
Downloaded from: http://researchonline.lshtm.ac.uk/2121491/

DOI:
Large differences in breast cancer survival between Australia and England

a comparative study using cancer registry data

UICC Conference, Geneva, 28th August 2008
International differences in five-year survival compared to England and Wales (baseline)

- Australia
- Southern, Western and Northern Europe
- North America
- Eastern Europe

Absolute difference (%)
Material

- Cancer registry data
  - Women aged 15-99 diagnosed with breast cancer
    - Patient demographics, tumour characteristics
    - Ecological deprivation scores (unemployment)
Methods

Relative survival

- Probabilities
- Excess hazard ratio
Methods

Survival from cancer in the absence of death from other causes

Survival (%)

Time since diagnosis (years)
Results

New South Wales

2000-2002
1996-1999
1988-1991
1992-1995
1984-1987
1980-1983

West Midlands

2002: period analysis

16.0%
10.6%
Results

New South Wales

Five-year relative survival (%)

Category of deprivation

West Midlands

Results

Five-year relative survival (%)

Category of deprivation
Results - patterns

- Survival higher in New South Wales and Australia
- Deprivation ‘gap’ wider in West Midlands
- Survival much lower among elderly in West Midlands than New South Wales
- Extent-specific differences greater in New South Wales
Results - explanations

- International & socio-economic differences not fully explained by extent of disease
- No effect of age or histology
- Not explained by deprivation
Up to one year after diagnosis

Model includes:
- deprivation X region
- age group X region
- extent of disease X region
- year of diagnosis
- histological group

Excess hazard ratio

Unemployment category

1980-1987
1988-1995
1996-2002

Affluent 2 3 4 Deprived

Up to one year after diagnosis

Model includes:
  • deprivation X region
  • age group X region
  • extent of disease X region
  • year of diagnosis
  • histological group

Excess hazard ratio

Unemployment category

1980-1987
1988-1995
1996-2002

Affluent 2 3 4 Deprived
Up to one year after diagnosis

Model includes:
- deprivation X region
- **age group X region**
- extent of disease X region
- year of diagnosis
- histological group

Excess hazard ratio

Age group

1980–1987
1988–1995
1996–2002
Model includes:

- deprivation X region
- **age group X region**
- extent of disease X region
- year of diagnosis
- histological group

2nd-5th years after diagnosis
Up to one year after diagnosis

Model includes:
• deprivation X region
• age group X region
• **extent of disease X region**
• year of diagnosis
• histological group

- Localised
- Regional
- Distant

Excess hazard ratio

- 1980-1987
- 1988-1995
- 1996-2002
Some causal explanations

- Delay in diagnosis – patient or system
- Treatment – type, delivery, compliance
- Nutritional status, co-morbidity
Conclusions

• Breast cancer survival differences exist
• Unlikely to be artefact
• May be treatment-related
• May also be partly related to delay (patient, healthcare system)