hospitals in the region of the Comprehensive Cancer Centre West (CCCW) have participated into two audit projects (KIM-1 and KIM-2) and one intervention project (MZSB). We investigated to what extend the hospitals succeeded in improving the given care and in maintaining the quality over the years.

Methods: Patients diagnosed with either DCIS or breast cancer within either one of nine hospitals in the region of the CCCW between January 2002 and December 2008 were included into the study. Information was collected about the primary treatment: surgery, radiotherapy, and systemic therapy. Quality indicators were evaluated over the years. In 2006, the multidisciplinary mamma team (MMT) within each hospital received expert advice and feedback to initiate care improvement initiatives. Between 2006 and 2008, the MMT's within each hospital yearly discussed the hospital scores of each indicator and compared those with the highest, the lowest and the mean scores within in the region.

Results: Between 2002 and 2008, an increasing number of patients had been discussed within the multidisciplinary mamma team (MMT) before surgery (69% in 2002, 71% in 2008), or had been discussed within the MMT after surgery (95% in 2002, 96% in 2008). Between 2006 and 2008 almost all patients had had a meeting with a breast cancer-nurse before surgery (on average 92% of the patients). An increasing number of patients visited the outpatient clinic, within 5 working days after admittance (63% in 2002, 81% in 2008), received surgical treatment within 15 working days after diagnosis (46% in 2002, 55% in 2008), and left the hospital within 5 working days after treatment (79% in 2002, 98% in 2008). The number of patients with a successful sentinel node procedure (90% in 2002, 95% in 2008), and with more than 10 lymph nodes after axillary lymph node resection (76% in 2002, 85% in 2008), had been improved over the years. The number of patients with only one surgical intervention varied over the years (between the 85% and the 95%).

Conclusion: The process and the competence of the breast cancer care are of high quality and have been slightly improved. Most of the waiting times have been gradually improved over the years, though need to be further improved. This audit project has increased the insight into the quality of the breast cancer care and contributed to the improvement of this care.

529 Poster

Cost-effectiveness and budget impact of the 70-gene signature for node-negative breast cancer

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Background: The 70-gene signature (MammaPrint®) is a prognostic test used to guide adjuvant treatment decisions in patients with node-negative breast cancer. In order to decide upon its use, a systematic comparative analysis of the effects of the 70-gene signature, the Sankt Gallen guidelines and the Adjuvant Online Software for these patients on survival, quality of life and costs is warranted.

Methods: A Markov decision model was used to simulate the 10-year costs and outcomes (survival and quality-of-life adjusted survival (QALYs)) in a hypothetical cohort of node-negative, estrogen receptor positive breast cancer patients. Sensitivity and specificity of the three tools were based on 5 and 10 years breast cancer specific survival and distant metastasis as first event, derived from a pooled analysis consisting of 305 tumour samples from 3 previously reported validation studies.

Results: Small differences in survival, but substantial differences in quality-adjusted survival between the prognostic tools were observed. St. Gallen showed the highest survival rates compared to the 70-gene signature, but leads to a substantial larger amount of adjuvant chemotherapy and lower cost-effectiveness, thus demanding a high willingness to pay to save a life year. The budget impact (restricted to the mean costs multiplied by the target population) calculated for the Dutch health care with an incidence of 6500 early breast cancers for the St Gallen versus the 70-gene resulted in cost savings of 46.1 million per year. Quality-adjusted survival was highest when using the 70-gene signature, compared to both Adjuvant Online and the St Gallen guidelines. Based on costs per QALY, the 70-gene has the highest probability of being cost-effective for a willingness to pay for a QALY higher then € 15.000.

Conclusions: When deciding upon the cost-effectiveness of the prognostic tests, the 70-gene signature improves quality-adjusted survival and has the highest probability of being cost-effective.

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A pilot randomised controlled trial comparing day surgery and inpatient surgery in breast cancer

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Aim: Surgical management of breast cancer has become less invasive over the past decade, making these procedures potentially more suitable for day surgery. The aim of the present study was to establish in a pilot randomised controlled trial whether day surgery improved physical and quality of life outcomes in patients undergoing breast conserving surgery with axillary sampling or sentinel node biopsy compared with inpatient surgery.

Methods: Patients with invasive breast cancer were randomised to day surgery or standard inpatient care. The primary outcomes were physical (wound related, pain, physical activity, nausea and vomiting) and the secondary outcome was quality of life. The physical outcomes were assessed using a surgical site infection (SSI) validated questionnaire and a daily patient diary for the first postoperative week. The quality of life was assessed using a validated Functional Assessment of Cancer Therapy (FACT B) form which was scored at baseline, Day 7 and Day 30 postoperatively. All patients had a 30-day postoperative follow-up. Ethical approval was obtained from the Research Ethics Committee for this trial.

Results: Of the 31 patients randomised, 29 were analysed at the end of the study. There was no significant difference in the physical outcomes (SSI, nausea and vomiting scores, pain scores and physical activity). The quality of life scores for the day group were significantly better compared to the inpatient group on postoperative Day-7, with equivalent results for both groups by Day-30 (Table 1).

Table 1: Changes in FACT B scores 7 and 30 days postoperatively

	Inpatient group (n = 14)	Day patient group (n = 15)	p value
Baseline scores (preoperative)			
FACT G	96.4 (73 to105)	90 (69.6 to 108)	0.458
FACT B	126.2 (104.5 to 138)	118 (89.1 to 143)	0.106
Difference between Day-7 baseline scores			
FACT G	−12.0 (−41.0 to 11.0)*	−3.0 (−20.4 to 11.0)	0.036
FACT G	−15.4 (−44.0 to 10.0)*	−2.9 (−35.3 to 12.0)	0.045
Difference between Day-30 baseline scores			
FACT G	−2.5 (−13.3 to 9.0)	2.0 (−25.6 to 10.0)	0.505
FACT B	−2.5 (−16.3 to 10.7)	5.9 (−40.6 to 13.0)	0.397

*$p < 0.01$ when compared with baseline values within the same group.
FACT G: Functional Assessment of Cancer Therapy − General.
FACT B: Functional Assessment of Cancer Therapy − Breast.

Conclusions: This pilot study showed that day surgery is feasible and safe in patients undergoing breast conserving surgery. When compared to inpatients, day surgery patients had equivalent physical outcomes and a better quality of life outcome by the end of the first postoperative week. A larger randomised controlled trial may be planned based on the results of this pilot study to confirm these results.

531 Poster

Development of a clinical breast cancer database application for the ongoing quality assurance of breast cancer care

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Background: The evolution of new therapies for breast cancer coupled with individualized treatments has led to the need to ensure that evidence based therapies produce desired outcomes. In 2007 the Ottawa Hospital Cancer Centre (TOHCC) Breast Cancer Disease Site Group embarked upon a process of developing and implementing a comprehensive clinical database for all breast cancer patients referred to this academic facility. This database consists of retrospective and prospective (real-time) information derived from both electronic and physical patient records. With over 1000 new breast cancer patients and an ongoing population of over 6000 treatment or follow up visits per year this is clearly a complex, potentially time consuming and expensive undertaking. In order to address these issues the project developed and engaged proprietary knowledge automation technologies to increase the productivity and accuracy of data extraction from electronic