The NABON Breast Cancer Audit; quality improvement in three years' time

van Bommel ACM[1], Baas - Vrancken Peeters MJT[2], van der Heiden-van der Loo M[3], van Dalen T[4], Jager A[5], Lobbes MBI[6], Maduro JH[7], Mureau MAM[5], Pijnappel RM[8], Richel C[9], Rutgers EJT[2], Schepens MHJ[10], Schrieks M[9], Smorenburg CH[2], Struikmans H[11], Westenend PJ[12], de Vries B[6], Wouters MWJM[2], Siesling S[3], Tjan-Heijnen VCG[6]

Leiden University Medical Centre, Leiden, the Netherlands; [2] Netherlands Cancer Institute / Antoni van Leeuwenhoek Hospital, Amsterdam, the Netherlands; [3] Comprehensive Cancer Centre the Netherlands (IKNL), Utrecht, the Netherlands; [4] Diakonessenhuis Utrecht, Utrecht, the Netherlands; [5] Erasmus MC Cancer Institute, Rotterdam, the Netherlands; [6] Maastricht University Medical Centre, Maastricht, the Netherlands; [7] University Medical Centre Groningen, Groningen, the Netherlands; [8] University Medical Centre Utrecht, Utrecht, the Netherlands; [9] Dutch Breast Cancer Association, Utrecht, the Netherlands [10] Health Insurer Netherlands; [11] MCH Westeinde, the Hague, the Netherlands; [12] Laboratory for pathology Dordrecht e.o., Dordrecht, the Netherlands

NBCA
NABON BREAST CANCER AUDIT

Introduction

The lifetime risk of developing breast cancer is 1 in 8 for women in the Netherlands. Survival is good and improving, measuring quality of care in the various hospitals is complex. In the past, different definitions and scoring systems were used. Clinical audits provide an important tool for quality assessment using a uniform registration of all patients diagnosed with a certain disease.

Material and methods

The multidisciplinary national NABON Breast Cancer Audit (NBCA) started collecting data of all Dutch hospitals in 2011, facilitated by Comprehensive Cancer Centre the Netherlands (IKNL) and the Dutch Institute for Clinical Auditing (DICA). All aspects of breast cancer care are registered including diagnostics and different treatment modalities.

The aim is to evaluate quality of care provided (2011 – 2013)

