

Breast Cancer Surgical Management in Queensland Public and Private Hospitals

Surgical practice indicators for quality cancer care

2004 - 2013



Queensland Cancer Control Analysis Team

Acknowledgements

The Queensland Breast Cancer Sub-committee was established in 2011 as a Sub-Committee of The Queensland Cancer Control Safety and Quality Partnership (The Partnership) to consider and improve outcomes for women who have been treated with breast cancer across Queensland - an approach which has never before been adopted for breast cancer in Queensland.

The authors acknowledge and appreciate the work of the Breast Cancer Sub-committee members (listed below) and the Queensland Cancer Control Analysis Team (QCCAT) who contribute to and participate in the activities of The Partnership.

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Breast Cancer Surgical Management in Queensland Public and Private Hospitals, 2004-2013.

Suggested citation:

Queensland Government. Breast Cancer Surgical Management in Queensland Public and Private Hospitals. Queensland Health, Brisbane, 2017

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ISBN: 978-1-921021-63-3

Published by Queensland Health

March 2017

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Queensland Health 2017

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Foreword

As the Chair of the Breast Cancer Sub-committee of the Queensland Cancer Control Safety and Quality Partnership (The Partnership), I am privileged to introduce the **Breast Cancer Surgical Management in Queensland Public and Private Hospitals** report for the decade 2004-2013. This report is a comprehensive review of the surgical treatment of invasive breast cancer in Queensland hospitals using seven practice indicators:

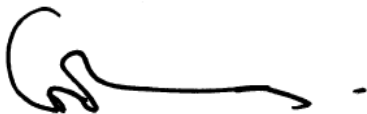
1. Definitive (final) mastectomy rate for invasive breast cancer
2. Index (initial) mastectomy for T1 tumours
3. Re-excision of lesion after index breast conservation surgery (BCS)
4. Conversion of index BCS to mastectomy
5. Sentinel lymph node biopsy on T1 tumours treated with index BCS
6. Time from pathological diagnosis to first surgery ≤ 45 days
7. Time from first surgery to definitive surgery ≤ 21 days

These indicators have been developed through consultation with breast surgeons and other clinical experts in breast cancer treatment and aim to inform surgeons and hospital administrators of the variations in practice and process that exists among individual hospitals in Queensland. To provide more contemporary data the indicators have been applied for the years 2009-2013.

Although no benchmarks have been suggested for these indicators, the variation in practice among Queensland hospitals may raise questions about the extent to which surgical practice, in some hospitals, reflects established clinical guidelines.

The Breast Cancer Sub-committee will continue to monitor patterns of breast cancer surgery in Queensland, and we are working towards expanding the indicator set to include adjuvant treatment such as radiotherapy and systemic therapy, with a clear focus on ensuring the best possible outcomes for our breast cancer patients Queensland.

On behalf of the Breast Sub-committee I wish to acknowledge the contribution of the members of the Queensland Cancer Control Analysis Team (QCCAT) in providing the information, analysis and statistics presented in this report and to recognise the commitment of the many clinicians who have been involved in the discussion and development of these breast surgical practice indicators.



Colin Furnival

Chair, Breast Cancer Sub-committee

Queensland Cancer Control Safety and Quality Partnership

Why develop breast cancer surgical practice indicators for Queensland?

In 2021, an estimated 4,080 Queensland women will be diagnosed with invasive breast cancer. Breast cancer accounts for 28% of all reported cancers in females. However almost 80% of women who develop invasive breast cancer will survive their disease die of other causes. Survival for women with breast cancer has improved from 89% for years 2004-2008 to 91% in 2009-2013.

Surgery is a critical component of treatment for breast cancer. 91% of Queensland women who develop invasive breast cancer have a surgical procedure as part of their initial treatment. The two types of surgery carried out for breast cancer are breast conserving surgery (BCS) (55%) and mastectomy (45%).

The retrospective data used for these surgical practice indicators is useful for benchmarking, and for the first time provide baseline breast cancer surgical rates for Queensland. The Sub-committee acknowledges that factors such as patient's preference and surgeon's recommendation cannot be accounted for in the analysis, neither are these factors routinely recorded in electronic data sources.

It is intended that the breast cancer surgical practice indicators will provide useful information to assist Queensland hospitals and clinicians to promote areas where they are doing well and identify areas which may benefit from improvement. The information in this report should be discussed with surgical teams in the context of the services that their hospital delivers.

The Partnership

Developing the breast cancer surgical practice indicators is an initiative of The Breast Cancer Sub-committee, a Sub-committee of The Queensland Cancer Control Safety and Quality Partnership (The Partnership), a gazetted quality assurance committee under Part 6, Division 1 of the Hospital and Health Boards Act 2011 in 2004. A key role of The Partnership is to provide cancer clinicians, administrators, Hospital and Health Services (HHS) and Queensland public and private hospitals with cancer information and tools to deliver the best patient care. The members of the Breast Cancer Sub-committee are Colin Furnival (Chair), Michelle Cronk, Ben Green, Tony Green, Hazel Harden, Margot Lehman, Sunil Lakhani, Marion Strong and the Queensland Cancer Control Analysis Team (QCCAT) who have worked together to develop a suite of quality indicators for breast cancer surgery and to prepare this report.

Where has the data come from?

Since 2004, QCCAT has compiled and analysed a vast amount of information about cancer incidence, mortality, survival and surgery in Qld.

The key to QCCAT's program of work is the ability to match and link population-based cancer information on an individual patient basis. This matched and linked data is housed in the Queensland Oncology Repository (QOR), a resource managed by QCCAT. This centralised repository compiles and collates data from a range of source systems including the Queensland Cancer Registry, hospital admissions data, death registry data, treatment systems, public and private pathology records, hospital

clinical data systems and Queensland Oncology On-Line (QOOL™). QOR contains approximately 40 million records between the years 1982 and 2013. Our matching and linking processes provide the 350,000+ matched and linked records of cancer patients between 2004 and 2013 which provide the data for this *Breast Cancer Surgical Management in Queensland Public and Private Hospitals* report.

Quality measures used

Measures for breast cancer surgery management have been drawn from published literature and the expert advice of the Breast Cancer Sub-committee. The report focuses on **five** surgical practice indicators and **two** indicators reporting on the timeliness of breast cancer surgery performed in Queensland public and private hospitals. The breast cancer indicators in this report have been adjusted to remove the effect of differences in composition of the various populations.

The indicators have been adjusted by age, tumour size, year of surgery, comorbidities, rurality/remoteness and overall stage. The displayed confidence intervals are intended to show the level of precision of the adjusted rate estimate.

How comparisons are made between patient, geographical and hospital groups

Each patient is unique and factors such as age, case-mix and hospital capability vary between different hospitals and geographical regions. In order to compare hospitals as fairly as possible this report utilises the Australian hospital peer groups classification developed by The Australian Institute of Health and Welfare (AIHW). AIHW groups public and private hospitals that share similar characteristics, providing a basis for meaningful comparisons. There are thirty peer groups, ten of which are relevant to this report. Geographical areas are reported using the Australian Standard Geographical Classification (ASGC). Peer group definitions and groupings used in this report are defined in Appendix 1.

Hospitals performing a yearly average of < 15 breast cancer surgeries between 2009 and 2013 were grouped as **low volume** for this report. Hospitals grouped as low volume in this report are listed in Appendix 2.

Privacy and confidentiality

Reports generated on behalf of The Partnership contain aggregate and de-identified data and maintain the confidentiality of the person receiving the health service and the individual provider.

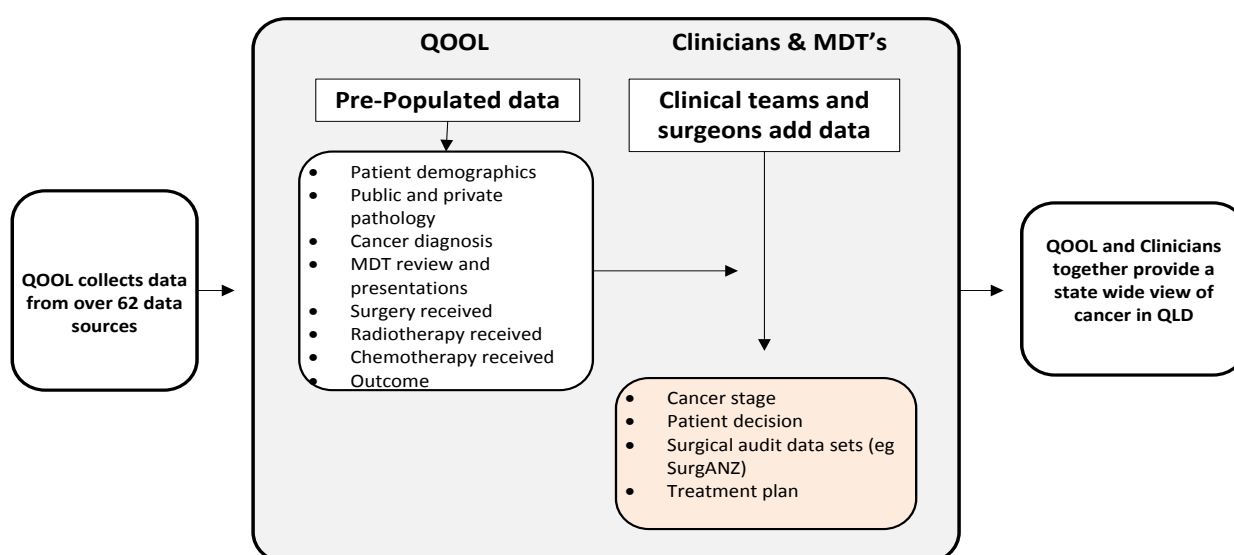
Leading the way – using the surgical indicators in clinical practice

When designing these surgical practice indicators the intention was to identify meaningful indicators that can be applied at a state wide level, an individual hospital level and by individual surgeons who are interested in measuring their own performance.

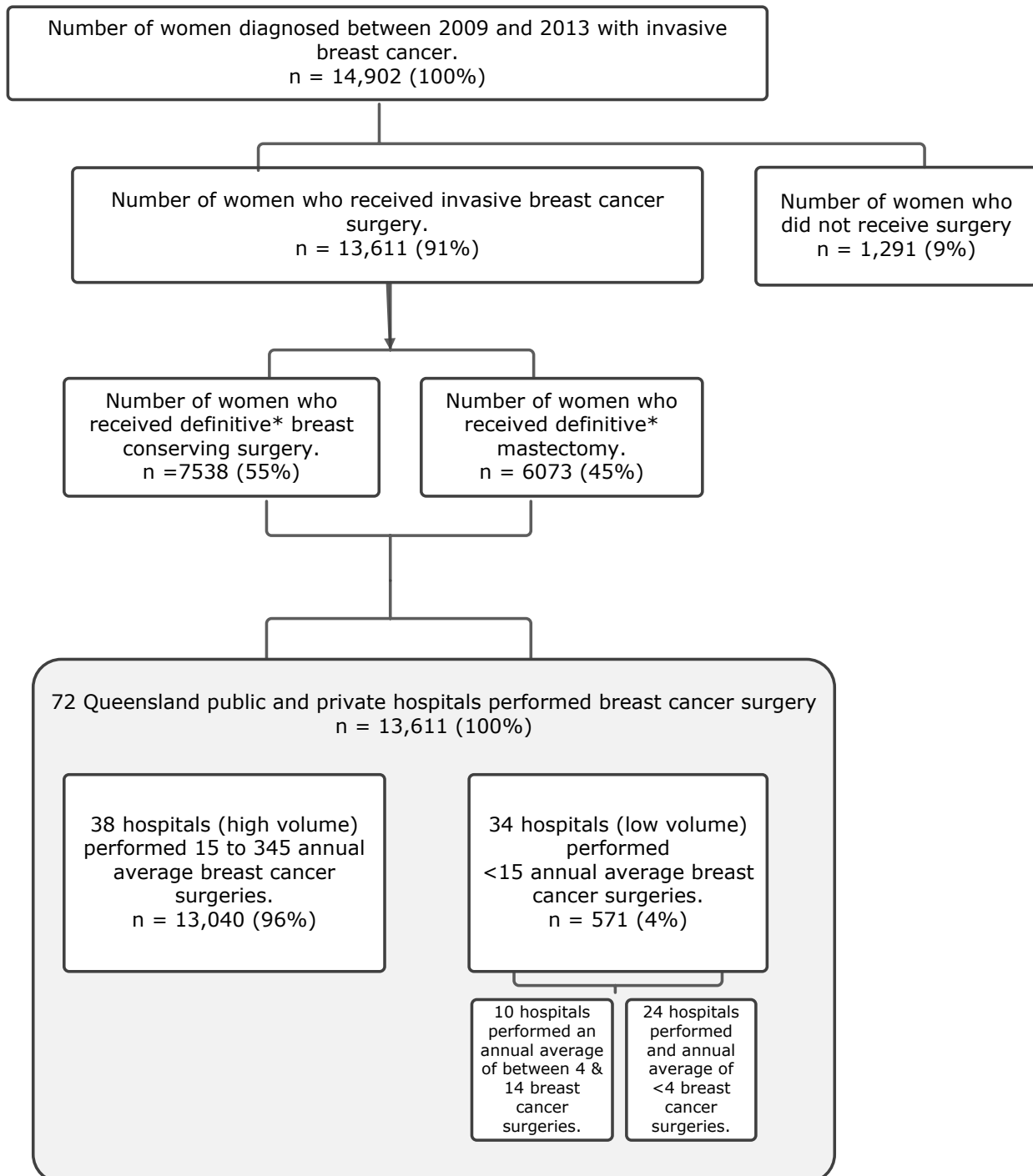
To calculate and use these indicators to measure performance the relevant data must be collected. A useful data collection tool has been developed called Queensland Oncology On-Line (QOOL™). QOOL™ is a web-based multisite system that captures and communicates important clinical information about Queensland cancer patients. QOOL™ is currently being used by most breast cancer Multi-Disciplinary Teams (MDT's) in public hospitals and some surgeons in private practice. QOOL™ has the ability to collect quality data and to extract the information for feedback to surgeons, MDT's or hospitals for approved research and clinical audits. Below is an example of how the surgical indicators are being used in clinical practice.

