# Supplementary materials

## **S1 Table.** **List of breast cancer treatments and their corresponding receipt codes.**

| **Category** | **General name** |
| --- | --- |
| Endocrine therapy | Anastrozole, letrozole, exemestane, tamoxifen citrate, toremifene citrate, fulvestrant, medroxyprogesterone,  |
| Chemotherapy | Capecitabine, cisplatin, docetaxel, doxorubicin, epirubicin, eribulin, gemcitabine, mitoxantrone, paclitaxel, vinorelbine, irinotecan, cyclophosphamide, tegafur/uracil, tegafur/gimeracil/oteracil, doxifluridine, fluorouracil, mitomycin C, methotrexate, carboplatin |
| AB | Bevacizumab |
| Targeted therapy (mTOR inhibitor) | Everolimus |
| Targeted therapy (CDK 4/6 inhibitor) | Palbociclib, abemaciclib |

Abbreviations: AB, antibody; CDK, cyclin-dependent kinase; mTOR, mammalian target of rapamycin.

## **S2 Table.** **List of breast cancer surgery, metastasis, and blood tests and their corresponding codes.**

| **Receipt name/classification of disease** | **Receipt category code/receipt code** | **ICD-10 code** |
| --- | --- | --- |
| Extirpation of breast tumor (<5 cm in diameter) | K4741 | – |
| Extirpation of breast tumor (5 cm or more in diameter) | K4742 | – |
| Segmental mastectomy | K474-2 | – |
| Mastectomy | K475 | – |
| Breast cancer cryosurgery | K475-2 | – |
| Mammary gland malignancy (simple mastectomy [breast removal]) surgery | K4761 | – |
| Malignant breast tumors (partial mastectomy [without axillary lymph node dissection]) surgery | K4762 | – |
| Breast malignant tumor surgery (mastectomy [without axillary lymph node dissection]) | K4763 | – |
| Malignant breast tumors (partial mastectomy [with axillary lymph node dissection]) surgery | K4764 | – |
| Mammary gland malignancy (mastectomy and breast muscle resection not performed simultaneously) surgery | K4765 | – |
| Extirpation of breast tumor (mastectomy and breast muscle resection performed simultaneously) | K4766 | – |
| Extirpation of breast tumor (extended radical mastectomy [dissection performed simultaneously]) | K4767 | – |
| Mammary gland malignancy and axillary lymph nodes dissection on both sides’ surgery | K4767 | – |
| Breast malignant tumor surgery (areola preservation mastectomy [without axillary dissection]) | K4768 | – |
| Breast malignant tumor surgery (areola preservation mastectomy [with axillary dissection]) | K4769 | – |
| Secondary malignant neoplasm of lung | – | C780 |
| Secondary neoplasm of pleura | – | C782 |
| Secondary malignant neoplasm of liver | – | C787 |
| Secondary neoplasm of ovary | – | C796 |
| Secondary and unspecified malignant neoplasm of lymph nodes | – | C770 |
| Secondary and unspecified malignant neoplasm of lymph nodes | – | C771 |
| Secondary and unspecified malignant neoplasm of lymph nodes | – | C772 |
| Secondary and unspecified malignant neoplasm of lymph nodes | – | C773 |
| Secondary and unspecified malignant neoplasm of lymph nodes | – | C774 |
| Secondary and unspecified malignant neoplasm of lymph nodes | – | C775 |
| Secondary and unspecified malignant neoplasm of lymph nodes | – | C778 |
| Secondary and unspecified malignant neoplasm of lymph nodes | – | C779 |
| Secondary neoplasm of skin | – | C792 |
| Secondary malignant neoplasm of the bone and bone marrow | – | C795 |
| Secondary malignant of brain and spinal cord | – | C793 |
| Hemogram (automaton method) | D0053/160191510 | – |
| Peripheral blood general test | D0055/160008010 | – |

Abbreviations: ICD-10, International Statistical Classification of Diseases and Related Health Problems, 10th revision.