**Supplementary Table 2. Sex-specific trends for hepatocellular carcinoma (HCC) incidence among different age and race/ethnic groups**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Age group, y** | **Cases, *n* = 467,346a** | **Trendsb** | **Sex-specific AAPC difference(95% CI)c** | **Pairwise comparison *p*-values** |
| **Time period** | **APC (95% CI)** | **AAPC (95% CI)** | **Sex-specific AAPC difference** | **Coincidenced** | **Parallelisme** |
| Non-Hispanic White |
| All ages |
| Women | 72,523 (15.52%) | 2001-2015 | 2.85(2.34 to 3.36) | 1.53(0.92 to 2.15) | 0.45(−0.44 to 1.34) | 0.32 | < 0.001 | < 0.001 |
| 2015-2020 | −2.06(−4.10 to 0.01) |
| Men | 213,167 (45.61%) | 2001-2007 | 5.28(4.31 to 6.27) | 1.99(1.35 to 2.63) |
| 2007-2014 | 3.10(2.34 to 3.87) |
| 2014-2018 | −0.12(−2.09 to 1.88) |
| 2018-2020 | −6.94(−10.70 to −3.03) |
| Aged ≥ 55 years |
| Women | 63,038 (13.49%) | 2001-2015 | 3.13(2.58 to 3.69) | 1.93(1.28 to 2.59) | 1.00(0.14 to 1.87) | 0.02 | < 0.001 | < 0.001 |
| 2015-2020 | −1.35(−3.48 to 0.82) |
| Men | 179,485 (38.41%) | 2001-2014 | 5.06(4.77 to 5.35) | 2.94(2.37 to 3.51) |
| 2014-2018 | 1.05(−0.90 to 3.03) |
| 2018-2020 | −6.45(−10.06 to −2.69) |
| Aged < 55 years |
| Women | 8,641 (1.85%) | 2001-2009 | 4.42(2.51 to 6.36) | 0.55(−0.40 to 1.50) | −3.09(−4.56 to −1.61) | <0.001 | < 0.001 | < 0.001 |
| 2009-2020 | −2.17(−3.30 to −1.03) |
| Men | 32,502 (6.95%) | 2001-2006 | 6.99(4.08 to 9.98) | −2.54(−3.66 to −1.40) |
| 2006-2012 | −2.22(−4.67 to 0.29) |
| 2012-2020 | −8.28(−9.80 to −6.74) |
| Non-Hispanic Black |
| All ages |
| Women | 16,828 (3.60%) | 2001-2015 | 3.31(2.49 to 4.14) | 0.87(−0.07 to 1.82) | 0.28(−1.10 to 1.66) | 0.69 | < 0.001 | 0.01 |
| 2015-2020 | −5.65(−8.59 to −2.63) |
| Men | 50,309 (10.76%) | 2001-2009 | 5.80(4.26 to 7.37) | 1.15(0.15 to 2.16) |
| 2009-2016 | 1.31(−0.39 to 3.03) |
| 2016-2020 | −7.79(−10.70 to −4.79) |
| Aged ≥ 55 years |
| Women | 13,399 (2.87%) | 2001-2015 | 4.33(3.47 to 5.19) | 1.79(0.86 to 2.72) | 0.94(−0.65 to 2.53) | 0.24 | < 0.001 | 0.04 |
| 2015-2020 | −4.99(−7.80 to −2.10) |
| Men | 39,794 (8.51%) | 2001-2012 | 7.50(6.43 to 8.59) | 2.73(1.44 to 4.03) |
| 2012-2018 | −0.40(−2.54 to 1.78) |
| 2018-2020 | −12.20(−20.69 to −2.81) |
| Aged < 55 years |
| Women | 3,242 (0.69%) | 2001-2009 | 4.11(1.33 to 6.96) | −1.74(−3.10 to −0.35) | −4.35(−6.10 to −2.61) | < 0.001 | < 0.001 | < 0.001 |
| 2009-2020 | −5.78(−7.41 to −4.11) |
| Men | 10,246 (2.19%) | 2001-2007 | 1.88(0.06 to 3.72) | −6.09(−7.16 to −5.01) |
| 2007-2015 | −7.36(−8.72 to −5.99) |
| 2015-2020 | −12.95(−16.05 to −9.73) |
| Hispanics |
| All ages |
| Women | 19,628 (4.20%) | 2001-2013 | 2.28(1.57 to 3.00) | 0.66(−0.44 to 1.78) | −0.14(−1.54 to 1.27) | 0.85 | < 0.001 | 0.27 |
| 2013-2018 | 0.05(−2.67 to 2.85) |
| 2018-2020 | −7.13(−14.65 to 1.05) |
| Men | 51,492 (11.02%) | 2001-2010 | 3.21(2.26 to 4.16) | 0.53(−0.32 to 1.38) |
| 2010-2018 | −0.20(−1.18 to 0.78) |
| 2018-2020 | −8.04(−14.15 to −1.50) |
|   |
| Women | 16,681 (3.57%) | 2001-2018 | 1.94(1.53 to 2.35) | 0.72(−0.18 to 1.62) | 0.63(−0.63 to 1.90) | 0.32 | < 0.001 | 0.13 |
| 2018-2020 | −9.09(−16.54 to −0.97) |
