The impact of cancer waiting times on survival for selected cancers in England, 2009-2013

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Background

Cancer waiting times are set to determine how long a patient with a suspected cancer should wait to be diagnosed and/or treated.

<table>
<thead>
<tr>
<th>Cancer referral date</th>
<th>Date first seen</th>
<th>Date of decision to treat</th>
<th>Treatment start date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Two Week Wait</td>
<td>31-day target</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>decision to treat to first or subsequent treatment)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>62-day target (referral to first treatment)</td>
<td></td>
</tr>
</tbody>
</table>

Cancer waiting times pathways and targets (adapted from Cancer Waiting Times: A Guide, version 9.0)

In 2003 the National Cancer Waiting Times Monitoring Dataset came into effect to keep track of these targets.
Data sources and objectives

Objectives:

1) To describe and compare characteristics of the patients included in the CWT dataset and those not included;

2) Among those with CWT information, to describe and compare characteristics of patients for whom targets were and were not met;

3) To assess the impact of meeting the 31-day wait, the two week wait and the 62-day wait targets on one-year net survival.

Results: CWT matching record

How many patients did not have a CWT matching record? What were their characteristics?

164,890 colorectal cancer patients
171,208 lung cancer patients
24,545 ovarian cancer patients

Who is not in the CWT dataset:
1) Patients who died before treatment could commence
2) Patients who received treatment in private settings

18%
24%
23%

- Youngest (<45 yrs) and oldest age groups (>75 yrs)
- High (>=5) Charlson comorbidity score
- Least deprived (only colorectal and ovarian)
- Late or missing stage at diagnosis
- Diagnosed through an emergency presentation
- Significantly poorer one-year survival
Results: two week wait target

How many patients were seen within two weeks of GP referral? What are their characteristics?

<table>
<thead>
<tr>
<th>Cancer site</th>
<th>% target met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colon &amp; rectum</td>
<td>95.1</td>
</tr>
<tr>
<td>Lung</td>
<td>97.4</td>
</tr>
<tr>
<td>Ovary</td>
<td>97.8</td>
</tr>
</tbody>
</table>

Proportions of patients for whom the target was met were higher among:
- colorectal cancer patients aged more than 75 years
- lung and ovarian cancer patients aged less than 45 years

What is the impact on survival of being seen within two weeks of GP referral?

Results: 31-day wait target

How many patients were treated within 31 days of decision to treat? What are their characteristics?

<table>
<thead>
<tr>
<th>Cancer site</th>
<th>% target met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colon &amp; rectum</td>
<td>96.7</td>
</tr>
<tr>
<td>Lung</td>
<td>97.7</td>
</tr>
<tr>
<td>Ovary</td>
<td>98.3</td>
</tr>
</tbody>
</table>

Around 50% of the patients were treated within 10 days.

Quickest in being treated were:
- late stage patients
- patients receiving treatments with palliative intent, given active monitoring, or declining the treatment
- young colorectal cancer patients and old lung cancer patients
Results: 31-day wait target

What is the impact on survival of receiving the first treatment within 31 days of decision to treat?

![Graph showing one-year net survival by 31-day waiting time target attainment (conditional to 90-day survival after diagnosis).]

Waiting time paradox / Sicker quicker effect
(Crawford et al, 2002; Forrest et al, 2014)

Results: 62-day wait target

How many patients were treated within 62 days of GP referral? What are their characteristics?

<table>
<thead>
<tr>
<th>Cancer site</th>
<th>% target met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colon &amp; rectum</td>
<td>73.1</td>
</tr>
<tr>
<td>Lung</td>
<td>74.8</td>
</tr>
<tr>
<td>Ovary</td>
<td>85.5</td>
</tr>
</tbody>
</table>

Quickest in being treated among those coming through the urgent GP referral path:
- patients receiving treatments with palliative intent, given active monitoring, or declining the treatment
- patients younger than 75 years
Results: 62-day wait target

What is the impact on survival of being treated within 62 days of GP referral?

![Graph showing one-year net survival by 62-day waiting time target attainment (conditional to 90-day survival after diagnosis)]

Waiting time paradox / Sicker quicker effect
(Crawford et al, 2002; Forrest et al, 2014)

Discussion and conclusion

- CWT dataset coverage may limit generalisability of findings and introduce selection bias
- Time to treatment is impacted by how sick the patient is → paradoxical effect of (quick) treatment on survival
  - Treatment with palliative intent is given earlier in time
  - Treatment with potentially curative intent requires more time for additional investigations and planning
- Beyond survival, benefit to patients of the CWT targets of the actual reduction in time waiting
  - sets cancer apart from other diseases in order for cancer patients to be treated more quickly
  - cuts out very large delays which would impact survival negatively
  - reduces stress/anxiety caused by extended waits
## Acknowledgements

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