

# Breast Cancer Surgical Indicators in Queensland: Variations in Practice

N. Dunn<sup>1</sup>, Colin Furnival<sup>2</sup>, J Moore<sup>1</sup>, T Guan<sup>1</sup>

<sup>1</sup>Queensland Cancer Control Analysis Team, Queensland Health, Brisbane, Australia

<sup>2</sup>Queensland Cancer Control Safety and Quality Partnership, Breast Cancer Sub-Committee, Queensland Health, Brisbane, Australia



## BACKGROUND

In 2016, an estimated 3,555 Queensland women will be diagnosed with invasive breast cancer. Surgery is a critical component of treatment for breast cancer. For the first time in Queensland, baseline breast cancer surgical indicator rates have been established using health administration data to track surgical practice in breast cancer care services for public and private hospitals.

## METHODS

The Qld Oncology Repository (QOR) compiles and collates administrative and clinical data from the Qld Cancer Registry together with hospital admissions, treatment and mortality data. Seven surgical practice indicators were applied to examine and compare surgical practice and timeliness of surgery in Queensland hospitals for women diagnosed with invasive breast cancer between 2009 and 2013 (Table 1). The indicators have been adjusted by age, tumour size, year of surgery, comorbidities, rurality and overall stage to remove the effect of differences in composition of the various populations.

Table 1: Breast Cancer Surgical Practice Indicator summary 2009 - 2013

Surgical Practice Indicators	Hospital Type			
	Queensland Adjusted rate (Crude n/N)	Public Hospitals Adjusted rate (Crude n/N)	Private Hospitals Adjusted rate (Crude n/N)	Low volume Hospitals Adjusted rate (Crude n/N)
1 Definitive mastectomy rate	45% (6073/13611)	49% (2859/5632)	40% (6073/13611)	55% (345/571)
2 Index mastectomy for T1 tumours	23% (1847/7992)	28% (867/3090)	20% (886/4603)	27% (94/299)
3 Re-excision of lesion after index BCS	20% (1792/8887)	23% (767/3360)	19% (973/5216)	18% (52/311)
4 Conversion of index BCS to mastectomy	15% (1349/8887)	17% (587/3360)	14% (677/5216)	27% (85/311)
5 SLNB on T1 tumours with index BCS	84% (5172/6145)	83% (1866/2223)	85% (3170/3717)	67% (136/205)
<b>Timeliness Indicators</b>				
6 Time from pathological diagnosis to first surgery ≤ 45 days (excluding women who received neoadjuvant therapy)	88% (12027/13611)	81% (4543/5632)	94% (6978/7408)	91% (506/571)
7 Time from first surgery to definitive surgery ≤ 21 days	68% (1763/2590)	53% (595/1119)	80% (1112/1359)	53% (56/112)

## CONCLUSION

State-wide audit and comparison of surgical practice across Queensland facilities provide surgeons, clinical teams and management with the opportunity to review clinical practice and processes, highlighting variation in surgical practice and identifying areas for improvement. It must be acknowledged that factors such as patient's preference and surgeon's recommendation cannot be accounted for in this analysis, neither are these factors routinely recorded in electronic data sources.

## RESULTS

Breast cancer surgery was performed in over 70 public and private hospitals in Queensland with a range of between 1 and 345 definitive procedures annually.

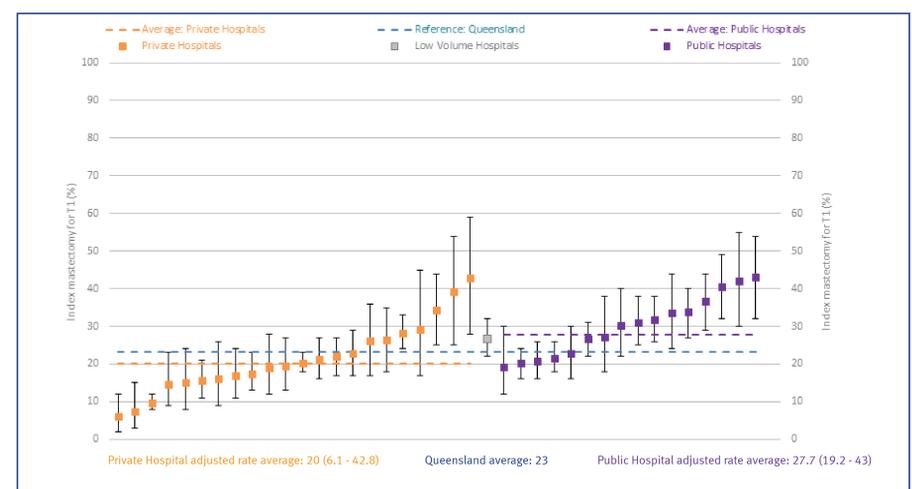
46% of hospitals were performing a yearly average of ≤ 15 breast cancer surgeries and grouped as low volume.

Compared with the Queensland average there was significant variation in adjusted rates over the breast cancer surgery indicators, when analysed by individual hospital and by public and private hospitals.

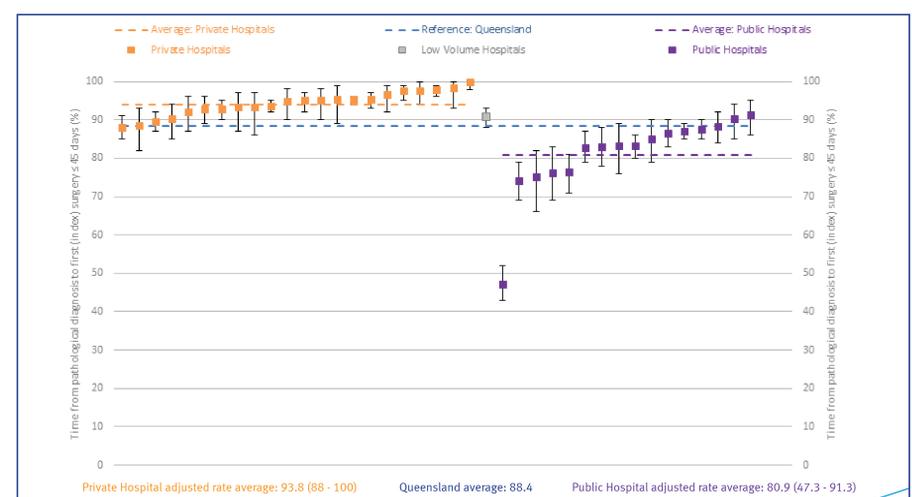
Key findings:

- The initial mastectomy rate for T1 tumours was 23% (individual public and private hospitals rates ranged from 6% - 43%) (Graph 1).
- The re-excision rate after breast conserving surgery (BCS) was 20% (public hospitals average 23% and private hospitals 19%).
- The sentinel lymph node biopsy rate for T1 tumours with initial BCS was 84%, with the majority of hospitals exceeding the Queensland average.
- The proportion of women receiving surgery within 45 days from histological diagnosis was higher in private hospitals (94%) compared with public hospitals (81%) (Graph 2).

Graph 1: Indicator 2: Index mastectomy for T1 Tumours  
FEMALE INVASIVE BREAST CANCER; YEAR OF DIAGNOSIS 2009 – 2013



Graph 2: Indicator 6: Time from pathological diagnosis to first surgery ≤ 45 days (excluding women who received neoadjuvant therapy)  
FEMALE INVASIVE BREAST CANCER; YEAR OF DIAGNOSIS 2009 – 2013



Contact details:

Visit: <https://qccat.health.qld.gov.au>

Contact: [qccat@health.qld.gov.au](mailto:qccat@health.qld.gov.au)