**Supplementary Table S2. Associations of demographic and clinical characteristics with risk of breast cancer.**

|  |  |  |  |
| --- | --- | --- | --- |
| Characteristic | Cases/Pyr | Unadjusted1 | Multivariable-Adjusted2 |
|  |  | HR (95%CI) | HR (95% CI) |
| Benign Breast Disease |  |  |  |
|  No | 2,082 / 484,983 | 1.00 (ref) | 1.00 (ref) |
|  Yes | 1,814 / 282,900 | 1.51 (1.42-1.61) | 1.45 (1.36-1.55) |
| Race |  |  |  |
|  White | 3,789 / 749,312 | 1.00 (ref) | 1.00 (ref) |
|  Black | 55 / 9,785 | 1.11 (0.85-1.45) | 1.16 (0.88-1.51) |
|  Other/Missing | 52 / 8,785 | 1.17 (0.89-1.54) | 1.26 (0.96-1.66) |
| Weight Gain as an Adult |  |  |  |
|  >5 lbs lost | 421 / 94,352 | 0.97 (0.86-1.09) | 0.94 (0.84-1.06) |
|  -5 to 20 lbs gained | 843 / 182,667 | 1.00 (ref) | 1.00 (ref) |
|  21-40 lbs gained | 1,110 / 219,063 | 1.10 (1.00-1.20) | 1.14 (1.04-1.25) |
|  41-60 lbs gained | 698 / 125,316 | 1.21 (1.09-1.33) | 1.31 (1.18-1.45) |
|  61+ lbs gained | 479 / 77,766 | 1.33 (1.19-1.49) | 1.51 (1.34-1.69) |
|  Missing/Unknown | 345 / 68,718 | 1.09 (0.96-1.23) | 1.15 (1.01-1.30) |
| Highest Level of Education |  |  |  |
|  Less than High School | 115 / 29,257 | 0.82 (0.67-0.99) | 0.90 (0.74-1.09) |
|  High School Grad | 1,138 / 237,084 | 1.00 (ref) | 1.00 (ref) |
|  Some College | 1,190 / 239,924 | 1.03 (0.95-1.12) | 0.98 (0.90-1.06) |
|  College Grad/Grad School | 1,428 / 256,804 | 1.16 (1.07-1.25) | 1.01 (0.93-1.10) |
|  Unknown | 25 / 4,814 | 1.08 (0.73-1.61) | 1.02 (0.68-1.51) |
| Ever Oral Contraceptive Use |  |  |  |
|  Never | 2,131 / 443,783 | 1.00 (ref) | 1.00 (ref) |
|  Ever | 1,719 / 316,211 | 1.14 (1.07-1.21) | 1.08 (1.01-1.16) |
|  Missing | 46 / 7,888 | 1.21 (0.91-1.62) | 1.22 (0.91-1.63) |
| Smoking Status |  |  |  |
|  Never | 2,103 / 438,627 | 1.00 (ref) | 1.00 (ref) |
|  Current | 126 / 28,271 | 0.92 (0.77-1.10) | 0.98 (0.82-1.18) |
|  Former | 1,667 / 300,912 | 1.16 (1.08-1.23) | 1.08 (1.01-1.16) |
|  Unknown | 0 / 73 | NA | NA |
| Age at Menarche |  |  |  |
|  <=12 | 1,740 / 342,609 | 0.98 (0.91-1.05) | 0.99 (0.92-1.06) |
|  13 | 1,187 / 228,356 | 1.00 (ref) | 1.00 (ref) |
|  13+ | 916 / 186,323 | 0.95 (0.87-1.03) | 0.95 (0.87-1.04) |
|  Missing | 53 / 10,594 | 0.96 (0.73-1.26) | 0.91 (0.69-1.21) |
| Age at Menopause |  |  |  |
|  <45 | 759 / 173,163 | 0.80 (0.74-0.88) | 0.83 (0.75-0.91) |
|  45 - <50 | 864 / 184,337 | 0.86 (0.79-0.94) | 0.87 (0.80-0.95) |
|  50 - <54 | 1,381 / 253,344 | 1.00 (ref) | 1.00 (ref) |
|  54+ | 570 / 99,704 | 1.05 (0.95-1.16) | 1.04 (0.94-1.14) |
|  Missing | 322 / 57,335 | 1.03 (0.92-1.17) | 1.02 (0.89-1.17) |
| Use of Hormone Replacements |  |  |  |
|  Never User | 918 / 194,490 | 1.00 (ref) | 1.00 (ref) |
|  Current Est-only | 644 / 120,492 | 1.15 (1.03-1.27) | 1.15 (1.03-1.28) |
|  Former Est-only | 535 / 133,879 | 0.84 (0.75-0.93) | 0.83 (0.74-0.93) |
|  Former Est+Prog User | 479 / 89,493 | 1.12 (1.00-1.25) | 1.02 (0.91-1.14) |
|  Current Est+Prog User | 571 / 71,944 | 1.70 (1.53-1.89) | 1.63 (1.46-1.82) |
|  Other/Unknown | 749 / 157,584 | 1.00 (0.91-1.10) | 0.97 (0.88-1.08) |
