

Investigating characteristics of women with Breast Cancer Recurrence in a UK region

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Background and Aim

- Prevalence of recurrence is not available routinely as no standardised registration procedure exists for recording recurrence in cancer registries.
- The aim of this work has been to: **1.** Develop a procedure for recording breast cancer recurrence and **2.** Investigate the demographic and disease characteristics of women developing a recurrence.

Methods

- A working procedure for recording recurrence was developed using the definition of 'confirmation (by pathology or imaging) of a return of cancer following the completion of curative treatment for breast cancer after a disease-free period (at least four months after diagnosis date)'.
 Site of Recurrence was divided into three main categories:

- **Local recurrence:** Breast cancer in the ipsilateral (same) breast tissue, ipsilateral chest wall or the skin covering the ipsilateral chest wall skin/ skin of ipsilateral breast.

- **Regional recurrence:** Breast cancer in ipsilateral axillary, infra-clavicular, supraclavicular, internal mammary/parasternal or intra-mammary lymph nodes.

- **Distant recurrence:** Breast cancer in any other organ (excluding those mentioned for local regional recurrence) other than same breast including the sternal bone and contra lateral breast regional lymph nodes in absence of a detected primary contralateral breast malignancy.

- Data on the disease and demographic characteristics of women (n=1,112) diagnosed in 2009 with Invasive Breast Cancer (ICD10 C50; excluding stage IV) were extracted from the NICR database. Electronic healthcare databases were used to follow women up for recurrence of disease to 2017.

Results

- Overall 144 (12.9%) women diagnosed with Invasive Breast cancer in 2009 and followed up to 2017 had a recurrence recorded.
- The mean time from initial diagnosis to recurrence was 3.4 years (95% CI 3.1-3.7years).
- Of the 63.9% of recurrences observed in a distant site only, 24.3% were in bone, 9.0% liver, 21.5% in multiple organs and 9.0% in another distant site.
- In terms of hormone receptor status, 1 in 10 (10.1%) of women diagnosed with invasive breast cancer in 2009 (excluding stage IV) were triple negative; although recurrence was more common in women with triple negative status, this did not reach significance (12.5% vs 9.7%; p=0.454).
- Having a record of sentinel node biopsy was associated with a lower risk of recurrence (37.5% vs 52.0%; p<0.001) while those with axillary node clearance recorded had a higher risk (76.4% vs 50.1%; p<0.001). Screen age women had a lower risk of recurrence

Figure 1. Types of Recurrence in women diagnosed with Invasive Breast Cancer in 2009 (n=1,112)

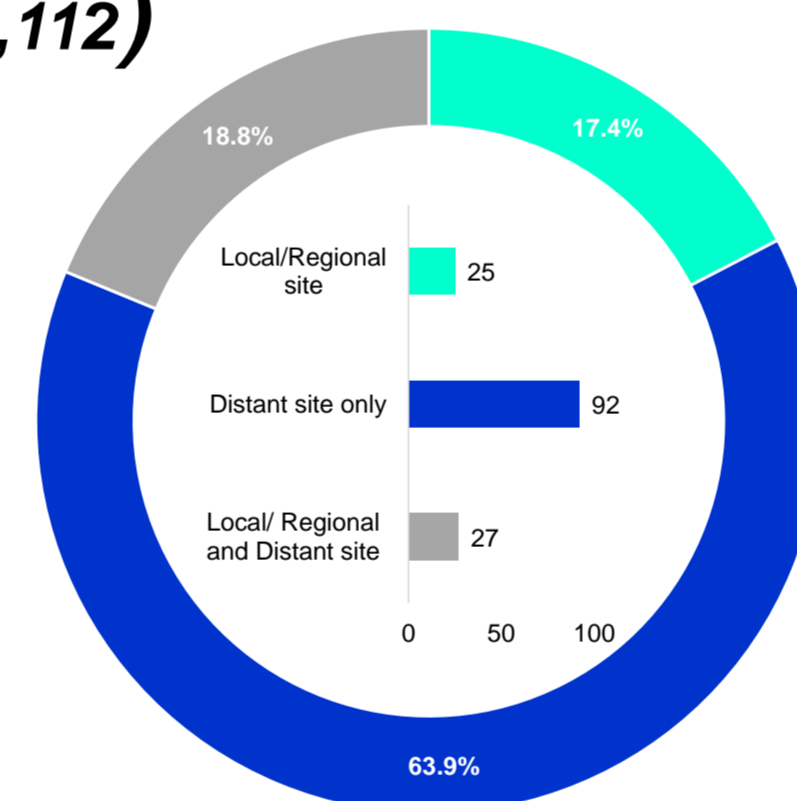


Table 1. Age at Diagnosis for patients diagnosed with Invasive breast cancer (excluding stage IV) in 2009 (n=1,112)

Age at Diagnosis	Breast cancer patients diagnosed in 2009 (n=1,112)	Women with Recurrence (n=144)	% of women in each age group with Recurrence
20 to 49 years	228 (20.5%)	46 (31.9%)	20.2%
50 to 59 years	285 (25.6%)	26 (18.1%)	9.1%
60 to 69 years	294 (26.4%)	30 (20.8%)	10.2%
70 to 79 years	171 (15.4%)	28 (19.4%)	16.4%
80 years and over	134 (12.1%)	14 (9.7%)	10.4%
Total	1112	144	12.9%

Table 2. Stage at Diagnosis for patients diagnosed with Invasive breast cancer (excluding stage IV) in 2009 (n=1,112)

Stage at Diagnosis	Breast Cancer patients diagnosed in 2009 (n=1,112)	Women with Recurrence (n=144)	% of women in each stage with Recurrence
Stage I	448 (40.3%)	27 (18.8%)	6.0%
Stage II	382 (34.4%)	61 (42.4%)	16.0%
Stage III	156 (14.0%)	53 (36.8%)	34.0%
Unknown Stage	126 (11.3%)	3 (2.1%)	2.4%
Total	1112	144	12.9%

Conclusion and Future Work

- Recurrence was more commonly observed in women with later stage disease at diagnosis and was less common in the screen age population (50-70 years). No significant differences in hormone receptor status were observed. Differences in proportion of women having axillary surgery were observed but may be associated with stage of disease at diagnosis. Further investigation of the disease and socio-demographic characteristics (including deprivation quintile, screening status and treatment) is now essential to identify potential areas for improvement to inform future changes in breast cancer care in NI, including the development of a specialist metastatic breast cancer service.

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