 |
| MPL | C00-14, C32 | -4.8 | -3.7 | 2.58 | 0.85 | 1.82 | 2.04 | 0.71 | 1.47 | 1.62 | 0.59 | 1.19 | 1.27 | 0.49 | 0.95 |
| Aero-digestive  | C00-C16, C18-20, C30-34 | -3.6 | -3.0 | 57.07 | 29.28 | 45.83 | 49.41 | 26.42 | 40.53 | 43.21 | 24.10 | 36.10 | 38.17 | 22.19 | 32.43 |
| Salivary  | C07-08 | 2.8 | 5.6 | 0.26 | 0.12 | 0.20 | 0.29 | 0.16 | 0.24 | 0.34 | 0.21 | 0.29 | 0.39 | 0.28 | 0.35 |
| Pharynx  | C10-14 | 0.8 | -0.3 | 0.99 | 0.11 | 0.60 | 1.03 | 0.11 | 0.63 | 1.07 | 0.11 | 0.66 | 1.11 | 0.11 | 0.69 |
| Nasopharynx  | C11 | 1.8 | 1.6 | 0.34 | 0.13 | 0.25 | 0.38 | 0.14 | 0.27 | 0.41 | 0.16 | 0.30 | 0.45 | 0.17 | 0.32 |
| Esophagus  | C15 | -5.0 | -4.8 | 2.92 | 0.31 | 1.77 | 2.30 | 0.24 | 1.42 | 1.81 | 0.19 | 1.13 | 1.42 | 0.15 | 0.90 |
| Stomach  | C16 | -6.6 | -6.3 | 11.05 | 6.42 | 9.16 | 8.03 | 4.73 | 6.73 | 5.83 | 3.49 | 4.93 | 4.23 | 2.57 | 3.61 |
| Cardia  | C16.0 | 11.3 | 17.2 | 0.88 | 0.26 | 0.61 | 1.49 | 0.58 | 1.12 | 2.56 | 1.29 | 2.06 | 4.36 | 2.86 | 3.81 |
| Non-cardia | C16.1-C16.6, C16.8 | -7.1 | -5.5 | 9.36 | 8.03 | 9.02 | 6.64 | 6.15 | 6.63 | 4.72 | 4.70 | 4.88 | 3.35 | 3.60 | 3.58 |
| Colorectal  | C18-C20 | -0.7 | -0.8 | 11.76 | 9.73 | 11.11 | 11.59 | 9.59 | 10.97 | 11.42 | 9.44 | 10.82 | 11.25 | 9.30 | 10.67 |
| Liver  | C22 | -4.3 | -3.3 | 19.34 | 7.18 | 13.83 | 15.82 | 6.19 | 11.53 | 12.94 | 5.34 | 9.60 | 10.58 | 4.61 | 8.00 |
| Hepatocellular carcinoma | C22.0 | -5.1 | -5.0 | 15.39 | 4.24 | 10.27 | 12.00 | 3.32 | 8.08 | 9.36 | 2.60 | 6.35 | 7.30 | 2.04 | 4.98 |
| Cholangiocarcinoma | C22.1 | 4.1 | 5.4 | 3.73 | 2.98 | 3.47 | 4.56 | 3.88 | 4.36 | 5.57 | 5.05 | 5.47 | 6.81 | 6.56 | 6.86 |
| Anus  | C21 | -0.8 | -0.4 | 0.06 | 0.13 | 0.09 | 0.05 | 0.12 | 0.09 | 0.05 | 0.12 | 0.08 | 0.05 | 0.12 | 0.08 |
| Gallbladder  | C23 | -1.5 | -1.0 | 1.67 | 2.57 | 2.14 | 1.56 | 2.48 | 2.02 | 1.47 | 2.40 | 1.92 | 1.37 | 2.31 | 1.82 |
| Biliary tract  | C23-C24 | -2.4 | -1.5 | 5.48 | 5.92 | 5.85 | 5.02 | 5.72 | 5.49 | 4.59 | 5.52 | 5.14 | 4.19 | 5.33 | 4.82 |
| Pancreas  | C25 | -0.8 | 0.9 | 7.78 | 7.69 | 7.89 | 7.48 | 8.04 | 7.87 | 7.19 | 8.41 | 7.85 | 6.91 | 8.79 | 7.84 |
| Nasal cavity/ PNS  | C30-C31 | -2.9 | 1.0 | 0.27 | 0.17 | 0.23 | 0.24 | 0.18 | 0.21 | 0.21 | 0.19 | 0.20 | 0.18 | 0.20 | 0.19 |
| Larynx  | C32 | -9.6 | -12.9 | 0.53 | 0.04 | 0.32 | 0.34 | 0.02 | 0.21 | 0.22 | 0.01 | 0.14 | 0.14 | 0.01 | 0.09 |