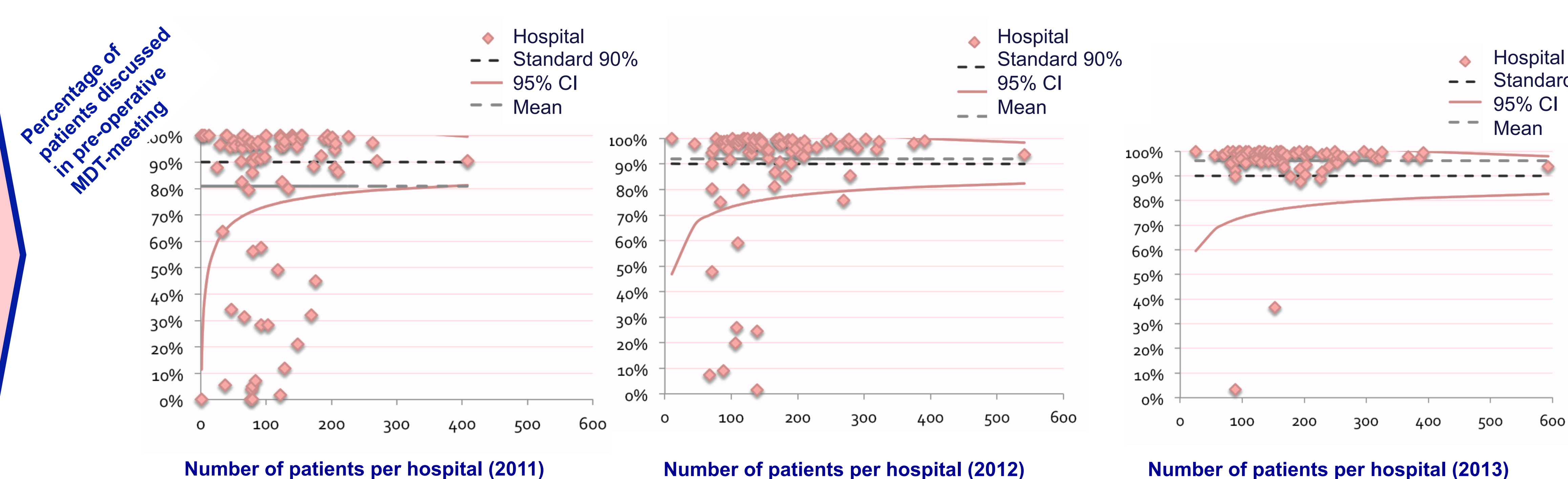
Core values of the NBCA

- Initiated and managed by clinicians
- One nation-wide system
- Weekly updated benchmarked feedback
- Nation-wide evaluation of quality parameters
- Identify causes of variation
- Start quality improvement programs

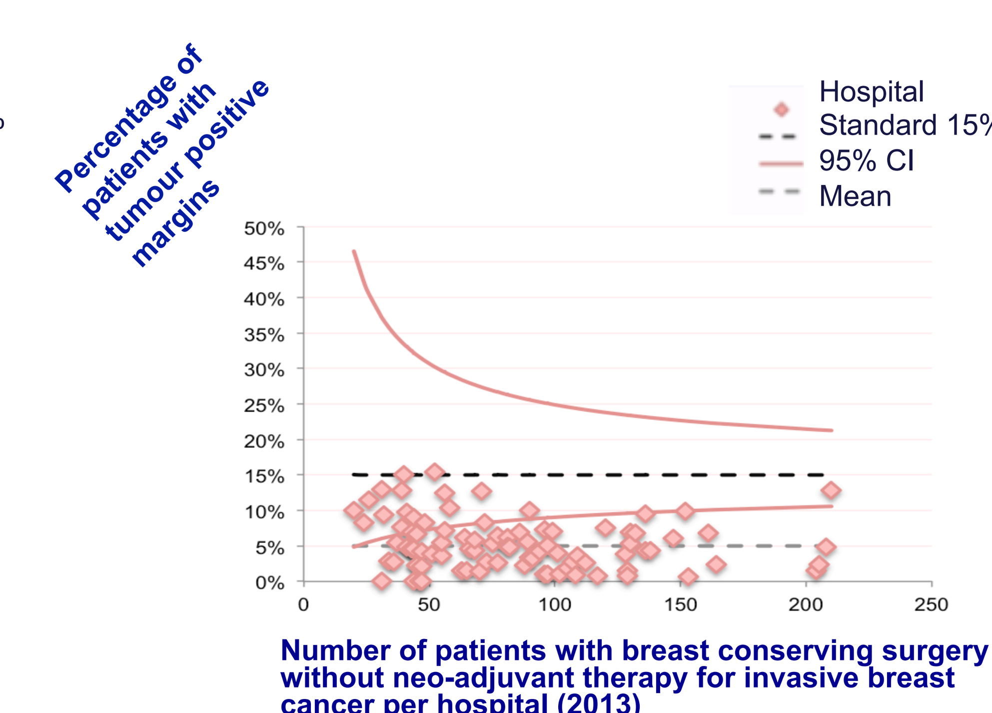
1 Table displaying various quality indicators of the NBCA

Quality indicator	2011	2013
Pre-operative Multidisciplinary team meeting	81%	96%
Postoperative Multidisciplinary team meeting	90%	98%
Time to operation ≤ 5 weeks *(immediate reconstruction after mastectomy excluded)*	80%	85%
Tumor positive margins invasive breast cancer *(without primary systemic treatment)*	6.1%	5.0%
Tumor positive margins DCIS	25%	20%
Pre-operative systemic treatment for invasive breast cancer	10%	12%
Immediate reconstruction after ablative surgery for invasive breast cancer	15%	18%
Immediate reconstruction after ablative surgery for DCIS	39%	44%