Dr Chris Pyke is a breast cancer surgeon practising in the Mater Hospital in Brisbane. He is also a member of the BreastSurgANZ Society, an association of breast cancer surgeons in Australia and New Zealand. Individual members' surgical performance and outcomes are continuously monitored through assessment via the BreastSurgANZ Quality Audit. Dr Pyke is taking advantage of the data captured in QOOL™ by appending additional information to breast cancer patient records and extracting his local data required for the Quality Audit. The state wide cancer data pre-populated in QOOL™ allows breast surgeons to produce quality practice indicators for their practice and surgical units.

How is data collected in Queensland Oncology Online (QOOL™)?



What data has been used to formulate the indicators?



*Refer to appendix for definition of definitive surgery

What indicators are included?

Indicator N	Indicator	Definition of rates
Surgical Practice Indicators		
1	Definitive mastectomy rate	Definitive mastectomy ÷ Number of patients who had breast cancer surgery
2	Index mastectomy for T1 tumours	Index mastectomy for T1 tumours (≤ 20 mm tumour size) ÷ T1 tumours
3	Re-excision of lesion after index breast conservation surgery (BCS)	Re-excision of lesion after index BCS ÷ Index BCS
4	Conversion of index breast conservation surgery (BCS) to mastectomy	Definitive mastectomy - index mastectomy ÷ Index BCS
5	SLNB on T1 tumours with index breast conservation surgery (BCS)	SLNB on T1 (≤ 20 mm tumour size) tumours with index BCS ÷ Index BCS with T1 tumours
Timeliness Indicators		
6	Time from pathological diagnosis to first (index) surgery ≤ 45 days (excluding women who received neoadjuvant therapy)	Number of patients who had surgery 45 days or less from time of pathological diagnosis to index surgery ÷ Number of patients who had breast cancer surgery (excluding women who received neoadjuvant therapy)
7	Time from first (index) to definitive surgery ≤ 21 days	Number of patients who had surgery 21 days or less from BCS index surgery to definitive surgery ÷ Number patients who had a subsequent breast cancer surgery following BCS

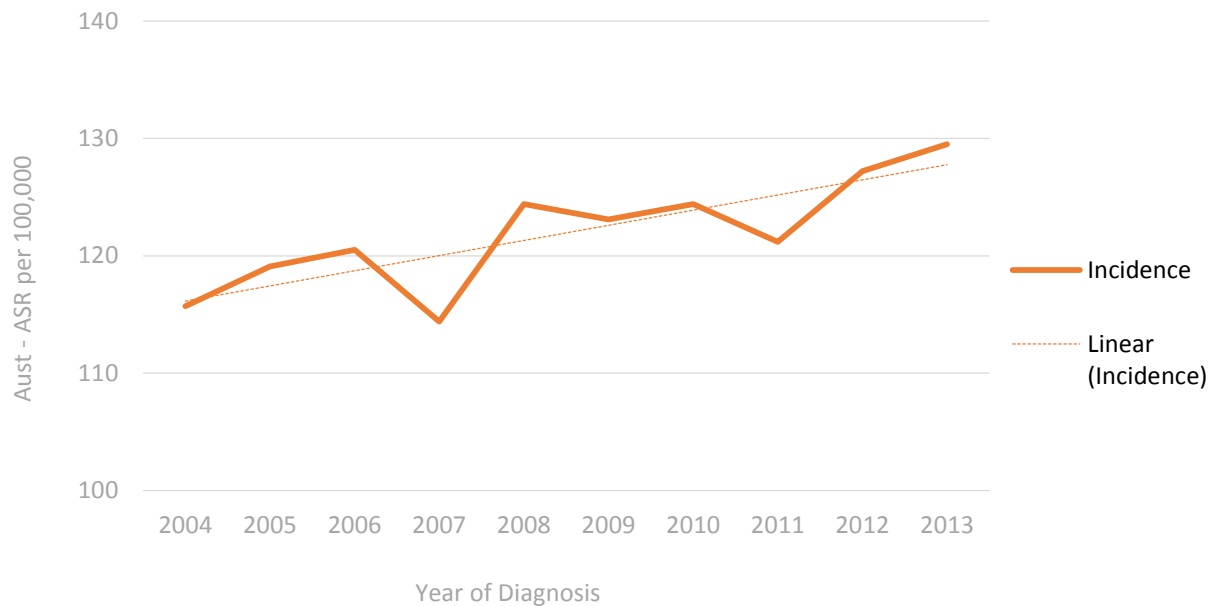
**Refer to appendix for definition of index and definitive surgery*

Key Findings

- Incidence of breast cancer in Queensland women continued to increase over the years 2004 to 2013. The age standardised rate of female breast cancer incidence in 2013 was 130 (per 100,000 females) compared to 115.7 (per 100,000 females) in 2004.
- During the decade analysed in this report survival for women with breast cancer has improved from 89% for years 2004-2008 to 91% in 2009-2013. Improvements in survival are likely to be due to more effective anti-cancer treatments together with the participation in population based breast screening.
- The definitive BCS rate for Queensland women has decreased from 60% in 2004 to 55% in 2013.
- Breast cancer surgery was carried out in over 70 Queensland public and private hospitals who performed between 1 and 345 definitive surgeries annually from 2009 to 2013.
- Across Queensland 34 public and private hospitals performed an annual average of < 15 definitive breast cancer surgeries. These have been grouped as low volume hospitals.
- There is significant variation in adjusted rates from the Queensland average for the 7 breast cancer surgical practice indicators.
- Variation is most notable for index mastectomy for T1 tumours (6%-43%) across all hospitals performing breast cancer surgery in Queensland.
- The Queensland average sentinel lymph node biopsy rate for the surgical management of early-stage (T1) breast cancer across all hospitals is 84%.
- Time to receiving surgery within 45 days from histological diagnosis is substantially different between public (81%) and private (94%) hospitals.

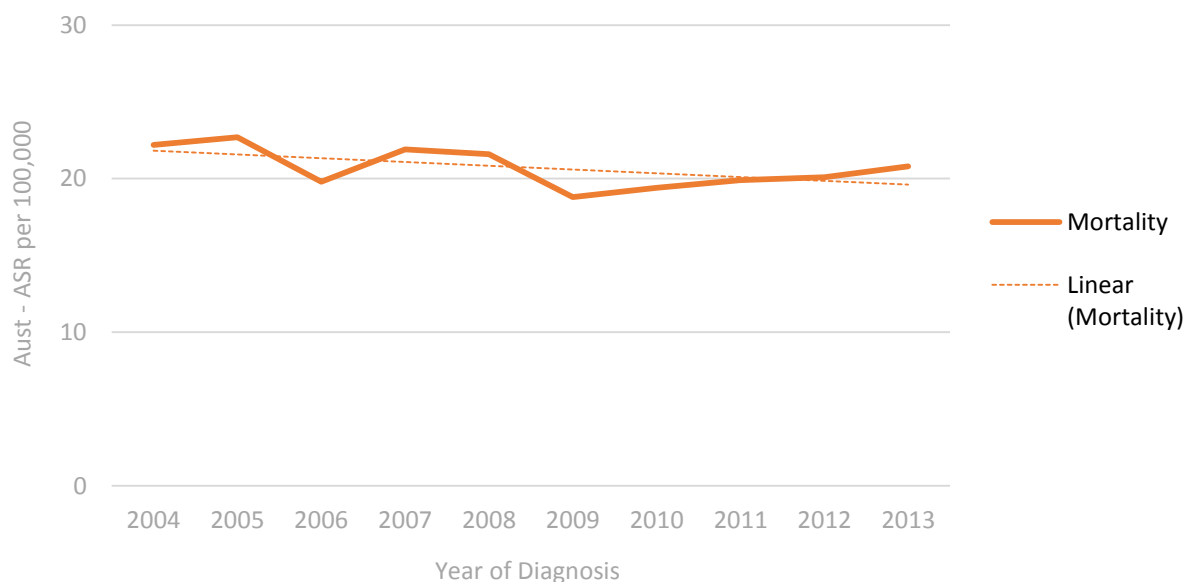
1.0 Incidence and Mortality

Figure 1.0a: Queensland female invasive breast cancer incidence ASR trends 2004 - 2013



ASR –Age standardised rate - Australian population in 2001
 Source: Oncology Analysis System (OASys), Queensland Cancer Control Analysis Team

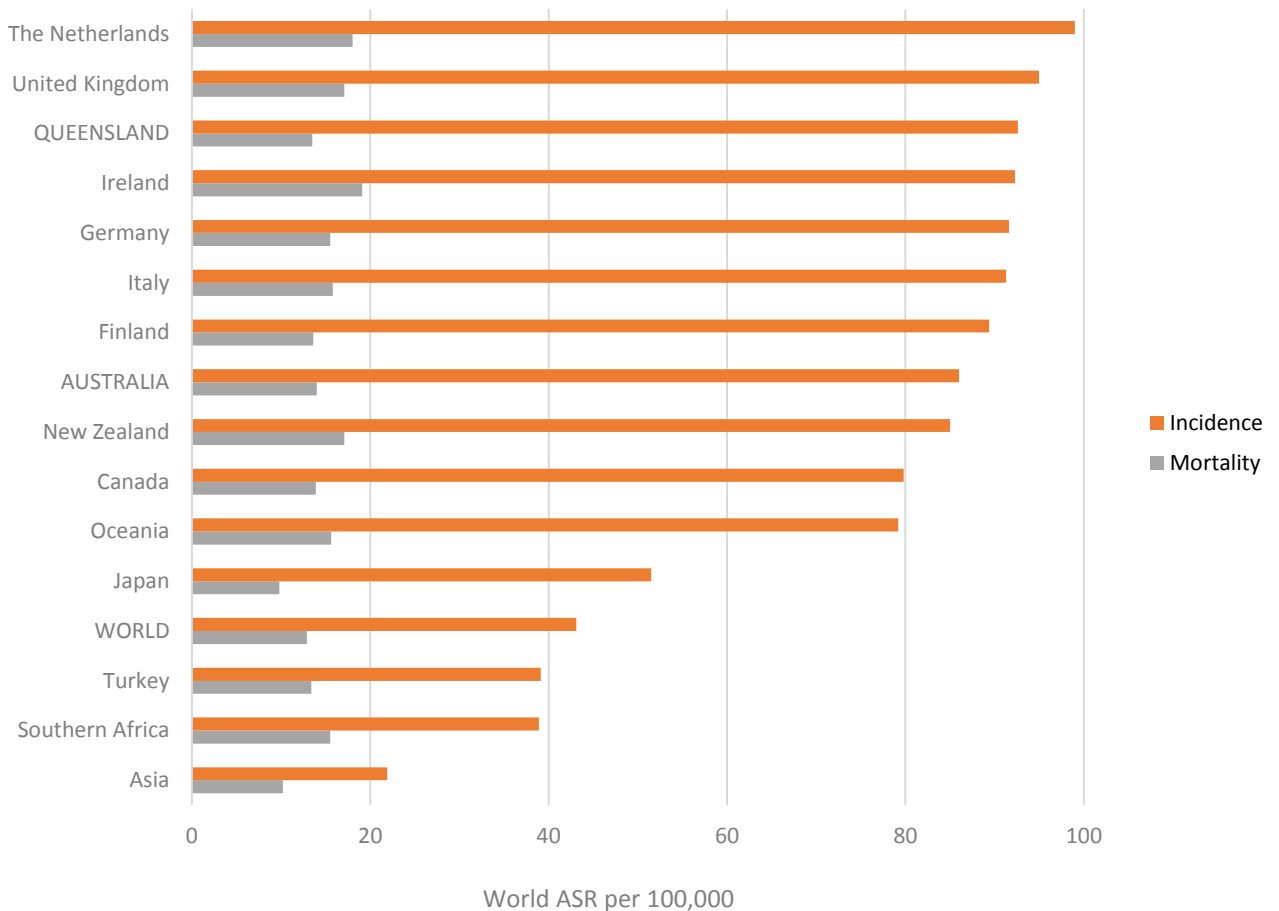
Figure 1.0b: Queensland female invasive breast cancer mortality ASR trends 2004 - 2013



ASR –Age standardised rate - Australian population in 2001
 Source: Oncology Analysis System (OASys), Queensland Cancer Control Analysis Team

1.1 Breast cancer national and international comparisons

Figure 1.1a: Incidence and Mortality World ASR, Year of diagnosis 2012

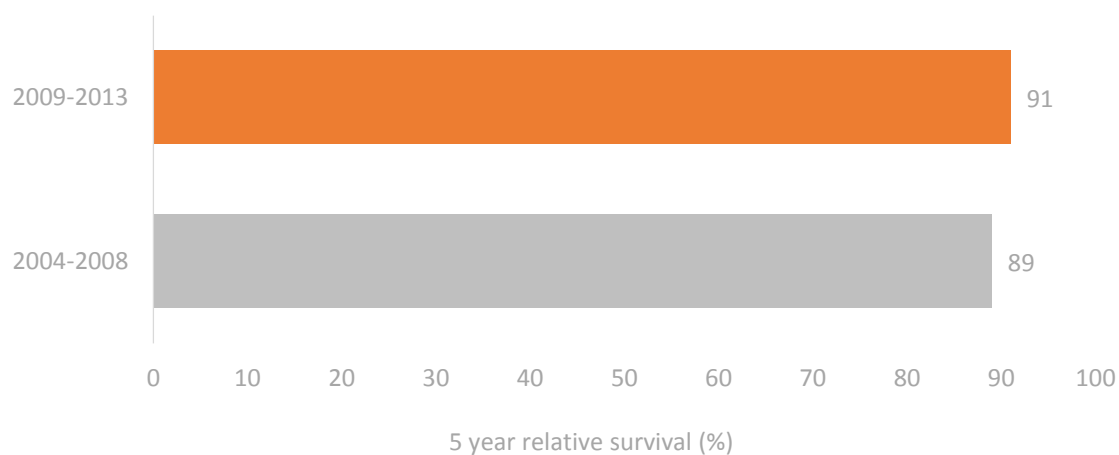


World –Age standardised rate – World population

Source: Cancer rates estimated by the International Agency for Research on Cancer (IARC) for 2012 (GLOBOCAN 2012) except for Queensland which is sourced from Oncology Analysis System (OASys), Queensland Cancer Control Analysis Team.

