

Supplementary Table S1. Number of cases with synchronous lung metastasis and all cases, prevalence of synchronous lung metastasis and median survival with interquartile range by cancer type and race or sex.

| Categories | Race | No. of sLM (All) | Prevalence ^a | Survival ^b | Sex | No. of sLM (All) | Prevalence ^a | Survival ^b |
|----------------------------|-----------|------------------|---------------------------------------|--------------------------|--------|------------------|--------------------------------------|-------------------------|
| Brain | Caucasian | 14 (23,690) | 0.06% (0.03%-0.09%) ^{ns} | 10 (3-23) [*] | Female | 8 (11,946) | 0.07% (0.02%-0.11%) ^{ns} | 3 (2-10) [*] |
| | AA | 1 (1,810) | NA | NA (NA-NA) | Male | 9 (15,539) | 0.06% (0.02%-0.10%) | 18 (9-32) |
| | Other | 2 (1,789) | NA | 2 (1-3) | | | | |
| | Unknown | 0 (196) | NA | NA | | | | |
| Head and neck | Caucasian | 1,168 (61,067) | 1.91% (1.80%-2.02%) ^{***} | 8 (3-20) ^{***} | Female | 354 (19,683) | 1.80% (1.61%-1.98%) ^{***} | 9 (3-24) ^{ns} |
| | AA | 264 (7,628) | 3.46% (3.05%-3.87%) | 7 (3-17) | Male | 1,220 (55,214) | 2.21% (2.09%-2.33%) | 8 (3-20) |
| | Other | 138 (5,392) | 2.56% (2.14%-2.98%) | 13 (5-32) | | | | |
| | Unknown | 4 (810) | NA | 16.5 (10.5-24) | | | | |
| Thyroid | Caucasian | 748 (62,161) | 1.20% (1.12%-1.29%) ^{***} | 10 (2-79) ^{ns} | Female | 529 (59,891) | 0.88% (0.81%-0.96%) ^{***} | 9 (2-NA) ^{ns} |
| | AA | 93 (5,546) | 1.68% (1.34%-2.01%) | 14 (1-NA) | Male | 467 (18,112) | 2.58% (2.35%-2.81%) | 11 (2-79) |
| | Other | 150 (8,989) | 1.67% (1.40%-1.93%) | 13 (2-NA) | | | | |
| | Unknown | 5 (1,307) | 0.38% (0.05%-0.72%) | 10 (5-NA) | | | | |
| Breast | Caucasian | 4,261 (280,603) | 1.52% (1.47%-1.56%) ^{***} | 20 (5-49) ^{***} | Female | 5,886 (356,039) | 1.65% (1.61%-1.70%) ^{***} | 20 (5-47) ^{ns} |
| | AA | 1,155 (40,698) | 2.84% (2.68%-3.00%) | 15 (4-39) | Male | 86 (2,610) | 3.30% (2.61%-3.98%) | 24 (5-64) |
| | Other | 527 (34,338) | 1.53% (1.40%-1.66%) | 27 (8-53) | | | | |
| | Unknown | 29 (3,010) | 0.96% (0.61%-1.31%) | 53 (53-NA) | | | | |
| Main bronchus | Caucasian | 1,444 (8,875) | 16.27% (15.50%-17.04%) ^{***} | 3 (1-10) ^{ns} | Female | 852 (4,881) | 17.46% (16.39%-18.52%) ^{ns} | 4 (1-11) ^{***} |
| | AA | 262 (1,394) | 18.79% (16.74%-20.85%) | 4 (1-12) | Male | 1,001 (5,997) | 16.69% (15.75%-17.64%) | 3 (1-9) |
| | Other | 145 (587) | 24.70% (21.21%-28.19%) | 5 (1-13) | | | | |
| | Unknown | 2 (22) | NA | 3 (3-3) | | | | |
| Oesophagus | Caucasian | 1,589 (16,847) | 9.43% (8.99%-9.87%) ^{***} | 4 (1-10) ^{ns} | Female | 365 (4,101) | 8.90% (8.03%-9.77%) [*] | 4 (1-10) ^{ns} |
| | AA | 271 (2,007) | 13.50% (12.01%-15.00%) | 3 (1-7) | Male | 1,611 (15,967) | 10.09% (9.62%-10.56%) | 4 (1-9) |
| | Other | 112 (1,133) | 9.89% (8.15%-11.62%) | 5 (2-11) | | | | |
| | Unknown | 4 (81) | NA | 6.5 (1.5-10.5) | | | | |
| Stomach | Caucasian | 1,293 (22,378) | 5.78% (5.47%-6.08%) ^{***} | 4 (1-9) ^{ns} | Female | 568 (12,065) | 4.71% (4.33%-5.09%) ^{***} | 3 (1-8) ^{ns} |
| | AA | 220 (4,149) | 5.30% (4.62%-5.98%) | 2 (1-8) | Male | 1,188 (19,760) | 6.01% (5.68%-6.34%) | 3 (1-10) |
| | Other | 235 (5,047) | 4.66% (4.07%-5.24%) | 3 (1-9) | | | | |
| | Unknown | 8 (251) | 3.19% (1.01%-5.36%) | 4 (1-NA) | | | | |
| Liver ^c | Caucasian | 1,556 (18,396) | 8.46% (8.06%-8.86%) ^{ns} | 2 (1-7) ^{ns} | Female | 652 (7,596) | 8.58% (7.95%-9.21%) ^{ns} | 3 (1-8) ^{***} |
| | AA | 303 (3,477) | 8.71% (7.78%-9.65%) | 2 (0-5) | Male | 1,593 (18,671) | 8.53% (8.13%-8.93%) | 2 (1-5) |
| | Other | 377 (4,258) | 8.85% (8.00%-9.71%) | 3 (1-6) | | | | |
| | Unknown | 9 (136) | 6.62% (2.44%-10.80%) | 4 (2-7) | | | | |
| Extrahepatic biliary tract | Caucasian | 656 (10,733) | 6.11% (5.66%-6.57%) ^{ns} | 3 (1-8) ^{ns} | Female | 478 (7,828) | 6.11% (5.58%-6.64%) ^{ns} | 3 (1-9) ^{ns} |
| | AA | 102 (1,568) | 6.51% (5.28%-7.73%) | 3 (1-7) | Male | 398 (6,410) | 6.21% (5.62%-6.80%) | 3 (1-7) |
| | Other | 114 (1,874) | 6.08% (5.00%-7.17%) | 4 (1-10) | | | | |
| | Unknown | 4 (63) | NA | 2 (2-5) | | | | |
| Pancreas | Caucasian | 4,469 (41,197) | 10.85% (10.55%-11.15%) ^{ns} | 3 (1-8) ^{ns} | Female | 2,777 (25,288) | 10.98% (10.60%-11.37%) ^{ns} | 3 (1-8) ^{***} |
| | AA | 697 (6,623) | 10.52% (9.78%-11.26%) | 2 (1-7) | Male | 2,905 (27,154) | 10.70% (10.33%-11.07%) | 2 (1-7) |
| | Other | 504 (4,449) | 11.33% (10.40%-12.26%) | 2 (1-7) | | | | |
| | Unknown | 12 (173) | 6.94% (3.15%-10.72%) | 2 (1-6) | | | | |
| Small intestine | Caucasian | 169 (7,325) | 2.31% (1.96%-2.65%) ^{ns} | 8 (2-22) ^{ns} | Female | 127 (4,708) | 2.70% (2.23%-3.16%) ^{ns} | 8 (2-27) ^{ns} |
| | AA | 56 (1,753) | 3.19% (2.37%-4.02%) | 7 (2-14) | Male | 112 (4,920) | 2.28% (1.86%-2.69%) | 8 (1-17) |
| | Other | 13 (438) | 2.97% (1.38%-4.56%) | 8 (1-35) | | | | |
| | Unknown | 1 (112) | NA | NA (NA-NA) | | | | |
| Colon & rectum | Caucasian | 7,055 (142,974) | 4.93% (4.82%-5.05%) ^{***} | 12 (3-26) ^{***} | Female | 4,358 (88,810) | 4.91% (4.77%-5.05%) ^{***} | 11 (3-26) ^{ns} |
| | AA | 1,569 (23,428) | 6.70% (6.38%-7.02%) | 10 (3-22) | Male | 5,287 (97,729) | 5.41% (5.27%-5.55%) | 12 (3-25) |
| | Other | 999 (18,370) | 5.44% (5.11%-5.77%) | 11 (3-25) | | | | |
| | Unknown | 22 (1,767) | 1.25% (0.73%-1.76%) | 12 (6-23) | | | | |
| Anus | Caucasian | 147 (7,948) | 1.85% (1.55%-2.15%) ^{***} | 11 (5-23) ^{ns} | Female | 103 (5,991) | 1.72% (1.39%-2.05%) [*] | 13 (5-22) ^{ns} |
| | AA | 20 (1,091) | 1.83% (1.04%-2.63%) | 10 (6-28) | Male | 80 (3,414) | 2.34% (1.84%-2.85%) | 11 (5-28) |
| | Other | 14 (289) | 4.84% (2.37%-7.32%) | 6 (4-16) | | | | |
| | Unknown | 2 (77) | NA | 13 (13-13) | | | | |
| Other GI | Caucasian | 512 (6,949) | 7.37% (6.75%-7.98%) ^{***} | 2 (0-7) ^{ns} | Female | 297 (4,632) | 6.41% (5.71%-7.12%) ^{***} | 2 (0-6) ^{ns} |
| | AA | 89 (920) | 9.67% (7.76%-11.58%) | 2 (0-6) | Male | 383 (3,979) | 9.63% (8.71%-10.54%) | 2 (0-7) |
| | Other | 78 (645) | 12.09% (9.58%-14.61%) | 2 (1-5) | | | | |
| | Unknown | 1 (97) | NA | NA (NA-NA) | | | | |
| Kidney | Caucasian | 4,773 (56,080) | 8.51% (8.28%-8.74%) ^{***} | 8 (2-22) ^{***} | Female | 1,727 (25,340) | 6.82% (6.51%-7.13%) ^{***} | 7 (2-19) ^{***} |
| | AA | 552 (8,225) | 6.71% (6.17%-7.25%) | 5 (2-13) | Male | 4,096 (44,265) | 9.25% (8.98%-9.52%) | 8 (3-23) |
| | Other | 482 (4,618) | 10.44% (9.56%-11.32%) | 9 (3-26) | | | | |
| | Unknown | 16 (682) | 2.35% (1.21%-3.48%) | NA (4-NA) | | | | |
| Bladder | Caucasian | 1,019 (36,085) | 2.82% (2.65%-2.99%) ^{***} | 4 (1-11) ^{ns} | Female | 372 (10,341) | 3.60% (3.24%-3.96%) ^{***} | 3 (1-9) ^{ns} |
| | AA | 139 (2,953) | 4.71% (3.94%-5.47%) | 4 (1-9) | Male | 843 (31,327) | 2.69% (2.51%-2.87%) | 4 (1-11) |
| | Other | 56 (2,231) | 2.51% (1.86%-3.16%) | 7 (2-17) | | | | |
| | Unknown | 1 (399) | NA | NA (NA-NA) | | | | |
| Prostate | Caucasian | 949 (233,486) | 0.41% (0.38%-0.43%) ^{***} | 21 (8-63) ^{ns} | Male | 1,339 (309,918) | 0.43% (0.41%-0.46%) | 22 (8-63) |
| | AA | 288 (49,941) | 0.58% (0.51%-0.64%) | 23 (9-65) | | | | |
| | Other | 96 (16,121) | 0.60% (0.48%-0.71%) | 19 (9-58) | | | | |
| | Unknown | 6 (10,370) | 0.06% (0.01%-0.10%) | 43 (26-NA) | | | | |
| Testis | Caucasian | 1,016 (14,094) | 7.21% (6.78%-7.64%) ^{***} | NA (20-NA) ^{ns} | Male | 1,129 (15,881) | 7.11% (6.71%-7.51%) | NA (20-NA) |
| | AA | 42 (471) | 8.92% (6.34%-11.49%) | NA (NA-NA) | | | | |
| | Other | 68 (900) | 7.56% (5.83%-9.28%) | NA (12-NA) | | | | |

| | | | | | | | | |
|-------------------|-----------|----------------|--------------------------------------|--------------------------|--------|----------------|-----------------------------------|-------------------------|
| Other GU | Unknown | 3 (416) | NA | NA (NA-NA) | | | | |
| | Caucasian | 422 (7,226) | 5.84% (5.30%-6.38%) * | 5 (2-12) ^{ns} | Female | 215 (2,736) | 7.86% (6.85%-8.87%) *** | 5 (2-11) ^{ns} |
| | AA | 54 (696) | 7.76% (5.77%-9.75%) | 4 (1-9) | Male | 314 (5,982) | 5.25% (4.68%-5.81%) | 6 (2-13) |
| Ovary | Other | 52 (711) | 7.31% (5.40%-9.23%) | 4 (2-15) | | | | |
| | Unknown | 1 (85) | NA | 10 (10-10) | | | | |
| | Caucasian | 1,346 (24,094) | 5.59% (5.30%-5.88%) *** | 16 (3-35) *** | Female | 1,696 (29,789) | 5.69% (5.43%-5.96%) | 16 (2-36) |
| | AA | 205 (2,604) | 7.87% (6.84%-8.91%) | 8 (2-28) | | | | |
| | Other | 141 (2,916) | 4.84% (4.06%-5.61%) | 19 (4-46) | | | | |
| | Unknown | 4 (175) | NA | NA (NA-NA) | | | | |
| Uterus | Caucasian | 905 (58,908) | 1.54% (1.44%-1.64%) *** | 8 (2-23) ^{ns} | Female | 1,232 (73,342) | 1.68% (1.59%-1.77%) | 8 (2-22) |
| | AA | 206 (6,850) | 3.01% (2.60%-3.41%) | 8 (2-16) | | | | |
| | Other | 117 (6,874) | 1.70% (1.40%-2.01%) | 9 (3-29) | | | | |
| Cervix | Unknown | 4 (710) | NA | 30.5 (5-NA) | | | | |
| | Caucasian | 620 (15,415) | 4.02% (3.71%-4.33%) *** | 7 (2-18) ^{ns} | Female | 844 (20,658) | 4.09% (3.82%-4.36%) | 7 (3-17) |
| | AA | 136 (2,782) | 4.89% (4.09%-5.69%) | 6 (3-13) | | | | |
| Other GYN | Other | 88 (2,226) | 3.95% (3.14%-4.76%) | 7 (4-25) | | | | |
| | Unknown | 0 (235) | NA | NA | | | | |
| | Caucasian | 366 (8,733) | 4.19% (3.77%-4.61%) * | 5 (1-23) * | Female | 457 (10,514) | 4.35% (3.96%-4.74%) | 5 (1-23) |
| Bone tumor | AA | 52 (1,014) | 5.13% (3.77%-6.49%) | 2 (1-8) | | | | |
| | Other | 38 (646) | 5.88% (4.07%-7.70%) | 8 (3-43) | | | | |
| | Unknown | 1 (121) | NA | 1 (1-1) | | | | |
| STS | Caucasian | 503 (4,155) | 12.11% (11.11%-13.10%) ^{ns} | 20 (8-NA) ^{ns} | Female | 221 (2,205) | 10.02% (8.77%-11.28%) *** | 18 (8-NA) ^{ns} |
| | AA | 57 (456) | 12.50% (9.46%-15.54%) | 13 (6-37) | Male | 388 (2,874) | 13.50% (12.25%-14.75%) | 19 (8-59) |
| | Other | 45 (429) | 10.49% (7.59%-13.39%) | 18 (9-37) | | | | |
| Skin melanoma | Unknown | 4 (39) | NA | 21 (14-NA) | | | | |
| | Caucasian | 1,574 (19,041) | 8.27% (7.88%-8.66%) *** | 8 (2-24) ^{ns} | Female | 1,199 (12,286) | 9.76% (9.23%-10.28%) *** | 9 (2-23) ^{ns} |
| | AA | 395 (3,328) | 11.87% (10.77%-12.97%) | 8 (3-21) | Male | 982 (12,807) | 7.67% (7.21%-8.13%) | 8 (2-22) |
| | Other | 203 (2,234) | 9.09% (7.89%-10.28%) | 9 (2-23) | | | | |
| | Unknown | 9 (490) | 1.84% (0.65%-3.03%) | 5 (3-NA) | | | | |
| | Caucasian | 1,017 (99,591) | 1.02% (0.96%-1.08%) *** | 6 (2-20) ^{ns} | Female | 302 (46,781) | 0.65% (0.57%-0.72%) *** | 6 (2-20) ^{ns} |
| | AA | 18 (454) | 3.96% (2.17%-5.76%) | 6 (3-13) | Male | 763 (60,506) | 1.26% (1.17%-1.35%) | 6 (2-20) |
| | Other | 27 (910) | 2.97% (1.86%-4.07%) | 5 (3-12) | | | | |
| Non-skin melanoma | Unknown | 3 (6,332) | NA | NA (NA-NA) | | | | |
| | Caucasian | 93 (2,793) | 3.33% (2.66%-4.00%) ^{ns} | 6 (3-14) ^{ns} | Female | 61 (1,689) | 3.61% (2.72%-4.50%) ^{ns} | 5 (3-14) ^{ns} |
| | AA | 3 (97) | NA | 3 (0-4) | Male | 45 (1,395) | 3.23% (2.30%-4.15%) | 6 (3-14) |
| Skin cancer | Other | 10 (154) | 6.49% (2.60%-10.39%) | 6 (5-14) | | | | |
| | Unknown | 0 (40) | NA | NA | | | | |
| | Caucasian | 30 (4,661) | 0.64% (0.41%-0.87%) ^{ns} | 9 (6-20) ^{ns} | Female | 13 (2,253) | 0.58% (0.26%-0.89%) ^{ns} | 17 (8-34) ^{ns} |
| | AA | 1 (207) | NA | 17 (17-17) | Male | 24 (3,092) | 0.78% (0.47%-1.09%) | 9 (5.5-18) |
| | Other | 3 (242) | NA | 8 (7-10) | | | | |
| Embryonal tumors | Unknown | 3 (235) | NA | 33.5 (4-NA) | | | | |
| | Caucasian | 245 (3,229) | 7.59% (6.67%-8.50%) ^{ns} | NA (19-NA) ^{ns} | Female | 168 (1,999) | 8.40% (7.19%-9.62%) ^{ns} | NA (NA-NA) *** |
| | AA | 55 (575) | 9.57% (7.16%-11.97%) | NA (NA-NA) | Male | 166 (2,282) | 7.27% (6.21%-8.34%) | NA (12-NA) |
| All other | Other | 30 (419) | 7.16% (4.69%-9.63%) | NA (23-NA) | | | | |
| | Unknown | 4 (58) | NA | NA (30-NA) | | | | |
| | Caucasian | 2,229 (24,926) | 8.94% (8.59%-9.30%) * | 4 (1-18) *** | Female | 1,781 (20,228) | 8.80% (8.41%-9.20%) ^{ns} | 6 (1-24) *** |
| | AA | 382 (4,696) | 8.13% (7.35%-8.92%) | 5 (1-24) | Male | 1,122 (12,840) | 8.74% (8.25%-9.23%) | 4 (1-15) |
| | Other | 274 (3,070) | 8.93% (7.92%-9.93%) | 8 (1-43) | | | | |
| | Unknown | 18 (376) | 4.79% (2.63%-6.95%) | 2 (0-15) | | | | |

* Prevalence was only calculated in category with more than 5 sLM cases.