| Lung, Bronchus, Trachea  | C33-C34 | -3.0 | -2.1 | 28.42 | 11.77 | 21.68 | 24.99 | 1087 | 19.56 | 21.99 | 10.04 | 17.57 | 19.34 | 9.28 | 15.76 |
| Bone | C40-C41 | -4.0 | -3.9 | 0.30 | 0.19 | 0.25 | 0.25 | 0.16 | 0.21 | 0.20 | 0.13 | 0.17 | 0.17 | 0.11 | 0.14 |
| Melanoma | C43 | 2.3 | 4.0 | 0.40 | 0.45 | 0.42 | 0.44 | 0.54 | 0.49 | 0.50 | 0.66 | 0.57 | 0.56 | 0.80 | 0.67 |
| Non-melanoma, Skin  | C44 | -4.7 | -3.5 | 0.18 | 0.27 | 0.23 | 0.14 | 0.23 | 0.19 | 0.12 | 0.19 | 0.15 | 0.09 | 0.16 | 0.12 |
| Mesothelioma  | C45 | 5.7 | 7.8 | 0.22 | 0.11 | 0.17 | 0.29 | 0.15 | 0.24 | 0.38 | 0.23 | 0.32 | 0.51 | 0.33 | 0.44 |
| Kaposi sarcoma | C46 | 1.2 | -3.4 | 0.02 | 0.01 | 0.02 | 0.03 | 0.01 | 0.02 | 0.03 | 0.01 | 0.02 | 0.03 | 0.01 | 0.02 |
| Breast  | C50 | -5.1 | 1.6 | 0.03 | 8.71 | 4.23 | 0.02 | 9.38 | 4.48 | 0.02 | 10.11 | 4.75 | 0.01 | 10.89 | 5.02 |
| Premenopausal  |  |  |  | 0 | 0.05 | 0.05 | 0 | 0.06 | 0.05 | 0 | 0.06 | 0.06 | 0 | 0.06 | 0.06 |
| Postmenopausal  |  |  |  | 0.12 | 0.12 | 0.12 | 0.10 | 0.13 | 0.12 | 0.08 | 0.14 | 0.13 | 0.06 | 0.15 | 0.14 |
| Vulva  | C51 | - | 2.2 | - | 0.14 | 0.14 | - | 0.15 | 0.15 | - | 0.17 | 0.17 | - | 0.19 | 0.19 |
| Vagina  | C52 | - | 1.7 | - | 0.08 | 0.08 | - | 0.09 | 0.09 | - | 0.10 | 0.10 | - | 0.10 | 0.10 |
| Cervix uteri  | C53 | - | -2.2 | - | 2.71 | 2.71 | - | 2.48 | 2.48 | - | 2.27 | 2.27 | - | 2.07 | 2.07 |
| Corpus uteri  | C54 | - | 9.1 | - | 1.24 | 1.24 | - | 1.91 | 1.91 | - | 2.95 | 2.95 | - | 4.56 | 4.56 |
| Endometrium  | C54.1 | - | 9.3 | - | 1.14 | 1.14 | - | 1.77 | 1.77 | - | 2.76 | 2.76 | - | 4.31 | 4.31 |
| Ovary  | C56 | - | 0.7 | - | 3.99 | 3.99 | - | 4.19 | 4.19 | - | 4.41 | 4.41 | - | 4.63 | 4.63 |
| Penis  | C60 | -7.5 | - | 0.04 | - | 0.04 | 0.03 | - | 0.03 | 0.02 | - | 0.02 | 0.01 | - | 0.01 |
| Prostate  | C61 | 0.8 | - | 3.99 | - | 3.99 | 4.34 | - | 4.34 | 4.72 | - | 4.72 | 5.14 | - | 5.14 |
| Testis  | C62 | -1.5 | - | 0.08 | - | 0.08 | 0.08 | - | 0.08 | 0.07 | - | 0.07 | 0.07 | - | 0.07 |
| Kidney  | C64 | -1.3 | -0.6 | 1.64 | 0.87 | 1.31 | 1.54 | 0.85 | 1.25 | 1.44 | 0.83 | 1.20 | 1.35 | 0.81 | 1.14 |
| Kidney, renal pelvis, ureter | C64-C66 | 0.9 | 1.8 | 2.43 | 1.44 | 2.02 | 2.54 | 1.57 | 2.16 | 2.66 | 1.72 | 2.30 | 2.78 | 1.88 | 2.45 |
| Bladder  | C67 | -2.7 | -0.8 | 2.09 | 0.79 | 1.56 | 1.87 | 0.77 | 1.45 | 1.67 | 0.75 | 1.34 | 1.49 | 0.74 | 1.24 |
