Evaluation of data accuracy of the Prostate Cancer Registry at the Singapore General Hospital

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Outline

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2. Development of the Prostate Cancer Registry
3. Evaluation of data accuracy
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Singapore

South-east Asia  682.7km²  4 million people (2000 census)
Main island of Singapore & several offshore islands
Ten Most Frequent Cancers in Males in Singapore, 2003 -2007

1. Lung: 17.4%
2. Colo-rectum: 17.8%
3. Prostate: 9.9%
4. Stomach: 6.3%
5. Liver: 7.7%
6. Nasopharynx: 5.5%
7. Skin (Incl. Melanoma): 4.4%
8. Lymphoma: 4.3%
9. Bladder: 3.1%
10. Leukaemia: 3.1%
Mortality Rates for Ten Most Frequent Cancers in Males in Singapore, 2003 -2007

Source of data:
Singapore Cancer Registry Report
Interim Report on 8 May 2009
Trends In Cancer Incidence In Singapore 2003-2007
Development of the Prostate Cancer Registry

• Department of Urology Uro-oncology database since 1980’s

• Standardized the prostate cancer dataset in Year 2008
  ➢ Standards: CoC & NAACCR

• Started data quality control exercises from Year 2009
Evaluation of data accuracy

Objectives:

• To estimate rates of data accuracy of the prostate cancer registry
• To evaluate its compliance to CoC standards
• To identify problems in data collection and interpretation
Evaluation of data accuracy

Methods:

• Re-abstracting audits
• By an Urologist and a CTR who are not the original abstractors

Table 1: Define the scope of the evaluation

<table>
<thead>
<tr>
<th>Total prostate cancer cases from 1980 to 2007</th>
<th>No of cases evaluated</th>
<th>% of caseload evaluated</th>
<th>CoC minimum requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>2360</td>
<td>257</td>
<td>10.9%</td>
<td>10.0%</td>
</tr>
</tbody>
</table>
### Evaluation of data accuracy

#### Results:

Table 2: Data accuracy of the prostate cancer registry at Department of Urology, SGH (1980 to 2007)

<table>
<thead>
<tr>
<th>Data item</th>
<th>UCR performance</th>
<th>CoC recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of birth</td>
<td>99.6%</td>
<td>90.0%</td>
</tr>
<tr>
<td>Date of diagnosis</td>
<td>98.8%</td>
<td>90.0%</td>
</tr>
<tr>
<td>Pre-op PSA</td>
<td>96.5%</td>
<td>90.0%</td>
</tr>
<tr>
<td>Gleason score at 1st positive biopsy for prostate cancer</td>
<td>94.6%</td>
<td>90.0%</td>
</tr>
<tr>
<td>Clinical staging</td>
<td>88.3%</td>
<td>90.0%</td>
</tr>
<tr>
<td>Cancer status at last follow-up</td>
<td>97.3%</td>
<td>90.0%</td>
</tr>
<tr>
<td>Survival status</td>
<td>100.0%</td>
<td>90.0%</td>
</tr>
</tbody>
</table>
Evaluation of data accuracy

Conclusions:

- Majority of accuracy rates: exceeded the CoC requirement
- Clinical staging: not meet the CoC requirement
  - Not Urologists’ staging
  - Abstractors: not trained in staging
  - No full time cancer registry staff (inconsistency)
Evaluation of data accuracy

Improvements:

• Urologists’ staging (collaborations)
  ➢ Biopsy reports
  ➢ Operation reports

• CTR

• Full time cancer registrars

• Education
  ➢ Qualifications of Cancer Registrars (MBBS)
  ➢ Principles of Oncology for Cancer Registry Professionals
  ➢ Cancer Registry conferences and workshops

100% accuracy rate
Summary

Key points to achieve high data accuracy rates:

• Collaborations
  ➢ HOD / Director of Oncology / Director of Research
  ➢ Urologists, Radiation / Medical Oncologists
  ➢ Cancer Registrars
• Full time cancer registrars
• Education & Qualifications of Cancer Registrars
Thank you

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