^b Survival data (in months) are shown as the median survival and interquartile range in cases with synchronous lung metastasis at diagnosis.

^c Liver cancer here includes hepatocellular carcinoma and intrahepatic cholangiocarcinoma.

Abbreviations: sLM: synchronous lung metastasis; AA: African American; GI: gastrointestinal cancer; GU: genitourinary cancer; GYN: gynecologic cancer; STS: soft-tissue sarcoma; NA: non-applicable; ns: non-significant; *: p<0.05; ***: p<0.001 for intragroup survival comparison by Chi-square tests or log-rank tests.

Supplementary Table S2. Number of cases with synchronous lung metastasis and all cases, prevalence of synchronous lung metastasis and median survival with interquartile range by cancer type and age or county-level income.

| Categories | Age | No. of sLM (All) | Prevalence ^a | Survival ^b | Income ^c | No. of sLM (All) | Prevalence ^a | Survival ^b |
|----------------------------|---------|------------------|--------------------------------------|---------------------------|---------------------|------------------|---------------------------------------|--------------------------|
| Brain | 0 - 18 | 1 (2,577) | NA ^{ns} | NA (NA-NA) ^{ns} | 1 st | 1 (1,120) | NA ^{ns} | 18 (18-18) ^{ns} |
| | 19 - 40 | 3 (4,280) | NA | 16 (9-NA) | 2 nd | 1 (2,363) | NA | 7 (7-7) |
| | 41 - 60 | 4 (9,379) | NA | 15 (5-26) | 3 rd | 1 (3,785) | NA | NA (NA-NA) |
| | 61 - 80 | 8 (10,015) | 0.08% (0.02%-0.14%) | 2.5 (1.5-14.5) | 4 th | 14 (20,193) | 0.07% (0.03%-0.11%) | 6.5 (2-23) |
| | 80+ | 1 (1,234) | NA | 4 (4-4) | Unk | 0 (24) | NA | NA |
| Head and neck | 0 - 18 | 4 (249) | NA ^{***} | 34 (34-34) ^{***} | 1 st | 118 (4,595) | 2.57% (2.11%-3.03%) ^{***} | 6 (2-12) ^{***} |
| | 19 - 40 | 47 (3,089) | 1.52% (1.09%-1.95%) | 22 (11-32) | 2 nd | 222 (8,884) | 2.50% (2.17%-2.82%) | 7 (3-14) |
| | 41 - 60 | 598 (31,177) | 1.92% (1.77%-2.07%) | 9 (4-24) | 3 rd | 235 (11,026) | 2.13% (1.86%-2.40%) | 7 (2-19) |
| | 61 - 80 | 803 (34,246) | 2.34% (2.18%-2.51%) | 8 (3-18) | 4 th | 995 (50,272) | 1.98% (1.86%-2.10%) | 10 (4-24) |
| | 80+ | 122 (6,136) | 1.99% (1.64%-2.34%) | 5 (1-13) | Unk | 4 (120) | NA | 7 (4.5-15.5) |
| Thyroid | 0 - 18 | | | NA (NA-NA) | 1 st | | | |
| | 19 - 40 | 24 (1,308) | 1.83% (1.11%-2.56%) ^{***} | *** | 2 nd | 34 (2,885) | 1.18% (0.78%-1.57%) ^{ns} | 12 (2-35) ^{ns} |
| | 41 - 60 | 78 (22,756) | 0.34% (0.27%-0.42%) | NA (NA-NA) | 3 rd | 85 (6,207) | 1.37% (1.08%-1.66%) | 16 (3-79) |
| | 61 - 80 | 242 (35,383) | 0.68% (0.60%-0.77%) | 14 (3-76) | 4 th | 124 (9,795) | 1.27% (1.04%-1.49%) | 11 (1-NA) |
| | 80+ | 522 (17,035) | 3.06% (2.81%-3.32%) | 9 (2-59) | Unk | 753 (59,019) | 1.28% (1.19%-1.37%) | 11 (2-83) |
| Breast | 0 - 18 | 130 (1,521) | 8.55% (7.14%-9.95%) | 2 (0-14) | 1 st | 0 (97) | NA | NA |
| | 19 - 40 | 0 (8) | NA ^{***} | NA ^{***} | 2 nd | 323 (15,489) | 2.09% (1.86%-2.31%) ^{***} | 15 (4-37) ^{***} |
| | 41 - 60 | 384 (22,835) | 1.68% (1.51%-1.85%) | 30 (13-58) | 3 rd | 666 (31,952) | 2.08% (1.93%-2.24%) | 17 (4-41) |
| | 61 - 80 | 2,228 (154,724) | 1.44% (1.38%-1.50%) | 24 (7-50) | 4 th | 710 (46,654) | 1.52% (1.41%-1.63%) | 20 (5-42) |
| | 80+ | 2,664 (152,615) | 1.75% (1.68%-1.81%) | 19 (4-48) | Unk | 4,260 (264,065) | 1.61% (1.57%-1.66%) | 21 (5-50) |
| Main bronchus | 0 - 18 | 696 (28,467) | 2.44% (2.27%-2.62%) | 8 (2-25) | 1 st | 13 (489) | 2.66% (1.23%-4.08%) | 15 (2-30) |
| | 19 - 40 | 0 (12) | NA ^{***} | NA ^{***} | 2 nd | 138 (978) | 14.11% (11.93%-16.29%) ^{***} | 4 (1-12) ^{ns} |
| | 41 - 60 | 14 (152) | 9.21% (4.61%-13.81%) | 8 (3-17) | 3 rd | 246 (1,687) | 14.58% (12.90%-16.27%) | 3 (1-10) |
| | 61 - 80 | 543 (3,311) | 16.40% (15.14%-17.66%) | 5 (1-13) | 4 th | 363 (2,026) | 17.92% (16.25%-19.59%) | 3 (1-9) |
| | 80+ | 1,106 (6,475) | 17.08% (16.16%-18.00%) | 3 (1-9) | Unk | 1,103 (6,176) | 17.86% (16.90%-18.81%) | 4 (1-10) |
| Oesophagus | 0 - 18 | 190 (928) | 20.47% (17.88%-23.07%) | 1 (0-6) | 1 st | 3 (11) | NA | 2 (0-11) |
| | 19 - 40 | 0 (2) | NA [*] | NA ^{***} | 2 nd | 116 (1,161) | 9.99% (8.27%-11.72%) ^{ns} | 4 (1-8) [*] |
| | 41 - 60 | 35 (251) | 13.94% (9.66%-18.23%) | 6 (2-13) | 3 rd | 215 (2,419) | 8.89% (7.75%-10.02%) | 4 (1-8) |
| | 61 - 80 | 621 (6,005) | 10.34% (9.57%-11.11%) | 4 (2-10) | 4 th | 273 (2,967) | 9.20% (8.16%-10.24%) | 3 (1-8) |
| | 80+ | 1,117 (11,404) | 9.79% (9.25%-10.34%) | 4 (1-10) | Unk | 1,367 (13,474) | 10.15% (9.64%-10.66%) | 4 (1-10) |
| Stomach | 0 - 18 | 203 (2,406) | 8.44% (7.33%-9.55%) | 2 (1-5) | 1 st | 5 (47) | 10.64% (1.82%-19.45%) | 1 (1-7) |
| | 19 - 40 | 4 (20) | NA ^{***} | 6.5 (3-10) ^{***} | 2 nd | 81 (1,549) | 5.23% (4.12%-6.34%) ^{ns} | 3 (1-9) ^{ns} |
| | 41 - 60 | 99 (1,426) | 6.94% (5.62%-8.26%) | 3 (1-7) | 3 rd | 168 (2,947) | 5.70% (4.86%-6.54%) | 3 (1-9) |
| | 61 - 80 | 564 (9,413) | 5.99% (5.51%-6.47%) | 4 (1-11) | 4 th | 196 (3,669) | 5.34% (4.61%-6.07%) | 3 (1-8) |
| | 80+ | 864 (15,714) | 5.50% (5.14%-5.85%) | 3 (1-9) | Unk | 1,299 (23,556) | 5.51% (5.22%-5.81%) | 3 (1-10) |
| Liver ^d | 0 - 18 | 225 (5,252) | 4.28% (3.74%-4.83%) | 2 (1-6) | 1 st | 12 (104) | 11.54% (5.40%-17.68%) | 3.5 (1-7.5) |
| | 19 - 40 | 13 (78) | 16.67% (8.40%-24.94%) ^{***} | 7 (1-21) ^{***} | 2 nd | 105 (1,296) | 8.10% (6.62%-9.59%) ^{ns} | 2 (0-8) ^{ns} |
| | 41 - 60 | 76 (549) | 13.84% (10.95%-16.73%) | 6 (1-14) | 3 rd | 237 (2,759) | 8.59% (7.54%-9.64%) | 2 (0-6) |
| | 61 - 80 | 856 (9,324) | 9.18% (8.59%-9.77%) | 2 (1-7) | 4 th | 303 (3,571) | 8.49% (7.57%-9.40%) | 2 (0-6) |
| | 80+ | 1,117 (14,052) | 7.95% (7.50%-8.40%) | 2 (0-5) | Unk | 1,594 (18,599) | 8.57% (8.17%-8.97%) | 2 (1-6) |
| Extrahepatic biliary tract | 0 - 18 | 183 (2,264) | 8.08% (6.96%-9.21%) | 2 (1-5) | 1 st | 6 (42) | 14.29% (3.70%-24.87%) | 1.5 (0-5) |
| | 19 - 40 | 1 (5) | NA ^{***} | 3 (3-3) ^{***} | 2 nd | 18 (607) | 2.97% (1.62%-4.31%) ^{***} | 4 (2-12) ^{ns} |
| | 41 - 60 | 19 (270) | 7.04% (3.99%-10.09%) | 10 (3-18) | 3 rd | 80 (1,283) | 6.24% (4.91%-7.56%) | 3 (1-8) |
| | 61 - 80 | 229 (3,546) | 6.46% (5.65%-7.27%) | 4 (2-10) | 4 th | 115 (1,904) | 6.04% (4.97%-7.11%) | 3 (1-8) |
| | 80+ | 510 (7,873) | 6.48% (5.93%-7.02%) | 3 (1-8) | Unk | 660 (10,424) | 6.33% (5.86%-6.80%) | 3 (1-8) |
| Pancreas | 0 - 18 | 117 (2,544) | 4.60% (3.79%-5.41%) | 2 (0-5) | 1 st | 3 (20) | NA | 1 (0-9) |
| | 19 - 40 | 2 (53) | NA ^{***} | 11 (3-19) ^{***} | 2 nd | 288 (2,569) | 11.21% (9.99%-12.43%) ^{ns} | 2 (1-5) ^{***} |
| | 41 - 60 | 73 (992) | 7.36% (5.73%-8.98%) | 4 (2-10) | 3 rd | 577 (5,213) | 11.07% (10.22%-11.92%) | 2 (1-6) |
| | 61 - 80 | 1,418 (14,277) | 9.93% (9.44%-10.42%) | 3 (1-9) | 4 th | 736 (7,090) | 10.38% (9.67%-11.09%) | 3 (1-7) |
| | 80+ | 3,418 (30,171) | 11.33% (10.97%-11.69%) | 3 (1-8) | Unk | 4,070 (37,519) | 10.85% (10.53%-11.16%) | 3 (1-8) |
| Small intestine | 0 - 18 | 771 (6,949) | 11.10% (10.36%-11.83%) | 2 (0-4) | 1 st | 11 (51) | 21.57% (10.28%-32.86%) | 2 (0-5) |
| | 19 - 40 | 0 (10) | NA [*] | NA ^{***} | 2 nd | 9 (569) | 1.58% (0.56%-2.61%) ^{ns} | 8 (2-13) ^{ns} |
| | 41 - 60 | 6 (423) | 1.42% (0.29%-2.55%) | 12.5 (0-28.5) | 3 rd | 30 (1,079) | 2.78% (1.80%-3.76%) | 7 (2-21) |
| | 61 - 80 | 65 (3,397) | 1.91% (1.45%-2.37%) | 10 (3-37) | 4 th | 34 (1,441) | 2.36% (1.58%-3.14%) | 6 (1-17) |
| | 80+ | 134 (4,702) | 2.85% (2.37%-3.33%) | 8 (2-22) | Unk | 166 (6,535) | 2.54% (2.16%-2.92%) | 8 (2-22) |
| Colon & rectum | 0 - 18 | 34 (1,096) | 3.10% (2.08%-4.13%) | 2 (1-6) | 1 st | 0 (4) | NA | NA |
| | 19 - 40 | 5 (63) | 7.94% (1.26%-14.61%) ^{***} | 14 (10-19) ^{***} | 2 nd | 582 (11,025) | 5.28% (4.86%-5.70%) [*] | 11 (3-24) [*] |
| | 41 - 60 | 378 (7,048) | 5.36% (4.84%-5.89%) | 19 (9-33) | 3 rd | 1,104 (20,099) | 5.49% (5.18%-5.81%) | 10 (2-24) |
| | 61 - 80 | 3,563 (63,836) | 5.58% (5.40%-5.76%) | 16 (6-30) | 4 th | 1,300 (26,182) | 4.97% (4.70%-5.23%) | 11 (3-25) |
| | 80+ | 4,507 (86,417) | 5.22% (5.07%-5.36%) | 10 (2-24) | Unk | 6,629 (128,812) | 5.15% (5.03%-5.27%) | 12 (3-26) |
| Right colon | 0 - 18 | 1,192 (29,175) | 4.09% (3.86%-4.31%) | 3 (1-11) | 1 st | 30 (421) | 7.13% (4.67%-9.58%) | 7 (4-17) |
| | 19 - 40 | 0 (19) | NA ^{***} | NA ^{***} | 2 nd | 194 (4,207) | 4.61% (3.98%-5.25%) ^{***} | 9 (2-21) ^{ns} |
| | 41 - 60 | 57 (1,661) | 3.43% (2.56%-4.31%) | 15 (6-30) | 3 rd | 327 (8,069) | 4.05% (3.62%-4.48%) | 8 (2-20) |
| | 61 - 80 | 832 (17,008) | 4.89% (4.57%-5.22%) | 12 (3-23) | 4 th | 358 (10,493) | 3.41% (3.06%-3.76%) | 7 (2-20) |
| | 80+ | 1,433 (37,019) | 3.87% (3.67%-4.07%) | 9 (2-21) | Unk | 1,890 (49,468) | 3.82% (3.65%-3.99%) | 9 (2-21) |
| Left colon | 0 - 18 | 455 (16,676) | 2.73% (2.48%-2.98%) | 3 (1-10) | 1 st | 8 (146) | 5.48% (1.79%-9.17%) | 13 (5.5-24) |
| | 19 - 40 | 1 (22) | NA [*] | 19 (19-19) ^{***} | 2 nd | 193 (3,846) | 5.02% (4.33%-5.71%) ^{ns} | 12 (4-24) ^{***} |
| | 41 - 60 | 167 (2,791) | 5.98% (5.10%-6.86%) | 20 (12-37) | 3 rd | 400 (6,667) | 6.00% (5.43%-6.57%) | 13 (3-25) |
| | 61 - 80 | 1,357 (25,121) | 5.40% (5.12%-5.68%) | 18 (6-33) | 4 th | 455 (8,703) | 5.23% (4.76%-5.70%) | 13 (3-26) |
| | 80+ | 1,512 (28,653) | 5.28% (5.02%-5.54%) | 11 (3-25) | Unk | 2,311 (44,629) | 5.18% (4.97%-5.38%) | 14 (4-29) |
| Unspecified colon | 0 - 18 | 333 (7,427) | 4.48% (4.01%-4.95%) | 3 (1-11) | 1 st | 11 (169) | 6.51% (2.79%-10.23%) | 5 (2-11) |
| | 19 - 40 | 1 (4) | NA ^{ns} | 0 (0-0) ^{***} | 2 nd | 44 (309) | 14.24% (10.34%-18.14%) ^{ns} | 5 (2-12) [*] |
| | 41 - 60 | 24 (160) | 15.00% (9.47%-20.53%) | 6 (1-18) | 3 rd | 83 (515) | 16.12% (12.94%-19.29%) | 2 (0-9) |
| | 61 - 80 | 210 (1,290) | 16.28% (14.26%-18.29%) | 6 (1-17) | 4 th | 106 (660) | 16.06% (13.26%-18.86%) | 4 (1-19) |
| | 80+ | 367 (2,287) | 16.05% (14.54%-17.55%) | 3 (1-12) | | 513 (3,239) | 15.84% (14.58%-17.10%) | 3 (1-13) |

