**Table 1.** Characteristics of surveillance mammograms included in Breast Cancer Surveillance Consortium interval second breast cancer risk model.

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| --- | --- | --- | --- |
|  | All exams | No interval second cancer\* | Interval second cancer |
|  | (n=173290) | (n=172794) | (n=496) |
| **Demographic characteristics** | | | |
| Age at mammography (years) | N missing = 0 | | |
| Median (IQR) | 64 (56, 73) | 64 (56, 73) | 61 (52, 72) |
| Race and ethnicity | N missing = 4971 | | |
| Asian/Pacific Islander, non-Hispanic | 13869 (8.2%) | 13829 (8.2%) | 40 (8.4%) |
| Black, non-Hispanic | 7389 (4.4%) | 7351 (4.4%) | 38 (8.0%) |
| Hispanic/Latina | 4697 (2.8%) | 4685 (2.8%) | 12 (2.5%) |
| Other/Multiple races,  non-Hispanic | 3283 (2.0%) | 3271 (1.9%) | 12 (2.5%) |
| White, non-Hispanic | 139081 (82.6%) | 138708 (82.6%) | 373 (78.5%) |
| Menopausal status | N missing = 26825 | | |
| Peri-/Pre-menopausal | 17059 (11.6%) | 16969 (11.6%) | 90 (22.1%) |
| Post-menopausal† | 129406 (88.4%) | 129088 (88.4%) | 318 (77.9%) |
| 1st degree family history of breast cancer | N missing = 4021 | | |
| No | 127214 (75.2%) | 126849 (75.2%) | 365 (74.9%) |
| Yes | 42055 (24.8%) | 41933 (24.8%) | 122 (25.1%) |
| BMI (kg/m2) | N missing = 59162 | | |
| Median (IQR) | 25.80 (22.80, 30.18) | 25.82 (22.80, 30.18) | 25.22 (22.31, 29.87) |
| **Primary breast cancer diagnosis and treatment characteristics** | | | |
| Age at diagnosis (years) | N missing = 0 | | |
| Median (IQR) | 58 (50, 67) | 58 (50, 67) | 55 (47, 66) |
| Year of Diagnosis | N missing = 0 | | |
| 1996-2000 | 49396 (28.5%) | 49229 (28.5%) | 167 (33.7%) |
| 2001-2004 | 44613 (25.7%) | 44474 (25.7%) | 139 (28.0%) |
| 2005-2008 | 41096 (23.7%) | 41004 (23.7%) | 92 (18.5%) |
| 2009-2012 | 26703 (15.4%) | 26633 (15.4%) | 70 (14.1%) |
| 2013-2018 | 11482 (6.6%) | 11454 (6.6%) | 28 (5.6%) |
| Histology | N missing = 37070 | | |
| Ductal | 112374 (82.5%) | 112065 (82.5%) | 309 (81.5%) |
| Lobular | 23846 (17.5%) | 23776 (17.5%) | 70 (18.5%) |
| Stage of primary breast cancer | N missing = 0 | | |
| DCIS | 37581 (21.7%) | 37462 (21.7%) | 119 (24.0%) |
| I | 83909 (48.4%) | 83706 (48.4%) | 203 (40.9%) |
| IIA and II NOS | 30327 (17.5%) | 30240 (17.5%) | 87 (17.5%) |
| IIB and III | 21473 (12.4%) | 21386 (12.4%) | 87 (17.5%) |
| Grade | N missing = 12722 | | |
| 1 | 40225 (25.1%) | 40153 (25.1%) | 72 (15.7%) |
| 2 | 68772 (42.8%) | 68579 (42.8%) | 193 (42.1%) |
| 3 | 51571 (32.1%) | 51378 (32.1%) | 193 (42.1%) |
| Hormone receptor status | N missing = 29332 | | |
| ER+, PR+ | 107893 (74.9%) | 107631 (75.0%) | 262 (65.2%) |
| ER+, PR- | 13344 (9.3%) | 13315 (9.3%) | 29 (7.2%) |
