Social inequalities in cancer survival and the NHS Cancer Plan

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AOS4-4
Track 2
Abstract presented before: NO
Disclosure of interest: NONE
Background

England

• Lower survival compared to other countries
• Wide inequalities

NHS Cancer Plan 2000

• 10-year comprehensive strategy, reinforced by successive initiatives
• A key aim was to reduce the survival inequalities between socioeconomic groups

This study aims to:

• Assess the effect of these policies on these inequalities
Methods (1/2)

Data

England population-based cancer registry

- 24 cancer sites
- Diagnosis period: 1996-2013, follow-up to 2014
- 3.5 million patients
- Deprivation in 5 categories (IMD income domain)
Methods (2/2)

Survival analysis
- One-year age-standardized net survival by calendar year and deprivation (stns*)
- stratified by sex

Multivariable regression
- Fitted net survival adjusting for the effect of deprivation and year of diagnosis
  - Linear and cubic regression splines (mvrs**)
  - Fixed knots (2001 and 2006)
- Deprivation gap is the absolute difference in survival between the two extreme socioeconomic groups

* Pohar-Perme et al
** Patrick Royston, Willi Sauerbrei
Deprivation gap in 2013 (1/2)
Wider than 6% deficit in survival

<table>
<thead>
<tr>
<th>Men</th>
<th>Women</th>
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<tbody>
<tr>
<td>Oesophagus</td>
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<td>Colon</td>
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<tr>
<td>Rectum</td>
<td>Mesothelioma</td>
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<td>Larynx</td>
<td>Bladder</td>
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<td>Kidney</td>
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<tr>
<td>Brain</td>
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<td>Non-Hodgkin lymphoma</td>
<td>Non-Hodgkin lymphoma</td>
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</tbody>
</table>
Deprivation gap in 2013 (2/2)
Less than 3% deficit in survival

Men
- Mesothelioma
- Skin melanoma
- Prostate
- Testis
- Hodgkin’s disease
- Thyroid

Women
- Skin melanoma
- Uterus
- Hodgkin’s disease
- Thyroid
Change in deprivation gap (1/2)

- No change for most malignancies
- Narrowing for:
  - (9) Colon
  - (11) Non-Hodgkin’s lymphoma
  - (14) Rectum
  - (15) Hodgkin’s disease
  - (18) Prostate
  - (19) Skin melanoma
- Widening for Brain cancer by more than 5.1 (-2.4 to -7.5)
Change in deprivation gap (2/2)

- No change for most malignancies
- Improvement in:
  - (15) Cervix
  - (18) Uterus
- Widening for Lung and Rectal cancers by 1.1 and 0.6, respectively
- Deficit in lung cancer survival increased from -3.7 to -4.8 between 1996 and 2013
Conclusions

Short-term cancer survival improved for all deprivation groups

But

• Survival consistently lower in the more deprived groups
• Overall, no reduction in socio-economic inequalities in short-term cancer survival
• Observed reduction in inequalities unrelated with Cancer Plan
• Most reduction explained by ceiling effect