| | | | | | | | | |
|-------------------|---------|----------------|---------------------------------------|---------------------------|-----------------|----------------|-------------------------------------|-------------------------|
| | 80+ | 144 (986) | 14.60% (12.40%-16.81%) | 1 (0-6) | Unk | 0 (4) | NA | NA |
| Rectum | 0 - 18 | 3 (18) | NA ^{***} | 14 (10-40) ^{***} | 1 st | 151 (2,663) | 5.67% (4.79%-6.55%) ^{ns} | 17 (7-30) ^{ns} |
| | 19 - 40 | 130 (2,436) | 5.34% (4.44%-6.23%) | 24 (10-37) | 2 nd | 294 (4,848) | 6.06% (5.39%-6.74%) | 13 (4-27) |
| | 41 - 60 | 1,164 (20,417) | 5.70% (5.38%-6.02%) | 19 (8-34) | 3 rd | 381 (6,326) | 6.02% (5.44%-6.61%) | 15 (4-28) |
| | 61 - 80 | 1,195 (18,458) | 6.47% (6.12%-6.83%) | 13 (4-27) | 4 th | 1,915 (31,476) | 6.08% (5.82%-6.35%) | 16 (6-30) |
| Anus | 80+ | 260 (4,086) | 6.36% (5.61%-7.11%) | 6 (2-18) | Unk | 11 (102) | 10.78% (4.76%-16.80%) | 11 (6-17) |
| | 0 - 18 | NA () | #VALUE! | NA | 1 st | 9 (469) | 1.92% (0.68%-3.16%) ^{ns} | 10 (6-12) ^{ns} |
| | 19 - 40 | 7 (313) | 2.24% (0.60%-3.87%) | 11.5 (6-21) | 2 nd | 20 (977) | 2.05% (1.16%-2.94%) | 13 (5-23) |
| | 41 - 60 | 76 (4,446) | 1.71% (1.33%-2.09%) | 15 (6-46) | 3 rd | 24 (1,327) | 1.81% (1.09%-2.53%) | 11 (6-36) |
| Other GI | 61 - 80 | 81 (3,864) | 2.10% (1.64%-2.55%) | 10 (5-17) | 4 th | 129 (6,623) | 1.95% (1.61%-2.28%) | 11 (5-22) |
| | 80+ | 19 (782) | 2.43% (1.35%-3.51%) | 6 (3-9) | Unk | 1 (9) | NA | 6 (6-6) |
| | 0 - 18 | 1 (323) | NA ^{***} | 2 (2-2) ^{***} | 1 st | 17 (364) | 4.67% (2.50%-6.84%) ^{ns} | 0 (0-2) ^{ns} |
| | 19 - 40 | 21 (1,350) | 1.56% (0.90%-2.22%) | 8 (2-18) | 2 nd | 65 (791) | 8.22% (6.30%-10.13%) | 2 (0-8) |
| Kidney | 41 - 60 | 171 (3,145) | 5.44% (4.64%-6.23%) | 3 (1-9) | 3 rd | 99 (1,132) | 8.75% (7.10%-10.39%) | 2 (1-6) |
| | 61 - 80 | 376 (3,117) | 12.06% (10.92%-13.21%) | 2 (0-7) | 4 th | 496 (6,309) | 7.86% (7.20%-8.53%) | 2 (0-7) |
| | 80+ | 111 (676) | 16.42% (13.63%-19.21%) | 1 (0-2) | Unk | 3 (15) | NA | 0 (0-2) |
| | 0 - 18 | 7 (76) | 9.21% (2.71%-15.71%) ^{***} | 7 (3-9) ^{***} | 1 st | 330 (3,892) | 8.48% (7.60%-9.35%) ^{ns} | 6 (2-14) ^{***} |
| Bladder | 19 - 40 | 168 (4,390) | 3.83% (3.26%-4.39%) | 9 (4-20) | 2 nd | 671 (7,738) | 8.67% (8.04%-9.30%) | 7 (2-20) |
| | 41 - 60 | 2,316 (28,812) | 8.04% (7.72%-8.35%) | 9 (3-26) | 3 rd | 922 (10,582) | 8.71% (8.18%-9.25%) | 8 (2-21) |
| | 61 - 80 | 2,936 (32,761) | 8.96% (8.65%-9.27%) | 7 (2-22) | 4 th | 3,890 (47,276) | 8.23% (7.98%-8.48%) | 8 (3-23) |
| | 80+ | 396 (3,566) | 11.10% (10.07%-12.14%) | 3 (1-9) | Unk | 10 (117) | 8.55% (3.48%-13.61%) | 5.5 (1-12.5) |
| Prostate | 0 - 18 | 1 (3) | NA ^{***} | 28 (28-28) ^{***} | 1 st | 70 (1,883) | 3.72% (2.86%-4.57%) [*] | 3 (1-12) ^{ns} |
| | 19 - 40 | 16 (335) | 4.78% (2.49%-7.06%) | 6 (3.5-18) | 2 nd | 147 (4,184) | 3.51% (2.96%-4.07%) | 5 (2-10) |
| | 41 - 60 | 251 (7,506) | 3.34% (2.94%-3.75%) | 6 (2-13) | 3 rd | 168 (5,685) | 2.96% (2.51%-3.40%) | 4 (1-11) |
| | 61 - 80 | 676 (23,734) | 2.85% (2.64%-3.06%) | 4 (1-11) | 4 th | 829 (29,886) | 2.77% (2.59%-2.96%) | 4 (1-11) |
| Testis | 80+ | 271 (10,090) | 2.69% (2.37%-3.00%) | 3 (1-7) | Unk | 1 (30) | NA | 1 (1-1) |
| | 0 - 18 | 0 (0) | NA | NA | 1 st | 58 (15,969) | 0.36% (0.27%-0.46%) ^{ns} | 24 (8-77) ^{ns} |
| | 19 - 40 | 1 (304) | NA | NA (NA-NA) | 2 nd | 147 (32,744) | 0.45% (0.38%-0.52%) | 23 (7-NA) |
| | 41 - 60 | 276 (87,961) | 0.31% (0.28%-0.35%) | 31 (11-NA) | 3 rd | 164 (40,214) | 0.41% (0.35%-0.47%) | 19 (6-42) |
| Other GU | 61 - 80 | 811 (204,869) | 0.40% (0.37%-0.42%) | 25 (9-67) | 4 th | 969 (220,818) | 0.44% (0.41%-0.47%) | 22 (9-62) |
| | 80+ | 251 (16,784) | 1.50% (1.31%-1.68%) | 11 (3-28) | Unk | 1 (173) | NA | 8 (8-8) |
| | 0 - 18 | 77 (650) | 11.85% (9.36%-14.33%) ^{***} | NA (NA-NA) | 1 st | 40 (546) | 7.33% (5.14%-9.51%) ^{ns} | NA (36-NA) |
| | 19 - 40 | 850 (11,072) | 7.68% (7.18%-8.17%) | NA (20-NA) | 2 nd | 95 (1,159) | 8.20% (6.62%-9.78%) | NA (23-NA) |
| Ovary | 41 - 60 | 176 (3,710) | 4.74% (4.06%-5.43%) | NA (11-NA) | 3 rd | 162 (2,044) | 7.93% (6.75%-9.10%) | NA (26-NA) |
| | 61 - 80 | 25 (426) | 5.87% (3.64%-8.10%) | 12 (2-NA) | 4 th | 831 (12,100) | 6.87% (6.42%-7.32%) | NA (19-NA) |
| | 80+ | 1 (23) | NA | NA (NA-NA) | Unk | 1 (32) | NA | NA (NA-NA) |
| | 0 - 18 | 0 (2) | NA ^{ns} | NA ^{***} | 1 st | 20 (475) | 4.21% (2.40%-6.02%) ^{ns} | 5 (1-7) ^{ns} |
| Uterus | 19 - 40 | 8 (146) | 5.48% (1.79%-9.17%) | 5.5 (5-10) | 2 nd | 50 (853) | 5.86% (4.29%-7.44%) | 4 (2-9) |
| | 41 - 60 | 98 (1,784) | 5.49% (4.44%-6.55%) | 6 (2-14) | 3 rd | 78 (1,262) | 6.18% (4.85%-7.51%) | 5 (2-11) |
| | 61 - 80 | 315 (4,892) | 6.44% (5.75%-7.13%) | 6 (2-14) | 4 th | 379 (6,119) | 6.19% (5.59%-6.80%) | 5 (2-13) |
| | 80+ | 108 (1,894) | 5.70% (4.66%-6.75%) | 2 (1-6) | Unk | 2 (9) | NA | 5.5 (4-7) |
| Cervix | 0 - 18 | 7 (446) | 1.57% (0.42%-2.72%) ^{***} | 48 (34-NA) ^{***} | 1 st | 73 (1,190) | 6.13% (4.77%-7.50%) ^{ns} | 8 (2-25) ^{***} |
| | 19 - 40 | 60 (2,520) | 2.38% (1.79%-2.98%) | 12 (4-39) | 2 nd | 142 (2,517) | 5.64% (4.74%-6.54%) | 5 (1-24) |
| | 41 - 60 | 493 (11,865) | 4.16% (3.80%-4.51%) | 23 (5-50) | 3 rd | 213 (3,669) | 5.81% (5.05%-6.56%) | 12 (3-31) |
| | 61 - 80 | 902 (12,264) | 7.35% (6.89%-7.82%) | 17 (2-34) | 4 th | 1,268 (22,390) | 5.66% (5.36%-5.97%) | 18 (3-38) |
| Other GYN | 80+ | 234 (2,694) | 8.69% (7.62%-9.75%) | 3 (1-13) | Unk | 0 (23) | NA | NA |
| | 0 - 18 | 0 (7) | NA ^{***} | NA [*] | 1 st | 75 (3,093) | 2.42% (1.88%-2.97%) ^{***} | 8 (1-21) ^{ns} |
| | 19 - 40 | 35 (3,192) | 1.10% (0.74%-1.46%) | 8 (1-NA) | 2 nd | 128 (6,408) | 2.00% (1.65%-2.34%) | 8 (2-20) |
| | 41 - 60 | 421 (30,250) | 1.39% (1.26%-1.52%) | 7 (2-24) | 3 rd | 168 (9,065) | 1.85% (1.58%-2.13%) | 8 (1-24) |
| Bone tumor | 61 - 80 | 677 (35,825) | 1.89% (1.75%-2.03%) | 9 (2-23) | 4 th | 860 (54,721) | 1.57% (1.47%-1.68%) | 8 (2-22) |
| | 80+ | 99 (4,068) | 2.43% (1.96%-2.91%) | 6 (2-14) | Unk | 1 (55) | NA | NA (NA-NA) |
| | 0 - 18 | 1 (9) | NA ^{***} | 5 (5-5) ^{***} | 1 st | 57 (1,184) | 4.81% (3.59%-6.03%) ^{ns} | 7 (4-24) ^{ns} |
| | 19 - 40 | 98 (6,125) | 1.60% (1.29%-1.91%) | 10 (4-20) | 2 nd | 94 (2,235) | 4.21% (3.37%-5.04%) | 8 (3-18) |
| Skin melanoma | 41 - 60 | 393 (9,634) | 4.08% (3.68%-4.47%) | 7 (3-18) | 3 rd | 113 (2,857) | 3.96% (3.24%-4.67%) | 6 (2-15) |
| | 61 - 80 | 302 (4,203) | 7.19% (6.40%-7.97%) | 7 (2-16) | 4 th | 578 (14,353) | 4.03% (3.71%-4.35%) | 7 (3-17) |
| | 80+ | 50 (687) | 7.28% (5.34%-9.22%) | 4 (2-9) | Unk | 2 (29) | NA | NA (NA-NA) |
| | 0 - 18 | 0 (3) | NA ^{ns} | NA ^{***} | 1 st | 20 (623) | 3.21% (1.83%-4.59%) ^{ns} | 7 (1-NA) [*] |
| STS | 19 - 40 | 12 (398) | 3.02% (1.34%-4.70%) | 20 (5-NA) | 2 nd | 56 (1,120) | 5.00% (3.72%-6.28%) | 5 (1-20) |
| | 41 - 60 | 148 (3,405) | 4.35% (3.66%-5.03%) | 6 (1-24) | 3 rd | 66 (1,587) | 4.16% (3.18%-5.14%) | 2 (0-14) |
| | 61 - 80 | 224 (4,921) | 4.55% (3.97%-5.13%) | 5 (1-23) | 4 th | 314 (7,167) | 4.38% (3.91%-4.86%) | 6 (1-24) |
| | 80+ | 73 (1,787) | 4.09% (3.17%-5.00%) | 3 (0-10) | Unk | 1 (17) | NA | 5 (5-5) |
| Non-skin melanoma | 0 - 18 | 264 (1,489) | 17.73% (15.79%-19.67%) ^{***} | 35 (17-NA) ^{***} | 1 st | 25 (184) | 13.59% (8.64%-18.54%) ^{ns} | 17 (9-NA) ^{ns} |
| | 19 - 40 | 131 (1,286) | 10.19% (8.53%-11.84%) | 18 (10-47) | 2 nd | 56 (457) | 12.25% (9.25%-15.26%) | 18 (7-46) |
| | 41 - 60 | 100 (1,248) | 8.01% (6.51%-9.52%) | 8 (3-18) | 3 rd | 82 (672) | 12.20% (9.73%-14.68%) | 20 (7-47) |
| | 61 - 80 | 93 (868) | 10.71% (8.66%-12.77%) | 9 (3-23) | 4 th | 445 (3,756) | 11.85% (10.81%-12.88%) | 19 (8-NA) |
| Skin melanoma | 80+ | 21 (188) | 11.17% (6.67%-15.67%) | 4 (1-7) | Unk | 1 (10) | NA | 9 (9-9) |
| | 0 - 18 | 149 (1,533) | 9.72% (8.24%-11.20%) ^{***} | 23 (10-NA) ^{***} | 1 st | 104 (1,049) | 9.91% (8.11%-11.72%) [*] | 12 (2-22) ^{ns} |
| | 19 - 40 | 323 (4,083) | 7.91% (7.08%-8.74%) | 15 (5-32) | 2 nd | 223 (2,204) | 10.12% (8.86%-11.38%) | 7 (2-21) |
| | 41 - 60 | 804 (8,794) | 9.14% (8.54%-9.74%) | 10 (3-24) | 3 rd | 274 (3,258) | 8.41% (7.46%-9.36%) | 9 (3-22) |
| Non-skin melanoma | 61 - 80 | 755 (8,387) | 9.00% (8.39%-9.61%) | 5 (1-17) | 4 th | 1,580 (18,557) | 8.51% (8.11%-8.92%) | 8 (2-23) |
| | 80+ | 150 (2,296) | 6.53% (5.52%-7.54%) | 2 (1-7) | Unk | 0 (25) | NA | NA |
| | 0 - 18 | 1 (463) | NA ^{***} | 0 (0-0) ^{***} | 1 st | 37 (3,516) | 1.05% (0.72%-1.39%) ^{ns} | 7 (4-27) [*] |
| | 19 - 40 | 70 (12,839) | 0.55% (0.42%-0.67%) | 10 (4-22) | 2 nd | 84 (8,156) | 1.03% (0.81%-1.25%) | 5 (1-12) |
| Non-skin melanoma | 41 - 60 | 337 (38,800) | 0.87% (0.78%-0.96%) | 9 (3-23) | 3 rd | 150 (14,272) | 1.05% (0.88%-1.22%) | 5 (2-11) |
| | 61 - 80 | 499 (43,874) | 1.14% (1.04%-1.24%) | 5 (2-19) | 4 th | 794 (81,305) | 0.98% (0.91%-1.04%) | 7 (2-22) |
| | 80+ | 158 (11,311) | 1.40% (1.18%-1.61%) | 6 (2-13) | Unk | 0 (38) | NA | NA |
| | 0 - 18 | 0 (14) | NA ^{ns} | NA [*] | 1 st | 4 (149) | NA ^{ns} | 10 (4-38) ^{ns} |
| Non-skin melanoma | 19 - 40 | 6 (236) | 2.54% (0.53%-4.55%) | 13 (7-27) | 2 nd | 9 (281) | 3.20% (1.14%-5.26%) | 10 (1-18) |
| | 41 - 60 | 27 (1,004) | 2.69% (1.69%-3.69%) | 7 (5-NA) | 3 rd | 13 (463) | 2.81% (1.30%-4.31%) | 5 (3-6) |
| | 61 - 80 | 56 (1,434) | 3.91% (2.90%-4.91%) | 6 (3-14) | 4 th | 80 (2,187) | 3.66% (2.87%-4.44%) | 6 (3-14) |
| | 80+ | 17 (396) | 4.29% (2.30%-6.29%) | 4 (2-6) | Unk | 0 (4) | NA | NA |

| | | | | | | | | |
|------------------|---------|----------------|------------------------------------|---------------------------|-----------------|----------------|------------------------------------|-------------------------|
| Skin cancer | 0 - 18 | 0 (15) | NA ^{ns} | NA ^{ns} | 1 st | 2 (203) | NA ^{ns} | 16.5 (6-NA) |
| | 19 - 40 | 0 (158) | NA | NA | 2 nd | 5 (504) | 0.99% (0.13%-1.86%) | 10 (8-11) |
| | 41 - 60 | 12 (1,013) | 1.18% (0.52%-1.85%) | 17 (6.5-48.5) | 3 rd | 1 (700) | NA | 25 (25-25) |
| | 61 - 80 | 16 (2,683) | 0.60% (0.31%-0.89%) | 9 (5-11) | 4 th | 29 (3,934) | 0.74% (0.47%-1.00%) | 8 (5-18) |
| | 80+ | 9 (1,476) | 0.61% (0.21%-1.01%) | 10 (6-21) | Unk | 0 (4) | NA | NA |
| Embryonal tumors | 0 - 18 | 312 (3,524) | 8.85% (7.92%-9.79%) ^{***} | NA (33-NA) | 1 st | 11 (157) | 7.01% (3.01%-11.00%) ^{ns} | 16 (4-57) [*] |
| | 19 - 40 | 8 (311) | 2.57% (0.81%-4.33%) | 50 (6-NA) | 2 nd | 30 (396) | 7.58% (4.97%-10.18%) | NA (12-NA) |
| | 41 - 60 | 5 (260) | 1.92% (0.25%-3.59%) | 16 (3-16) | 3 rd | 49 (575) | 8.52% (6.24%-10.80%) | NA (16-NA) |
| | 61 - 80 | 9 (170) | 5.29% (1.93%-8.66%) | 4 (1-12) | 4 th | 243 (3,140) | 7.74% (6.80%-8.67%) | NA (26-NA) |
| | 80+ | 0 (16) | NA | NA | Unk | 1 (13) | NA | NA (NA-NA) |
| All other | 0 - 18 | 52 (997) | 5.22% (3.84%-6.60%) ^{***} | 46 (16-NA) ^{***} | 1 st | 135 (1,566) | 8.62% (7.23%-10.01%) ^{ns} | 2 (0-10) ^{***} |
| | 19 - 40 | 285 (2,497) | 11.41% (10.17%-12.66%) | 24 (6-NA) | 2 nd | 264 (3,194) | 8.27% (7.31%-9.22%) | 4 (1-13) |
| | 41 - 60 | 828 (9,649) | 8.58% (8.02%-9.14%) | 7 (1-31) | 3 rd | 368 (4,271) | 8.62% (7.77%-9.46%) | 5 (1-20) |
| | 61 - 80 | 1,340 (15,709) | 8.53% (8.09%-8.97%) | 4 (1-13) | 4 th | 2,130 (24,001) | 8.87% (8.51%-9.23%) | 5 (1-21) |
| | 80+ | 398 (4,216) | 9.44% (8.56%-10.32%) | 2 (0-8) | Unk | 6 (36) | 16.67% (4.49%-28.84%) | 0.5 (0-13) |

^a Prevalence was only calculated in category with more than 5 sLM cases.