| Family History of Breast Cancer |  |  |  |
|  No | 3,212 / 665,221 | 1.00 (ref) | 1.00 (ref) |
|  Yes | 684 / 102,662 | 1.38 (1.27-1.50) | 1.36 (1.25-1.47) |
| Parity/Age at First Birth |  |  |  |
|  Nulliparous | 319 / 53,761 | 1.00 (ref) | 1.00 (ref) |
|  1-2 Births, Age <=24 | 618 / 121,161 | 0.86 (0.75-0.99) | 0.85 (0.74-0.98) |
|  1-2 Births, Age 25-29 | 481 / 90,447 | 0.90 (0.78-1.03) | 0.88 (0.76-1.01) |
|  1-2 Births, Age 30+  | 239 / 39,444 | 1.02 (0.86-1.21) | 1.00 (0.84-1.18) |
|  3+ Births, Age <20  | 227 / 53,175 | 0.72 (0.61-0.85) | 0.73 (0.62-0.88) |
|  3+ Births, Age 20-24  | 1,176 / 263,695 | 0.75 (0.67-0.85) | 0.74 (0.65-0.84) |
|  3+ Births, Age 25-29  | 633 / 113,400 | 0.94 (0.82-1.08) | 0.92 (0.80-1.06) |
|  3+ Births, Age 30+  | 99 / 15,773 | 1.06 (0.84-1.32) | 1.07 (0.85-1.35) |
|  Missing | 104 / 17,028 | 1.03 (0.82-1.28) | 1.02 (0.81-1.28) |
| Recent Mammogram |  |  |  |
|  No | 401 / 112,445 | 1.00 (ref) | 1.00 (ref) |
|  Yes | 3,441 / 644,124 | 1.49 (1.34-1.65) | 1.29 (1.16-1.43) |
|  Missing | 54 / 11,314 | 1.33 (1.00-1.77) | 1.33 (1.00-1.79) |
| History of Hypertension |  |  |  |
|  No | 1,843 / 366,647 | 1.00 (ref) | 1.00 (ref) |
|  Yes | 2,053 / 401,236 | 1.03 (0.96-1.10) | 1.00 (0.93-1.07) |
| History of Diabetes |  |  |  |
|  No | 3,394 / 668,249 | 1.00 (ref) | 1.00 (ref) |
|  Yes | 502 / 99,633 | 1.00 (0.91-1.10) | 1.01 (0.92-1.12) |
| History of Cardiovascular Disease |  |  |  |
|  No | 3,250 / 635,837 | 1.00 (ref) | 1.00 (ref) |
|  Yes | 646 / 132,046 | 0.97 (0.89-1.05) | 1.01 (0.92-1.11) |
| Weekly MET-hrs of Activity |  |  |  |
|  <3.5 METs | 727 / 148,689 | 1.00 (ref) | 1.00 (ref) |
|  3.5 - <4.5 METs | 544 / 106,866 | 1.04 (0.93-1.16) | 1.00 (0.90-1.12) |
|  4.5 - <14 METs | 1,048 / 188,889 | 1.12 (1.02-1.24) | 1.06 (0.96-1.17) |
|  14 - <21.5 METs | 748 / 146,917 | 1.03 (0.93-1.14) | 0.98 (0.88-1.09) |
|  21.5+ METs | 645 / 135,295 | 0.96 (0.86-1.07) | 0.91 (0.81-1.01) |
|  Unknown | 184 / 41,226 | 0.91 (0.77-1.07) | 0.95 (0.80-1.12) |
| Alcohol Servings per Day |  |  |  |
|  None | 1,745 / 367,393 | 1.00 (ref) | 1.00 (ref) |
|  <1 | 1,383 / 263,410 | 1.11 (1.03-1.19) | 1.06 (0.99-1.14) |
|  1 | 361 / 55,640 | 1.36 (1.22-1.53) | 1.31 (1.17-1.48) |
|  2+ | 158 / 23,636 | 1.40 (1.19-1.65) | 1.35 (1.14-1.59) |
|  Missing | 249 / 57,803 | 0.92 (0.80-1.05) | 0.94 (0.82-1.08) |

HR, hazard ratio; CI, confidence interval; est, estrogen; prog, progesterone; METs, metabolic equivalent of task; Pyr, person-years. Per-category numbers of events and person-years may not sum to total number of events and person-years due to missing values for some variables. P-values are nominal (unordered) tests for homogeneity of BC risk across the multiple categories of a given variable.

Cox proportional hazards regression analysis.

1. Unadjusted Cox proportional hazards regression analysis.
2. Multivariate Cox proportional hazards regression analysis simultaneously including in the model all variables listed in the table and fitting age as a stratification variable.