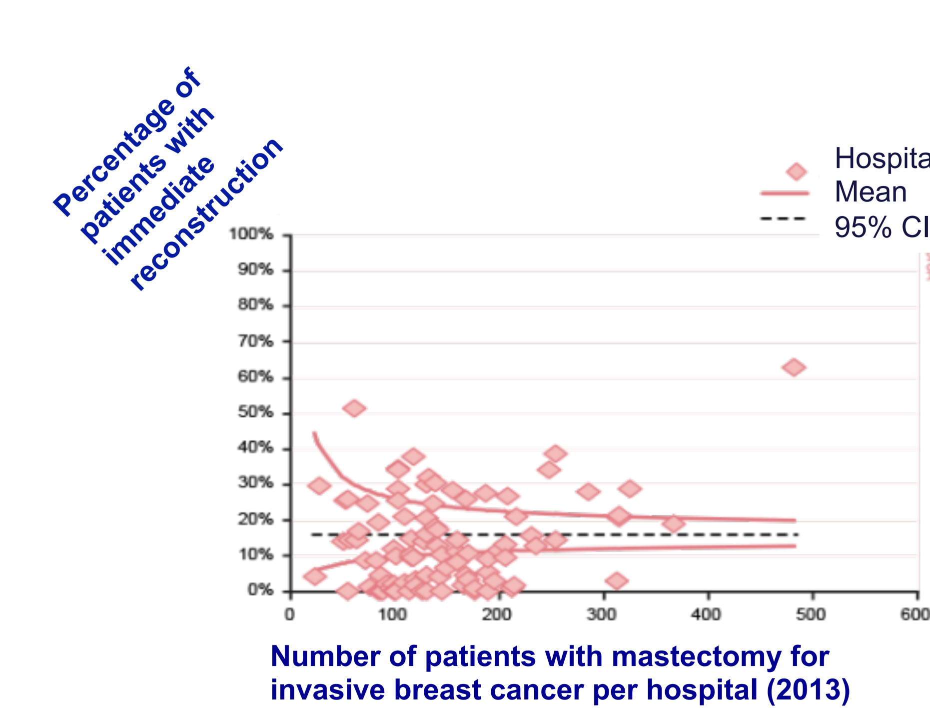
2 Quality improvement of pre-operative MDT meeting for 2011, 2012, 2013



3 Tumor positive margins – invasive breast cancer



4 Mastectomy with immediate reconstruction



Results

All Dutch hospitals (n=92) participated by providing the data regarding delivered breast cancer care resulting in a database of more than 42.000 breast cancer patients (5.745 DCIS and 36.396 invasive carcinomas) in three years time. Eighty-nine percent of invasive breast cancer patients were treated with primary surgery of which 62% (n=19.885) with breast conserving surgery. 30 quality indicators have been developed, representing the various disciplines involved in breast cancer care.

Within three years time, several quality assessments are improved such as guideline compliance for pre- and postoperative multidisciplinary team (MDT) meetings, percentage of patients starting surgery within five weeks, percentage of patients with tumor positive margins after first breast conserving surgery for invasive breast cancer (see table). Pre-operative MDT meeting is shown in figure 2. In 2013, 2 hospitals are performing significantly below the national standard of 90%; these have their MDT meetings regularly, however, a digital report is not used. All hospitals performed below the national standard of 15% for the outcome indicator tumor positive margins (figure 3). The percentage of patients receiving an immediate reconstruction after ablative surgery (18%; 95% CI 0 – 73%) remained low with a large variation between hospitals figure 4.

Conclusions

- The continuous cycle of registration and providing feedback by clinical auditing provides a powerful tool for quality monitoring and improving breast cancer care.
- Quality of monodisciplinairy surgical and pathological aspects of care has improved over the years
- More complicated multidisciplinary issues like the use of primary systemic treatment and immediate reconstruction shows (unexplained) variation and detailed analyses of the variation between hospitals is needed to further improve these aspects of breast cancer care.

DICA | IKNL integraal kankercentrum Nederland

A.C.M.van_Bommel@lumc.nl