^b Survival data (in months) are shown as the median survival and interquartile range in cases with synchronous lung metastasis at diagnosis.

^c The county-level income is presented as quantiles here.

^d Liver cancer here includes hepatocellular carcinoma and intrahepatic cholangiocarcinoma.

Abbreviations: sLM: synchronous lung metastasis; AA: African American; Unk: unknown; GI: gastrointestinal cancer; GU: genitourinary cancer; GYN: gynecologic cancer; STS: soft-tissue sarcoma; NA: non-applicable; ns: non-significant; *: p<0.05; ***: p<0.001 for intragroup survival comparison by Chi-square tests or log-rank tests.

Supplementary Table S3. Number of cases with synchronous lung metastasis and all cases, prevalence of synchronous lung metastasis and median survival with interquartile range by cancer type and county-level education or county-level residence type.

| Categories | Education ^a | No. of sLM (All) | Prevalence ^b | Survival ^c | Residence | No. of sLM (All) | Prevalence ^b | Survival ^c |
|----------------------------|------------------------|------------------|---------------------------------------|--------------------------|-----------|------------------|--------------------------------------|--------------------------|
| Brain | 1 st | 1 (898) | NA ^{ns} | 18 (18-18) ^{ns} | Metro | 16 (24,543) | 0.07% (0.03%-0.10%) ^{ns} | 8 (2.5-23) ^{ns} |
| | 2 nd | 1 (2,082) | NA | NA (NA-NA) | Urban | 1 (2,586) | NA | 18 (18-18) |
| | 3 rd | 2 (4,899) | NA | 4.5 (2-7) | Rural | 0 (355) | NA | NA |
| | 4 th | 13 (19,582) | 0.07% (0.03%-0.10%) | 9 (3-23) | Unknown | 0 (1) | NA | NA |
| | Unk | 0 (24) | NA | NA | | | | |
| Head and neck | 1 st | 88 (3,637) | 2.42% (1.92%-2.92%) ^{ns} | 7 (3-14) [*] | Metro | 1,357 (64,650) | 2.10% (1.99%-2.21%) ^{ns} | 9 (3-22) ^{***} |
| | 2 nd | 148 (6,662) | 2.22% (1.87%-2.58%) | 6 (2-19) | Urban | 181 (8,868) | 2.04% (1.75%-2.34%) | 6 (2-13) |
| | 3 rd | 327 (14,546) | 2.25% (2.01%-2.49%) | 8 (3-18) | Rural | 36 (1,376) | 2.62% (1.77%-3.46%) | 8 (2-15) |
| | 4 th | 1,007 (49,932) | 2.02% (1.89%-2.14%) | 9 (4-23) | Unknown | 0 (3) | NA | NA |
| | Unk | 4 (120) | NA | 7 (4.5-15.5) | | | | |
| Thyroid | 1 st | 31 (2,175) | 1.43% (0.93%-1.92%) [*] | 7 (1-35) ^{ns} | Metro | 916 (71,055) | 1.29% (1.21%-1.37%) ^{ns} | 11 (2-83) ^{ns} |
| | 2 nd | 93 (5,316) | 1.75% (1.40%-2.10%) | 11 (2-NA) | Urban | 71 (6,062) | 1.17% (0.90%-1.44%) | 16 (1-79) |
| | 3 rd | 161 (13,052) | 1.23% (1.04%-1.42%) | 8 (1-65) | Rural | 9 (878) | 1.03% (0.36%-1.69%) | 5 (1-22) |
| | 4 th | 711 (57,363) | 1.24% (1.15%-1.33%) | 12 (2-79) | Unknown | 0 (8) | NA | NA |
| | Unk | 0 (97) | NA | NA | | | | |
| Breast | 1 st | 196 (10,683) | 1.83% (1.58%-2.09%) ^{***} | 16 (4-49) [*] | Metro | 5,385 (323,451) | 1.66% (1.62%-1.71%) ^{ns} | 20 (5-47) ^{ns} |
| | 2 nd | 436 (24,455) | 1.78% (1.62%-1.95%) | 20 (5-40) | Urban | 505 (30,732) | 1.64% (1.50%-1.79%) | 20 (5-47) |
| | 3 rd | 1,078 (60,599) | 1.78% (1.67%-1.88%) | 18 (4-41) | Rural | 82 (4,398) | 1.86% (1.46%-2.26%) | 18 (4-44) |
| | 4 th | 4,249 (262,423) | 1.62% (1.57%-1.67%) | 21 (5-49) | Unknown | 0 (68) | NA | NA |
| | Unk | 13 (489) | 2.66% (1.23%-4.08%) | 15 (2-30) | | | | |
| Main bronchus | 1 st | 130 (927) | 14.02% (11.79%-16.26%) ^{***} | 3 (1-10) ^{ns} | Metro | 1,554 (8,947) | 17.37% (16.58%-18.15%) ^{ns} | 4 (1-11) ^{ns} |
| | 2 nd | 199 (1,291) | 15.41% (13.44%-17.38%) | 3 (1-9) | Urban | 248 (1,638) | 15.14% (13.40%-16.88%) | 3 (1-9) |
| | 3 rd | 382 (2,418) | 15.80% (14.34%-17.25%) | 4 (1-10) | Rural | 51 (293) | 17.41% (13.06%-21.75%) | 4 (1-11) |
| | 4 th | 1,139 (6,231) | 18.28% (17.32%-19.24%) | 4 (1-11) | Unknown | 0 (0) | | NA |
| | Unk | 3 (11) | NA | 2 (0-11) | | | | |
| Oesophagus | 1 st | 80 (869) | 9.21% (7.28%-11.13%) ^{ns} | 4 (1-8) ^{ns} | Metro | 1,727 (17,303) | 9.98% (9.53%-10.43%) ^{ns} | 4 (1-10) [*] |
| | 2 nd | 148 (1,785) | 8.29% (7.01%-9.57%) | 4 (1-8) | Urban | 220 (2,396) | 9.18% (8.03%-10.34%) | 3 (1-8) |
| | 3 rd | 412 (4,077) | 10.11% (9.18%-11.03%) | 3 (1-9) | Rural | 29 (365) | 7.95% (5.17%-10.72%) | 4 (1-8) |
| | 4 th | 1,331 (13,290) | 10.02% (9.50%-10.53%) | 4 (1-10) | Unknown | 0 (4) | NA | NA |
| | Unk | 5 (47) | 10.64% (1.82%-19.45%) | 1 (1-7) | | | | |
| Stomach | 1 st | 53 (1,066) | 4.97% (3.67%-6.28%) [*] | 2 (1-5) ^{ns} | Metro | 1,587 (28,792) | 5.51% (5.25%-5.78%) ^{ns} | 3 (1-9) ^{ns} |
| | 2 nd | 116 (2,275) | 5.10% (4.19%-6.00%) | 3 (1-11) | Urban | 140 (2,573) | 5.44% (4.56%-6.32%) | 3 (1-7) |
| | 3 rd | 274 (5,373) | 5.10% (4.51%-5.69%) | 4 (1-9) | Rural | 29 (459) | 6.32% (4.09%-8.54%) | 3 (1-6) |
| | 4 th | 1,301 (23,007) | 5.65% (5.36%-5.95%) | 3 (1-9) | Unknown | 0 (1) | NA | NA |
| | Unk | 12 (104) | 11.54% (5.40%-17.68%) | 3.5 (1-7.5) | | | | |
| Liver ^d | 1 st | 78 (871) | 8.96% (7.06%-10.85%) ^{ns} | 2 (0-7) ^{ns} | Metro | 2,017 (23,732) | 8.50% (8.14%-8.85%) ^{ns} | 2 (1-6) ^{ns} |
| | 2 nd | 183 (2,076) | 8.82% (7.60%-10.03%) | 2 (0-6) | Urban | 202 (2,227) | 9.07% (7.88%-10.26%) | 1 (0-5) |
| | 3 rd | 418 (4,814) | 8.68% (7.89%-9.48%) | 2 (0-5) | Rural | 26 (306) | 8.50% (5.37%-11.62%) | 3.5 (1-11) |
| | 4 th | 1,560 (18,464) | 8.45% (8.05%-8.85%) | 2 (1-6) | Unknown | 0 (2) | NA | NA |
| | Unk | 6 (42) | 14.29% (3.70%-24.87%) | 1.5 (0-5) | | | | |
| Extrahepatic biliary tract | 1 st | 21 (441) | 4.76% (2.77%-6.75%) ^{ns} | 2.5 (2-5) ^{ns} | Metro | 807 (12,834) | 6.29% (5.87%-6.71%) ^{ns} | 3 (1-8) ^{ns} |
| | 2 nd | 56 (1,077) | 5.20% (3.87%-6.53%) | 4 (1-10) | Urban | 61 (1,214) | 5.02% (3.80%-6.25%) | 4 (1-7) |
| | 3 rd | 136 (2,443) | 5.57% (4.66%-6.48%) | 3 (1-9) | Rural | 8 (190) | 4.21% (1.35%-7.07%) | 2.5 (0-7) |
| | 4 th | 660 (10,257) | 6.43% (5.96%-6.91%) | 3 (1-8) | Unknown | 0 (0) | | NA |
| | Unk | 3 (20) | NA | 1 (0-9) | | | | |
| Pancreas | 1 st | 173 (1,744) | 9.92% (8.52%-11.32%) [*] | 2 (1-6) ^{***} | Metro | 5,093 (46,910) | 10.86% (10.58%-11.14%) ^{ns} | 3 (1-8) ^{ns} |
| | 2 nd | 470 (4,034) | 11.65% (10.66%-12.64%) | 2 (1-6) | Urban | 506 (4,788) | 10.57% (9.70%-11.44%) | 2 (1-7) |
| | 3 rd | 1,051 (9,572) | 10.98% (10.35%-11.61%) | 2 (1-7) | Rural | 83 (742) | 11.19% (8.92%-13.45%) | 3 (1-6) |
| | 4 th | 3,977 (37,041) | 10.74% (10.42%-11.05%) | 3 (1-8) | Unknown | 0 (2) | NA | NA |
| | Unk | 11 (51) | 21.57% (10.28%-32.86%) | 2 (0-5) | | | | |
| Small intestine | 1 st | 8 (380) | 2.11% (0.66%-3.55%) ^{ns} | 8 (1-NA) ^{ns} | Metro | 218 (8,471) | 2.57% (2.24%-2.91%) ^{ns} | 8 (2-21) ^{ns} |
| | 2 nd | 18 (796) | 2.26% (1.23%-3.29%) | 11 (6-44) | Urban | 20 (1,038) | 1.93% (1.09%-2.76%) | 8 (1.5-21) |
| | 3 rd | 34 (1,806) | 1.88% (1.26%-2.51%) | 4 (1-11) | Rural | 1 (119) | NA | NA (NA-NA) |
| | 4 th | 179 (6,642) | 2.69% (2.31%-3.08%) | 8 (2-26) | Unknown | 0 (0) | | NA |
| | Unk | 0 (4) | NA | NA | | | | |
| Colon & rectum | 1 st | 434 (8,354) | 5.20% (4.72%-5.67%) [*] | 10 (3-23) [*] | Metro | 8,436 (162,938) | 5.18% (5.07%-5.29%) ^{ns} | 11 (3-25) ^{ns} |
| | 2 nd | 765 (15,873) | 4.82% (4.49%-5.15%) | 10 (2-25) | Urban | 1,013 (20,201) | 5.01% (4.71%-5.32%) | 11 (3-25) |
| | 3 rd | 1,891 (35,129) | 5.38% (5.15%-5.62%) | 11 (3-25) | Rural | 196 (3,390) | 5.78% (5.00%-6.57%) | 11 (4-21) |
| | 4 th | 6,525 (126,762) | 5.15% (5.03%-5.27%) | 12 (3-25) | Unknown | 0 (10) | NA | NA |
| | Unk | 30 (421) | 7.13% (4.67%-9.58%) | 7 (4-17) | | | | |
| Right colon | 1 st | 136 (3,167) | 4.29% (3.59%-5.00%) ^{ns} | 6 (2-19) ^{ns} | Metro | 2,410 (62,941) | 3.83% (3.68%-3.98%) ^{ns} | 8 (2-20) ^{ns} |
| | 2 nd | 230 (6,144) | 3.74% (3.27%-4.22%) | 7 (2-20) | Urban | 302 (8,104) | 3.73% (3.31%-4.14%) | 8 (2-21) |
| | 3 rd | 531 (13,916) | 3.82% (3.50%-4.13%) | 8 (2-19) | Rural | 65 (1,336) | 4.87% (3.71%-6.02%) | 8 (3-23) |
| | 4 th | 1,872 (49,010) | 3.82% (3.65%-3.99%) | 9 (2-21) | Unknown | 0 (2) | NA | NA |
| | Unk | 8 (146) | 5.48% (1.79%-9.17%) | 13 (5.5-24) | | | | |
| Left colon | 1 st | 150 (2,924) | 5.13% (4.33%-5.93%) ^{ns} | 12 (4-23) ^{***} | Metro | 2,953 (56,143) | 5.26% (5.08%-5.44%) ^{ns} | 13 (3-29) ^{ns} |
| | 2 nd | 264 (5,394) | 4.89% (4.32%-5.47%) | 12 (3-26) | Urban | 350 (6,727) | 5.20% (4.67%-5.73%) | 14 (4-26) |
| | 3 rd | 656 (11,727) | 5.59% (5.18%-6.01%) | 13 (3-27) | Rural | 67 (1,139) | 5.88% (4.52%-7.25%) | 14 (4-21) |
| | 4 th | 2,289 (43,800) | 5.23% (5.02%-5.43%) | 14 (4-29) | Unknown | 0 (5) | NA | NA |
| | Unk | 11 (169) | 6.51% (2.79%-10.23%) | 5 (2-11) | | | | |
| Unspecified colon | 1 st | 28 (221) | 12.67% (8.28%-17.06%) ^{ns} | 3 (0.5-11) ^{ns} | Metro | 667 (4,152) | 16.06% (14.95%-17.18%) ^{ns} | 3 (1-12) ^{ns} |
| | 2 nd | 53 (377) | 14.06% (10.55%-17.57%) | 2 (1-9) | Urban | 69 (499) | 13.83% (10.80%-16.86%) | 3 (1-14) |
| | 3 rd | 158 (925) | 17.08% (14.66%-19.51%) | 4 (1-11) | Rural | 10 (75) | 13.33% (5.64%-21.03%) | 8 (2-13) |

