

12 year population-based study of ductal carcinoma in situ (DCIS): Incidence, tumour characteristics and invasive breast cancer recurrence in Queensland women

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Background

Retrospective population-based study of women diagnosed with DCIS between 2001 and 2012

Study aims:

1. Describe patient and tumour characteristics of women diagnosed with DCIS in Queensland
2. Examine patterns of treatment and its impact on subsequent invasive breast cancer.
3. Improve the future management of DCIS.

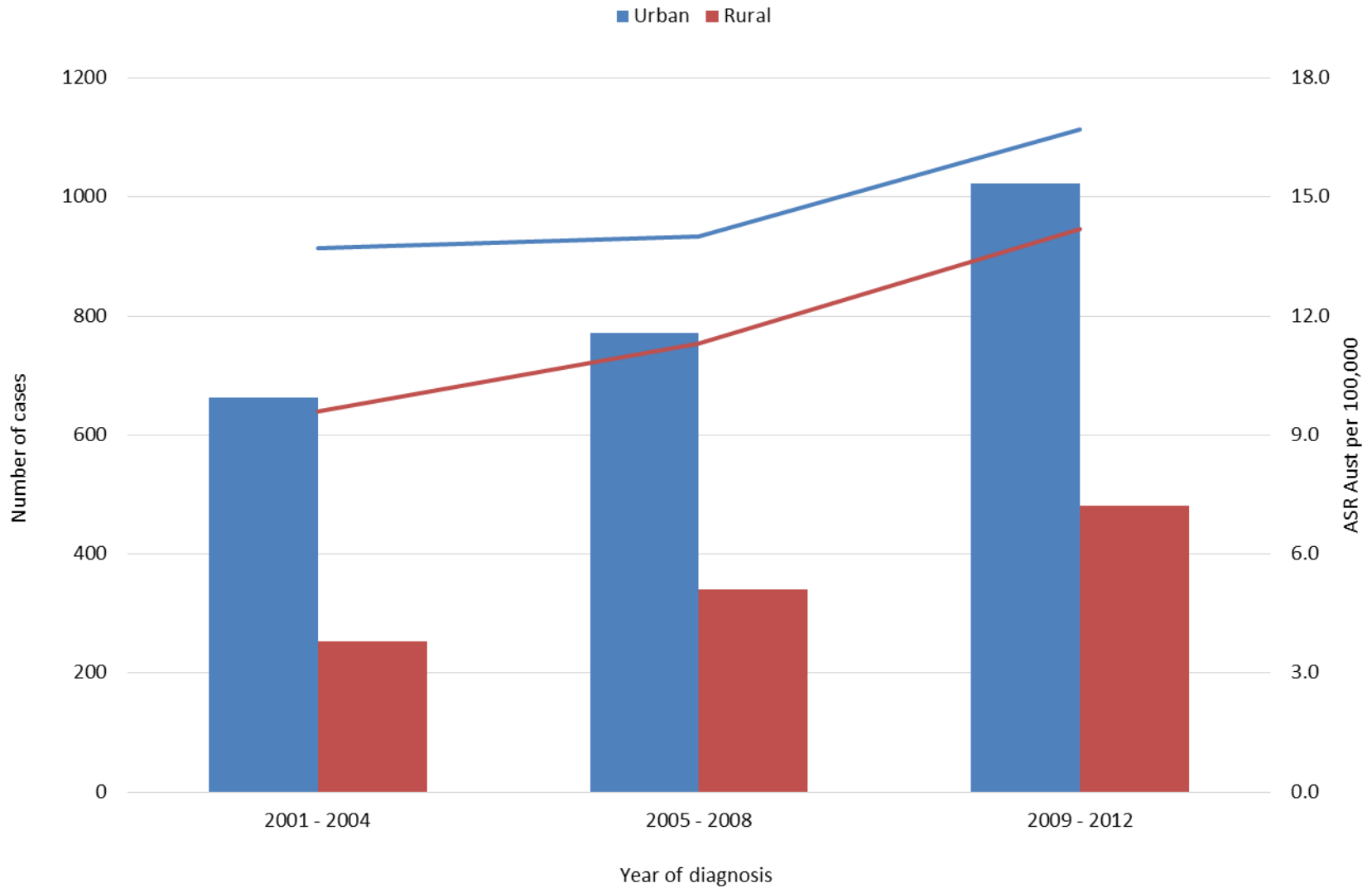
Data sources and methods

- Queensland Cancer Registry (QCR) and Queensland Oncology Repository (QOR)
- Queensland-resident women diagnosed with pure DCIS between 2001 and 2012 were identified from the QCR (3,534 women)
- Excluded women diagnosed with invasive breast cancer before first DCIS diagnosis
- Other data extracted from pathology reports = nuclear grade, necrosis present, surgical margins at the end of surgery
- DCIS cohort with the data extracted from pathology reports was then imported into QOR and matched and linked to other breast cancer diagnoses (insitu or invasive), treatment (surgery and radiotherapy) and death data