| Men | 38,840 (8.31%) | 2001-2010 | 3.93(2.87 to 5.00) | 1.35(0.47 to 2.25) |
| 2010-2018 | 0.93(−0.11 to 1.97) |
| 2018-2020 | −7.95(−14.10 to −1.35) |
| Aged <55 years |
| Women | 2,509 (0.54%) | 2001-2011 | 2.56(−0.31 to 5.52) | −1.50(−3.32 to 0.36) | −1.71(−3.78 to 0.37) | 0.10 | < 0.001 | 0.02 |
| 2011-2020 | −5.82(−8.53 to −3.03) |
| Men | 12,052 (2.58%) | 2001-2010 | 0.84(−0.82 to 2.53) | −3.20(−4.14 to −2.25) |
| 2010-2020 | −6.70(−7.96 to −5.44) |
| Non-Hispanic Asian Pacific Islander  |
| All ages |
| Women | 10,183 (2.18%) | 2001-2014 | −1.33(−2.11 to −0.55) | −3.12(−3.92 to −2.32) | 0.74(−0.36 to 1.84) | 0.18 | < 0.001 | 0.01 |
| 2014-2020 | −6.89(−8.98 to −4.76) |
| Men | 25,515 (5.46%) | 2001-2015 | −1.00(−1.63 to −0.37) | −2.38(−3.13 to −1.62) |
| 2015-2020 | −6.13(−8.58 to −3.62) |
| Aged ≥ 55 years |
| Women | 8,746 (1.87%) | 2001-2014 | −1.14(−1.95 to −0.33) | −3.13(−3.95 to −2.30) | 1.24(−0.03 to 2.51) | 0.05 | < 0.001 | < 0.001 |
| 2014-2020 | −7.29(−9.43 to −5.10) |
| Men | 19,197 (4.11%) | 2001-2016 | −0.55(−1.24 to 0.14) | −1.89(−2.85 to −0.92) |
| 2016-2020 | −6.72(−10.71 to −2.56) |
| Aged < 55 years |
| Women | 1,342 (0.29%) | 2001-2008 | 1.06(−4.42 to 6.86) | −2.98(−5.23 to −0.67) | −0.74(−3.26 to 1.77) | 0.56 | < 0.001 | 0.44 |
| 2008-2020 | −5.26(−7.51 to −2.95) |
| Men | 6,161 (1.32%) | 2001-2007 | 1.27(−1.83 to 4.46) | −3.72(−4.78 to −2.65) |
| 2007-2020 | −5.94(−6.89 to −4.99) |
| Non-Hispanic American Indian Alaska Native  |
| All ages |
| Women | 1,558 (0.33%) | 2001-2004 | 26.93(−3.08 to 66.24) | 5.18(1.01 to 9.52) | −2.51(−7.13 to 2.10) | 0.28 | < 0.001 | 0.08 |
| 2004-2020 | 1.53(0.21 to 2.87) |
| Men | 3,529 (0.76%) | 2001-2016 | 5.41(3.95 to 6.88) | 2.66(0.89 to 4.46) |
| 2016-2020 | −7.00(−13.56 to 0.06) |
| Aged ≥ 55 years |
| Women | 1,309 (0.28%) | 2001-2004 | 28.81(−0.98 to 67.57) | 5.20(1.13 to 9.42) | −1.63(−6.26 to 3.01) | 0.49 | < 0.001 | 0.02 |
| 2004-2020 | 1.28(0.02 to 2.54) |
| Men | 2,756 (0.59%) | 2001-2016 | 6.33(4.53 to 8.16) | 3.57(1.51 to 5.66) |
| 2016-2020 | −6.18(−13.51 to 1.77) |
| Aged < 55 years |
| Women | 232 (0.05%) | \* | \* | \* | \* | \* | \* | \* |
| \* | \* |
| Men | 741 (0.16%) | 2001-2007 | 9.41 (3.68 to 15.46) | 0.01 (−4.05 to 1.24) |
| 2007-2011 | −7.97 (−19.77 to 5.57) |
| 2011-2015 | 9.34 (−4.80 to 25.57) |
| 2015-2020 | −10.65 (−16.45 to −4.43) |

aData are presented as count numbers followed by percentages of the count numbers from the total cases of HCC in the database.

bTime trends were computed using joinpoint regression program (v4.9.0.1, NCI), with 3 maximum joinpoints allowed (4-line segments).

cA negative value indicates a greater AAPC in women compared to men.

dTests whether sex-specific trends were identical. A significant *p*-value indicates that the trends were not identical (i.e. they had different incidence rates and coincidence was rejected).

eTests whether sex-specific trends were parallel. A significant *p*-value indicates that the trends were not parallel (i.e. parallelism was rejected).

\*There were too few cases of HCC at least in one calendar year to estimate a trend.

HCC: Hepatocellular Carcinoma, APC: Annual Percentage Change, AAPC: Average Annual Percentage Change.