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**Introduction**

- **Our previous results:** a significant difference in five-year breast cancer survival between Australia and England of 6% in the screening age group for women diagnosed during the period 1996-19991
- **One possible explanation:** relatively low intensity of breast screening in England compared to Australia

**Material**

- Women aged 50 years or younger on 1st January 1996
- Diagnosed with a primary invasive breast cancer during the period 1 January 1996 to 31 December 2006
- 5,717 women from West Midlands region of England
- 6,396 women New South Wales, Australia
- All women were followed up to 31 December 2006

**Methods**

- Non-parametric net survival estimates using the Pohar-Perme estimator, using stns (software available for Stata 12)
- Comparison of the Pohar-Perme estimates with widely used Estève approach
- Excess hazard and hazard ratios derived from survival
- Expected survival from regional life tables (single years of age for each year of follow-up)
- Adjustment for the potential effect of lead time bias:
  - calculation of adjusted survival time $E(s)$
  - mean sojourn time of 4 years
  - 10 simulated data sets: $E(s)_1, E(s)_2, \ldots, E(s)_{10}$ assuming survival exponentially distributed with a mean of $E(s)$
  - survival estimates derived from these 10 separate data sets recombined using rules from the multiple-imputation setting

**Results**

- A significant difference in net survival between women diagnosed in New South Wales and the West Midlands (Figure 2)
- Survival for screen-detected women similar (Figure 3)

**Differences smaller for women who had attended screening (Figure 4)**

- Lead time adjusted estimates lower (Figure 5)
- Non-significant survival difference between New South Wales and West Midlands in adjusted estimates (Figure 6)

**Conclusions**

- Survival remains higher in New South Wales compared to the West Midlands for women aged 50-64
- Survival differences less marked for women who have attended screening
- Non-significant difference in survival amongst screen-detected women after adjustment for lead time
- Differential survival in the non-screen detected groups may be due to women obtaining mammography privately in New South Wales
- Poorer treatment of non-screen detected women after their diagnosis remains one explanation for poorer survival in West Midlands