| Brain and CNS  | C70-C72 | -1.6 | -0.9 | 2.22 | 1.92 | 2.09 | 2.18 | 1.85 | 2.04 | 2.13 | 1.79 | 1.98 | 2.09 | 1.73 | 1.93 |
| Thyroid | C73 | -3.7 | -2.9 | 0.24 | 0.63 | 0.42 | 0.22 | 0.56 | 0.38 | 0.20 | 0.51 | 0.34 | 0.18 | 0.46 | 0.31 |
| Hodgkin lymphoma  | C81 | 3.8 | 6.2 | 0.12 | 2.50 | 1.23 | 0.14 | 0.09 | 0.12 | 0.17 | 0.12 | 0.15 | 0.21 | 0.17 | 0.19 |
| Non-Hodgkin lymphoma  | C82-C85, C96.3 | -1.8 | -0.2 | 2.64 | 1.18 | 2.01 | 2.41 | 2.20 | 2.37 | 2.21 | 2.19 | 2.25 | 2.02 | 2.18 | 2.13 |
| Multiple Myeloma  | C90 | 1.8 | 3.0 | 1.27 | 1.27 | 1.30 | 1.41 | 1.51 | 1.49 | 1.56 | 1.79 | 1.70 | 1.74 | 2.12 | 1.95 |
| Leukemia  | C91-C95 | -1.5 | -1.2 | 2.98 | 2.23 | 2.67 | 2.76 | 2.10 | 2.50 | 2.56 | 1.98 | 2.33 | 2.38 | 1.86 | 2.18 |

B. Model estimates for cancer deaths

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **AAPC, %** | **2020** | **2025** | **2030** | **2035** |
|  |  | **M** | **W** | **M** | **W** | **Total** | **M** | **W** | **Total** | **M** | **W** | **Total** | **M** | **W** | **Total** |
| **All cancer**  | **C00-96** | **-3.4** | **-1.9** | **50,390** | **31,327** | **81,717** | **53,589** | **33,549** | **87,408** | **56,388** | **35,413** | **91,751** | **58,309** | **37,536** | **95,845** |
| Oral cavity, pharynx, Lip  | C00-14 | -2.6 | -2.1 | 880 | 308 | 1,188 | 966 | 331 | 1,297 | 1,035 | 350 | 1,385 | 1,093 | 376 | 1,469 |
| MPL | C00-14, C32 | -4.8 | -3.7 | 1,106 | 318 | 1,424 | 1,071 | 304 | 1,375 | 1,014 | 287 | 1,301 | 944 | 276 | 1,220 |
| Aero-digestive  | C00-C16, C18-20, C30-34 | -3.6 | -3.0 | 26,654 | 12,028 | 38,652 | 29,041 | 12,783 | 41,824 | 31,271 | 13,525 | 44,796 | 33,522 | 14,616 | 48,138 |
| Salivary  | C07-08 | 2.8 | 5.6 | 111 | 49 | 160 | 153 | 73 | 226 | 206 | 108 | 314 | 277 | 161 | 438 |
| Pharynx  | C10-14 | 0.8 | -0.3 | 419 | 44 | 463 | 531 | 49 | 580 | 659 | 54 | 713 | 794 | 61 | 855 |
| Nasopharynx  | C11 | 1.8 | 1.6 | 126 | 42 | 168 | 159 | 51 | 210 | 196 | 59 | 255 | 232 | 69 | 301 |
| Esophagus  | C15 | -5.0 | -4.8 | 1,309 | 119 | 1,428 | 1,280 | 109 | 1,389 | 1,214 | 98 | 1,312 | 1,132 | 88 | 1,220 |
| Stomach  | C16 | -6.6 | -6.3 | 4,904 | 2,535 | 7,439 | 4,406 | 2,165 | 6,571 | 3,871 | 1,817 | 5,688 | 3,371 | 1,554 | 4,925 |
| Cardia  | C16.0 | 11.3 | 17.2 | 396 | 117 | 513 | 837 | 303 | 1,140 | 1,738 | 766 | 2,504 | 3,528 | 2,011 | 5,539 |