| ER-, PR+ | 1971 (1.4%) | 1964 (1.4%) | 7 (1.7%) |
| ER-, PR- | 20750 (14.4%) | 20646 (14.4%) | 104 (25.9%) |
| Primary surgery type | N missing = 306 | | |
| Unilateral Mastectomy | 41721 (24.1%) | 41566 (24.1%) | 155 (31.3%) |
| Breast conserving surgery | 131263 (75.9%) | 130923 (75.9%) | 340 (68.7%) |
| Radiation | N missing = 1121 | | |
| Yes | 99452 (57.8%) | 99217 (57.8%) | 235 (47.6%) |
| No | 72717 (42.2%) | 72458 (42.2%) | 259 (52.4%) |
| Adjuvant systemic therapy | N missing = 10208 | | |
| None | 59197 (36.3%) | 59002 (36.3%) | 195 (41.1%) |
| Chemotherapy only | 25859 (15.9%) | 25750 (15.8%) | 109 (22.9%) |
| Endocrine therapy only | 55154 (33.8%) | 55056 (33.9%) | 98 (20.6%) |
| Chemotherapy and endocrine therapy | 22872 (14.0%) | 22799 (14.0%) | 73 (15.4%) |
| **Imaging characteristics** | | | |
| Mammogram type | N missing = 1317 | | |
| Film | 54783 (31.9%) | 54603 (31.8%) | 180 (36.4%) |
| Digital | 100169 (58.2%) | 99891 (58.3%) | 278 (56.3%) |
| Tomosynthesis | 17021 (9.9%) | 16985 (9.9%) | 36 (7.3%) |
| Breast density | N missing = 19014 | | |
| a=almost entirely fatty | 13877 (9.0%) | 13857 (9.0%) | 20 (4.6%) |
| b=scattered fibroglandular density | 72995 (47.3%) | 72830 (47.3%) | 165 (37.9%) |
| c=heterogeneously dense | 58512 (37.9%) | 58301 (37.9%) | 211 (48.5%) |
| d=extremely dense | 8892 (5.8%) | 8853 (5.8%) | 39 (9.0%) |
| Mode of detection of primary breast cancer detection | N missing = 11262 | | |
| Screen detected | 103581 (63.9%) | 103362 (64.0%) | 219 (47.3%) |
| Interval cancer in screening | 42202 (26.0%) | 42034 (26.0%) | 168 (36.3%) |
| Clinical/diagnostically detected | 16245 (10.0%) | 16169 (10.0%) | 76 (16.4%) |
| Time since last mammogram (months) | N missing = 0 | | |
| Median (IQR) | 12 (10, 13) | 12 (10, 13) | 12 (10, 13) |
| Time since last surveillance mammogram (months) | N missing = 0 | | |
| First surveillance mammogram | 31578 (18.2%) | 31466 (18.2%) | 112 (22.6%) |
| 3-8 months | 25164 (14.5%) | 25112 (14.5%) | 52 (10.5%) |
| 9-14 months | 95509 (55.1%) | 95241 (55.1%) | 268 (54.0%) |
| 15-23 months | 11075 (6.4%) | 11048 (6.4%) | 27 (5.4%) |
| ≥24 | 9964 (5.7%) | 9927 (5.7%) | 37 (7.5%) |
| Time since primary diagnosis (months) | N Missing = 0 | | |
| Median (IQR) | 49 (24, 87) | 49 (24, 87) | 48 (23, 88) |
| \*Exams with no interval second cancer include exams followed by a competing event (surveillance-detected 2nd breast cancer or death), a censoring event (surveillance or diagnostic MRI) or no 2nd breast cancer within the follow-up period; †Post-menopausal defined as (1) natural menopause, (2) removal of both ovaries, (3) age ≥60 years, (4) current HT user, or (5) last menstrual period >365 days prior | | | |