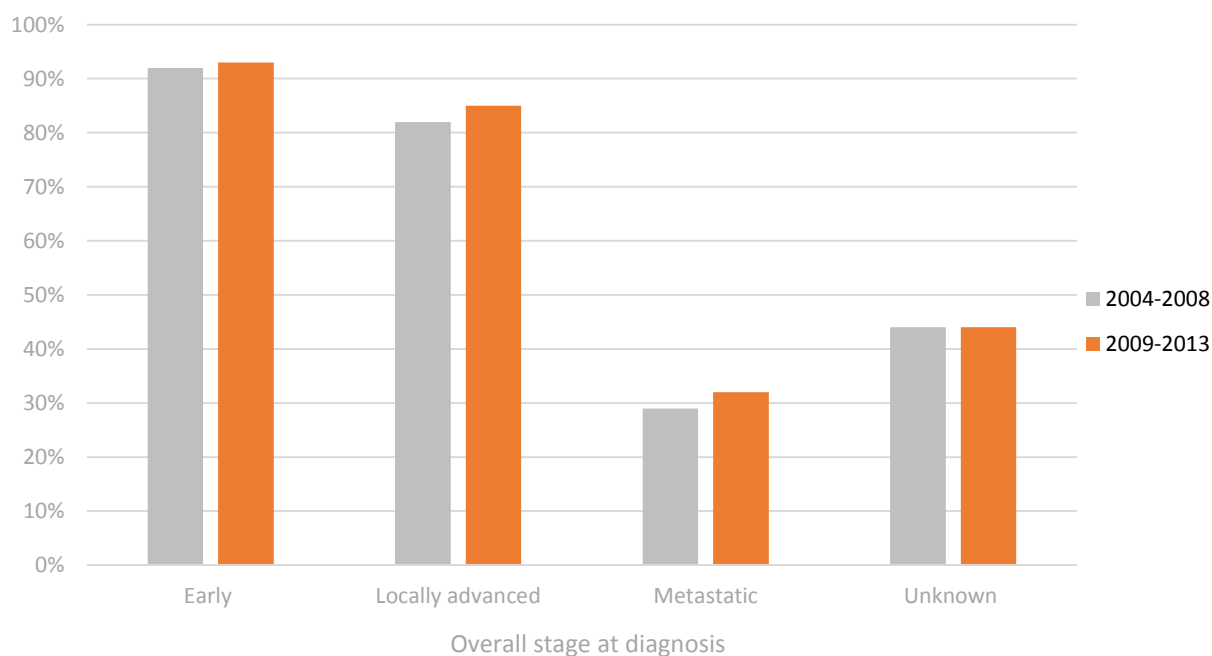
1.2 Survival

Figure 1.2: Queensland female invasive breast cancer five year relative survival for 5 year periods 2004 – 2008 & 2009 – 2013



1.3 Survival by stage at diagnosis

Figure 1.3: Queensland female invasive breast cancer five year relative survival for 5 year periods 2004 – 2008 & 2009 – 2013 for stage at diagnosis

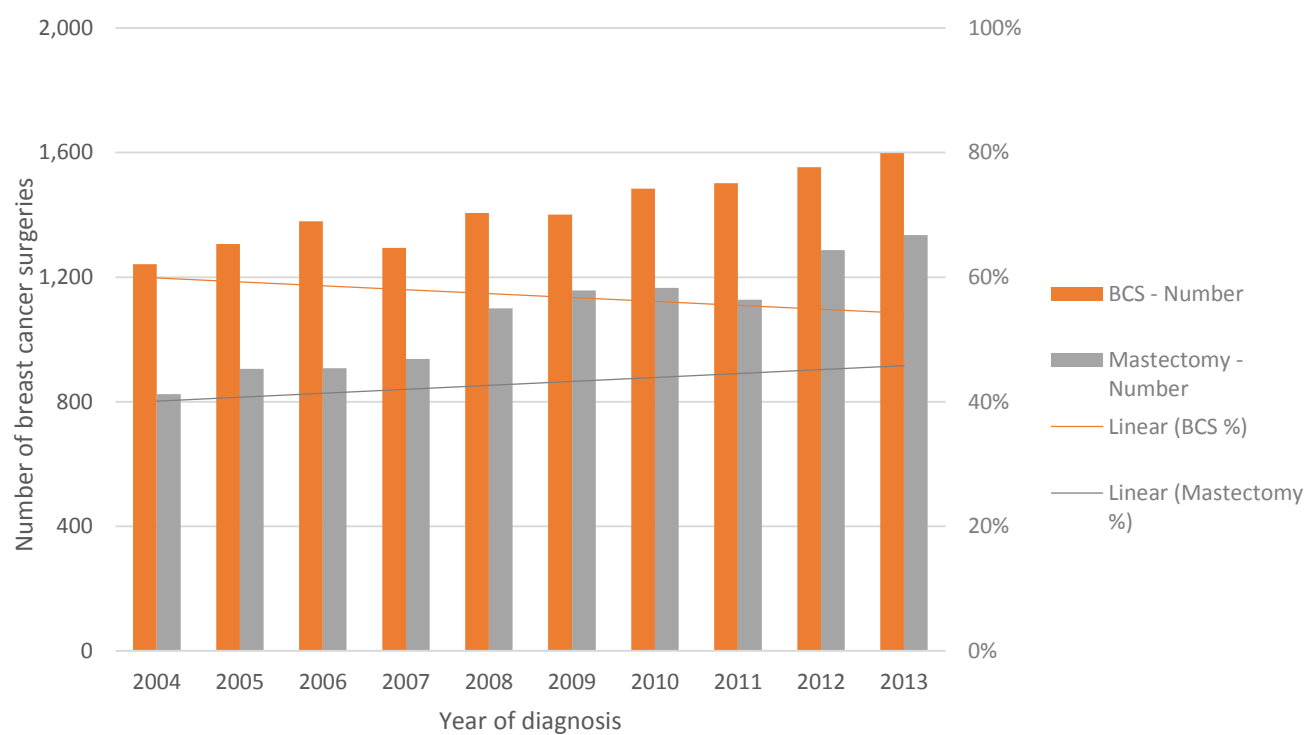


Survival for women diagnosed with invasive breast cancer has improved.



2.0 Definitive surgery

Figure 2: Queensland female breast cancer definitive surgery change over time for BCS and Mastectomy 2004 – 2013



The definitive breast conserving surgery rate for Queensland women has decreased.

2.1 Definitive surgery patient characteristics

What are the characteristics of female breast cancer patients?

Female invasive breast cancer; year of diagnosis 2004 – 2013

	Breast cancer		Had BCS		Had mastectomy		No surgery	
	AA	%	AA	%	AA	%	AA	%
Queensland Annual Average (AA)	2,726	(100%)	1,417	(52%)	1,075	(39%)	234	(9%)
Age group								
0-29	13	(0%)	5	(35%)	8	(59%)	1	(8%)
30-39	135	(5%)	59	(44%)	69	(51%)	7	(5%)
40-49	508	(19%)	263	(52%)	221	(43%)	24	(5%)
50-59	699	(26%)	411	(59%)	252	(36%)	36	(5%)
60-69	701	(26%)	410	(59%)	252	(36%)	38	(5%)
70-79	406	(15%)	197	(49%)	171	(42%)	37	(9%)
80+	264	(10%)	71	(27%)	102	(39%)	91	(34%)
T Stage (TNM 7th edition)								
T1mic	20	(1%)	10	(52%)	9	(46%)		
T1a	143	(5%)	90	(63%)	50	(35%)		
T1b	449	(16%)	336	(75%)	109	(24%)		
T1c	924	(34%)	613	(66%)	301	(33%)		
T2	782	(29%)	328	(42%)	443	(57%)		
T3	149	(5%)	15	(10%)	131	(88%)		
Unknown ¹	259	(10%)	24	(9%)	32	(13%)	234	(90%)
Overall stage at diagnosis								
Early	1,636	(60%)	1,072	(66%)	544	(33%)	20	(1%)
Locally advanced	836	(31%)	321	(38%)	499	(60%)	15	(2%)
Metastatic	99	(4%)	13	(13%)	25	(25%)	61	(61%)
Unknown ¹	155	(6%)	10	(7%)	7	(5%)	138	(89%)
Indigenous status								
Indigenous	34	(1%)	14	(40%)	17	(51%)	3	(9%)
Non-Indigenous	2,487	(91%)	1,291	(52%)	1,008	(41%)	188	(8%)
Not Stated/Unknown	205	(8%)	112	(55%)	50	(24%)	43	(21%)
Socioeconomic status								
Affluent	443	(16%)	261	(59%)	152	(34%)	30	(7%)
Middle	1,735	(64%)	907	(52%)	673	(39%)	156	(9%)
Disadvantaged	547	(20%)	249	(45%)	250	(46%)	49	(9%)
Remoteness								
Major City	1,716	(63%)	963	(56%)	610	(36%)	144	(8%)
Inner Regional	591	(22%)	266	(45%)	278	(47%)	48	(8%)
Outer Regional	370	(14%)	168	(45%)	164	(44%)	38	(10%)
Remote & Very Remote	49	(2%)	20	(40%)	24	(48%)	6	(12%)

Notes

1. Annual average numbers have been rounded up to the nearest whole number for those with less than one, therefore the totals may not add up.

2.¹ Unknown tumour size and unknown stage at diagnosis is due to missing pathology reports that were unable to be followed up.

2.2 Residence summary

What are the characteristics of female breast cancer patients, by place of residence?

Female invasive breast cancer; year of diagnosis 2004 – 2013

	Queensland	Major City	Inner Regional	Outer Regional	Remote & Very Remote
Annual average number breast cancer	2,726 100%	1,716 63%	591 22%	370 13%	49 2%
Median age at diagnosis	60yrs	59yrs	61yrs	59yrs	57yrs
% Indigenous	1%	1%	1%	3%	12%
% Socioeconomically disadvantaged	20%	10%	39%	32%	35%
% With ≥ 1 comorbidity	11%	11%	13%	10%	16%
Median breast tumour size (mm)	17mm	17mm	18mm	18mm	17mm
% Multifocal	7%	7%	5%	5%	7%
% T1	56%	57%	56%	55%	52%
% Definitive mastectomy	43%	39%	51%	49%	55%
% 2 or more breast cancer surgeries within 1yr	23%	24%	21%	20%	26%
Median days from diagnosis to first surgery	16	15	17	21	15
5 year crude survival from diagnosis	85%	85%	85%	84%	82%

Notes

1. The relative remoteness of residence at time of diagnosis, based on the Australian Standard Geographical Classification (ASGC). This classification is used by the Australian Bureau of Statistics (ABS) for the collection and dissemination of geographically classified statistics.
2. Annual average numbers have been rounded up to the nearest whole number for those with less than one, therefore the totals may not add up.



3.0 Hospital summary

What are the characteristics of female breast cancer patients who received definitive surgery, by hospital type?