Findings

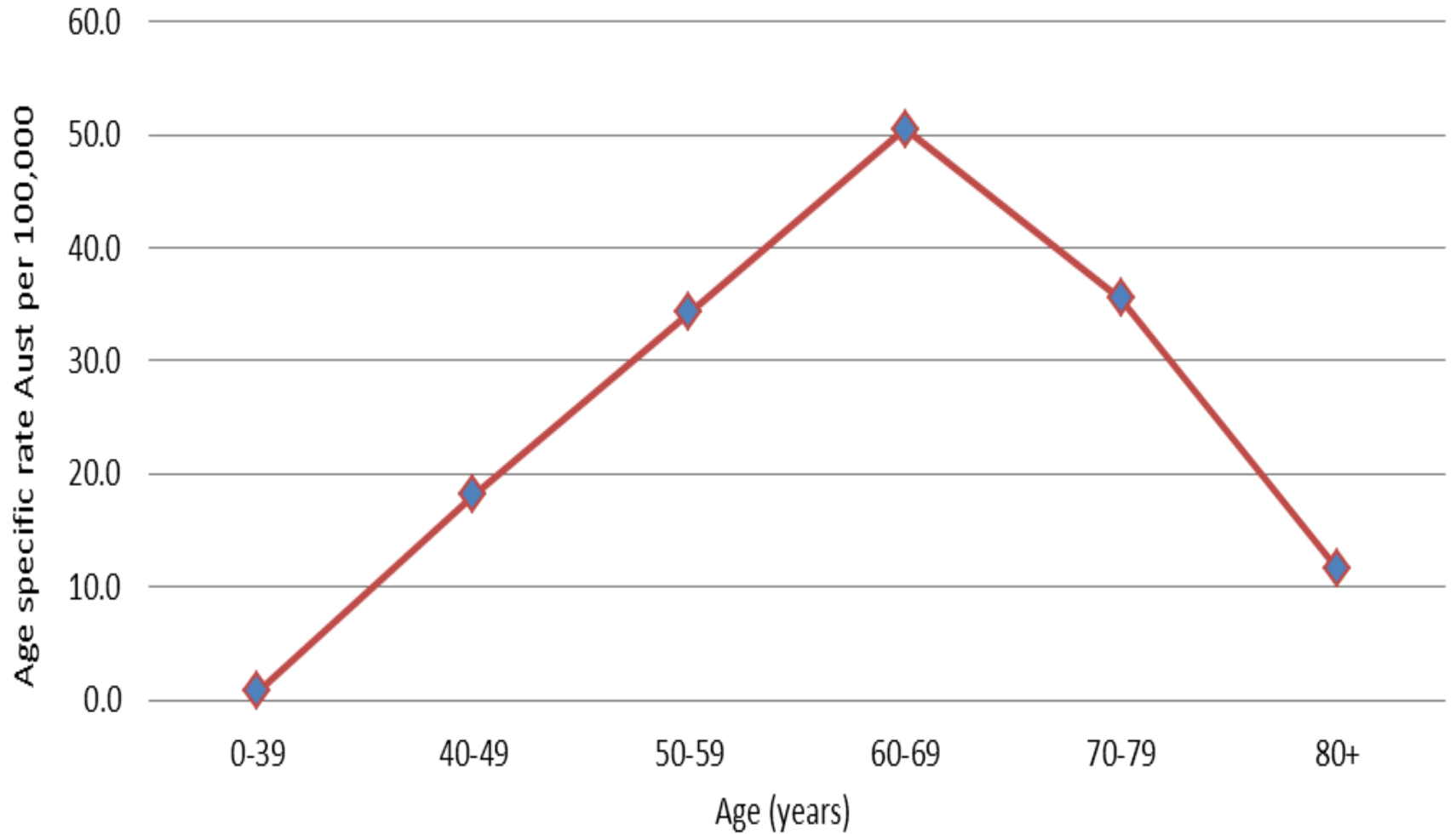
- Incidence of DCIS increased by 47% in rural women and 22% urban women over 12 years
- In both urban and rural areas almost 60% of DCIS tumours were $\leq 20\text{mm}$
- More than half were high nuclear grade
- 2% of both urban and rural women were diagnosed with a subsequent invasive local ipsilateral breast cancer within 5y of initial DCIS diagnosis

