**Supplementary Table S1. Demographic characteristics of study participants from state-year combinations with >=75% completeness vs. <75% completeness of cigarette smoking data**

|  |  |  |
| --- | --- | --- |
|  | **Completeness of cigarette smoking data for state-year combinations** | **Availability of individual-level cigarette smoking data among cases from state-year combinations with completeness >=75%.** |
|  | **>=75% (Include)****N (Row%)[Column%]** |  **<75% (Exclude)****N (Row%)[Column%]** | **All states-years****N (Row%)[Column%]** | **Present (Include)** **N (Row%)[Column%]** | **Absent (Exclude)** **N (Row%)[Column%]** |
| **Diagnosis Year**a |  |  |  |  |  |
| 2011 | 3379 (24.8)[9.6] | 10258 (75.2)[19.5] | 13637 (100.0)[15.6] | 2881 (85.3)[9.5] | 498 (14.7)[10.1] |
| 2012 | 4195 (30.3)[11.9] | 9631 (69.7)[18.3] | 13826 (100.0)[15.8] | 3541 (84.4)[11.7] | 654 (15.6)[13.3] |
| 2013 | 4198 (29.7)[11.9] | 9948 (70.3)[19.0] | 14146 (100.0)[16.1] | 3607 (85.9)[11.9] | 591 (14.1)[12.0] |
| 2014 | 6273 (42.2)[17.8] | 8591 (57.8)[16.3] | 14864 (100.0)[17.0] | 5513 (87.9)[18.2] | 760 (12.1)[15.5] |
| 2015 | 6390 (41.4)[18.2] | 9049 (58.6)[17.2] | 15439 (100.0)[17.1] | 5700 (89.2)[18.8] | 690 (10.8)[14.1] |
| 2016 | 10757 (68.2)[30.6] | 5016 (31.8)[9.6] | 15773 (100.0)[18.0] | 9040 (84.0)[29.9] | 1717 (16.0)[35.0] |
| **Age**a |  |  |  |  |  |
| 30-39 | 1287 (36.8)[3.7] | 2215 (63.2)[4.2] | 3502 (100.0)[4.0] | 1149 (89.3)[3.8] | 138 (10.7)[2.8] |
| 40-49 | 3746 (37.4)[10.6] | 6265 (62.6)[11.9] | 10011 (100.0)[11.4] | 3278 (87.5)[10.8] | 468 (12.5)[9.5] |
| 50-59 | 8055 (38.3)[22.9] | 12951 (61.7)[24.7] | 21006 (100.0)[24.0] | 6954 (86.3)[23.0] | 1101 (13.7)[22.4] |
| 60-69 | 11450 (40.7)[32.5] | 16651 (59.3)[31.7] | 28101 (100.0)[32.0] | 9729 (85.0)[32.1] | 1721 (15.0)[35.1] |
| 70-79 | 7910 (42.4)[22.5] | 10751 (57.6)[20.5] | 18661 (100.0)[21.3] | 6832 (86.4)[22.6] | 1078 (13.6)[22.0] |
| 80+ | 2744 (42.8)[7.8] | 3660 (57.2)[7.0] | 6404 (100.0)[7.3] | 2340 (85.3)[7.7] | 404 (14.7)[8.2] |
| **Sex** |  |  |  |  |  |
| Female | 12506 (39.7)[35.5] | 18962 (60.3)[36.1] | 31468 (100.0)[35.9] | 11001 (88.0)[36.3] | 1505 (12.0)[30.7] |
| Male | 22686 (40.4)[64.5] | 33531 (59.6)[63.9] | 56217 (100.0)[64.1] | 19281 (85.0)[63.7] | 3405 (15.0)[69.3] |
| **Race/Ethnicity**a, b |  |  |  |  |  |
| NH White | 24818 (44.7)[70.5] | 30706 (55.3)[58.5] | 5524 (100.0)[63.3] | 21474 (86.6)[70.9] | 3344 (13.5)[68.1] |
| NH Black | 4523 (47.1)[12.9] | 5077 (52.9)[9.7] | 9600 (100.0)[10.9] | 3887 (85.9)[12.8] | 636 (14.1)[13.0] |
| NH American Indian and Alaska Native | 237 (42.5)[0.7] | 320 (57.5)[0.6] | 557 (100.0)[0.6] | 209 (88.2)[0.7] | 28 (11.8)[0.6] |
| NH Asian and Pacific Islander | 285 (10.2)[0.8] | 2499 (89.8)[4.8] | 2784 (100.0) [3.2] | 249 (87.4)[0.8] | 36 (12.6)[0.7] |
| Hispanic | 5080 (27.1)[14.4] | 13639 (72.9)[26.0] | 18719 (100.0)21.3] | 4268 (84.0)[14.1] | 812 (18.0)[16.5] |
| Other/Unknown | 249 (49.7)[0.7] | 252 (50.3)[0.5] | 501 (100.0)[0.6] | 195 (78.3)[0.6] | 54 (21.7)[1.1] |
| **Histology** |  |  |  |  |  |
| Papillary | 4846 (44.1)[13.8] | 6155 (55.9)[11.7] | 11001 (100.0)[12.5] | 4218 (87.0)[13.9] | 628 (13.0)[12.8] |
| Chromophobe | 1709 (37.7)[4.9] | 2823 (62.3)[5.4] | 4532 (100.0)[5.2] | 1494 (87.4)[4.9] | 215 (12.8)[4.4] |
| Clear cell | 20444 (39.0)[58.1] | 31918 (61.0)[60.8] | 52362 (100.0)[59.7] | 17849 (87.3)[58.9] | 2595 (12.7)[52.9] |
| Cyst-associated and Collecting duct/Medullary | 222 (38.9)[0.6] | 348 (61.1)[0.7] | 570 (100.0)[0.7] | 198 (89.2)[0.7] | 24 (10.8)[0.5] |
| Renal cell, unclassified | 7971 (22.7)[22.7] | 11249 (58.5)[21.4] | 19220 (100.0)[21.9] | 6523 (81.8)[21.5] | 1448 (18.2)[29.5] |
| **Total** | 35192 (40.1)[100.0] | 52493 (59.9)[100.0] | 87658 (100.0)[100.0] | 30282 (86.0)[100.0] | 4910 (14.0)[100.0] |

a*P*<.001,

b Hispanic category includes all cases designating Hispanic ethnicity, regardless of race. All other categories are Non-Hispanic (NH), for example, Non-Hispanic white, Non-Hispanic black, etc.,

c Cyst-associated and Collecting duct/Medullary categories were combined as “Cyst-associated and Collecting duct/Medullary” because of small numbers in some cells. The NPCR data use agreement does not permit reporting any cells with <6 cases