Results: Statistically significant differences between SBC and MBC as regards age at diagnosis, menopausal status, histological type and histological grade were observed. Pts with MBC were younger (48 in MBC vs 57years in SBC, $p < 0.001$), more often under 45 (43% in MBC vs 17% in SBC, $p < 0.001$) and premenopausal (58% in MBC and 37% in SBC pts, $p < 0.001$). In pts with SBC – lobular carcinoma (29.5% vs 16) and in pts with MBC – ductal (70% vs 54%) and medullar (4% vs 1%) carcinoma were detected more often ($p = 0.008$). Histological grade G3 was more common in MBC (51% vs 26%, $p < 0.001$). There were no differences between SBC and MBC as regards family history of breast/ovarian cancer ($p = 0.65$), TNM stage ($p = 0.28$) and number of patients with BRCA1 mutation ($p = 1.0$). When the time of observation was calculated from the time of the first cancer the probability of 5-year, 10-year and 20-year overall survival in MBC was 93%, 85% and 64% and in SBC- 82%, 71% and 46% ($p < 0.001$) respectively. The 10-year overall survival of MBC vs SBC for patients treated before 1990 was 81% and 38% ($p = 0.00001$), and those treated after 1990- was 91% and 82% ($p = 0.0022$) respectively. When the time of observation was calculated from the time of detection of the second cancer no difference was observed as regards SBC and MBC in 10-year overall survival (62% vs 71%, $p = 0.15$).

Conclusions: Patients with SBC and MBC differ as regards age at diagnosis, histological type and grade. When the time of observation was calculated from the time of the first cancer the prognosis for patients with MBC was better than for patients with SBC. No difference was observed when time of observation was calculated from the time of the second cancer. Pts diagnosed and treated after 1990 had better survival rate than patients treated before1990.

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Evaluation of hereditary risk for breast cancer

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The presence of BRCA1 and BRCA2 mutations increases the women's lifetime risk of breast and ovarian cancer significantly. The identification of the potential mutation carriers is essential to recommend some management options that have shown promise in decreasing the morbidity and mortality for these women.

We collected family histories in a population of unaffected women presenting in Breast Clinic and in General Practitioners offices. We applied relative simple risk assessment criteria to identify women with more than 10% of probability of carrying a BRCA1 or a BRCA2 mutation.

Methods: Breast specialists and General Practitioners doctors, that had received detailed instructions, collected family histories of all unaffected women presenting over a 14 months period. The FONCaM criteria for hereditary risk assessment were applied to investigate results.

Results: Family histories of 7060 women were evaluated. It is reasonable to believe that their accuracy is high when they were collected by specialist and trained doctors, instead of data collected by self-compiled questionnaires. 1346 women had at least one first or second degree parent affected by breast or ovarian cancer. 104 women (7.7% of 134, and 1.5% of 7060) meet the FONCaM criteria for more than 10% of probability of caring a BRCA1 or BRCA2 mutation.

conclusions: The application of the FONCaM criteria identifies an expected number of women with a high risk for a BRCA1 or BRCA2 mutation, like those assessed by other more sophisticated models.

The FONCaM criteria are simple and easy to apply in the daily clinical practice. For this reason such criteria are indicated as practical tool for clinicians to identify women with high risk of hereditary breast cancer.

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Measurable improvement of breast cancer care in the Netherlands by breakthrough project

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Objective: To improve breast cancer care in breast cancer units in the Netherlands through structured realisation of best practices as described in a clinical practice guideline.

Methods: Four goals were identified through analysis of data and reports, and interviews with practitioners: faster triple diagnosis ($\leq$ 2 weeks), reduction of waiting time for operation ($\leq$ 3 weeks), 10–35% reduction of operation burden by reducing unnecessary operations and more frequent preoperative multidisciplinary consultations.