Female invasive breast cancer; year of diagnosis 2004 – 2013

	Queensland	AIHW hospital peer grouping				Hospital type		
		Principal referral hospitals	Group A hospitals	Group B hospitals	Other hospitals	Public hospitals	Private hospitals	Low volume hospitals
Definitive BCS	55%	53%	57%	51%	56%	49%	61%	39%
Median age at diagnosis	60yrs	59yrs	59yrs	61yrs	60yrs	59yrs	60yrs	60yrs
% Indigenous	1%	3%	1%	1%	0%	2%	0%	1%
% Socioeconomic disadvantaged	17%	18%	16%	25%	15%	23%	13%	28%
% Live outer regional & remote	14%	14%	9%	32%	21%	15%	13%	25%
Median breast tumour size	15mm	15mm	15mm	14mm	14mm	15mm	14mm	15mm
% T1	73%	70%	73%	79%	75%	71%	75%	71%
% Had SLNB	81%	85%	79%	84%	80%	80%	82%	64%
% Axillary nodes positive	22%	26%	24%	18%	22%	23%	23%	20%
Mean length of stay (days)	1	1	1	2	1	1	2	1
5-yr crude survival	94%	93%	93%	96%	95%	94%	94%	93%
Definitive Mastectomy	45%	47%	43%	49%	44%	51%	39%	61%
Median age at diagnosis	59yrs	58yrs	59yrs	62yrs	61yrs	59yrs	59yrs	64yrs
% Indigenous	2%	3%	1%	2%	0%	3%	0%	1%
% Socioeconomic disadvantaged	22%	19%	22%	26%	23%	28%	14%	42%
% Live outer regional & remote	16%	20%	13%	25%	18%	19%	14%	13%
Median breast tumour size	24mm	25mm	24mm	22mm	22mm	25mm	23mm	22mm
% T1	42%	37%	42%	45%	45%	41%	44%	42%
% Had SLNB	53%	59%	51%	52%	53%	48%	59%	43%
% Axillary nodes positive	48%	50%	37%	44%	46%	48%	50%	49%
Mean length of stay (days)	2	3	3	4	3	3	4	4
5-yr crude survival	85%	84%	84%	89%	86%	84%	86%	82%

Notes

1. AIHW hospital peer group definitions see Appendix 1.
2. Summary of low volume hospitals see Appendix 2.



4.0 Indicator summary

Surgical practice indicators by AIHW hospital peer groups

Female invasive breast cancer; year of diagnosis 2009 – 2013

		Queensland	Principal referral hospitals	Group A hospitals	Group B hospitals	Other hospitals	Low volume hospitals
N	Indicators	Adjusted rate (n/N)	Adjusted rate (n/N)	Adjusted rate (n/N)	Adjusted rate (n/N)	Adjusted rate (n/N)	Adjusted rate (n/N)
Surgical Practice							
1	Definitive mastectomy rate	45% (6,073/13,611)	47% (988/2,096)	43% (3,282/7,622)	48% (800/1,625)	44% (1,003/2,268)	55% (345/571)
2	Index mastectomy for T1 tumours	23% (1,847/7,992)	26% (258/1,128)	22% (990/4,489)	26% (283/992)	21% (316/1,383)	27% (94/299)
3	Re-excision of lesion after index BCS	20% (1,792/8,887)	20% (278/1,328)	21% (1,065/5,097)	21% (188/965)	18% (261/1,497)	18% (52/311)
4	Conversion of index BCS to mastectomy	15% (1,349/8,887)	16% (220/1,328)	15% (757/5,097)	15% (140/965)	16% (232/1,497)	27% (85/311)
5	SLNB on T1 tumours with index BCS	84% (5,172/6,145)	89% (775/870)	82% (2,878/3,499)	87% (621/709)	85% (898/1,067)	67% (136/205)
Timeliness							
6	Time from pathological diagnosis to first surgery ≤ 45 days (excluding women who received neoadjuvant therapy)	88% (12,027/13,611)	84% (1,776/2,096)	87% (6,643/7,622)	92% (1,465/1,625)	95% (2,143/2,268)	91% (506/571)
7	Time from first surgery to definitive surgery ≤ 21 days	68% (1,763/2,590)	56% (245/418)	69% (1,030/1,490)	73% (179/266)	76% (309/416)	53% (56/112)

Notes

1. Adjusted rate by age, tumour size, year of surgery, comorbidities, rurality and overall stage.
2. AIHW hospital peer group definitions see Appendix 1.
3. Summary of low volume hospitals see Appendix 2.

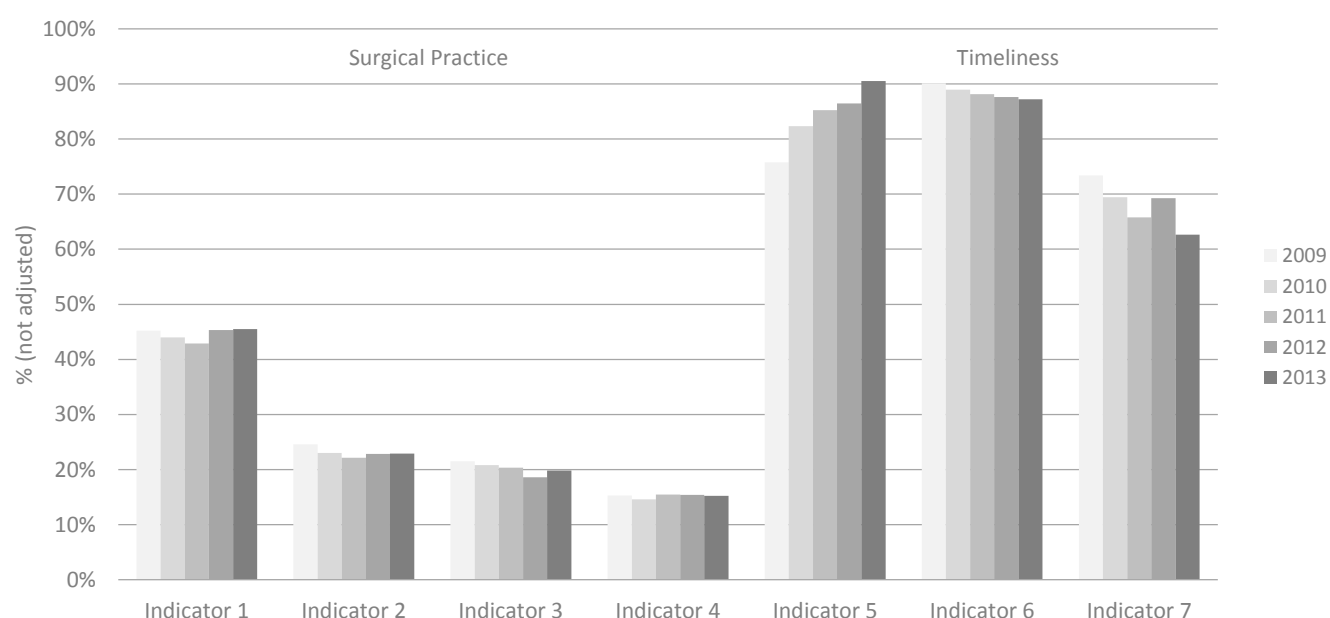
4.1 Indicator summary over time

Surgical practice indicator trends over 5 years

Female invasive breast cancer; year of diagnosis 2009 – 2013

		2009	2010	2011	2012	2013
Number of breast cancer surgeries performed		2,558	2,650	2,630	2,840	2,933
N	Indicator	Crude % Crude(n/N)	Crude % Crude(n/N)	Crude % Crude(n/N)	Crude % Crude(n/N)	Crude % Crude(n/N)
Surgical Practice						
1	Definitive mastectomy rate	45% (1,157/2,558)	44% (1,166/2,650)	43% (1,128/2,630)	45% (1,287/2,840)	46% (1,335/2,933)
2	Index mastectomy for T1 tumours	25% (391/1,591)	23% (364/1,580)	22% (343/1,548)	23% (366/1,602)	23% (383/1,671)
3	Re-excision of lesion after index BCS	22% (356/1,654)	21% (361/1,737)	20% (361/1,776)	19% (341/1,835)	20% (373/1,885)
4	Conversion of index BCS to mastectomy	15% (253/1,654)	15% (253/1,737)	15% (274/1,776)	15% (282/1,835)	15% (287/1,885)
5	SLNB on T1 tumours with index BCS	76% (909/1,200)	82% (1,001/1,216)	85% (1,027/1,205)	86% (1,069/1,236)	91% (1,166/1,288)
Timeliness						
6	Time from pathological diagnosis to first surgery ≤ 45 days(excluding women who received neoadjuvant therapy)	90% (2,305/2,558)	89% (2,357/2,650)	88% (2,318/2,630)	88% (2,489/2,840)	87% (2,558/2,933)
7	Time from first surgery to definitive surgery ≤ 21 days	73% (370/504)	69% (364/524)	66% (342/520)	69% (358/517)	63% (329/525)

Figure 3: Surgical practice indicator trends over 5 years 2009 – 2013



4.2 Indicator patient characteristics

What are the characteristics of female breast cancer patient for each surgical practice indicator?

Female invasive breast cancer; year of diagnosis 2009 – 2013

	Surgical Practice										Timeliness			
	Indicator 1		Indicator 2		Indicator 3		Indicator 4		Indicator 5		Indicator 6		Indicator 7	
	n	% Col	n	% Col	n	% Col	n	% Col	n	% Col	n	% Col	n	% Col
Indicator total	6073	(100%)	1847	(100%)	1792	(100%)	1349	(100%)	5172	(100%)	12027	(100%)	1763	(100%)
Age														
0-29	48	(1%)	7	(0%)	5	(0%)	19	(1%)	22	(0%)	64	(1%)	6	(0%)
30-39	401	(7%)	87	(5%)	98	(5%)	111	(8%)	154	(3%)	577	(5%)	97	(6%)
40-49	1229	(20%)	318	(17%)	369	(21%)	342	(25%)	898	(17%)	2251	(19%)	373	(21%)
50-59	1371	(23%)	391	(21%)	520	(29%)	356	(26%)	1501	(29%)	3071	(26%)	492	(28%)
60-69	1462	(24%)	538	(29%)	574	(32%)	316	(23%)	1695	(33%)	3444	(29%)	541	(31%)
70-79	984	(16%)	351	(19%)	186	(10%)	171	(13%)	771	(15%)	1836	(15%)	213	(12%)
80+	578	(10%)	155	(8%)	40	(2%)	34	(3%)	131	(3%)	784	(7%)	41	(2%)
Residence														
Major City	3484	(57%)	956	(52%)	1257	(70%)	865	(64%)	3505	(68%)	7692	(64%)	1275	(72%)
Inner Regional	1589	(26%)	550	(30%)	316	(18%)	300	(22%)	963	(19%)	2588	(22%)	272	(15%)
Outer Regional	872	(14%)	302	(16%)	197	(11%)	154	(11%)	632	(12%)	1548	(13%)	184	(10%)
Remote & Very Remote	128	(2%)	39	(2%)	22	(1%)	30	(2%)	72	(1%)	199	(2%)	32	(2%)
Socioeconomic status														
Affluent	881	(15%)	246	(13%)	357	(20%)	256	(19%)	983	(19%)	2133	(18%)	387	(22%)
Middle	3844	(63%)	1185	(64%)	1155	(64%)	820	(61%)	3336	(65%)	7624	(63%)	1116	(63%)
Disadvantaged	1348	(22%)	416	(23%)	280	(16%)	273	(20%)	853	(16%)	2270	(19%)	260	(15%)
Tumour size														
0-1mm (T1mic)	48	(1%)	–		24	(1%)	14	(1%)	–		84	(1%)	21	(1%)
2-5mm (T1a)	283	(5%)	169	(9%)	165	(9%)	114	(8%)	501	(10%)	686	(6%)	141	(8%)
6-10mm (T1b)	631	(10%)	420	(23%)	347	(19%)	211	(16%)	1712	(33%)	2207	(18%)	321	(18%)
11-20mm (T1c)	1598	(42%)	1258	(68%)	638	(36%)	340	(25%)	2959	(57%)	4345	(36%)	563	(32%)
21-50mm (T2)	2541	(42%)	–		550	(31%)	466	(35%)	–		3840	(32%)	583	(33%)
> 51 mm (T3)	775	(13%)	–		38	(2%)	164	(12%)	–		674	(6%)	109	(6%)
Unknown ¹	197	(3%)	–		30	(2%)	40	(3%)	–		191	(2%)	25	(1%)
Overall stage at diagnosis														
Early	3110	(51%)	1250	(68%)	1305	(73%)	789	(58%)	4358	(84%)	7990	(66%)	1151	(65%)
Locally advanced	2789	(46%)	578	(31%)	467	(26%)	539	(40%)	793	(15%)	3836	(32%)	591	(34%)
Metastatic	137	(2%)	16	(1%)	15	(1%)	15	(1%)	18	(0%)	136	(1%)	15	(1%)
Unknown ¹	37	(1%)	3	(0%)	5	(0%)	6	(0%)	3	(0%)	65	(1%)	6	(0%)
Comorbidity														
0	5456	(90%)	1671	(90%)	1672	(93%)	1258	(93%)	4857	(94%)	11079	(92%)	1655	(94%)
1	495	(8%)	144	(8%)	103	(6%)	78	(6%)	267	(5%)	790	(7%)	96	(5%)
2+	122	(2%)	32	(2%)	17	(1%)	13	(1%)	48	(1%)	158	(1%)	12	(1%)
Facility Type														
Public	2964	(49%)	890	(48%)	786	(44%)	618	(46%)	1900	(37%)	4670	(39%)	607	(34%)
Private	3109	(51%)	957	(52%)	1006	(56%)	731	(54%)	3272	(63%)	7357	(61%)	1156	(66%)

Notes

1.¹ Unknown tumour size and unknown stage at diagnosis is due to missing pathology reports that were unable to be followed up.