| | | | | | | | | |
|-------------------|-----------------|----------------|-------------------------------------|--------------------------|---------|-----------------|--------------------------------------|--------------------------|
| | 4 th | 507 (3,200) | 15.84% (14.58%-17.11%) | 4 (1-13) | Unknown | 0 (1) | NA | NA |
| | Unk | 0 (4) | NA | NA | | | | |
| Rectum | 1 st | 120 (2,042) | 5.88% (4.86%-6.90%) ^{ns} | 12 (5-29) ^{ns} | Metro | 2,406 (39,702) | 6.06% (5.83%-6.29%) ^{ns} | 16 (5-30) * |
| | 2 nd | 218 (3,958) | 5.51% (4.80%-6.22%) | 16 (5-29) | Urban | 292 (4,871) | 5.99% (5.33%-6.66%) | 13 (6-27) |
| | 3 rd | 546 (8,561) | 6.38% (5.86%-6.90%) | 15 (4-30) | Rural | 54 (840) | 6.43% (4.77%-8.09%) | 11 (5-21) |
| | 4 th | 1,857 (30,752) | 6.04% (5.77%-6.30%) | 16 (6-29) | Unknown | 0 (2) | NA | NA |
| | Unk | 11 (102) | 10.78% (4.76%-16.80%) | 11 (6-17) | | | | |
| Anus | 1 st | 7 (332) | 2.11% (0.56%-3.65%) * | 16 (10-16) ^{ns} | Metro | 161 (8,318) | 1.94% (1.64%-2.23%) ^{ns} | 12 (5-23) ^{ns} |
| | 2 nd | 18 (771) | 2.33% (1.27%-3.40%) | 8 (5-35) | Urban | 18 (946) | 1.90% (1.03%-2.77%) | 7 (4-13) |
| | 3 rd | 20 (1,695) | 1.18% (0.67%-1.69%) | 12 (6-16) | Rural | 4 (139) | NA | 13 (8-16) |
| | 4 th | 137 (6,598) | 2.08% (1.73%-2.42%) | 11 (5-23) | Unknown | 0 (2) | NA | NA |
| | Unk | 1 (9) | NA | 6 (6-6) | | | | |
| Other GI | 1 st | 14 (272) | 5.15% (2.52%-7.77%) ^{ns} | 1 (0-2) ^{ns} | Metro | 633 (7,727) | 8.19% (7.58%-8.80%) ^{***} | 2 (0-7) ^{ns} |
| | 2 nd | 52 (593) | 8.77% (6.49%-11.05%) | 1 (0-3) | Urban | 40 (782) | 5.12% (3.57%-6.66%) | 2 (1-4) |
| | 3 rd | 124 (1,535) | 8.08% (6.71%-9.44%) | 1 (0-7) | Rural | 7 (102) | 6.86% (1.96%-11.77%) | 2 (0-8) |
| | 4 th | 487 (6,196) | 7.86% (7.19%-8.53%) | 2 (0-7) | Unknown | 0 (0) | | NA |
| | Unk | 3 (15) | NA | 0 (0-2) | | | | |
| Kidney | 1 st | 254 (3,073) | 8.27% (7.29%-9.24%) * | 7 (3-17) ^{***} | Metro | 5,023 (61,101) | 8.22% (8.00%-8.44%) ^{***} | 8 (2-23) ^{***} |
| | 2 nd | 602 (6,399) | 9.41% (8.69%-10.12%) | 7 (2-18) | Urban | 700 (7,370) | 9.50% (8.83%-10.17%) | 7 (2-17) |
| | 3 rd | 1,146 (13,579) | 8.44% (7.97%-8.91%) | 7 (2-19) | Rural | 100 (1,132) | 8.83% (7.18%-10.49%) | 5 (2-14) |
| | 4 th | 3,811 (46,437) | 8.21% (7.96%-8.46%) | 8 (3-24) | Unknown | 0 (2) | NA | NA |
| | Unk | 10 (117) | 8.55% (3.48%-13.61%) | 5.5 (1-12.5) | | | | |
| Bladder | 1 st | 66 (1,492) | 4.42% (3.38%-5.47%) ^{***} | 3 (1-9) ^{ns} | Metro | 1,064 (36,649) | 2.90% (2.73%-3.08%) * | 4 (1-11) ^{ns} |
| | 2 nd | 103 (3,289) | 3.13% (2.54%-3.73%) | 4 (2-9) | Urban | 120 (4,385) | 2.74% (2.25%-3.22%) | 4 (1-8) |
| | 3 rd | 226 (7,795) | 2.90% (2.53%-3.27%) | 4 (2-11) | Rural | 31 (633) | 4.90% (3.22%-6.58%) | 4 (2-12) |
| | 4 th | 819 (29,062) | 2.82% (2.63%-3.01%) | 4 (1-11) | Unknown | 0 (1) | NA | NA |
| | Unk | 1 (30) | NA | 1 (1-1) | | | | |
| Prostate | 1 st | 26 (10,548) | 0.25% (0.15%-0.34%) ^{***} | 26 (8-77) ^{ns} | Metro | 1,206 (276,260) | 0.44% (0.41%-0.46%) ^{ns} | 22 (8-63) ^{ns} |
| | 2 nd | 96 (22,368) | 0.43% (0.34%-0.51%) | 21 (5-70) | Urban | 124 (29,598) | 0.42% (0.35%-0.49%) | 19 (6-69) |
| | 3 rd | 228 (59,305) | 0.38% (0.33%-0.43%) | 18 (7-69) | Rural | 9 (3,998) | 0.23% (0.08%-0.37%) | 9 (8-15) |
| | 4 th | 988 (217,524) | 0.45% (0.43%-0.48%) | 23 (9-61) | Unknown | 0 (62) | NA | NA |
| | Unk | 1 (173) | NA | 8 (8-8) | | | | |
| Testis | 1 st | 34 (396) | 8.59% (5.83%-11.35%) ^{***} | NA (14-NA) ^{ns} | Metro | 1,031 (14,482) | 7.12% (6.70%-7.54%) ^{ns} | NA (20-NA) ^{ns} |
| | 2 nd | 93 (1,146) | 8.12% (6.53%-9.70%) | NA (16-NA) | Urban | 86 (1,234) | 6.97% (5.55%-8.39%) | NA (14-NA) |
| | 3 rd | 243 (2,715) | 8.95% (7.88%-10.02%) | NA (15-NA) | Rural | 12 (162) | 7.41% (3.37%-11.44%) | NA (13-NA) |
| | 4 th | 758 (11,592) | 6.54% (6.09%-6.99%) | NA (25-NA) | Unknown | 0 (3) | NA | NA |
| | Unk | | | NA (NA-NA) | | | | |
| Other GU | 1 st | 15 (346) | 4.34% (2.19%-6.48%) ^{ns} | 7 (4-16) ^{ns} | Metro | 470 (7,647) | 6.15% (5.61%-6.68%) ^{ns} | 5 (2-12) ^{ns} |
| | 2 nd | 43 (726) | 5.92% (4.21%-7.64%) | 6 (2-11) | Urban | 49 (933) | 5.25% (3.82%-6.68%) | 5 (2-11) |
| | 3 rd | 100 (1,631) | 6.13% (4.97%-7.30%) | 6 (2-11) | Rural | 10 (137) | 7.30% (2.94%-11.66%) | 4.5 (2-11) |
| | 4 th | 369 (6,006) | 6.14% (5.54%-6.75%) | 5 (2-12) | Unknown | 0 (1) | NA | NA |
| | Unk | 2 (9) | NA | 5.5 (4-7) | | | | |
| Ovary | 1 st | 42 (790) | 5.32% (3.75%-6.88%) * | 4 (1-20) ^{***} | Metro | 1,532 (26,912) | 5.69% (5.42%-5.97%) ^{ns} | 16 (2-36) ^{ns} |
| | 2 nd | 134 (1,941) | 6.90% (5.78%-8.03%) | 9 (2-27) | Urban | 141 (2,542) | 5.55% (4.66%-6.44%) | 11 (2-25) |
| | 3 rd | 313 (5,135) | 6.10% (5.44%-6.75%) | 15 (2-33) | Rural | 23 (333) | 6.91% (4.18%-9.63%) | 11 (3-47) |
| | 4 th | 1,207 (21,900) | 5.51% (5.21%-5.81%) | 18 (3-39) | Unknown | 0 (2) | NA | NA |
| | Unk | 0 (23) | NA | NA | | | | |
| Uterus | 1 st | 47 (2,212) | 2.12% (1.52%-2.73%) ^{ns} | 8 (2-23) ^{ns} | Metro | 1,091 (65,544) | 1.66% (1.57%-1.76%) ^{ns} | 8 (2-21) ^{ns} |
| | 2 nd | 89 (4,959) | 1.79% (1.43%-2.16%) | 7 (1-19) | Urban | 121 (6,791) | 1.78% (1.47%-2.10%) | 7 (1-24) |
| | 3 rd | 237 (12,704) | 1.87% (1.63%-2.10%) | 9 (2-23) | Rural | 20 (1,002) | 2.00% (1.13%-2.86%) | 16 (6-19) |
| | 4 th | 858 (53,412) | 1.61% (1.50%-1.71%) | 8 (2-22) | Unknown | 0 (5) | NA | NA |
| | Unk | | | NA (NA-NA) | | | | |
| Cervix | 1 st | 1 (55) | NA | NA | | | | |
| | 1 st | 39 (823) | 4.74% (3.29%-6.19%) ^{ns} | 6 (2-20) ^{ns} | Metro | 747 (18,408) | 4.06% (3.77%-4.34%) ^{***} | 7 (3-16) ^{ns} |
| | 2 nd | 76 (1,872) | 4.06% (3.17%-4.95%) | 10 (4-20) | Urban | 76 (1,979) | 3.84% (2.99%-4.69%) | 9 (4-24) |
| | 3 rd | 174 (3,973) | 4.38% (3.74%-5.02%) | 6 (3-12) | Rural | 21 (271) | 7.75% (4.57%-10.93%) | 6 (2-12) |
| | 4 th | 553 (13,961) | 3.96% (3.64%-4.28%) | 7 (2-18) | Unknown | 0 (0) | | NA |
| Other GYN | 1 st | 2 (29) | NA | NA (NA-NA) | | | | |
| | 1 st | 15 (460) | 3.26% (1.64%-4.88%) ^{ns} | 2 (0-5) ^{ns} | Metro | 402 (9,123) | 4.41% (3.99%-4.83%) ^{ns} | 5 (1-23) ^{ns} |
| | 2 nd | 44 (856) | 5.14% (3.66%-6.62%) | 7 (1-24) | Urban | 52 (1,212) | 4.29% (3.15%-5.43%) | 5 (1-17) |
| | 3 rd | 86 (2,008) | 4.28% (3.40%-5.17%) | 4 (1-32) | Rural | 3 (179) | NA | 5 (5-NA) |
| | 4 th | 311 (7,173) | 4.34% (3.86%-4.81%) | 5 (1-23) | Unknown | 0 (0) | | NA |
| Bone tumor | 1 st | 1 (17) | NA | 5 (5-5) | | | | |
| | 1 st | 20 (146) | 13.70% (8.12%-19.28%) ^{ns} | 17 (9-50) ^{ns} | Metro | 536 (4,582) | 11.70% (10.77%-12.63%) ^{ns} | 20 (8-NA) ^{ns} |
| | 2 nd | 44 (344) | 12.79% (9.26%-16.32%) | 15 (4-32) | Urban | 67 (435) | 15.40% (12.01%-18.79%) | 15 (8-32) |
| | 3 rd | 123 (933) | 13.18% (11.01%-15.35%) | 19 (8-NA) | Rural | 6 (62) | 9.68% (2.32%-17.04%) | NA (14-NA) |
| | 4 th | 421 (3,646) | 11.55% (10.51%-12.58%) | 20 (8-NA) | Unknown | 0 (0) | | NA |
| STS | 1 st | 1 (10) | NA | 9 (9-9) | | | | |
| | 1 st | 71 (731) | 9.71% (7.57%-11.86%) ^{ns} | 7 (2-17) ^{ns} | Metro | 1,958 (22,711) | 8.62% (8.26%-8.99%) ^{ns} | 8 (2-23) ^{ns} |
| | 2 nd | 161 (1,777) | 9.06% (7.73%-10.39%) | 10 (4-22) | Urban | 195 (2,114) | 9.22% (7.99%-10.46%) | 9 (3-24) |
| | 3 rd | 393 (4,342) | 9.05% (8.20%-9.90%) | 7 (2-21) | Rural | 28 (264) | 10.61% (6.89%-14.32%) | 6.5 (1-14) |
| | 4 th | 1,556 (18,218) | 8.54% (8.14%-8.95%) | 8 (2-24) | Unknown | 0 (4) | NA | NA |
| Skin melanoma | 1 st | 0 (25) | NA | NA | | | | |
| | 1 st | 32 (2,890) | 1.11% (0.73%-1.49%) ^{ns} | 11 (1-26) ^{ns} | Metro | 948 (95,565) | 0.99% (0.93%-1.05%) ^{ns} | 6 (2-20) ^{ns} |
| | 2 nd | 80 (7,005) | 1.14% (0.89%-1.39%) | 6 (3-14) | Urban | 96 (10,243) | 0.94% (0.75%-1.12%) | 5 (3-25) |
| | 3 rd | 194 (17,615) | 1.10% (0.95%-1.26%) | 6 (2-13) | Rural | 21 (1,462) | 1.44% (0.83%-2.05%) | 10 (4-20) |
| | 4 th | 759 (79,739) | 0.95% (0.88%-1.02%) | 6 (2-22) | Unknown | 0 (17) | NA | NA |
| Non-skin melanoma | 1 st | 0 (38) | NA | NA | | | | |
| | 1 st | 2 (110) | NA ^{ns} | 19.5 (1-38) * | Metro | 95 (2,707) | 3.51% (2.82%-4.20%) ^{ns} | 6 (3-13) ^{ns} |
| | 2 nd | 10 (273) | 3.66% (1.43%-5.89%) | 10 (4-18) | Urban | 11 (334) | 3.29% (1.38%-5.21%) | 7 (3-18) |
| | 3 rd | 20 (539) | 3.71% (2.11%-5.31%) | 4 (2-5) | Rural | 0 (42) | NA | NA |
| | 4 th | 74 (2,158) | 3.43% (2.66%-4.20%) | 6 (3-15) | Unknown | 0 (1) | NA | NA |

| | | | | | | | | |
|------------------|-----------------|----------------|------------------------------------|--------------------------|---------|----------------|-----------------------------------|--------------------------|
| Skin cancer | Unk | 0 (4) | NA | NA | | | | |
| | 1 st | 0 (180) | NA ^{ns} | NA ^{ns} | Metro | 33 (4,775) | 0.69% (0.46%-0.93%) ^{ns} | 9 (5-17) ^{ns} |
| | 2 nd | 4 (378) | NA | 9 (7-18.5) | Urban | 4 (500) | NA | 16 (6.5-26) |
| | 3 rd | 9 (968) | 0.93% (0.33%-1.53%) | 11 (8-21) | Rural | 0 (70) | NA | NA |
| | 4 th | 24 (3,815) | 0.63% (0.38%-0.88%) | 8 (5-18) | Unknown | 0 (0) | NA | NA |
| Embryonal tumors | Unk | 0 (4) | NA | NA | | | | |
| | 1 st | 10 (136) | 7.35% (2.97%-11.74%) ^{ns} | 57 (16-NA) ^{ns} | Metro | 305 (3,906) | 7.81% (6.97%-8.65%) ^{ns} | NA (26-NA) ^{ns} |
| | 2 nd | 25 (303) | 8.25% (5.15%-11.35%) | NA (23-NA) | Urban | 24 (317) | 7.57% (4.66%-10.48%) | 32 (12-NA) |
| | 3 rd | 64 (793) | 8.07% (6.17%-9.97%) | NA (9-NA) | Rural | 5 (57) | 8.77% (1.43%-16.12%) | NA (9-NA) |
| | 4 th | 234 (3,036) | 7.71% (6.76%-8.66%) | NA (26-NA) | Unknown | 0 (1) | NA | NA |
| All other | Unk | 1 (13) | NA | NA (NA-NA) | | | | |
| | 1 st | 91 (1,104) | 8.24% (6.62%-9.87%) ^{ns} | 2 (1-6) ^{***} | Metro | 2,600 (29,664) | 8.76% (8.44%-9.09%) ^{ns} | 5 (1-21) ^{***} |
| | 2 nd | 217 (2,462) | 8.81% (7.69%-9.93%) | 4 (1-15) | Urban | 254 (2,965) | 8.57% (7.56%-9.57%) | 4 (1-11) |
| | 3 rd | 516 (5,787) | 8.92% (8.18%-9.65%) | 5 (1-16) | Rural | 48 (435) | 11.03% (8.09%-13.98%) | 2 (0-5) |
| | 4 th | 2,073 (23,679) | 8.75% (8.39%-9.11%) | 5 (1-21) | Unknown | 1 (4) | NA | 73 (73-73) |
| | Unk | 6 (36) | 16.67% (4.49%-28.84%) | 0.5 (0-13) | | | | |

^a The county-level education is presented as quantiles here.

^b Prevalence was only calculated in category with more than 5 sLM cases.

^c Survival data (in months) are shown as the median survival and interquartile range in cases with synchronous lung metastasis at diagnosis.

^d Liver cancer here includes hepatocellular carcinoma and intrahepatic cholangiocarcinoma.

Abbreviations: sLM: synchronous lung metastasis; Unk: unknown; GI: gastrointestinal cancer; GU: genitourinary cancer; GYN: gynecologic cancer; NA: non-applicable; ns: non-significant; *: p<0.05; ***: p<0.001 for intragroup survival comparison by Chi-square tests or log-rank tests.

