### Supplementary Table 1. Metastatic status of patients diagnosed with colorectal cancer between 2010 and 2016 in SEER 18 registries.

| Characteristics       | No. of patients (%) | Person-years of follow-up | No. of deaths (%) | Non-cancer deaths | SMR\(^1\) (95% CI) |
|-----------------------|---------------------|---------------------------|-------------------|-------------------|-------------------|
| Liver metastasis      |                     |                           |                   |                   |                   |
| Yes                   | 30,689 (14.8%)      | 36,149                    | 22,352 (34.2%)    | 1,274 (8.5%)      | 2.85 (2.70-3.02)  |
| No                    | 177,070 (85.2%)     | 469,716                   | 42,957 (65.8%)    | 13,727 (91.5%)    | 1.61 (1.58-1.63)  |
| Lung metastasis       |                     |                           |                   |                   |                   |
| Yes                   | 10,407 (5.0%)       | 10,549                    | 7,925 (12.3%)     | 430 (2.9%)        | 2.92 (2.66-3.21)  |
| No                    | 196,513 (95.0%)     | 494,709                   | 56,664 (87.7%)    | 14,537 (97.1%)    | 1.65 (1.62-1.67)  |
| Bone metastasis       |                     |                           |                   |                   |                   |
| Yes                   | 2,489 (1.2%)        | 1,781                     | 2,050 (3.1%)      | 92 (0.6%)         | 4.06 (3.31-4.98)  |
| No                    | 204,461 (98.8%)     | 503,430                   | 62,541 (95.5%)    | 14,855 (99.4%)    | 1.66 (1.63-1.68)  |
| Brain metastasis      |                     |                           |                   |                   |                   |
| Yes                   | 576 (0.3%)          | 368                       | 487 (0.8%)        | 27 (0.2%)         | 7.07 (4.85-10.3)  |
| No                    | 206,283 (99.7%)     | 504,728                   | 64,042 (99.2%)    | 14,927 (99.8%)    | 1.66 (1.64-1.69)  |

### Supplementary Table 2. Cancer-related deaths by liver metastasis in patients diagnosed with colorectal cancer between 2010 and 2016 in SEER 18 registries.

| Cancer-related cause of death                              | Liver metastasis |                  |                  |                  |
|------------------------------------------------------------|------------------|-----------------|-----------------|-----------------|
|                                                           | Yes | %     | No | %     |
| Total                                                      | 21,078 | 100% | 29,230 | 100% |
| Colon and rectum                                           | 19,413 | 92.1% | 25,581 | 87.5% |
| Other cancers                                              | 1,665 | 7.90% | 3,649 | 12.48% |
| Lung and bronchus                                           | 160 | 0.76% | 773 | 2.64% |
| Pancreas                                                    | 63 | 0.30% | 253 | 0.87% |
| In situ, benign or unknown behavior neoplasm               | 56 | 0.27% | 152 | 0.52% |
| Liver                                                       | 214 | 1.02% | 133 | 0.46% |
| Other less frequent cancers                                 | 1,172 | 5.56% | 2,338 | 8.00% |
Supplementary Table 3. Cancer-related deaths by lung metastasis in patients diagnosed with colorectal cancer between 2010 and 2016 in SEER 18 registries.

| Cancer-related cause of death                      | Lung metastasis |   |   |
|---------------------------------------------------|-----------------|---|---|
|                                                   | Yes             | No |
|                                                   | Number          | %  | Number | %  |
| Total                                             | 7,495           | 100% | 42,127 | 100% |
| Colon and rectum                                  | 6,829           | 91.1% | 37,564 | 89.2% |
| Other cancers                                     | 666             | 8.9%  | 4,563  | 10.8% |
| Lung and Bronchus                                 | 154             | 2.1%  | 777    | 1.8%  |
| Liver                                             | 39              | 0.5%  | 297    | 0.7%  |
| Pancreas                                          | 23              | 0.3%  | 288    | 0.7%  |
| Other Digestive Organs                            | 20              | 0.3%  | 190    | 0.5%  |
| Anus                                              | 19              | 0.3%  | 121    | 0.3%  |
| In situ, benign or unknown behavior neoplasm      | 13              | 0.2%  | 195    | 0.5%  |
| Other less frequent cancers                       | 398             | 5.3%  | 2,695  | 6.4%  |