Incidence of DCIS in QLD 2001- 2012

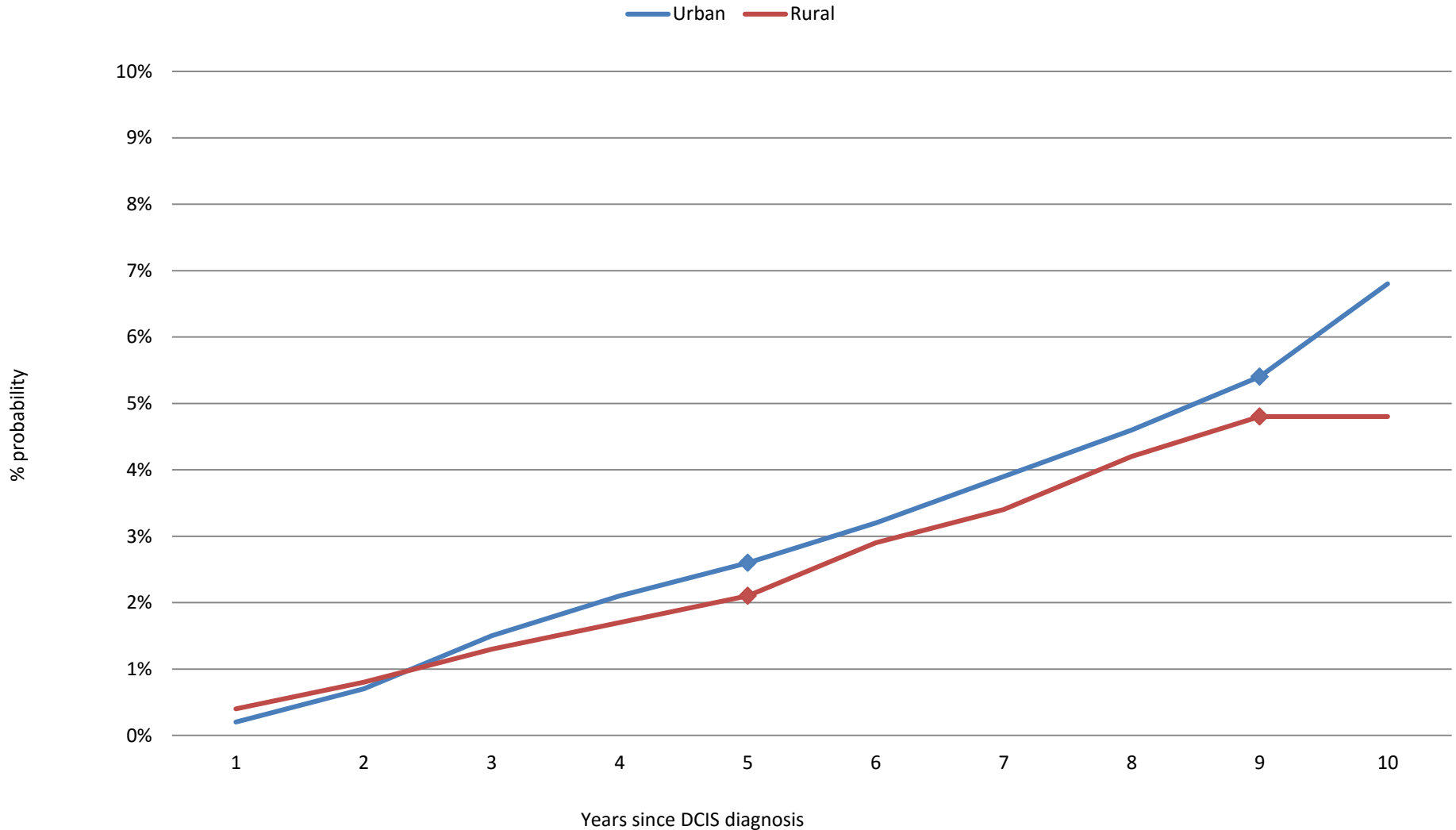


Age distribution of incidence of DCIS in QLD 2001 - 2012

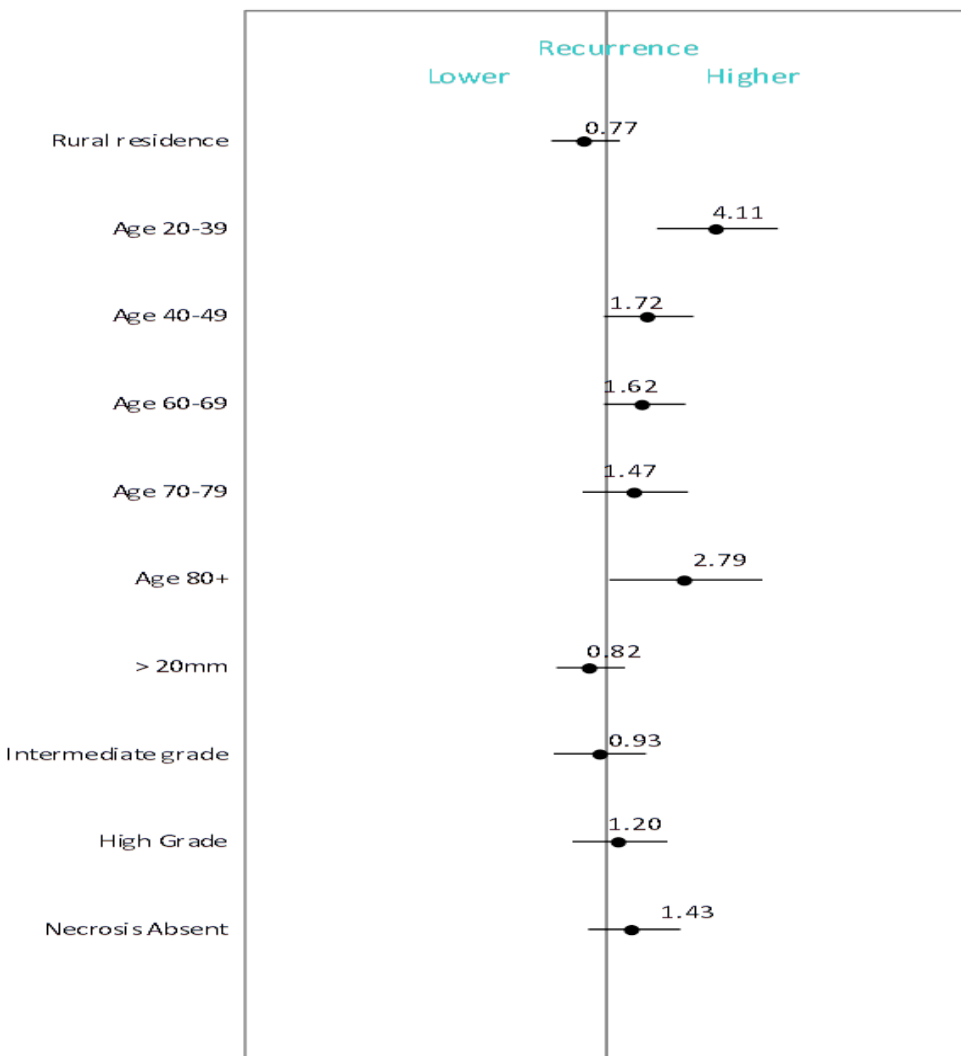
DCIS cases



Probability of women diagnosed with DCIS being diagnosed subsequently with invasive breast cancer



Multivariate analysis of risk factors related to being diagnosed with a subsequent ipsilateral invasive breast cancer



	HR	95% CI	p-value
Residence			
Urban	1		
Rural	0.77	[0.49-1.2]	0.248
Age Group			
20-39	4.11	[1.9-8.88]	<0.001
40-49	1.72	[0.97-3.05]	0.064
50-59	1		
60-69	1.62	[0.96-2.74]	0.070
70-79	1.47	[0.75-2.89]	0.266
80+	2.79	[1.05-7.42]	0.039
DCIS Size			
≤ 20mm	1		
> 20mm	0.82	[0.53-1.29]	0.398
Nuclear Grade			
Low	1		
Intermediate	0.93	[0.52-1.69]	0.818
High	1.20	[0.65-2.22]	0.556
Necrosis			
Present	1		
Absent	1.43	[0.81-2.55]	0.220

Implications?

- Only a proportion of DCIS transforms, and risk of that appears to be higher in very young and very old women i.e. – ? those not routinely screened and higher grade on Dx
- As this is difficult to predict, most DCIS is treated
- Recent intervention studies indicate DCIS more likely to transform to malignant if timely XRT not received after excision and tumour > 20cm
- US data (N=5,916; Liu et al 2016) indicates women more likely to experience XRT delays are culturally-disadvantaged and low SES groups - ? Rural Qld women – not in this Qld cohort

Project team

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