Supplementary Table S4. Number of cases with synchronous lung metastasis and all cases, prevalence of synchronous lung metastasis and median survival with interquartile range by cancer type and T stage or N stage.

| Categories | T stage | No. of sLM (All) | Prevalence ^a | Survival ^b | N stage | No. of sLM (All) | Prevalence ^a | Survival ^b |
|----------------------------|---------|------------------|----------------------------|--------------------------|---------|------------------|------------------------------------|--------------------------|
| Head and neck | T1 | 117 (22,860) | 0.51% (0.42%-0.60%) --- | 12 (4-29) ⁻⁻⁻ | N0 | 250 (35,500) | 0.70% (0.62%-0.79%) ⁻⁻⁻ | 11 (4-30) ⁻⁻⁻ |
| | T2 | 272 (18,927) | 1.44% (1.27%-1.61%) | 10 (4-23) | N1 | 278 (10,255) | 2.71% (2.40%-3.03%) | 8 (3-18) |
| | T3 | 357 (11,672) | 3.06% (2.75%-3.37%) | 10 (4-23) | N2 | 779 (23,828) | 3.27% (3.04%-3.50%) | 9 (4-20) |
| | T4 | 571 (13,187) | 4.33% (3.98%-4.68%) | 7 (3-16) | N3 | 165 (2,337) | 7.06% (6.02%-8.10%) | 8 (3-22) |
| | Unk | 257 (8,251) | 3.11% (2.74%-3.49%) | 7 (3-20) | Unk | 102 (2,977) | 3.43% (2.77%-4.08%) | 5 (1-15) |
| Thyroid | T1 | 46 (44,173) | 0.10% (0.07%-0.13%) --- | NA (22-NA) --- | N0 | 269 (57,001) | 0.47% (0.42%-0.53%) ⁻⁻⁻ | 23 (3-83) ⁻⁻⁻ |
| | T2 | 52 (12,970) | 0.40% (0.29%-0.51%) | NA (15-NA) | N1 | 625 (18,770) | 3.33% (3.07%-3.59%) | 10 (2-NA) |
| | T3 | 211 (15,954) | 1.32% (1.15%-1.50%) | 83 (43-NA) | N2 | 0 (0) | NA | NA |
| | T4 | 569 (3,012) | 18.89% (17.49%-20.29%) | 4 (1-22) | N3 | 0 (0) | NA | NA |
| | Unk | 118 (1,894) | 6.23% (5.14%-7.32%) | 6 (1-21) | Unk | 102 (2,232) | 4.57% (3.70%-5.44%) | 4 (1-15) |
| Breast | T1 | 434 (204,207) | 0.21% (0.19%-0.23%) --- | 26 (7-65) ⁻⁻⁻ | N0 | 1,155 (239,387) | 0.48% (0.45%-0.51%) ⁻⁻⁻ | 18 (3-50) ⁻⁻⁻ |
| | T2 | 1,383 (107,635) | 1.28% (1.22%-1.35%) | 25 (7-52) | N1 | 2,724 (84,290) | 3.23% (3.11%-3.35%) | 21 (6-47) |
| | T3 | 874 (22,366) | 3.91% (3.65%-4.16%) | 19 (6-49) | N2 | 656 (18,768) | 3.50% (3.23%-3.76%) | 25 (9-55) |
| | T4 | 2,446 (15,366) | 15.92% (15.34%-16.50%) | 18 (5-45) | N3 | 813 (11,774) | 6.91% (6.45%-7.36%) | 20 (7-47) |
| | Unk | 835 (9,075) | 9.20% (8.61%-9.80%) | 14 (1-38) | Unk | 624 (4,430) | 14.09% (13.06%-15.11%) | 10 (1-34) |
| Main bronchus | T1 | 18 (413) | 4.36% (2.39%-6.33%) --- | 10 (3-18) ^{ns} | N0 | 217 (2,190) | 9.91% (8.66%-11.16%) --- | 4 (1-12) ^{ns} |
| | T2 | 251 (2,972) | 8.45% (7.45%-9.45%) | 4 (1-12) | N1 | 83 (735) | 11.29% (9.00%-13.58%) | 5 (1-12) |
| | T3 | 427 (2,133) | 20.02% (18.32%-21.72%) | 4 (1-11) | N2 | 920 (5,334) | 17.25% (16.23%-18.26%) | 3 (1-9) |
| | T4 | 1,074 (4,470) | 24.03% (22.77%-25.28%) | 3 (1-10) | N3 | 543 (2,122) | 25.59% (23.73%-27.45%) | 4 (1-11) |
| | Unk | 83 (890) | 9.33% (7.42%-11.24%) | 2 (1-9) | Unk | 90 (497) | 18.11% (14.72%-21.49%) | 2 (1-9) |
| Oesophagus | T1 | 385 (4,893) | 7.87% (7.11%-8.62%) --- | 3 (1-9) ⁻⁻⁻ | N0 | 438 (7,807) | 5.61% (5.10%-6.12%) ⁻⁻⁻ | 3 (1-9) ^{ns} |
| | T2 | 54 (1,896) | 2.85% (2.10%-3.60%) | 8 (3-20) | N1 | 1,003 (7,966) | 12.59% (11.86%-13.32%) | 4 (1-10) |
| | T3 | 269 (6,564) | 4.10% (3.62%-4.58%) | 6 (3-12) | N2 | 136 (2,030) | 6.70% (5.61%-7.79%) | 5 (2-9) |
| | T4 | 405 (2,293) | 17.66% (16.10%-19.22%) | 4 (1-8) | N3 | 127 (784) | 16.20% (13.62%-18.78%) | 3 (1-10) |
| | Unk | 863 (4,422) | 19.52% (18.35%-20.68%) | 3 (1-9) | Unk | 272 (1,481) | 18.37% (16.39%-20.34%) | 3 (1-8) |
| Stomach | T1 | 314 (7,798) | 4.03% (3.59%-4.46%) --- | 3 (1-9) ⁻⁻⁻ | N0 | 553 (14,936) | 3.70% (3.40%-4.01%) ⁻⁻⁻ | 3 (1-10) ⁻⁻⁻ |
| | T2 | 64 (2,994) | 2.14% (1.62%-2.66%) | 4 (1-13) | N1 | 687 (8,194) | 8.38% (7.78%-8.98%) | 4 (1-10) |
| | T3 | 189 (7,506) | 2.52% (2.16%-2.87%) | 5 (2-11) | N2 | 71 (2,834) | 2.51% (1.93%-3.08%) | 4 (1-12) |
| | T4 | 307 (5,568) | 5.51% (4.91%-6.11%) | 3 (1-7) | N3 | 90 (2,786) | 3.23% (2.57%-3.89%) | 3 (1-8) |
| | Unk | 882 (7,959) | 11.08% (10.39%-11.77%) | 3 (1-9) | Unk | 355 (3,075) | 11.54% (10.42%-12.67%) | 2 (1-7) |
| Liver ^c | T1 | 366 (9,114) | 4.02% (3.61%-4.42%) --- | 2 (1-9) ⁻⁻⁻ | N0 | 1,023 (18,776) | 5.45% (5.12%-5.77%) ⁻⁻⁻ | 2 (1-6) ⁻⁻⁻ |
| | T2 | 339 (5,456) | 6.21% (5.57%-6.85%) | 3 (1-8) | N1 | 503 (2,778) | 18.11% (16.67%-19.54%) | 3 (1-7) |
| | T3 | 540 (5,282) | 10.22% (9.41%-11.04%) | 2 (1-6) | N2 | 0 (0) | NA | NA |
| | T4 | 187 (1,045) | 17.89% (15.57%-20.22%) | 2 (0-5) | N3 | 0 (0) | NA | NA |
| | Unk | 813 (5,370) | 15.14% (14.18%-16.10%) | 2 (0-5) | Unk | 719 (4,713) | 15.26% (14.23%-16.28%) | 2 (0-5) |
| Extrahepatic biliary tract | T1 | 86 (2,257) | 3.81% (3.02%-4.60%) --- | 4 (2-8) ⁻⁻⁻ | N0 | 250 (7,479) | 3.34% (2.94%-3.75%) ⁻⁻⁻ | 3 (1-8) ⁻⁻⁻ |
| | T2 | 52 (3,278) | 1.59% (1.16%-2.01%) | 4 (1-9) | N1 | 209 (3,948) | 5.29% (4.60%-5.99%) | 4 (1-11) |
| | T3 | 176 (3,891) | 4.52% (3.87%-5.18%) | 4 (1-11) | N2 | 62 (522) | 11.88% (9.10%-14.65%) | 3 (1-8) |
| | T4 | 66 (1,401) | 4.71% (3.60%-5.82%) | 4 (1-11) | N3 | 0 (0) | NA | NA |
| | Unk | 496 (3,411) | 14.54% (13.36%-15.72%) | 2 (1-7) | Unk | 355 (2,289) | 15.51% (14.03%-16.99%) | 2 (1-6) |
| Pancreas | T1 | 138 (2,811) | 4.91% (4.11%-5.71%) --- | 3 (1-10) ⁻⁻⁻ | N0 | 2,343 (27,839) | 8.42% (8.09%-8.74%) ⁻⁻⁻ | 3 (1-8) ⁻⁻⁻ |
| | T2 | 1,394 (11,490) | 12.13% (11.54%-12.73%) | 3 (1-7) | N1 | 2,297 (19,150) | 11.99% (11.53%-12.45%) | 3 (1-8) |
| | T3 | 1,425 (20,240) | 7.04% (6.69%-7.39%) | 3 (1-9) | N2 | 0 (0) | NA | NA |
| | T4 | 1,219 (9,886) | 12.33% (11.68%-12.98%) | 4 (1-10) | N3 | 0 (0) | NA | NA |
| | Unk | 1,506 (8,015) | 18.79% (17.93%-19.64%) | 2 (1-5) | Unk | 1,042 (5,453) | 19.11% (18.07%-20.15%) | 2 (1-5) |
| Small intestine | T1 | 28 (1,595) | 1.76% (1.11%-2.40%) --- | 6 (2-11) ⁻⁻⁻ | N0 | 93 (4,591) | 2.03% (1.62%-2.43%) ⁻⁻⁻ | 7 (2-17) ⁺ |
| | T2 | 3 (1,277) | NA | 12.5 (11-NA) | N1 | 87 (4,064) | 2.14% (1.70%-2.59%) | 10 (2-43) |
| | T3 | 39 (2,870) | 1.36% (0.94%-1.78%) | 19 (8-NA) | N2 | 21 (429) | 4.90% (2.85%-6.94%) | 6 (1-9) |
| | T4 | 63 (2,363) | 2.67% (2.02%-3.32%) | 6 (1-17) | N3 | 0 (0) | NA | NA |
| | Unk | 106 (1,523) | 6.96% (5.68%-8.24%) | 7 (1-14) | Unk | 38 (544) | 6.99% (4.84%-9.13%) | 10 (1-35) |

| | | | | | | | | |
|-------------------|-----|----------------|----------------------------|----------------|-----|-----------------|----------------------------|----------------|
| Colon & rectum | T1 | 1,047 (34,737) | 3.01% (2.83%-3.19%) *** | 9 (2-23) *** | N0 | 3,235 (106,169) | 3.05% (2.94%-3.15%) *** | 10 (2-24) *** |
| | T2 | 175 (22,176) | 0.79% (0.67%-0.91%) | 19 (5-36) | N1 | 3,236 (48,113) | 6.73% (6.50%-6.95%) *** | 14 (4-28) *** |
| | T3 | 2,563 (83,101) | 3.08% (2.97%-3.20%) | 19 (7-37) | N2 | 1,586 (24,699) | 6.42% (6.12%-6.73%) | 14 (5-29) |
| | T4 | 2,122 (28,487) | 7.45% (7.14%-7.75%) | 11 (4-25) | N3 | 0 (0) | NA | NA |
| | Unk | 3,738 (18,038) | 20.72% (20.13%-21.31%) | 7 (2-18) | Unk | 1,588 (7,558) | 21.01% (20.09%-21.93%) | 7 (2-18) |
| Right colon | T1 | 314 (9,673) | 3.25% (2.89%-3.60%) *** | 6 (1-16) *** | N0 | 789 (41,238) | 1.91% (1.78%-2.05%) *** | 7 (2-19) *** |
| | T2 | 31 (9,563) | 0.32% (0.21%-0.44%) | 6 (3-28) | N1 | 955 (17,935) | 5.32% (5.00%-5.65%) | 9 (2-22) |
| | T3 | 742 (35,435) | 2.09% (1.94%-2.24%) | 15 (5-30) | N2 | 672 (11,433) | 5.88% (5.45%-6.31%) | 11 (3-24) |
| | T4 | 730 (13,174) | 5.54% (5.15%-5.93%) | 9 (3-20) | N3 | 0 (0) | NA | NA |
| | Unk | 960 (4,538) | 21.15% (19.97%-22.34%) | 5 (1-14) | Unk | 361 (1,777) | 20.32% (18.44%-22.19%) | 4 (1-12) |
| Left colon | T1 | 351 (13,064) | 2.69% (2.41%-2.96%) *** | 10 (2-23) *** | N0 | 1,224 (36,095) | 3.39% (3.20%-3.58%) *** | 12 (3-26) *** |
| | T2 | 49 (7,142) | 0.69% (0.49%-0.88%) | 23 (10-56) | N1 | 1,048 (16,814) | 6.23% (5.87%-6.60%) | 16 (5-31) |
| | T3 | 870 (27,881) | 3.12% (2.92%-3.32%) | 21 (8-40) | N2 | 585 (8,820) | 6.63% (6.11%-7.15%) | 17 (7-33) |
| | T4 | 861 (10,637) | 8.09% (7.58%-8.61%) | 14 (4-28) | N3 | 0 (0) | NA | NA |
| | Unk | 1,239 (5,290) | 23.42% (22.28%-24.56%) | 9 (2-21) | Unk | 513 (2,285) | 22.45% (20.74%-24.16%) | 7 (2-18) |
| Unspecified colon | T1 | 33 (368) | 8.97% (6.05%-11.89%) *** | 2 (1-10) *** | N0 | 274 (2,257) | 12.14% (10.79%-13.49%) *** | 3 (1-10) ** |
| | T2 | 2 (196) | NA | 2.5 (1-4) | N1 | 137 (866) | 15.82% (13.39%-18.25%) | 4 (1-15) |
| | T3 | 50 (1,208) | 4.14% (3.02%-5.26%) | 12 (5-28) | N2 | 40 (550) | 7.27% (5.10%-9.44%) | 10 (3-20) |
| | T4 | 85 (887) | 9.58% (7.65%-11.52%) | 7 (1-18) | N3 | 0 (0) | NA | NA |
| | Unk | 576 (2,068) | 27.85% (25.92%-29.79%) | 3 (1-10) | Unk | 295 (1,054) | 27.99% (25.28%-30.70%) | 3 (1-12) |
| Rectum | T1 | 349 (11,632) | 3.00% (2.69%-3.31%) *** | 14 (4-26) *** | N0 | 948 (26,579) | 3.57% (3.34%-3.79%) *** | 14 (4-29) *** |
| | T2 | 93 (5,275) | 1.76% (1.41%-2.12%) | 21 (7-36) | N1 | 1,096 (12,498) | 8.77% (8.27%-9.27%) | 17 (7-31) |
| | T3 | 901 (18,577) | 4.85% (4.54%-5.16%) | 21 (9-40) | N2 | 289 (3,896) | 7.42% (6.59%-8.24%) | 19 (9-40) |
| | T4 | 446 (3,789) | 11.77% (10.74%-12.80%) | 13 (5-28) | N3 | 0 (0) | NA | NA |
| | Unk | 963 (6,142) | 15.68% (14.77%-16.59%) | 12 (3-24) | Unk | 419 (2,442) | 17.16% (15.66%-18.65%) | 12 (3-22) |
| Anus | T1 | 6 (1,940) | 0.31% (0.06%-0.56%) *** | 23 (13-35) ** | N0 | 59 (6,054) | 0.97% (0.73%-1.22%) *** | 14 (7-29) ** |
| | T2 | 39 (3,380) | 1.15% (0.79%-1.51%) | 13 (6-36) | N1 | 40 (933) | 4.29% (2.99%-5.59%) | 9 (3-21) |
| | T3 | 45 (1,471) | 3.06% (2.18%-3.94%) | 10 (6-16) | N2 | 33 (1,124) | 2.94% (1.95%-3.92%) | 11 (5-20) |
| | T4 | 31 (789) | 3.93% (2.57%-5.28%) | 12 (5-21) | N3 | 33 (843) | 3.91% (2.61%-5.22%) | 13 (6-NA) |
| | Unk | 62 (1,825) | 3.40% (2.57%-4.23%) | 10 (4-20) | Unk | 18 (451) | 3.99% (2.18%-5.80%) | 6 (4-14) |
| Other GI | T1 | 0 (2,114) | NA*** | NA *** | N0 | 24 (4,690) | 0.51% (0.31%-0.72%) *** | 36 (8-NA) *** |
| | T2 | 0 (459) | NA | NA | N1 | 14 (694) | 2.02% (0.97%-3.06%) | 5 (3-18) |
| | T3 | 8 (1,347) | 0.59% (0.18%-1.00%) | 22 (7-36) | N2 | 5 (330) | 1.52% (0.20%-2.83%) | 13 (12-22) |
| | T4 | 29 (1,900) | 1.53% (0.98%-2.08%) | 14 (4-NA) | N3 | 0 (0) | NA | NA |
| | Unk | 643 (2,791) | 23.04% (21.48%-24.60%) | 2 (0-6) | Unk | 637 (2,897) | 21.99% (20.48%-23.50%) | 2 (0-5) |
| Kidney | T1 | 753 (44,005) | 1.71% (1.59%-1.83%) *** | 7 (2-22) *** | N0 | 3,164 (62,789) | 5.04% (4.87%-5.21%) *** | 11 (3-30) *** |
| | T2 | 1,064 (7,771) | 13.69% (12.93%-14.46%) | 8 (3-21) | N1 | 1,938 (4,290) | 45.17% (43.69%-46.66%) | 5 (2-13) |
| | T3 | 2,267 (13,592) | 16.68% (16.05%-17.31%) | 12 (4-30) | N2 | 0 (0) | NA | NA |
| | T4 | 810 (1,747) | 46.37% (44.03%-48.70%) | 5 (2-12) | N3 | 0 (0) | NA | NA |
| | Unk | 929 (2,490) | 37.31% (35.41%-39.21%) | 4 (1-11) | Unk | 721 (2,526) | 28.54% (26.78%-30.30%) | 4 (2-13) |
| Bladder | T1 | 192 (20,605) | 0.93% (0.80%-1.06%) *** | 5 (1-13) *** | N0 | 641 (36,071) | 1.78% (1.64%-1.91%) *** | 4 (1-11) *** |
| | T2 | 465 (12,643) | 3.68% (3.35%-4.01%) | 5 (2-11) | N1 | 132 (1,568) | 8.42% (7.04%-9.79%) | 4 (1-10) |
| | T3 | 110 (3,824) | 2.88% (2.35%-3.41%) | 5 (3-13) | N2 | 199 (2,033) | 9.79% (8.50%-11.08%) | 5 (2-11) |
| | T4 | 214 (2,874) | 7.45% (6.49%-8.41%) | 4 (2-11) | N3 | 57 (538) | 10.59% (7.99%-13.20%) | 5 (2-12) |
| | Unk | 234 (1,722) | 13.59% (11.97%-15.21%) | 2 (1-6) | Unk | 186 (1,458) | 12.76% (11.04%-14.47%) | 3 (1-6) |
| Prostate | T1 | 259 (127,901) | 0.20% (0.18%-0.23%) *** | 30 (11-72) *** | N0 | 567 (287,587) | 0.20% (0.18%-0.21%) *** | 25 (9-63) ** |
| | T2 | 316 (133,949) | 0.24% (0.21%-0.26%) | 24 (10-65) | N1 | 489 (11,121) | 4.40% (4.02%-4.78%) | 19 (8-53) |
| | T3 | 136 (35,776) | 0.38% (0.32%-0.44%) | 26 (9-NA) | N2 | 0 (0) | NA | NA |
| | T4 | 218 (3,431) | 6.35% (5.54%-7.17%) | 15 (5-37) | N3 | 0 (0) | NA | NA |
| | Unk | 410 (8,861) | 4.63% (4.19%-5.06%) | 18 (7-47) | Unk | 283 (11,210) | 2.52% (2.23%-2.81%) | 22 (7-NA) |
| Testis | T1 | 347 (9,864) | 3.52% (3.15%-3.88%) *** | NA (28-NA) *** | N0 | 359 (11,797) | 3.04% (2.73%-3.35%) *** | NA (23-NA) *** |
| | T2 | 343 (4,265) | 8.04% (7.23%-8.86%) | NA (62-NA) | N1 | 315 (1,469) | 21.44% (19.34%-23.54%) | NA (16-NA) |
| | T3 | 231 (739) | 31.26% (27.92%-34.60%) | NA (52-NA) | N2 | 164 (1,003) | 16.35% (14.06%-18.64%) | NA (NA-NA) |
| | T4 | 19 (90) | 21.11% (12.68%-29.54%) | NA (7-NA) | N3 | 198 (851) | 23.27% (20.43%-26.11%) | NA (23-NA) |
| | Unk | 189 (923) | 20.48% (17.87%-23.08%) | 23 (6-NA) | Unk | 93 (761) | 12.22% (9.89%-14.55%) | 47 (8-NA) |
| Other GU | T1 | 66 (2,910) | 2.27% (1.73%-2.81%) *** | 5 (2-14) ** | N0 | 148 (6,161) | 2.40% (2.02%-2.78%) *** | 7 (3-14) ** |