All patients visiting a breast outpatients' clinic were to be evaluated preoperative by a multidisciplinary team consisting of a surgeon, a radiologist, a pathologist and a breast cancer nurse. The yield of punctates was to be improved by limiting the practice of the procedure to dedicated professionals, and biopsies directed by imaging (ultrasound or stereotaxis). This should lead to more clear-cut diagnoses, less diagnostic operations, less re-operations and less control visits.

A database was developed for the collection of data and the automatic generation of indicators. Throughout the project, breakthrough-managers and health professionals co-operated intensely to develop hands-on material for teams to achieve practical improvements.

Results: Twenty-two teams participated for one year in this breakthrough project. Nineteen out of the twenty-two teams achieved an average waiting time of one week for patients with breast symptoms to the outpatients' clinic. Diagnosis was established within one week on average in 18 hospitals. All hospitals achieved an average waiting time of three weeks for women with diagnosed breast cancer to undergo operation 10 teams achieved two weeks. Seventeen teams had a clear-cut (pre-operative) diagnosis in 95% of cases by the end of the project. At least 50% of patients were discussed in a multidisciplinary setting before operation in 13 teams, while this result was achieved by 4 teams only at the start of the project. An additional goal was identified in the form of pre-operative consultation by a breast cancer nurse. In 19 teams at least 60% of the patients was seen pre-operative by a breast cancer nurse. Team-building showed to be a very important non-measurable positive result of this Breakthrough project.

Conclusions: Breast cancer care has been measurably improved by structured implementation of best practices.

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The epidemiology of HER-2 positive tumours

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Introduction: The growth factor receptor gene, human epidermal growth factor receptor (HER-2), is over-expressed in approximately 20% of breast cancers, and this phenotype is associated with more aggressive behaviour. These tumour cells have abnormally high levels of the encoded protein. A recombinant monoclonal antibody developed against these receptors (trastuzumab) inhibits growth of breast cancer cells in vitro. It has also been shown to have clinical anti-tumour activity when used as a single agent in patients with advanced breast cancer, and increased response rates and indeed survival when added to chemotherapy in advanced stage patients. There is evidence of different risk factors for patients with estrogen receptor positive and negative breast cancers and it would be of great interest to determine whether there are also different characteristics of women with breast cancers both expressing and not expressing HER2.

Materials and Methods: Women with invasive breast cancer diagnosed between year 2000 and 2004 and treated at Guy's Hospital breast unit were considered. Immunohistochemical technique was used to determine HER-2 status. They were divided into HER-2 negative (0 or 1+) and positive (2+ or 3+). From the core database variables such as age at diagnosis, menopausal status, parity, family history and pathological variables like ER/PR status, tumour size, nodal status, polymorphism, mitotic activity and tubule formation were sought and compared.

Results: Records of 1325 patients with invasive cancer were studied. 284/1325(21.43%) patients were HER-2 positive. Out of these 1325 cases, 262/1157(22.64%) ductal cancers, 13/102(12.74%) lobular and 9/66(13.63%) other cancers were HER-2 positive. The ductal histology was thus more often associated with HER-2 positivity.

23/219(10.5%) grade1, 100/540(18.5%) grade 2 and 152/506(30.3%) grade 3 were positive for HER-2.HER-2 positivity was more in ER and PR negative tumours. Increase in HER-2 positivity with increase in histological pleomorphism and tubule formation was noted. No significant association was found with age, menopausal status, parity, family history or tumour size and presence of in situ component.

Conclusion: 21% of patients with invasive disease in this series were HER-2 positive. Her-2 positivity increases with grade of tumour and ductal cancers are more likely to be HER-2 positive. Pleomorphism and tubule formation are associated with HER-2 positivity, which is again reflected in higher positivity with grade. More ER/PR negative tumours express HER-2 positivity as compared to ER/PR positive counterparts. Other factors like age, menopausal status, parity, family history, associated in situ component and tumour size have no significant impact on HER-2 status.