5.0 Surgical Practice Indicators

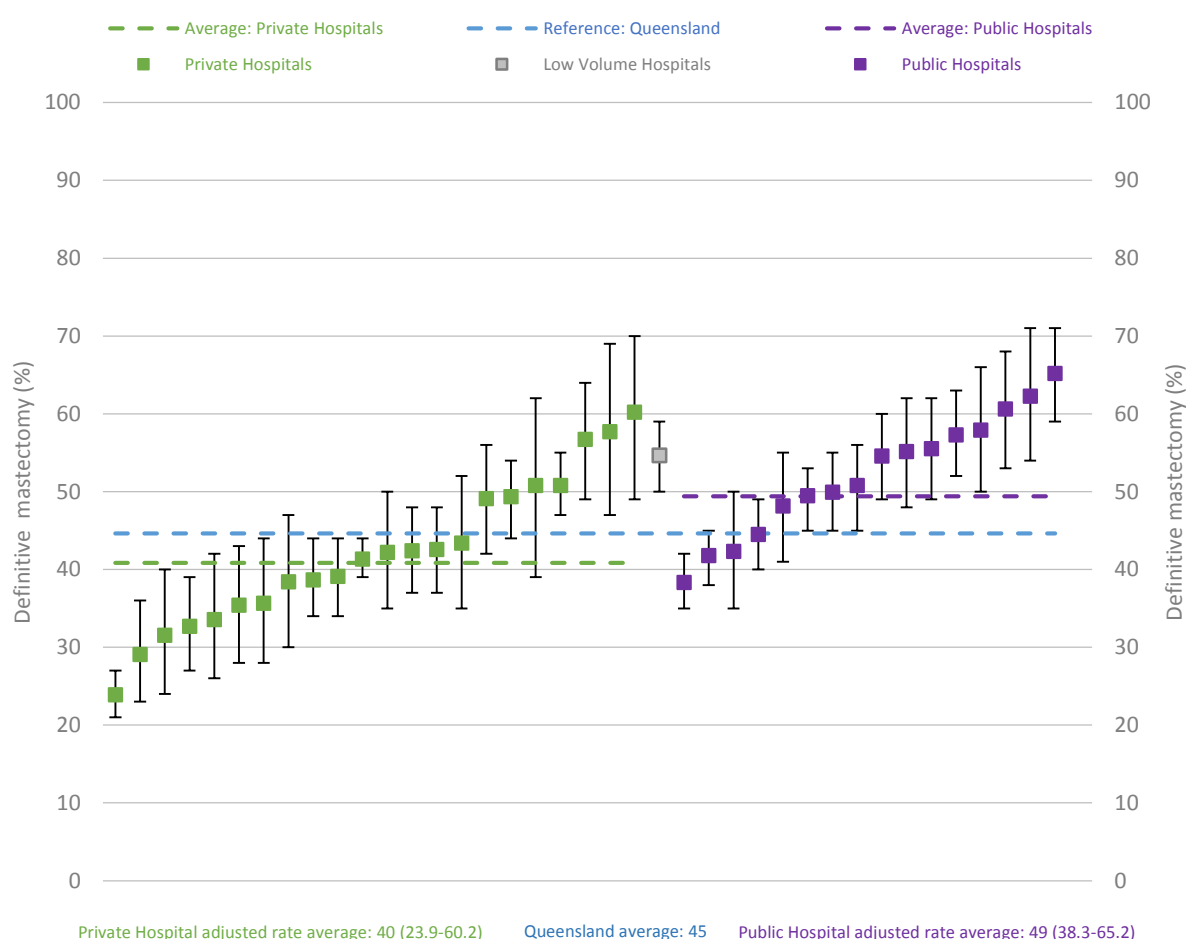
5.1 Definitive mastectomy rate

What percentage of invasive breast cancer patients received a definitive mastectomy?

Female invasive breast cancer; year of diagnosis 2009 – 2013

	Queensland	Principal referral hospitals	Group A hospitals	Group B hospitals	Other hospitals	Low volume hospitals
Adjusted rate	45%	47%	43%	48%	44%	55%
n (N)	6,073 (13,611)	988 (2,096)	3282 (7,622)	800 (1,625)	1,003 (2,268)	345 (571)

Figure 4: Definitive mastectomy rate by hospital type



Notes

- Indicator has been adjusted by age, tumour size, year of surgery, comorbidities, rurality and overall stage.
- Low volume hospitals are distributed throughout AIHW hospital peer groups.

Women receiving breast cancer surgery at low volume hospitals have higher rates of definitive mastectomy.

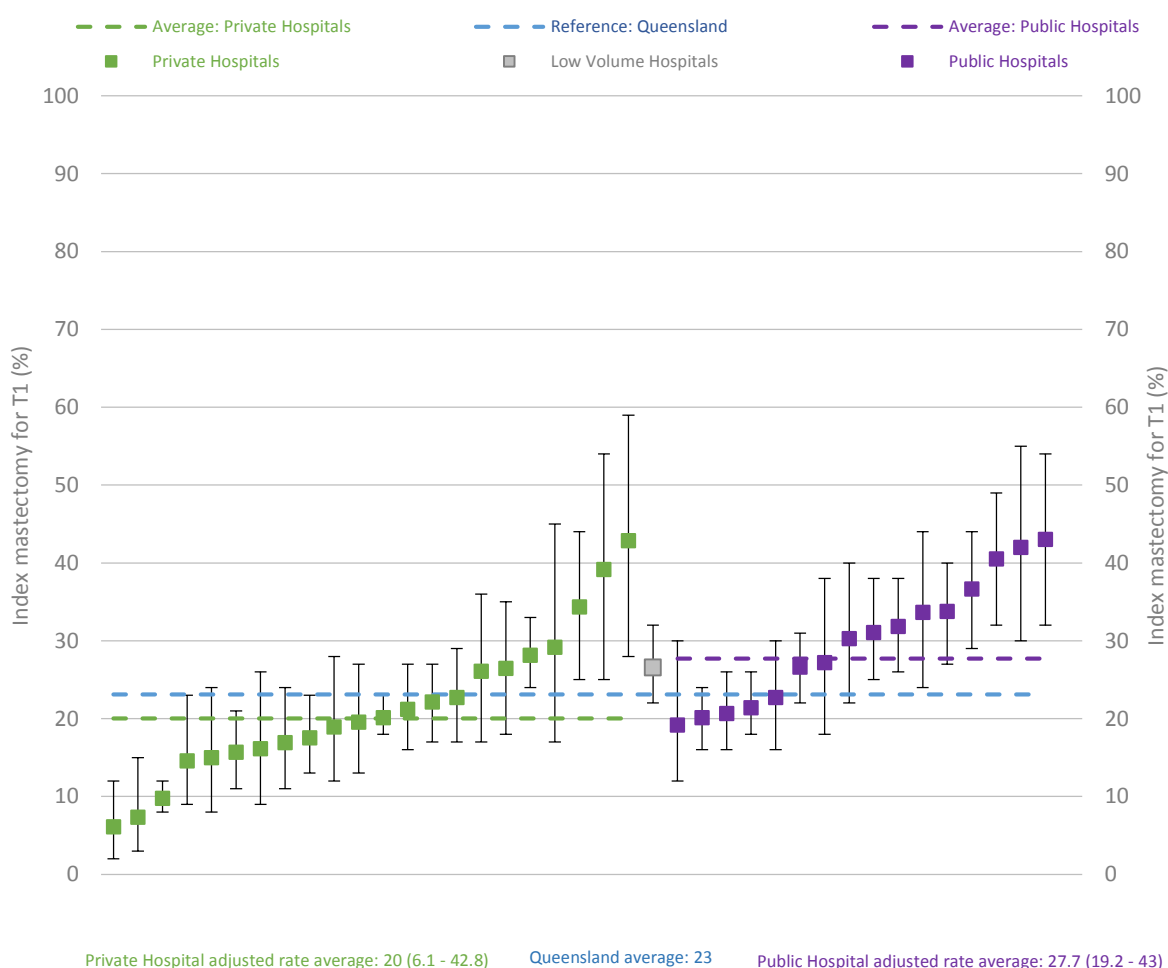
5.2 Index mastectomy for T1 tumours

What percentage of invasive breast cancer patients who had a T1 tumour received a mastectomy?

Female invasive breast cancer; year of diagnosis 2009 – 2013

	Queensland	Principal referral hospitals	Group A hospitals	Group B hospitals	Other hospitals	Low volume hospitals
Adjusted rate	23%	26%	22%	26%	21%	27%
n (N)	1,847 (7,992)	258 (1,128)	990 (4,489)	283 (992)	316 (1,383)	94 (299)

Figure 5: Index mastectomy for T1 tumours by hospital type



Notes

- Indicator has been adjusted by age, tumour size, year of surgery, comorbidities, rurality and overall stage.
- Low volume hospitals are distributed throughout AIHW hospital peer groups.

There is wide variation in rates of index mastectomy for T1 tumours across Queensland hospitals.

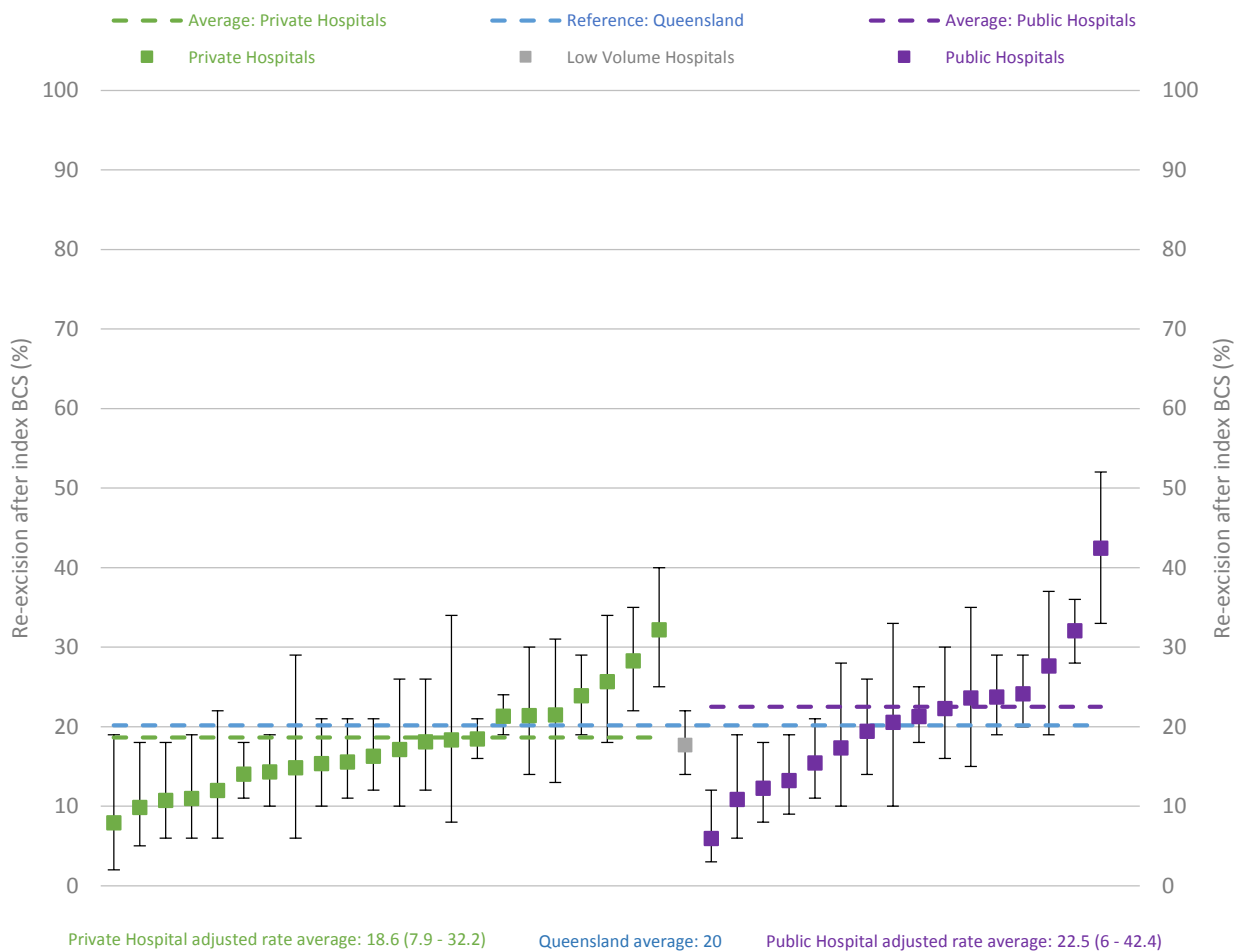
5.3 Re-excision of lesion after index breast conservation surgery (BCS)

What percentage of invasive breast cancer patients had a re-excision after receiving an index BCS?

Female invasive breast cancer; year of diagnosis 2009 – 2013

	Queensland	Principal referral hospitals	Group A hospitals	Group B hospitals	Other hospitals	Low volume hospitals
Adjusted rate	20%	20%	21%	21%	18%	18%
n (N)	1,792 (8,887)	278 (1,328)	1065 (5,097)	188 (965)	261 (1,497)	52 (311)

Figure 6: Re-excision of lesion after index BCS by hospital type



Notes

1. Indicator has been adjusted by age, tumour size, year of surgery, comorbidities, rurality and overall stage.
2. Low volume hospitals are distributed throughout AIHW hospital peer groups.

There is little variation in re-excisions among women undergoing breast conserving surgery between public and private hospitals.