| | | | | | | | | |
|------------------|-----|----------------|----------------------------|----------------|-----|----------------|------------------------------|-----------------|
| | T2 | 24 (1,391) | 1.73% (1.04%-2.41%) | 6 (2-12) | N1 | 108 (658) | 16.41% (13.58%-19.24%) | 5 (1-12) |
| | T3 | 114 (2,402) | 4.75% (3.90%-5.60%) | 8 (2-14) | N2 | 121 (762) | 15.88% (13.28%-18.47%) | 6 (2-11) |
| | T4 | 121 (745) | 16.24% (13.59%-18.89%) | 5 (2-10) | N3 | 14 (170) | 8.24% (4.10%-12.37%) | 7 (2-12) |
| | Unk | 204 (1,270) | 16.06% (14.04%-18.08%) | 4 (1-11) | Unk | 138 (967) | 14.27% (12.07%-16.48%) | 3 (1-10) |
| Ovary | T1 | 80 (8,707) | 0.92% (0.72%-1.12%) *** | 12 (1-43) *** | N0 | 787 (20,924) | 3.76% (3.50%-4.02%) *** | 20 (4-42) *** |
| | T2 | 158 (3,847) | 4.11% (3.48%-4.73%) | 13 (4-38) | N1 | 522 (6,245) | 8.36% (7.67%-9.05%) | 18 (4-37) |
| | T3 | 1,019 (15,205) | 6.70% (6.30%-7.10%) | 21 (5-41) | N2 | 0 (0) | NA | NA |
| | T4 | NA () | #VALUE! | NA | N3 | 0 (0) | NA | NA |
| Uterus | Unk | 439 (2,030) | 21.63% (19.83%-23.42%) | 4 (1-21) | Unk | 387 (2,620) | 14.77% (13.41%-16.13%) | 5 (1-21) |
| | T1 | 185 (58,868) | 0.31% (0.27%-0.36%) *** | 10 (3-27) *** | N0 | 479 (64,137) | 0.75% (0.68%-0.81%) *** | 11 (3-30) *** |
| | T2 | 90 (4,585) | 1.96% (1.56%-2.36%) | 13 (5-32) | N1 | 305 (4,309) | 7.08% (6.31%-7.84%) | 8 (2-18) |
| | T3 | 527 (6,832) | 7.71% (7.08%-8.35%) | 9 (3-23) | N2 | 270 (2,784) | 9.70% (8.60%-10.80%) | 7 (1-15) |
| | T4 | 125 (949) | 13.17% (11.02%-15.32%) | 9 (2-23) | N3 | 0 (0) | NA | NA |
| | Unk | 305 (2,108) | 14.47% (12.97%-15.97%) | 4 (1-12) | Unk | 178 (2,112) | 8.43% (7.24%-9.61%) | 5 (1-17) |
| | T1 | 93 (11,413) | 0.81% (0.65%-0.98%) *** | 10 (3-20) *** | N0 | 227 (14,600) | 1.55% (1.35%-1.76%) *** | 9 (3-20) * |
| | T2 | 142 (4,530) | 3.13% (2.63%-3.64%) | 9 (3-25) | N1 | 487 (5,254) | 9.27% (8.48%-10.05%) | 7 (3-16) |
| | T3 | 333 (3,173) | 10.49% (9.43%-11.56%) | 7 (3-18) | N2 | 0 (0) | NA | NA |
| | T4 | 110 (778) | 14.14% (11.69%-16.59%) | 7 (3-14) | N3 | 0 (0) | NA | NA |
| | Unk | 166 (764) | 21.73% (18.80%-24.65%) | 4 (1-12) | Unk | 130 (804) | 16.17% (13.62%-18.71%) | 5 (1-17) |
| | T1 | 49 (5,596) | 0.88% (0.63%-1.12%) *** | 6 (2-42) *** | N0 | 114 (7,185) | 1.59% (1.30%-1.88%) *** | 14 (2-54) *** |
| | T2 | 35 (1,455) | 2.41% (1.62%-3.19%) | 8 (2-32) | N1 | 110 (1,557) | 7.06% (5.79%-8.34%) | 6 (1-18) |
| | T3 | 138 (2,073) | 6.66% (5.58%-7.73%) | 11 (2-47) | N2 | 58 (614) | 9.45% (7.13%-11.76%) | 2 (1-8) |
| | T4 | 36 (221) | 16.29% (11.42%-21.16%) | 3 (1-9) | N3 | 10 (93) | 10.75% (4.46%-17.05%) | 3 (2-11) |
| | Unk | 199 (1,169) | 17.02% (14.87%-19.18%) | 3 (0-13) | Unk | 165 (1,065) | 15.49% (13.32%-17.67%) | 3 (1-15) |
| Bone | T1 | 94 (2,058) | 4.57% (3.67%-5.47%) *** | 30 (9-NA) *** | N0 | 459 (4,472) | 10.26% (9.37%-11.15%) *** | 20 (9-NA) ns |
| | T2 | 337 (1,983) | 16.99% (15.34%-18.65%) | 21 (9-NA) | N1 | 84 (167) | 50.30% (42.72%-57.88%) | 15 (7-42) |
| | T3 | 44 (126) | 34.92% (26.60%-43.24%) | 13 (7-35) | N2 | 0 (0) | NA | NA |
| | T4 | NA () | #VALUE! | NA | N3 | 0 (0) | NA | NA |
| | Unk | 134 (912) | 14.69% (12.40%-16.99%) | 12 (4-36) | Unk | 66 (440) | 15.00% (11.66%-18.34%) | 18 (4-48) |
| | T1 | 265 (5,651) | 4.69% (4.14%-5.24%) *** | 14 (5-32) *** | N0 | 1,280 (16,937) | 7.56% (7.16%-7.96%) *** | 11 (3-25) *** |
| | T2 | 1,013 (10,654) | 9.51% (8.95%-10.07%) | 11 (3-27) | N1 | 313 (1,080) | 28.98% (26.28%-31.69%) | 6 (2-20) |
| | T3 | 64 (300) | 21.33% (16.70%-25.97%) | 7 (2-14) | N2 | 0 (5) | NA | NA |
| | T4 | 46 (156) | 29.49% (22.33%-36.64%) | 4 (1-14) | N3 | 0 (0) | NA | NA |
| | Unk | 793 (8,332) | 9.52% (8.89%-10.15%) | 5 (1-17) | Unk | 588 (7,071) | 8.32% (7.67%-8.96%) | 5 (1-19) |
| | T1 | 63 (70,613) | 0.09% (0.07%-0.11%) *** | 11 (4-26) *** | N0 | 362 (95,447) | 0.38% (0.34%-0.42%) *** | 8 (3-29) *** |
| | T2 | 57 (15,179) | 0.38% (0.28%-0.47%) | 11 (5-21) | N1 | 195 (4,665) | 4.18% (3.61%-4.75%) | 6 (2-18) |
| | T3 | 88 (8,862) | 0.99% (0.79%-1.20%) | 13 (6-48) | N2 | 61 (2,219) | 2.75% (2.07%-3.43%) | 11 (4-33) |
| | T4 | 211 (6,773) | 3.12% (2.70%-3.53%) | 7 (3-24) | N3 | 95 (1,266) | 7.50% (6.05%-8.96%) | 7 (2-19) |
| | Unk | 646 (5,860) | 11.02% (10.22%-11.83%) | 4 (2-14) | Unk | 352 (3,690) | 9.54% (8.59%-10.49%) | 4 (2-12) |
| | T1 | 5 (601) | 0.83% (0.11%-1.56%) *** | 27 (10-27) ns | N0 | 18 (2,187) | 0.82% (0.44%-1.20%) *** | 10 (5-NA) *** |
| | T2 | 1 (467) | NA | NA (NA-NA) | N1 | 11 (124) | 8.87% (3.87%-13.88%) | 10 (4-27) |
| | T3 | 4 (629) | NA | 6 (4-10.5) | N2 | 0 (31) | NA | NA |
| | T4 | 11 (473) | 2.33% (0.97%-3.68%) | 7 (1-NA) | N3 | 1 (21) | NA | 1 (1-1) |
| | Unk | 85 (914) | 9.30% (7.42%-11.18%) | 5 (3-12) | Unk | 76 (721) | 10.54% (8.30%-12.78%) | 5 (3-9) |
| Skin cancer | T1 | 5 (2,125) | 0.24% (0.03%-0.44%) *** | 16.5 (6-26) ns | N0 | 15 (4,118) | 0.36% (0.18%-0.55%) *** | 11 (6-25) ns |
| | T2 | 11 (1,080) | 1.02% (0.42%-1.62%) | 10 (7-12) | N1 | 8 (729) | 1.10% (0.34%-1.85%) | 8 (7-18) |
| | T3 | 2 (200) | NA | 5 (3-7) | N2 | 6 (111) | 5.41% (1.20%-9.61%) | 10 (8-17) |
| | T4 | 7 (119) | 5.88% (1.65%-10.11%) | 17 (8-18) | N3 | 0 (3) | NA | NA |
| Embryonal tumors | Unk | 12 (1,821) | 0.66% (0.29%-1.03%) | 9 (5-20) | Unk | 8 (384) | 2.08% (0.65%-3.51%) | 5 (4-34) |
| | T1 | 2 (287) | NA*** | 9.5 (5-NA) * | N0 | 12 (677) | 1.77% (0.78%-2.77%) *** | 11.5 (6-NA) *** |
| | T2 | 13 (413) | 3.15% (1.46%-4.83%) | 13 (9-57) | N1 | 12 (195) | 6.15% (2.78%-9.53%) | 14 (7-20) |
| | T3 | 0 (68) | NA | NA | N2 | 0 (1) | NA | NA |
| | T4 | 0 (28) | NA | NA | N3 | 0 (0) | NA | NA |

| | | | | | | | | |
|-----------|-----|----------------|----------------------------|---------------|-----|----------------|-------------------------|--------------|
| All other | Unk | 319 (3,485) | 9.15% (8.20%-10.11%) | NA (23-NA) | Unk | 310 (3,408) | 9.10% (8.13%-10.06%) | NA (33-NA) |
| | T1 | 175 (5,715) | 3.06% (2.62%-3.51%) *** | 15 (4-NA) *** | N0 | 655 (16,693) | 3.92% (3.63%-4.22%) *** | 9 (2-23) *** |
| | T2 | 245 (4,476) | 5.47% (4.81%-6.14%) | 9 (2-23) | N1 | 378 (2,579) | 14.66% (13.29%-16.02%) | 6 (1-20) |
| | T3 | 431 (6,823) | 6.32% (5.74%-6.89%) | 10 (2-29) | N2 | 165 (1,404) | 11.75% (10.07%-13.44%) | 4 (1-13) |
| | T4 | 308 (2,616) | 11.77% (10.54%-13.01%) | 4 (1-12) | N3 | 27 (141) | 19.15% (12.65%-25.64%) | 3 (1-8) |
| | Unk | 1,744 (13,438) | 12.98% (12.41%-13.55%) | 3 (0-16) | Unk | 1,678 (12,251) | 13.70% (13.09%-14.31%) | 3 (0-20) |

^aPrevalence was only calculated in category with more than 5 sLM cases.

^bSurvival data (in months) are shown as the median survival and interquartile range in cases with synchronous lung metastasis at diagnosis.

^cLiver cancer here includes hepatocellular carcinoma and intrahepatic cholangiocarcinoma.

Abbreviations: sLM: synchronous lung metastasis; Unk: unknown; GI: gastrointestinal cancer; GU: genitourinary cancer; GYN: gynecologic cancer; STS: soft-tissue sarcoma; NA: non-applicable; ns: non-significant; *: p<0.05; ***: p<0.001% for intragroup survival comparison by Chi-square tests or log-rank tests.

Supplementary Table S5. Number of cases with synchronous lung metastasis and all cases, prevalence of synchronous lung metastasis and median survival with interquartile range by cancer type and insurance status or marital status.

| Categories | Insurance | No. of sLM (All) | Prevalence ^a | Survival ^b | Marriage | No. of sLM (All) | Prevalence ^a | Survival ^b |
|----------------------------|-----------|------------------|--------------------------------------|--------------------------|-----------|------------------|---------------------------------------|--------------------------|
| Brain | Insured | 16 (26,006) | 0.06% (0.03%-0.09%) ^{ns} | 8 (2.5-23) ^{ns} | Married | 6 (14,987) | 0.04% (0.01%-0.07%) ^{ns} | 8 (4-11) ^{ns} |
| | Uninsured | 1 (1,028) | NA | 16 (16-16) | Unmarried | 10 (11,351) | 0.09% (0.03%-0.14%) | 9.5 (2-32) |
| | Unk | 0 (451) | NA | NA | Unk | 1 (1,147) | NA | NA (NA-NA) |
| Head and neck | Insured | 1,436 (69,299) | 2.07% (1.97%-2.18%) ^{***} | 9 (3-22) ^{ns} | Married | 628 (38,285) | 1.64% (1.51%-1.77%) ^{***} | 10 (4-24) ^{***} |
| | Uninsured | 107 (3,087) | 3.47% (2.82%-4.11%) | 7 (2-15) | Unmarried | 864 (30,943) | 2.79% (2.61%-2.98%) | 8 (3-18) |
| | Unk | 31 (2,511) | 1.23% (0.80%-1.67%) | 7 (4-17) | Unk | 82 (5,669) | 1.45% (1.14%-1.76%) | 8 (3-21) |
| Thyroid | Insured | 947 (74,183) | 1.28% (1.20%-1.36%) ^{ns} | 11 (2-79) ^{ns} | Married | 509 (46,261) | 1.10% (1.01%-1.20%) ^{***} | 10 (2-70) ^{ns} |
| | Uninsured | 34 (2,016) | 1.69% (1.12%-2.25%) | 25 (3-NA) | Unmarried | 450 (26,865) | 1.68% (1.52%-1.83%) | 11 (2-NA) |
| | Unk | 15 (1,804) | 0.83% (0.41%-1.25%) | 2 (0.5-NA) | Unk | 37 (4,877) | 0.76% (0.52%-1.00%) | 20 (5-NA) |
| Breast | Insured | 5,515 (345,324) | 1.60% (1.56%-1.64%) ^{***} | 20 (5-48) ^{***} | Married | 2,329 (196,295) | 1.19% (1.14%-1.23%) ^{***} | 26 (8-58) ^{***} |
| | Uninsured | 321 (6,149) | 5.22% (4.66%-5.78%) | 14 (2-40) | Unmarried | 3,310 (142,801) | 2.32% (2.24%-2.40%) | 16 (3-41) |
| | Unk | 136 (7,176) | 1.90% (1.58%-2.21%) | 22 (4-50) | Unk | 333 (19,553) | 1.70% (1.52%-1.88%) | 24 (5-52) |
| Main bronchus | Insured | 1,744 (10,230) | 17.05% (16.32%-17.78%) ^{ns} | 4 (1-10) ^{ns} | Married | 876 (5,128) | 17.08% (16.05%-18.11%) ^{ns} | 4 (1-12) ^{***} |
| | Uninsured | 85 (491) | 17.31% (13.96%-20.66%) | 2 (1-8) | Unmarried | 901 (5,337) | 16.88% (15.88%-17.89%) | 3 (1-9) |
| | Unk | 24 (157) | 15.29% (9.66%-20.92%) | 2 (0-8) | Unk | 76 (413) | 18.40% (14.66%-22.14%) | 3 (1-9) |
| Oesophagus | Insured | 1,838 (18,911) | 9.72% (9.30%-10.14%) ^{***} | 4 (1-10) ^{ns} | Married | 986 (10,720) | 9.20% (8.65%-9.74%) ^{***} | 5 (1-11) ^{***} |
| | Uninsured | 93 (687) | 13.54% (10.98%-16.10%) | 3 (1-6) | Unmarried | 898 (8,235) | 10.90% (10.23%-11.58%) | 3 (1-8) |
| | Unk | 45 (470) | 9.57% (6.91%-12.23%) | 3 (0.5-8) | Unk | 92 (1,113) | 8.27% (6.65%-9.88%) | 5 (1-12) |
| Stomach | Insured | 1,619 (29,790) | 5.43% (5.18%-5.69%) ^{***} | 3 (1-9) ^{ns} | Married | 978 (17,582) | 5.56% (5.22%-5.90%) ^{***} | 4 (1-10) ^{***} |
| | Uninsured | 101 (1,248) | 8.09% (6.58%-9.61%) | 3 (1-8) | Unmarried | 715 (12,469) | 5.73% (5.33%-6.14%) | 3 (1-8) |
| | Unk | 36 (787) | 4.57% (3.11%-6.03%) | 2 (1-14) | Unk | 63 (1,774) | 3.55% (2.69%-4.41%) | 3 (1-11) |
| Liver ^c | Insured | 2,083 (24,796) | 8.40% (8.06%-8.75%) ^{***} | 2 (1-6) [*] | Married | 1,160 (13,739) | 8.44% (7.98%-8.91%) [*] | 3 (1-7) ^{***} |
| | Uninsured | 119 (948) | 12.55% (10.44%-14.66%) | 1 (0-4) | Unmarried | 997 (11,212) | 8.89% (8.37%-9.42%) | 2 (0-5) |
| | Unk | 43 (523) | 8.22% (5.87%-10.58%) | 3 (1-7) | Unk | 88 (1,316) | 6.69% (5.34%-8.04%) | 3 (1-10) |
| Extrahepatic biliary tract | Insured | 817 (13,568) | 6.02% (5.62%-6.42%) ^{***} | 3 (1-8) ^{ns} | Married | 435 (7,541) | 5.77% (5.24%-6.29%) ^{ns} | 4 (1-9) [*] |
| | Uninsured | 36 (458) | 7.86% (5.40%-10.32%) | 2 (0.5-7) | Unmarried | 405 (6,068) | 6.67% (6.05%-7.30%) | 2 (1-7) |
| | Unk | 23 (212) | 10.85% (6.66%-15.04%) | 2 (1-6) | Unk | 36 (629) | 5.72% (3.91%-7.54%) | 3 (1-9) |
| Pancreas | Insured | 5,398 (50,109) | 10.77% (10.50%-11.04%) ^{ns} | 3 (1-8) ^{ns} | Married | 3,043 (29,231) | 10.41% (10.06%-10.76%) ^{***} | 3 (1-9) ^{***} |
| | Uninsured | 183 (1,523) | 12.02% (10.38%-13.65%) | 2 (1-5) | Unmarried | 2,385 (20,874) | 11.43% (10.99%-11.86%) | 2 (1-6) |
| | Unk | 101 (810) | 12.47% (10.19%-14.74%) | 2 (0-6) | Unk | 254 (2,337) | 10.87% (9.61%-12.13%) | 2 (1-6) |
| Small intestine | Insured | 225 (9,141) | 2.46% (2.14%-2.78%) ^{ns} | 8 (2-22) [*] | Married | 118 (5,507) | 2.14% (1.76%-2.53%) [*] | 11 (4-35) ^{***} |
| | Uninsured | 9 (247) | 3.64% (1.31%-5.98%) | 4 (2-8) | Unmarried | 104 (3,530) | 2.95% (2.39%-3.50%) | 6 (1-14) |
| | Unk | 5 (240) | 2.08% (0.28%-3.89%) | 2 (1-2) | Unk | 17 (591) | 2.88% (1.53%-4.22%) | 4 (1-8) |
| Colon & rectum | Insured | 8,918 (175,294) | 5.09% (4.98%-5.19%) ^{***} | 11 (3-25) ^{ns} | Married | 4,546 (96,321) | 4.72% (4.59%-4.85%) ^{***} | 14 (4-28) ^{***} |
| | Uninsured | 547 (6,268) | 8.73% (8.03%-9.43%) | 11 (3-25) | Unmarried | 4,564 (78,491) | 5.81% (5.65%-5.98%) | 9 (2-23) |
| | Unk | 180 (4,977) | 3.62% (3.10%-4.14%) | 10 (1-28) | Unk | 535 (11,727) | 4.56% (4.18%-4.94%) | 9 (2-26) |
| Right colon | Insured | 2,600 (69,097) | 3.76% (3.62%-3.90%) ^{***} | 8 (2-21) [*] | Married | 1,331 (36,427) | 3.65% (3.46%-3.85%) [*] | 10 (3-22) ^{***} |
| | Uninsured | 127 (1,927) | 6.59% (5.48%-7.70%) | 9 (2-20) | Unmarried | 1,285 (32,074) | 4.01% (3.79%-4.22%) | 6 (2-19) |
| | Unk | 50 (1,359) | 3.68% (2.68%-4.68%) | 2 (0.5-11) | Unk | 161 (3,882) | 4.15% (3.52%-4.77%) | 9 (2-21) |