| Non-cardia | C16.1-C16.6, C16.8 | -7.1 | -5.5 | 4,217 | 3,072 | 7,289 | 3,735 | 2,698 | 6,433 | 3,244 | 2,307 | 5,551 | 2,786 | 2,003 | 4,789 |
| Colorectal  | C18-C20 | -0.7 | -0.8 | 5,366 | 4,097 | 9,463 | 6,602 | 4,746 | 11,348 | 7,916 | 5,404 | 13,320 | 9,417 | 6,264 | 15,681 |
| Liver  | C22 | -4.3 | -3.3 | 7,772 | 2,865 | 10,637 | 7,596 | 2,921 | 10,517 | 7,275 | 2,947 | 10,222 | 6,859 | 2,964 | 9,823 |
| HCC | C22.0 | -5.1 | -5.0 | 6,020 | 1,670 | 7,690 | 5,555 | 1,540 | 7,095 | 5,010 | 1,411 | 6,421 | 4,446 | 1,287 | 5,733 |
| CC | C22.1 | 4.1 | 5.4 | 1,687 | 1,211 | 2,898 | 2,562 | 1,874 | 4,436 | 3,839 | 2,857 | 6,696 | 5,649 | 4,348 | 9,997 |
| Anus  | C21 | -0.8 | -0.4 | 25 | 51 | 76 | 30 | 59 | 89 | 36 | 66 | 102 | 40 | 74 | 114 |
| Gallbladder  | C23 | -1.5 | -1.0 | 788 | 1,072 | 1,860 | 935 | 1,236 | 2,171 | 1,081 | 1,394 | 2,475 | 1,230 | 1,577 | 2,807 |
| Biliary tract  | C23-C24 | -2.4 | -1.5 | 2,667 | 2,531 | 5,198 | 3,095 | 2,926 | 6,021 | 3,516 | 3,318 | 6,834 | 3,940 | 3,780 | 7,720 |
| Pancreas  | C25 | -0.8 | 0.9 | 3,439 | 3,119 | 6,558 | 4,081 | 3,860 | 7,941 | 4,748 | 4,738 | 9,486 | 5,409 | 5,785 | 11,194 |
| Nasal cavity/ PNS  | C30-C31 | -2.9 | 1.0 | 96 | 64 | 160 | 96 | 78 | 174 | 97 | 93 | 190 | 97 | 113 | 210 |
| Larynx  | C32 | -9.6 | -12.9 | 252 | 20 | 272 | 207 | 13 | 220 | 166 | 8 | 174 | 130 | 6 | 136 |
| Lung, Bronchus, Trachea  | C33-C34 | -3.0 | -2.1 | 13,847 | 4,885 | 18,732 | 15,484 | 5,341 | 20,825 | 16,972 | 5,755 | 22,727 | 18,282 | 6,215 | 24,497 |
| Bone | C40-C41 | -4.0 | -3.9 | 88 | 56 | 144 | 81 | 51 | 132 | 75 | 47 | 122 | 68 | 42 | 110 |
| Melanoma | C43 | 2.3 | 4.0 | 160 | 171 | 331 | 219 | 244 | 463 | 289 | 343 | 632 | 376 | 480 | 856 |
| Non-melanoma, Skin  | C44 | -4.7 | -3.5 | 90 | 145 | 235 | 92 | 149 | 241 | 90 | 146 | 236 | 89 | 149 | 238 |
| Mesothelioma  | C45 | 5.7 | 7.8 | 96 | 36 | 132 | 156 | 61 | 217 | 250 | 103 | 353 | 393 | 163 | 556 |
| Kaposi sarcoma | C46 | 1.2 | -3.4 | 13 | 6 | 19 | 19 | 6 | 25 | 25 | 6 | 31 | 32 | 5 | 37 |
| Breast 1 | C50 | -5.1 | 1.6 | 13 | 2,656 | 2,669 | 14 | 3,110 | 3,124 | 13 | 3,549 | 3,562 | 12 | 3,996 | 4,008 |
| Premenopausal  |  |  |  | 0 | 560 | 560 | 0 | 550 | 550 | 0 | 562 | 562 | 0 | 551 | 551 |