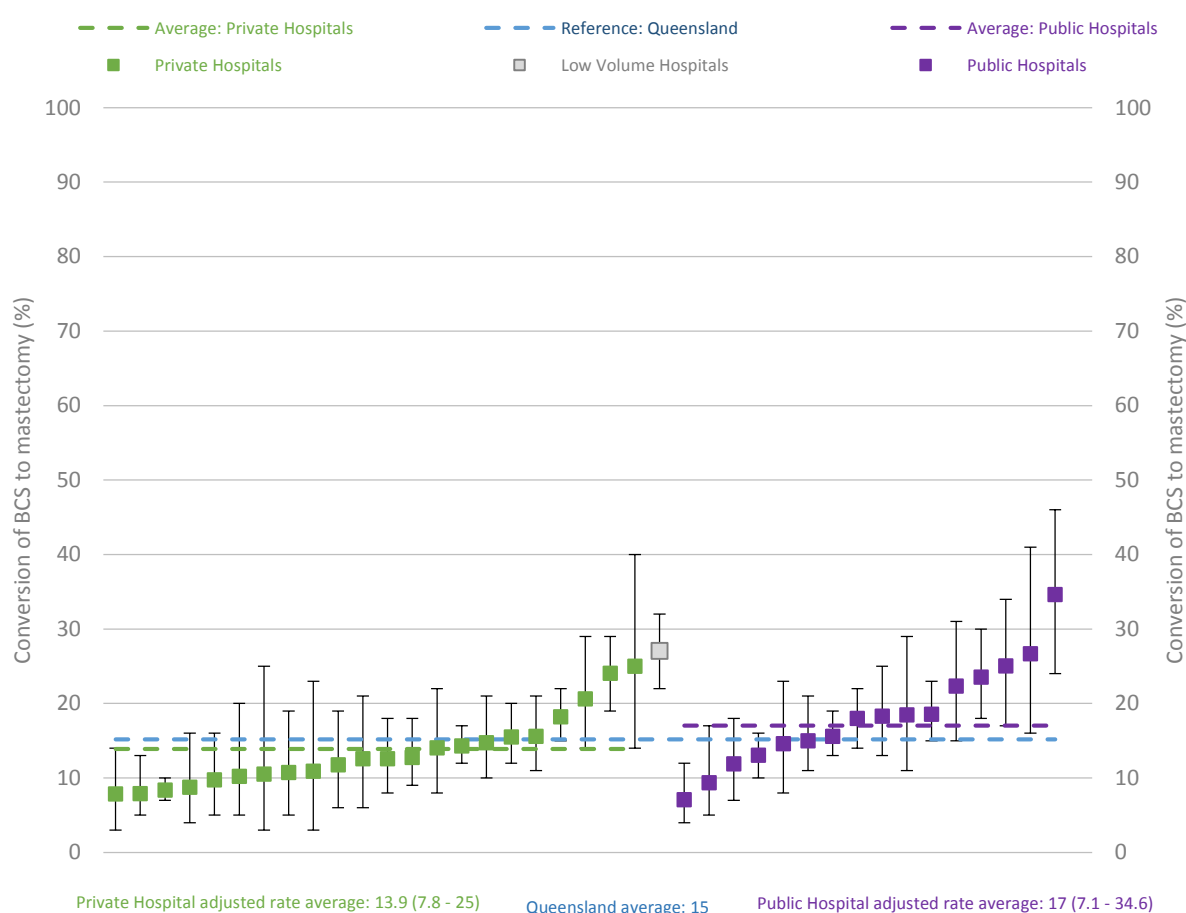
5.4 Conversion of index breast conserving surgery (BCS) to mastectomy

What percentage of invasive breast cancer patients who had an index BCS had a definitive mastectomy?

Female invasive breast cancer; year of diagnosis 2009 – 2013

	Queensland	Principal referral hospitals	Group A hospitals	Group B hospitals	Other hospitals	Low volume hospitals
Adjusted rate	15%	16%	15%	15%	16%	27%
n (N)	1,349 (8887)	220 (1,328)	757 (5,097)	140 (965)	232 (1497)	85 (311)

Figure 7: Conversion of index BCS to mastectomy by hospital type



Notes

- Indicator has been adjusted by age, tumour size, year of surgery, comorbidities, rurality and overall stage.
- Low volume hospitals are distributed throughout AIHW hospital peer groups.

More women in low volume hospitals compared to all other Queensland hospitals underwent a mastectomy following breast conserving surgery.

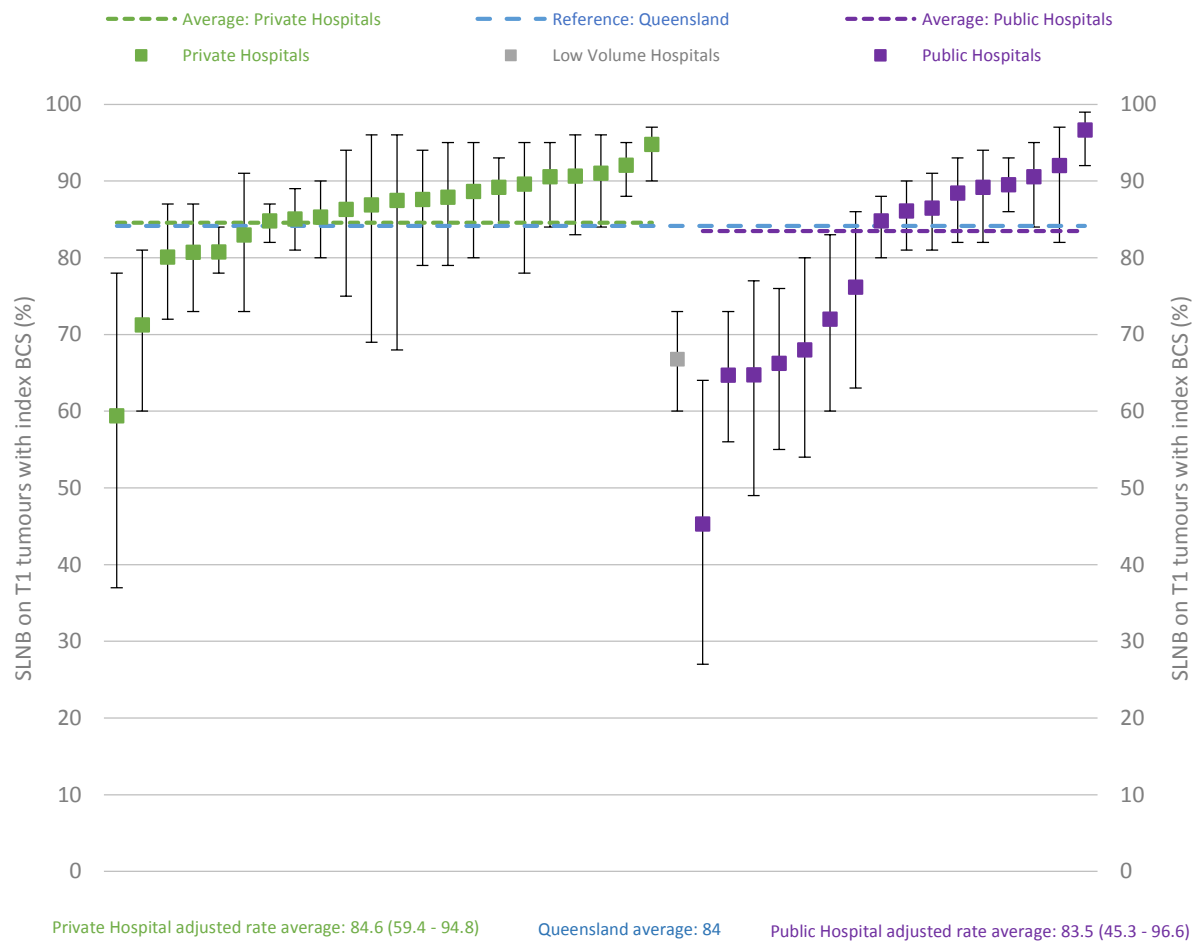
5.5 Sentinel lymph node biopsy (SLNB) on T1 tumours with index breast conservation surgery (BCS)

What percentage of invasive breast cancer patients had a SLNB on a T1 (2mm-20mm) tumour at the time of index BCS?

Female invasive breast cancer; year of diagnosis 2009 – 2013

	Queensland	Principal referral hospitals	Group A hospitals	Group B hospitals	Other hospitals	Low volume hospitals
Adjusted rate	84%	89%	82%	87%	85%	67%
n (N)	5,172 (6,145)	775 (870)	2,878 (3,499)	621 (709)	898 (1,067)	136 (205)

Figure 8: Sentinel lymph node biopsy on T1 tumours with index BCS by hospital type



Notes

- Indicator has been adjusted by age, tumour size, year of surgery, comorbidities, rurality and overall stage.
- Low volume hospitals are distributed throughout AIHW hospital peer groups.

The majority of women with T1 tumours at the time of breast conserving surgery receive a sentinel lymph node biopsy.

6.0 Timeliness Indicators

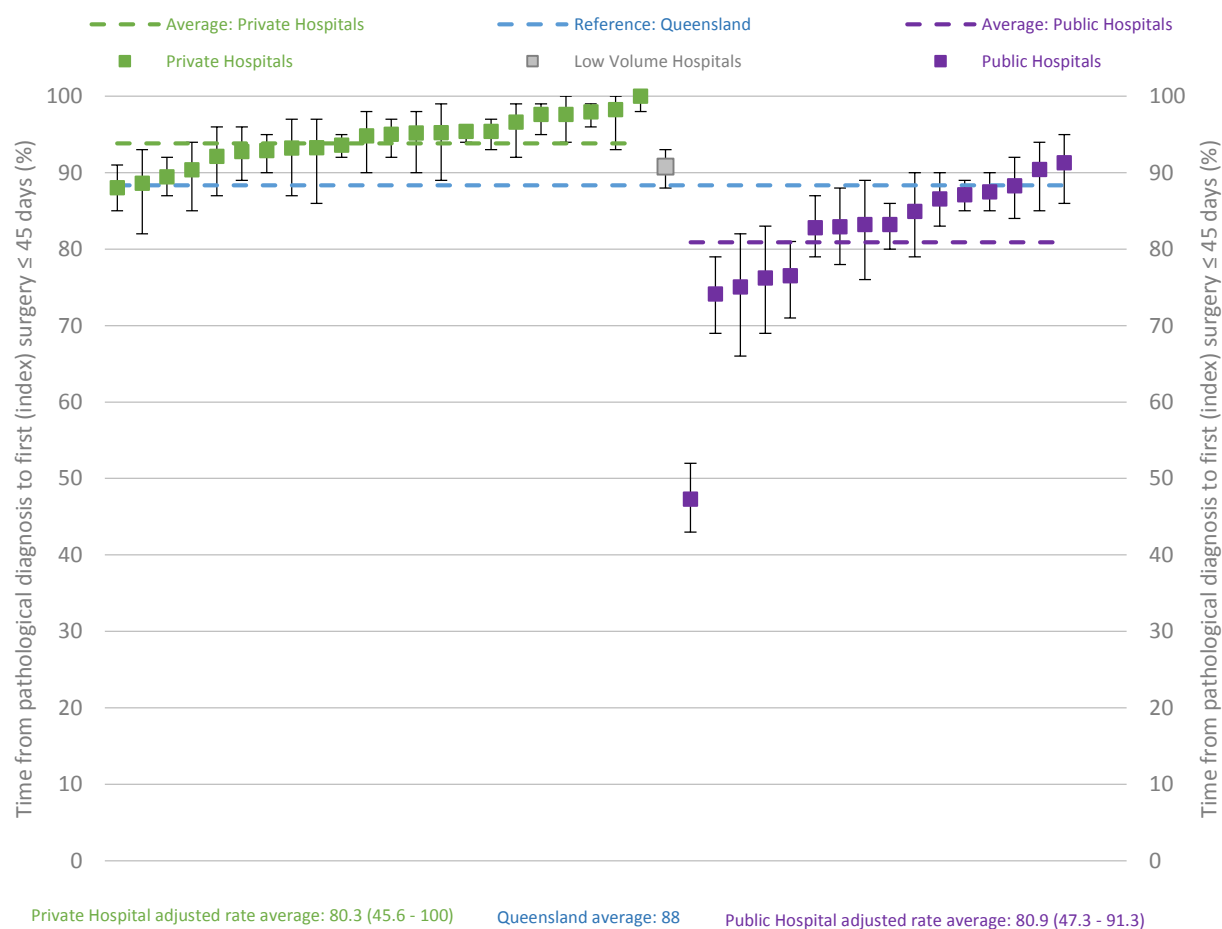
6.1 Time from pathological diagnosis to first (index) surgery ≤ 45 days

What percentage of invasive breast cancer patients had index surgery as first treatment within 45 days from pathological diagnosis?

Female invasive breast cancer; year of diagnosis 2009 – 2013

	Queensland	Principal referral hospitals	Group A hospitals	Group B hospitals	Other hospitals	Low volume hospitals
Adjusted rate	88%	84%	87%	92%	95%	91%
n (N)	12,027 (13,611)	1,776 (2,096)	6,643 (7,622)	1,465 (1,625)	2,143 (2,268)	506 (571)

Figure 9: Time from pathological diagnosis to first index surgery ≤ 45 days by hospital type



Notes

1. Indicator has been adjusted by age, tumour size, year of surgery, comorbidities, rurality and overall stage.
2. Low volume hospitals are distributed throughout AIHW hospital peer groups.
3. Women undergoing neoadjuvant therapy have been excluded.

Hospitals are responsive to patients needs and most patients receive surgery within 45 days. However, more public than private patients waited longer for breast cancer surgery than private patients.

