# Supplementary Online Content

Kurian AW, Ward KC, Abrahamse P, et al. Association of germline genetic testing results with locoregional and systemic therapy in patients with breast cancer. *JAMA Oncol*. doi:10.1001/jamaoncol.2019.6400. Published online February 6, 2020.

**eTable**. Characteristics of patients according to treatment eligibility
**eFigure.** Decay diagram of patient exclusion from analytic sample

**eTable. Characteristics of patients according to treatment eligibility[*,†]**

| | Bilateral Mastectomy n=15,126 | | Radiation Therapy n=7,248 | | Chemotherapy Omission n=8,509 | |
|---|---|---|---|---|---|---|
| | n | % | n | % | n | % |
| Germline genetic testing result | | | | | | |
| Negative | 11,562 | 76.4 | 5,808 | 80.1 | 6,621 | 77.8 |
| Variant of uncertain significance (VUS) only | 2,411 | 15.9 | 1,202 | 16.6 | 1,355 | 15.9 |
| Pathogenic variant (PV) in *BRCA1* or *BRCA2* | 823 | 5.4 | 106 | 1.5 | 336 | 3.9 |
| *BRCA1* | 438 | 2.9 | 49 | 0.7 | 112 | 1.3 |
| *BRCA2* | 439 | 2.9 | 57 | 0.8 | 225 | 2.6 |
| PV in other breast cancer-associated gene[†,**] | 330 | 2.2 | 132 | 1.8 | 197 | 2.3 |
| *ATM* | 71 | 0.5 | 27 | 0.4 | 46 | 0.5 |
| *CDH1* | 7 | 0 | 1 | 0 | 8 | 0.1 |
| *CHEK2* | 148 | 1 | 69 | 1 | 90 | 1.1 |
| *NBN* | 15 | 0.1 | 5 | 0.1 | 8 | 0.1 |
| *NF1* | 1 | 0 | 0 | 0 | 1 | 0 |
| *PALB2* | 66 | 0.4 | 20 | 0.3 | 39 | 0.5 |
| *PTEN* | 5 | 0 | 2 | 0 | 2 | 0 |
| *TP53* | 23 | 0.2 | 10 | 0.1 | 7 | 0.1 |
| Age in years (mean, standard deviation) | 51.7 | 12.2 | 52.8 | 11.1 | 53.3 | 12.2 |
| Cancer stage | | | | | | |
| 0 | 2,196 | 14.5 | 1,236 | 17.1 | - | - |
| I | 6,417 | 42.4 | 3,472 | 47.9 | 5,448 | 64 |
| II | 4,993 | 33 | 2,239 | 30.9 | 3,061 | 36 |
| III | 1,520 | 10 | 301 | 4.2 | - | - |
| Tumor grade | | | | | | |
| 1 | 2,790 | 18.4 | 1,591 | 22 | 2,613 | 30.7 |
| 2 | 6,443 | 42.6 | 3,093 | 42.7 | 4,286 | 50.4 |
| 3 | 5,893 | 39 | 2,564 | 35.4 | 1,610 | 18.9 |
| 21-gene recurrence score | | | | | | |
| Not performed | 13,544 | 89.5 | 6,455 | 89.1 | 6,989 | 82.1 |
| 0-10 | 351 | 2.3 | 172 | 2.4 | 390 | 4.6 |
| 11-18 | 683 | 4.5 | 346 | 4.8 | 718 | 8.4 |
| 19-30 | 439 | 2.9 | 234 | 3.2 | 412 | 4.8 |
| ≥31 | 109 | 0.7 | 41 | 0.6 | - | - |

[*] Treatment-eligible subgroups: for unilateral surgery, stages 0-III, unilateral tumor; for radiation therapy, all stage 0-III lumpectomy recipients except age ≥70 years with stage I, ER/PR-positive and HER2-negative disease; for chemotherapy omission, stages I-II, ER/PR-positive and HER2-negative, 21-gene recurrence score <30 if performed. All patients underwent germline genetic testing within three months of their breast cancer diagnosis.

[†] As designated by practice guidelines of the National Comprehensive Cancer Network (NCCN). *STK11* is also designated as a breast cancer-associated gene by NCCN, but no patients in the sample had *STK11* PVs so it was not included in the analysis.

[**] Excludes patients who also had *BRCA1/2* PV

**eFigure**. **Decay diagram of patient exclusion from analytic sample**