| Postmenopausal  |  |  |  | 13 | 2,096 | 2,109 | 14 | 2,560 | 2,574 | 13 | 2,988 | 3,001 | 12 | 3,444 | 3,456 |
| Vulva  | C51 | - | 2.2 | - | 55 | 55 | - | 71 | 71 | - | 90 | 90 | - | 117 | 117 |
| Vagina  | C52 | - | 1.7 | - | 33 | 33 | - | 42 | 42 | - | 53 | 53 | - | 67 | 67 |
| Cervix uteri  | C53 | - | -2.2 | - | 861 | 861 | - | 877 | 877 | - | 878 | 878 | - | 875 | 875 |
| Corpus uteri  | C54 | - | 9.1 | - | 415 | 415 | - | 725 | 725 | - | 1,231 | 1,231 | - | 2,067 | 2,067 |
| Endometrium  | C54.1 | - | 9.3 | - | 380 | 380 | - | 673 | 673 | - | 1,151 | 1,151 | - | 1,952 | 1,952 |
| Ovary  | C56 | - | 0.7 | - | 1,342 | 1,342 | - | 1,587 | 1,587 | - | 1,840 | 1,840 | - | 2,110 | 2,110 |
| Penis  | C60 | -7.5 | - | 16 | - | 16 | 14 | - | 14 | 11 | - | 11 | 9 | - | 9 |
| Prostate  | C61 | 0.8 | - | 2,323 | - | 2,323 | 3,330 | - | 3,330 | 4,641 | - | 4,641 | 6,507 | - | 6,507 |
| Testis  | C62 | -1.5 | - | 17 | - | 17 | 17 | - | 17 | 17 | - | 17 | 16 | - | 16 |
| Kidney  | C64 | -1.3 | -0.6 | 714 | 338 | 1,052 | 820 | 390 | 1,210 | 922 | 440 | 1,362 | 1,024 | 498 | 1,522 |
| Kidney, renal pelvis, ureter | C64-C66 | 0.9 | 1.8 | 1,101 | 591 | 1,692 | 1,429 | 766 | 2,195 | 1,818 | 972 | 2,790 | 2,285 | 1,242 | 3,527 |
| Bladder  | C67 | -2.7 | -0.8 | 1,129 | 373 | 1,502 | 1,308 | 440 | 1,748 | 1,474 | 507 | 1,981 | 1,670 | 594 | 2,264 |
| Brain and CNS  | C70-C72 | -1.6 | -0.9 | 740 | 619 | 1,359 | 841 | 679 | 1,520 | 946 | 737 | 1,683 | 1,049 | 790 | 1,839 |
| Thyroid | C73 | -3.7 | -2.9 | 117 | 274 | 392 | 138 | 298 | 435 | 156 | 317 | 473 | 172 | 340 | 512 |
| Hodgkin lymphoma  | C81 | 3.8 | 6.2 | 43 | 27 | 70 | 67 | 43 | 110 | 97 | 69 | 166 | 140 | 108 | 248 |
| Non-Hodgkin lymphoma  | C82-C85, C96.3 | -1.8 | -0.2 | 1,126 | 479 | 1,605 | 1,272 | 998 | 2,271 | 1,422 | 1,160 | 2,582 | 1,561 | 1,348 | 2,909 |
| Multiple Myeloma  | C90 | 1.8 | 3.0 | 583 | 514 | 1,097 | 814 | 724 | 1,538 | 1,106 | 1,014 | 2,121 | 1,483 | 1,411 | 2,894 |
| Leukemia  | C91-C95 | -1.5 | -1.2 | 1,091 | 760 | 1,851 | 1,215 | 811 | 2,027 | 1,340 | 866 | 2,206 | 1,462 | 925 | 2,387 |

Abbreviation: M, Men; W, Women; MPL, Mouth, pharynx & larynx cancers; HCC, Hepatocellular carcinoma; CC, Cholangiocarcinoma; PNS, Peripheral Nervous System, CNS, Central Nervous System; NHL, Non-Hodgkin lymphoma

1. Definition of menopausal status: premenopausal (age <50) and postmenopausal (age ≥ 50).