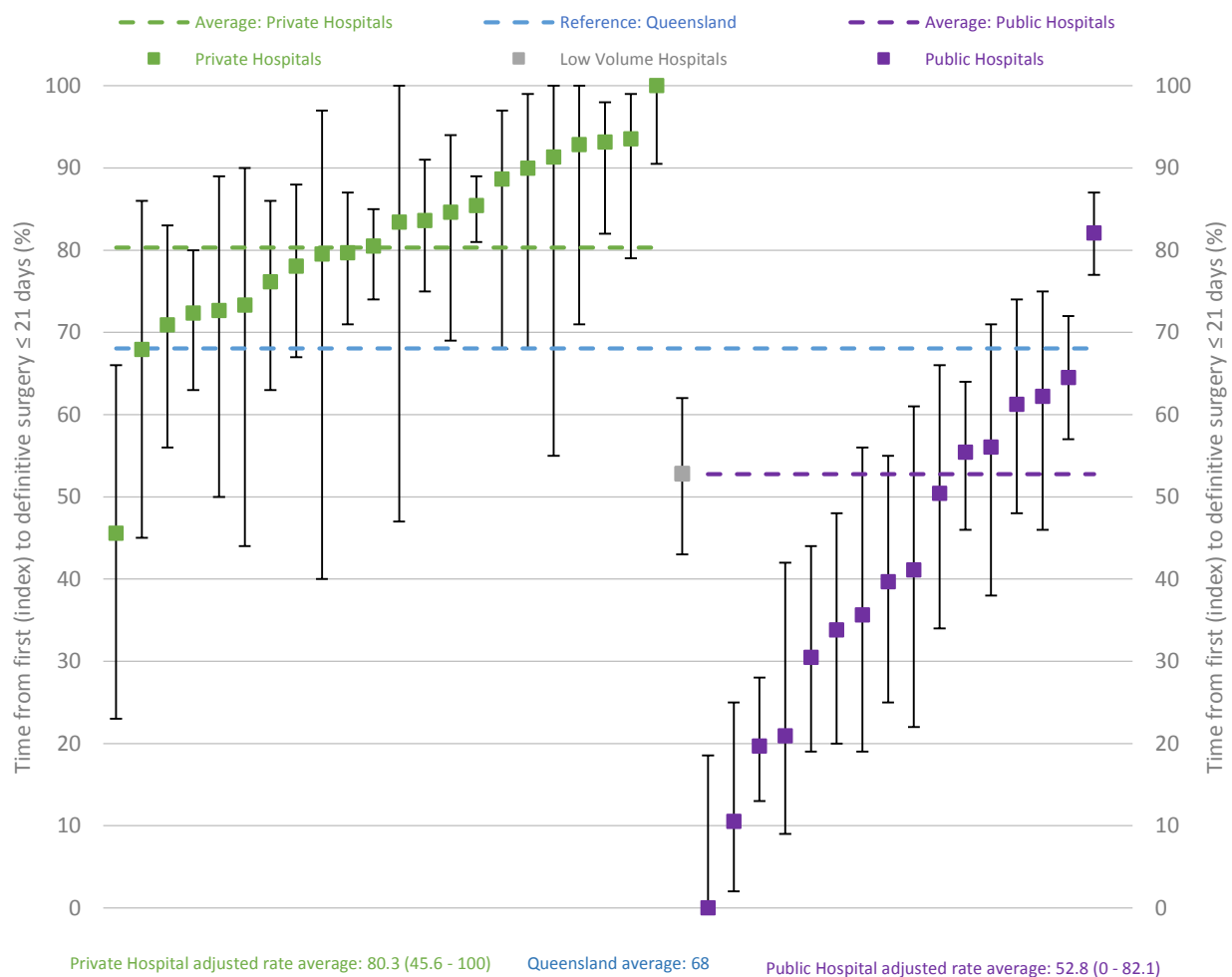
6.2 Time from first (index) surgery to definitive surgery ≤ 21 days

What percentage of invasive breast cancer patients had their last surgery within 21 days from first surgery?

Female invasive breast cancer; year of diagnosis 2009 – 2013

	Queensland	Principal referral hospitals	Group A hospitals	Group B hospitals	Other hospitals	Low volume hospitals
Adjusted rate	68%	56%	69%	73%	76%	53%
n (N)	1,763 (2,590)	245 (418)	1,030 (1,490)	179 (266)	309 (416)	56 (112)

Figure 10: Time from first index surgery to definitive surgery ≤ 21 days by hospital type



Notes

1. Indicator has been adjusted by age, tumour size, year of surgery, comorbidities, rurality and overall stage.
2. Low volume hospitals are distributed throughout AIHW hospital peer groups.

Breast cancer surgery requires careful planning. More public patients waited longer than 21 days to complete their surgeries compared to private patients. This difference needs to be explored further.



Appendix 1: AIHW hospital peer group definitions

Principal referral hospitals

Principal referral hospitals are public acute hospitals that provide a very broad range of services, have a range of highly specialised service units, and have very large patient volumes. The term ‘referral’ recognises that these hospitals have specialist facilities not typically found in smaller hospitals.

Public acute group A hospitals (Group A hospitals)

Public acute group A hospitals are public acute hospitals that provide a wide range of services typically including a 24-hour emergency department, intensive care unit, coronary care unit and oncology unit, but do not provide the breadth of services provided by *Principal referral hospitals*.

Private acute group A hospitals (Group A hospitals)

Private acute group A hospitals are private acute hospitals that have a 24-hour emergency department and an intensive care unit, and provide a number of other specialised services such as coronary care, special care nursery, cardiac surgery and neurosurgery.

Public acute group B hospitals (Group B hospitals)

Public acute group B hospitals are those public acute hospitals that do not have the service profile of the *Principal referral hospitals* and *Group A hospitals*, but do have 24-hour emergency department; they typically provide elective surgery and have specialised service units such as obstetric, paediatric and psychiatric units.

Private acute group B hospitals (Group B hospitals)

Private acute group B hospitals are private acute hospitals that do not have a 24-hour emergency department, but do have an intensive care unit and a number of other specialised services including coronary care, special care nursery, cardiac surgery and neurosurgery.

Public acute group C hospitals (Other hospitals)

Public acute group C hospitals include those public acute hospitals that provide a more limited range of services than *Principal referral hospitals* or *Public acute group A* and *B hospitals*, but do have an obstetric unit, provide surgical services and/or some form of emergency facility (emergency department, or accident and emergency service).

Private acute group C hospitals (Other hospitals)

Private acute group C hospitals are those private acute hospitals that do not provide emergency department services or have an intensive care unit, but do provide specialised services in a range of clinical specialities.

Public acute group D hospitals (Other hospitals)

Public acute group D hospitals are acute public hospitals that offer a smaller range of services relative to other public acute hospitals, and provide 200 or more separations per year. They are mostly situated in regional and remote areas.

Private acute group D hospitals (Other hospitals)

Private acute group D hospitals are those private acute hospitals that do not provide emergency department services or have an intensive care unit, do not provide specialised services in a range of clinical specialities, but had 200 or more separations

Hospital	AIHW Peer Group	Report Peer Group
Gold Coast University Hospital	Principal referral hospitals	Principal referral hospitals
Princess Alexandra Hospital	Principal referral hospitals	Principal referral hospitals
Royal Brisbane & Women's Hospital	Principal referral hospitals	Principal referral hospitals
The Prince Charles Hospital	Principal referral hospitals	Principal referral hospitals
The Townsville Hospital	Principal referral hospitals	Principal referral hospitals
Bundaberg Base Hospital	Public acute group A hospitals	Group A hospitals
Cairns Hospital	Public acute group A hospitals	Group A hospitals
Hervey Bay Hospital	Public acute group A hospitals	Group A hospitals
Ipswich Hospital	Public acute group A hospitals	Group A hospitals
Logan Hospital	Public acute group A hospitals	Group A hospitals
Mackay Base Hospital	Public acute group A hospitals	Group A hospitals
Mater Adult Hospital Brisbane	Public acute group A hospitals	Group A hospitals
Nambour General Hospital	Public acute group A hospitals	Group A hospitals
Queen Elizabeth II Jubilee Hospital	Public acute group A hospitals	Group A hospitals
Redcliffe Hospital	Public acute group A hospitals	Group A hospitals
Rockhampton Hospital	Public acute group A hospitals	Group A hospitals
Toowoomba Hospital	Public acute group A hospitals	Group A hospitals
Allamanda Private Hospital	Private acute group A hospitals	Group A hospitals
Greenslopes Private Hospital	Private acute group A hospitals	Group A hospitals
Holy Spirit Northside	Private acute group A hospitals	Group A hospitals
John Flynn Private Hospital	Private acute group A hospitals	Group A hospitals
Mater Private Hospital Brisbane	Private acute group A hospitals	Group A hospitals
Noosa Hospital	Private acute group A hospitals	Group A hospitals
Pindara Private Hospital	Private acute group A hospitals	Group A hospitals
St Andrew's War Memorial Hospital	Private acute group A hospitals	Group A hospitals
The Wesley Hospital	Private acute group A hospitals	Group A hospitals
Caboolture Hospital	Public acute group B hospitals	Group B hospitals
Caloundra Hospital	Public acute group B hospitals	Group B hospitals
Gladstone Hospital	Public acute group B hospitals	Group B hospitals
Gympie Hospital	Public acute group B hospitals	Group B hospitals
Maryborough Hospital	Public acute group B hospitals	Group B hospitals
Mount Isa Base Hospital	Public acute group B hospitals	Group B hospitals
Redland Hospital	Public acute group B hospitals	Group B hospitals
Robina Hospital	Public acute group B hospitals	Group B hospitals
Friendly Society Private Hospital	Private acute group B hospitals	Group B hospitals
Mater Hospital Pimlico	Private acute group B hospitals	Group B hospitals
St Andrew's Toowoomba Hospital	Private acute group B hospitals	Group B hospitals
St Vincent's Hospital Toowoomba	Private acute group B hospitals	Group B hospitals
The Sunshine Coast Private Hospital	Private acute group B hospitals	Group B hospitals

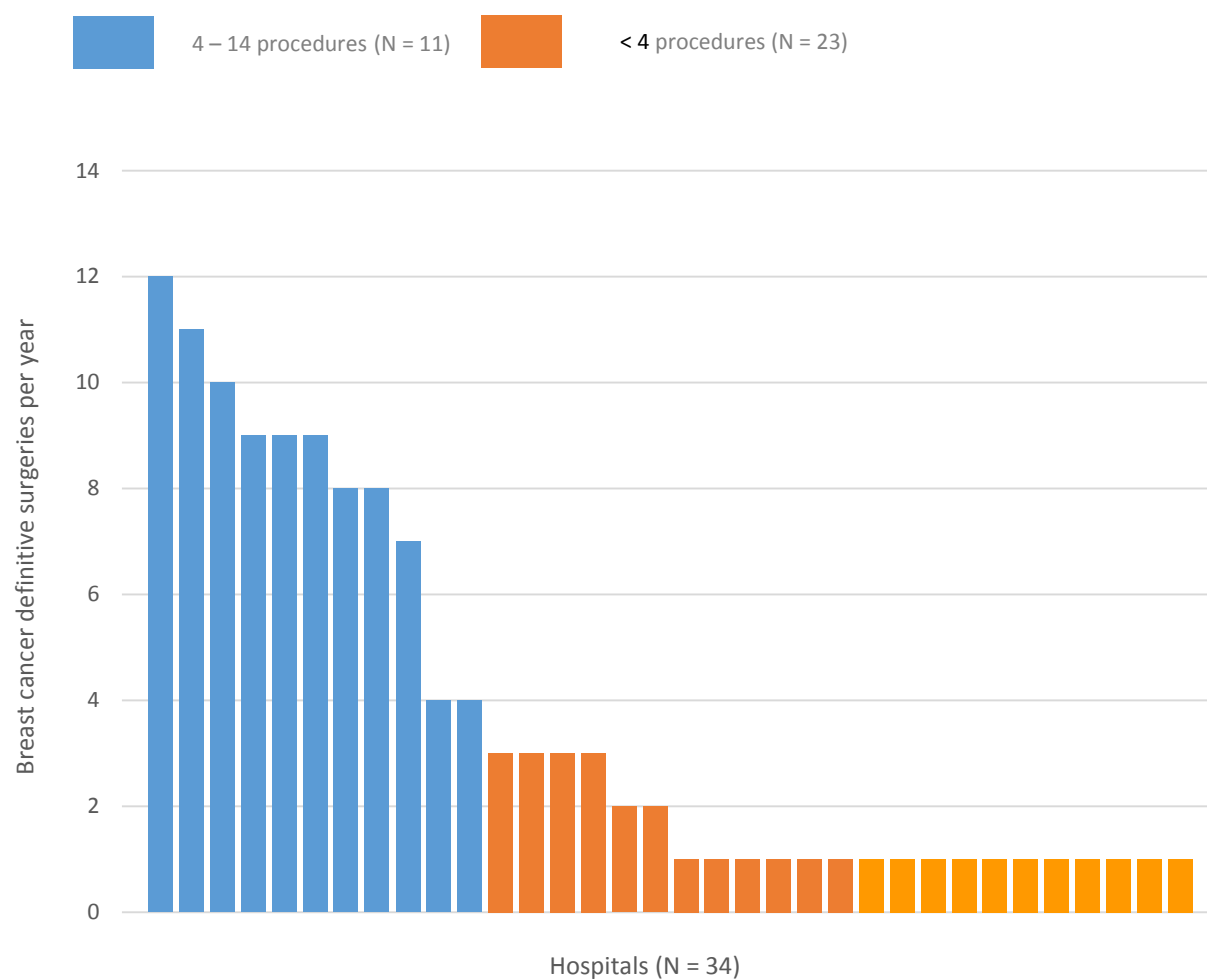
Atherton Hospital	Public acute group C hospitals	Other hospitals
Emerald Hospital	Public acute group C hospitals	Other hospitals
Kingaroy Hospital	Public acute group C hospitals	Other hospitals
Longreach Hospital	Public acute group C hospitals	Other hospitals
Roma Hospital	Public acute group C hospitals	Other hospitals
Brisbane Private Hospital	Private acute group C hospitals	Other hospitals
Cairns Private Hospital	Private acute group C hospitals	Other hospitals
Hillcrest-Rockhampton Private Hospital	Private acute group C hospitals	Other hospitals
Mater Misericordiae Hospital Gladstone	Private acute group C hospitals	Other hospitals
Mater Misericordiae Hospital Mackay	Private acute group C hospitals	Other hospitals
Mater Misericordiae Hospital Rockhampton	Private acute group C hospitals	Other hospitals
Mater Private Hospital Redland	Private acute group C hospitals	Other hospitals
Mater Women's and Children's Hospital Hyde Park	Private acute group C hospitals	Other hospitals
North West Private Hospital	Private acute group C hospitals	Other hospitals
St Andrew's - Ipswich Private Hospital	Private acute group C hospitals	Other hospitals
Sunnybank Private Hospital	Private acute group C hospitals	Other hospitals
The Sunshine Coast University Private Hospital	Private acute group C hospitals	Other hospitals
Ingham Hospital	Public acute group D hospitals	Other hospitals
Caboolture Private Hospital	Private acute group D hospitals	Other hospitals
Caloundra Private Clinic	Private acute group D hospitals	Other hospitals
Hervey Bay Surgical Hospital	Private acute group D hospitals	Other hospitals
Kawana Private Hospital	Private acute group D hospitals	Other hospitals
Mater Misericordiae Hospital Bundaberg	Private acute group D hospitals	Other hospitals
Nambour Selangor Private Hospital	Private acute group D hospitals	Other hospitals
Peninsula Private Hospital	Private acute group D hospitals	Other hospitals
Pioneer Valley Hospital	Private acute group D hospitals	Other hospitals
South Burnett Private Hospital	Private acute group D hospitals	Other hospitals
St Stephen's Hospital Maryborough	Private acute group D hospitals	Other hospitals
Cairns Central Day Hospital	Mixed day procedure hospitals	Other hospitals
Pacific Private Day Hospital	Mixed day procedure hospitals	Other hospitals
Pindara Day Procedure Centre	Mixed day procedure hospitals	Other hospitals
St Stephen's Hospital Hervey Bay	Mixed day procedure hospitals	Other hospitals
Townsville Day Surgery	Mixed day procedure hospitals	Other hospitals
Pacific Day Surgery Centre	Plastic & Reconstructive Surgery Centres	Other hospitals