| | | | | | | | | |
|-------------------|-----------|-----------------|---------------------------------------|---------------------------|-----------|----------------|-------------------------------------|--------------------------|
| Left colon | Insured | 3,112 (59,815) | 5.20% (5.02%-5.38%) ^{***} | 14 (4-28) ^{ns} | Married | 1,663 (33,713) | 4.93% (4.70%-5.16%) ^{***} | 15 (5-31) ^{***} |
| | Uninsured | 208 (2,470) | 8.42% (7.33%-9.52%) | 11 (3-26) | Unmarried | 1,521 (26,194) | 5.81% (5.52%-6.09%) | 12 (3-24) |
| | Unk | 50 (1,729) | 2.89% (2.10%-3.68%) | 16 (3-32) | Unk | 186 (4,107) | 4.53% (3.89%-5.16%) | 8 (2-24) |
| Unspecified colon | Insured | 676 (4,294) | 15.74% (14.65%-16.83%) ^{***} | 3 (1-12) ^{ns} | Married | 306 (2,108) | 14.52% (13.01%-16.02%) [*] | 4 (1-15) ^{***} |
| | Uninsured | 46 (212) | 21.70% (16.15%-27.25%) | 4 (1-10) | Unmarried | 395 (2,279) | 17.33% (15.78%-18.89%) | 3 (1-10) |
| | Unk | 24 (221) | 10.86% (6.76%-14.96%) | 3 (1-14) | Unk | 45 (340) | 13.24% (9.63%-16.84%) | 4 (0.5-15) |
| Rectum | Insured | 2,530 (42,088) | 6.01% (5.78%-6.24%) ^{***} | 15 (5-30) ^{ns} | Married | 1,246 (24,073) | 5.18% (4.90%-5.46%) ^{***} | 18 (7-33) ^{***} |
| | Uninsured | 166 (1,659) | 10.01% (8.56%-11.45%) | 14 (5-27) | Unmarried | 1,363 (17,944) | 7.60% (7.21%-7.98%) | 13 (4-26) |
| | Unk | 56 (1,668) | 3.36% (2.49%-4.22%) | 20 (4-32) | Unk | 143 (3,398) | 4.21% (3.53%-4.88%) | 16 (4-37) |
| Anus | Insured | 170 (8,789) | 1.93% (1.65%-2.22%) ^{ns} | 11 (5-22) ^{ns} | Married | 62 (3,693) | 1.68% (1.26%-2.09%) ^{ns} | 14 (7-24) ^{ns} |
| | Uninsured | 9 (370) | 2.43% (0.86%-4.00%) | 46 (5-46) | Unmarried | 107 (5,118) | 2.09% (1.70%-2.48%) | 10 (5-17) |
| | Unk | 4 (246) | NA | 12 (1-12) | Unk | 14 (594) | 2.36% (1.14%-3.58%) | 6 (5-17) |
| Other GI | Insured | 648 (8,045) | 8.05% (7.46%-8.65%) ^{ns} | 2 (0-7) ^{ns} | Married | 328 (4,440) | 7.39% (6.62%-8.16%) ^{ns} | 2 (0-9) ^{***} |
| | Uninsured | 21 (336) | 6.25% (3.66%-8.84%) | 2 (1-5) | Unmarried | 319 (3,737) | 8.54% (7.64%-9.43%) | 1 (0-4) |
| | Unk | 11 (230) | 4.78% (2.02%-7.54%) | 2 (1-5) | Unk | 33 (434) | 7.60% (5.11%-10.10%) | 2 (1-5) |
| Kidney | Insured | 5,506 (66,325) | 8.30% (8.09%-8.51%) ^{***} | 8 (2-22) ^{ns} | Married | 3,409 (41,424) | 8.23% (7.96%-8.49%) ^{***} | 8 (3-25) ^{***} |
| | Uninsured | 252 (2,039) | 12.36% (10.93%-13.79%) | 7 (2-19) | Unmarried | 2,196 (24,399) | 9.00% (8.64%-9.36%) | 6 (2-18) |
| | Unk | 65 (1,241) | 5.24% (4.00%-6.48%) | 6 (2-23) | Unk | 218 (3,782) | 5.76% (5.02%-6.51%) | 11 (2-26) |
| Bladder | Insured | 1,167 (39,448) | 2.96% (2.79%-3.13%) ^{***} | 4 (1-11) ^{ns} | Married | 575 (23,066) | 2.49% (2.29%-2.69%) ^{***} | 5 (2-12) ^{***} |
| | Uninsured | 31 (860) | 3.60% (2.36%-4.85%) | 4 (1-10) | Unmarried | 593 (15,914) | 3.73% (3.43%-4.02%) | 3 (1-9) |
| | Unk | 17 (1,360) | 1.25% (0.66%-1.84%) | 2 (1-4) | Unk | 47 (2,688) | 1.75% (1.25%-2.24%) | 2 (1-9) |
| Prostate | Insured | 1,244 (271,303) | 0.46% (0.43%-0.48%) ^{***} | 22 (8-63) ^{ns} | Married | 736 (194,927) | 0.38% (0.35%-0.40%) ^{***} | 22 (8-63) ^{ns} |
| | Uninsured | 62 (4,571) | 1.36% (1.02%-1.69%) | 26 (9-NA) | Unmarried | 525 (68,084) | 0.77% (0.71%-0.84%) | 23 (9-67) |
| | Unk | 33 (34,044) | 0.10% (0.06%-0.13%) | 21 (4-NA) | Unk | 78 (46,907) | 0.17% (0.13%-0.20%) | 18 (10-48) |
| Testis | Insured | 1,002 (13,977) | 7.17% (6.74%-7.60%) ^{***} | NA (24-NA) ^{***} | Married | 267 (6,217) | 4.29% (3.79%-4.80%) ^{***} | NA (19-NA) ^{ns} |
| | Uninsured | 117 (1,245) | 9.40% (7.78%-11.02%) | NA (10-NA) | Unmarried | 829 (8,589) | 9.65% (9.03%-10.28%) | NA (21-NA) |
| | Unk | 10 (659) | 1.52% (0.58%-2.45%) | NA (NA-NA) | Unk | 33 (1,075) | 3.07% (2.04%-4.10%) | NA (NA-NA) |
| Other GU | Insured | 508 (8,194) | 6.20% (5.68%-6.72%) ^{ns} | 5 (2-12) ^{ns} | Married | 286 (4,796) | 5.96% (5.29%-6.63%) [*] | 6 (2-13) ^{***} |
| | Uninsured | 6 (232) | 2.59% (0.54%-4.63%) | 3 (1-6) | Unmarried | 220 (3,321) | 6.62% (5.78%-7.47%) | 4 (2-10) |
| | Unk | 15 (292) | 5.14% (2.60%-7.67%) | 7 (2-13) | Unk | 23 (601) | 3.83% (2.29%-5.36%) | 10 (2-15) |
| Ovary | Insured | 1,604 (28,263) | 5.68% (5.41%-5.95%) ^{ns} | 16 (3-36) ^{ns} | Married | 768 (14,485) | 5.30% (4.94%-5.67%) ^{***} | 21 (4-45) ^{***} |
| | Uninsured | 67 (1,067) | 6.28% (4.82%-7.73%) | 13 (1-27) | Unmarried | 863 (13,959) | 6.18% (5.78%-6.58%) | 10 (2-32) |
| | Unk | 25 (459) | 5.45% (3.37%-7.52%) | 8 (2-23) | Unk | 65 (1,345) | 4.83% (3.69%-5.98%) | 7 (2-23) |
| Cervix | Insured | 1,141 (69,824) | 1.63% (1.54%-1.73%) ^{***} | 8 (2-22) ^{ns} | Married | 512 (37,005) | 1.38% (1.26%-1.50%) ^{***} | 9 (2-25) ^{ns} |
| | Uninsured | 67 (2,167) | 3.09% (2.36%-3.82%) | 7 (1-26) | Unmarried | 663 (32,111) | 2.06% (1.91%-2.22%) | 7 (2-20) |
| | Unk | 24 (1,351) | 1.78% (1.07%-2.48%) | 3 (1-7) | Unk | 57 (4,226) | 1.35% (1.00%-1.70%) | 6 (1-20) |
| Uterus | Insured | 765 (18,755) | 4.08% (3.80%-4.36%) ^{ns} | 7 (3-17) ^{ns} | Married | 287 (8,434) | 3.40% (3.02%-3.79%) ^{***} | 9 (3-20) ^{ns} |
| | Uninsured | 60 (1,310) | 4.58% (3.45%-5.71%) | 5 (1-11) | Unmarried | 516 (10,928) | 4.72% (4.32%-5.12%) | 6 (2-15) |
| | Unk | 19 (593) | 3.20% (1.79%-4.62%) | 19 (3-39) | Unk | 41 (1,296) | 3.16% (2.21%-4.12%) | 8 (3-19) |
| Other GYN | Insured | 428 (9,884) | 4.33% (3.93%-4.73%) [*] | 5 (1-23) ^{ns} | Married | 184 (4,337) | 4.24% (3.64%-4.84%) ^{ns} | 7 (1-35) [*] |
| | Uninsured | 20 (290) | 6.90% (3.98%-9.81%) | 2 (0-11) | Unmarried | 251 (5,436) | 4.62% (4.06%-5.18%) | 4 (1-16) |
| | Unk | 9 (340) | 2.65% (0.94%-4.35%) | 1 (0.5-7) | Unk | 22 (741) | 2.97% (1.75%-4.19%) | 2 (0-14) |
| Bone tumor | Insured | 582 (4,793) | 12.14% (11.22%-13.07%) [*] | 19 (8-NA) ^{***} | Married | 167 (1,775) | 9.41% (8.05%-10.77%) ^{***} | 9 (3-25) ^{***} |

| | | | | | | | | |
|-------------------|-----------|----------------|------------------------------------|--------------------------|-----------|----------------|------------------------------------|---------------------------|
| STS | Uninsured | 23 (178) | 12.92% (7.99%-17.85%) | 10 (3-NA) | Unmarried | 423 (3,081) | 13.73% (12.51%-14.94%) | 25 (10-NA) |
| | Unk | 4 (108) | NA | 4 (2-11) | Unk | 19 (223) | 8.52% (4.86%-12.18%) | 16 (6-38) |
| | Insured | 2,049 (22,964) | 8.92% (8.55%-9.29%) ^{***} | 8 (2-23) ^{ns} | Married | 1,002 (12,283) | 8.16% (7.67%-8.64%) ^{***} | 9 (2-24) ^{ns} |
| Skin melanoma | Uninsured | 103 (933) | 11.04% (9.03%-13.05%) | 9 (2-22) | Unmarried | 1,095 (10,738) | 10.20% (9.63%-10.77%) | 8 (2-23) |
| | Unk | 29 (1,196) | 2.42% (1.55%-3.30%) | 4 (1-28) | Unk | 84 (2,072) | 4.05% (3.20%-4.90%) | 5 (1-16) |
| | Insured | 985 (80,810) | 1.22% (1.14%-1.29%) ^{***} | 6 (2-20) ^{ns} | Married | 541 (52,158) | 1.04% (0.95%-1.12%) ^{***} | 7 (2-23) ^{***} |
| Non-skin melanoma | Uninsured | 44 (1,676) | 2.63% (1.86%-3.39%) | 4 (1-12) | Unmarried | 472 (24,950) | 1.89% (1.72%-2.06%) | 5 (2-16) |
| | Unk | 36 (24,801) | 0.15% (0.10%-0.19%) | 7 (1-25) | Unk | 52 (30,179) | 0.17% (0.13%-0.22%) ^{ns} | 10 (4-31) |
| | Insured | 95 (2,901) | 3.27% (2.63%-3.92%) [*] | 6 (3-14) ^{ns} | Married | 54 (1,662) | 3.25% (2.40%-4.10%) ^{ns} | 6 (3-10) ^{ns} |
| Skin cancer | Uninsured | 8 (89) | 8.99% (3.05%-14.93%) | 5.5 (4.5-6.5) | Unmarried | 46 (1,150) | 4.00% (2.87%-5.13%) | 6 (3-18) |
| | Unk | 3 (94) | NA | 8 (6-16) | Unk | 6 (272) | 2.21% (0.46%-3.95%) | 5.5 (3-6) |
| | Insured | 32 (4,540) | 0.70% (0.46%-0.95%) ^{ns} | 9 (5-17) ^{ns} | Married | 17 (2,664) | 0.64% (0.34%-0.94%) ^{ns} | 9 (5-11) ^{ns} |
| Embryonal tumors | Uninsured | 1 (65) | NA | NA (NA-NA) | Unmarried | 17 (1,648) | 1.03% (0.54%-1.52%) | 17 (7-34) |
| | Unk | 4 (740) | NA | 35 (7-NA) | Unk | 3 (1,033) | NA | 14 (8-20) |
| | Insured | 325 (4,096) | 7.93% (7.11%-8.76%) ^{ns} | NA (20-NA) ^{ns} | Married | 12 (357) | 3.36% (1.49%-5.23%) ^{***} | 6 (3.5-16) ^{***} |
| All other | Uninsured | 3 (88) | NA | 12 (2-NA) | Unmarried | 322 (3,876) | 8.31% (7.44%-9.18%) | NA (26-NA) |
| | Unk | 6 (97) | 6.19% (1.39%-10.98%) | NA (NA-NA) | Unk | 0 (48) | NA | NA |
| | Insured | 2,694 (30,805) | 8.75% (8.43%-9.06%) ^{***} | 5 (1-20) [*] | Married | 1,320 (16,211) | 8.14% (7.72%-8.56%) ^{***} | 6 (1-23) ^{***} |
| | Uninsured | 133 (1,202) | 11.06% (9.29%-12.84%) | 2 (0-13) | Unmarried | 1,443 (15,004) | 9.62% (9.15%-10.09%) | 4 (1-18) |
| | Unk | 76 (1,061) | 7.16% (5.61%-8.71%) | 2 (0-14) | Unk | 140 (1,853) | 7.56% (6.35%-8.76%) | 5 (1-14) |

^aPrevalence was only calculated in category with more than 5 sLM cases.

^bSurvival data (in months) are shown as the median survival and interquartile range in cases with synchronous lung metastasis at diagnosis.

^cLiver cancer here includes hepatocellular carcinoma and intrahepatic cholangiocarcinoma.

Abbreviations: sLM: synchronous lung metastasis; Unk: unknown; GI: gastrointestinal cancer; GU: genitourinary cancer; GYN: gynecologic cancer; STS: soft-tissue sarcoma; NA: non-applicable; ns: non-significant; *: p<0.05; ***: p<0.001% for intragroup survival comparison by Chi-square tests or log-rank tests.