Total number of hospitals performing breast cancer surgery = 73

Reference: AIHW 2015. Australian hospital peer groups. Health services series no. 66. Cat.no. HSE 170. Canberra: AIHW.

Appendix 2: Low volume hospitals performing breast cancer surgery

Figure 11: Distribution of low volume hospitals 2009 – 2013



Notes

1. Annual average is rounded up to nearest whole number.

Method

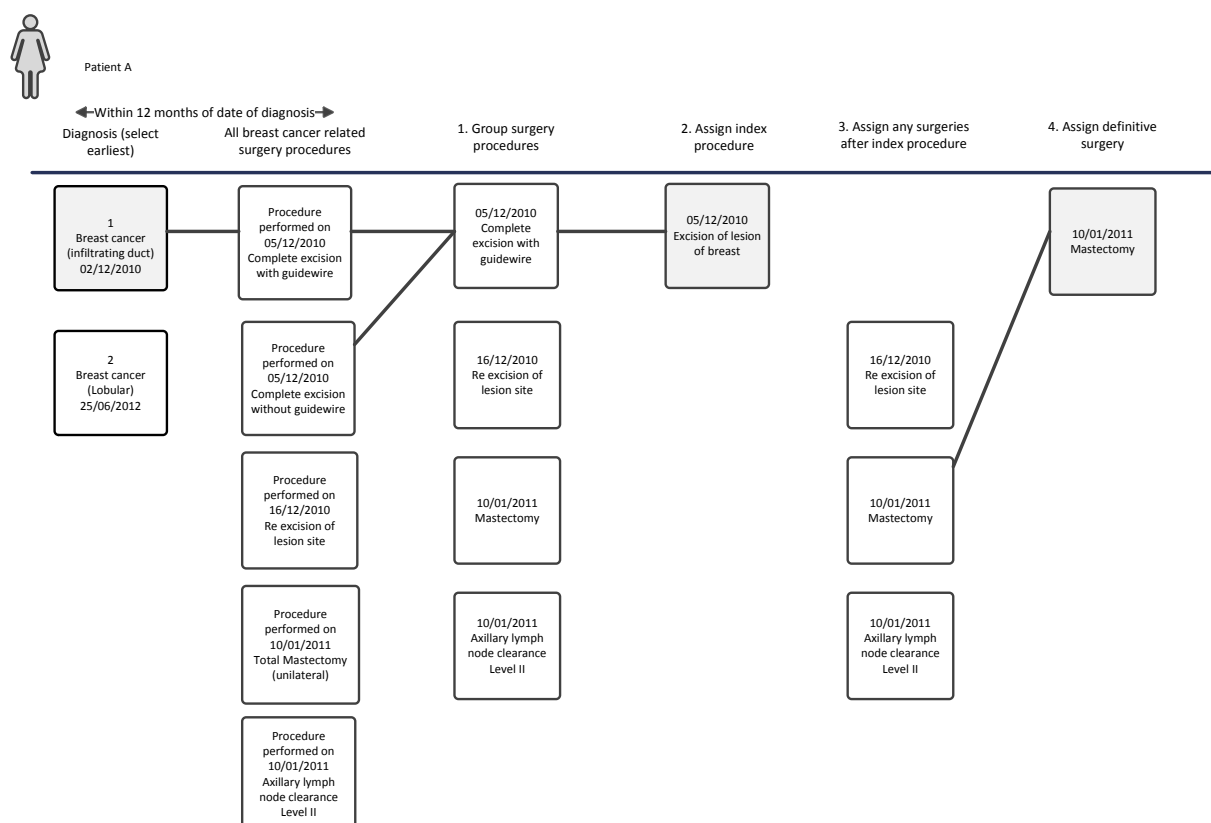
To assign a surgery record to a person with cancer the earliest diagnosis in the cancer group is used. For example, a person was diagnosed with invasive breast cancer in 2010 and again in 2012 then the surgery record that is linked to the cancer diagnosed in 2010 will be reported.

Each cancer diagnosis in a calendar year was matched and linked to one or many surgery records. This produces a list of all the surgeries performed for the earliest breast cancer diagnosis. The surgeries are then categorised according to clinically developed rules which are specific to each indicator and measure.

The surgery procedures identified as breast cancer surgeries are:

- Breast conservation surgery (BCS)
- Mastectomy (unilateral or bilateral)
- Re excision of lesion
- Sentinel lymph node biopsy (SLNB)
- Axillary lymph node clearance (ALNC)

An example of this data linkage flow is described below:



Glossary

Adjusted rates

The indicators have been adjusted to remove the effect of differences in composition of the various populations. The indicators have been adjusted by age, tumour size, year of surgery, comorbidities, rurality and overall stage.

Year of surgery has been included as a covariate in the analysis to account for any changes in clinical practice during the time period (2009-2013). For example recommendations to perform SLNB on T1 tumours being introduced in 2008.

Age standardised rates

The number of new cases or deaths per 100,000 that would have occurred in a given population if the age distribution of that population was the same as that of the Australian population in 2001 and if the age-specific rates observed in the population of interest had prevailed.

Breast cancer tumour size

Breast tumour size in millimetres classified according to 'TNM Classification of Malignant Tumours' 7th edition, UICC International Union Against Cancer.

Breast conservation surgery (BCS)

Includes Queensland female residents of all ages diagnosed with invasive breast cancer in the surgical cohort time period who underwent one of the following procedures: excision of lesion of breast and/or re-excision of lesion.

Cohort

Breast cancer cohort

Queensland female residents who were diagnosed with breast cancer between 1 January 2004 and 31 December 2013.

Breast cancer surgery cohort

Anyone in the breast cancer cohort who had any of the identified cancer related procedures one month before or 12 months after their diagnosis (outlined on page 27).

Comorbidity

A clinical condition that has the potential to significantly affect a cancer patient's prognosis.

Comorbidity is derived from hospital admissions data following the Quan algorithm¹ for classifying ICD-10 coded conditions, modified to exclude metastasis, which is represented by a separate and distinct metastasis dimension.

Comorbidity is limited to conditions coded in any admission episode between 12 months before and 12 months after the date of cancer diagnosis.

For any given cancer diagnosis, comorbidity is restricted to conditions other than the primary cancer. E.g. A rectum cancer can be a comorbidity to a colon cancer diagnosis and vice versa, if they are diagnosed within 12 months of each other.

Benign tumours are not considered comorbidities.

Co-morbidity list:

AIDS	Acute myocardial	Cancer
Cerebrovascular disease	Congestive heart failure	Chronic obstructive pulmonary disease
Dementia	Diabetes	Diabetes + complications
Hemiplegia or Paraplegia	Mild liver disease	Moderate/severe liver disease
Peptic ulcer	Peripheral vascular disease	Renal disease
Rheumatoid disease		

Confidence interval

The 95% confidence intervals for the adjusted rates are displayed on the graph as bars attached to the rate for each hospital. Where the bars do not cross the line showing the state average for that indicator, it means the result for this hospital is statistically significantly different from the state average.

Crude rate (not adjusted)

The observed rate within the population/facility. Does not take into account differences in the demographics of the populations being compared (eg. age, gender differences).

Definitive surgery

Mastectomy within 12 months of the first procedure. If mastectomy was not recorded then the last record of either excision of lesion of breast or re-excision of lesion site within 12 months of the first procedure was selected.

Breast cancer procedure hierarchy

1. Mastectomy
2. Excision of lesion of breast

Hospital and Health Service (HHS) of residence

Hospital and Health Service of residence is a geographic area defined by a collection of Statistical Areas Level 2 (SA2s) where the patient resides at time of diagnosis. Queensland unknown residence includes addresses reported as overseas, unknown, or not fixed.

Hospital and Health Service (HHS) of surgery

Hospital and Health Service of surgery is a geographic area defined by a collection of Statistical Areas Level 2 (SA2s) where the surgery is performed, the term Hospital and Health Service is synonymous with a group of Queensland Health facilities and staff responsible for providing and delivering health resources and services to an area.

Index surgery

The first breast cancer surgery procedure performed closest to diagnosis date within 12 months of diagnosis.

Low volume hospital

The Surgical Services module in Clinical Services Capability Framework for Public and Licenced Private Health Facilities v3.2 recommended 20 cases as an adequate number of new breast cancer patients having surgical resections per year by service/unit based on published literature and experienced clinical opinion.

Hospitals performing a yearly average of < 15 breast cancer surgeries between 2009 and 2013 were grouped as low volume. To compensate for variations in annual number of breast cancer surgeries those hospitals performing between 15 and 20 annual average per year were not grouped into low volume for this report.

Invasive breast cancer

Growth of tumour is characteristically invasive and infiltrative, extending beyond the tissue of origin into adjacent organs.

Mastectomy

Includes Queensland female residents of all ages diagnosed with invasive breast cancer in the surgical cohort time period who underwent one of the following procedures: total mastectomy (unilateral), total mastectomy (bilateral), subcutaneous mastectomy (unilateral), subcutaneous mastectomy (bilateral).

Median age (yrs)

The age that divides a population into two halves: one older than the median, the other younger than the median.

Median tumour size at diagnosis (millimetres)

The tumour size that divides a population into two halves: one larger than the median, the other smaller than the median.

Micro-invasion (T1mi)

Tumour size is ≤ 1 mm classified according to 'TNM Classification of Malignant Tumours' 7th edition, UICC International Union Against Cancer.

Neoadjuvant treatment

In select cases, treatment with chemotherapy, targeted therapy or hormone therapy may be given before breast surgery. Women who had chemotherapy between the date of breast cancer diagnosis and date of breast cancer surgery were identified as receiving neoadjuvant treatment.

Number of surgeries

Includes Queensland female residents of all ages diagnosed with invasive breast cancer in the surgical cohort time period who underwent one of the surgeries.

Overall stage at diagnosis

Cancer staging is the process of determining how much cancer is in the body and where it is located. Using tumour size (mm), number of positive nodes and distant metastatic sites an overall stage has been defined as:

Early – no nodes positive at diagnosis

Locally advanced - any nodes positive at diagnosis

Metastatic – distant metastatic site present (30 days before date of diagnosis and up to 90 days after date of diagnosis)

Private Hospital

All other hospitals that are not Queensland Health hospitals.

Public Hospital

Queensland Health hospitals.

Relative Survival

Relative survival is a measure of the survival of a group of persons with a condition, such as cancer, relative to a comparable group from the general population without the condition.

Remoteness

The relative remoteness of residence at time of diagnosis, based on the Australian Standard Geographical Classification (ASGC). In this report, remoteness is classified into four groups: Major City, Inner Regional, Outer Regional, and Remote & Very Remote.

Rurality

Areas within Queensland have been designated as Urban or Rural based on the ARIA index. Areas falling within the Major Cities grouping are classified as Urban. This includes the greater Brisbane area, Ipswich, Gold Coast, the Sunshine Coast and Townsville. The remainder of Queensland is classified as Rural.

Time from histological diagnosis to first (index) surgery ≤ 45 days

% of patients who's earliest histological confirmed diagnosis to first index breast cancer surgery ≤ 45 days.

Time from index surgery to definitive surgery surgery ≤ 21 days

% of patients who's first index breast cancer surgery to definitive surgery ≤ 21 days.

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FOR MORE INFORMATION

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