Showcase: Reducing Variations in lung cancer pathway

Donna Chung
Head of Centre for Cancer Outcomes, North Central and East London Cancer Alliance

27 January 2020
CRUK Strategic Intelligence Forum
### Outline

#### Part 1
**Setting the scene**
- Variations in 5 year survival in North Central and East London
- How data on variations in care has improved outcomes in lung cancer
- Current challenges

#### Part 2
**Use data to change practice and track implementations**
- Gather collective wisdom across alliance to reduce variations in care
- Use of Pathway Tool to select and measure outcomes
- Support organisational development, influence practice through data dashboards encompassing operational performance, treatment, outcomes and patient experience data

#### Part 3
**Work in partnership to deliver Cancer Long Term Plan**
- Addressing quality of COSD data locally
## Variations in 5 year survival

5 year survivals for NCEL patients, followed up to 2016 by tumour groups

### Five year survivals

<table>
<thead>
<tr>
<th>Tumour</th>
<th>Patients in NCEL</th>
<th>NS (%)</th>
<th>95% CI Lower</th>
<th>95% CI Upper</th>
<th>Patients in Eng</th>
<th>NS (%)</th>
<th>95% CI Lower</th>
<th>95% CI Upper</th>
<th>Opportunities to reduce variations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bladder</td>
<td>1,490</td>
<td>48.7</td>
<td>44.4</td>
<td>52.9</td>
<td>42,861</td>
<td>56.4</td>
<td>55.6</td>
<td>57.2</td>
<td>Significantly below England</td>
</tr>
<tr>
<td>Colorectum</td>
<td>5,845</td>
<td>58.1</td>
<td>56.2</td>
<td>60.1</td>
<td>164,980</td>
<td>60.5</td>
<td>60.1</td>
<td>60.9</td>
<td>Borderline below England</td>
</tr>
<tr>
<td>Kidney</td>
<td>1,730</td>
<td>65.5</td>
<td>61.6</td>
<td>69.6</td>
<td>46,918</td>
<td>60.8</td>
<td>60.0</td>
<td>61.5</td>
<td>Significantly above England</td>
</tr>
<tr>
<td>Lung</td>
<td>7,101</td>
<td>16.7</td>
<td>15.3</td>
<td>18.1</td>
<td>179,060</td>
<td>15.2</td>
<td>14.9</td>
<td>15.5</td>
<td>Borderline above England</td>
</tr>
<tr>
<td>Myeloma</td>
<td>1,156</td>
<td>53.9</td>
<td>48.9</td>
<td>59.5</td>
<td>22,249</td>
<td>51.4</td>
<td>50.3</td>
<td>52.6</td>
<td>Similar to England</td>
</tr>
<tr>
<td>Non-Hodgkin's lymphoma</td>
<td>2,289</td>
<td>67.0</td>
<td>64.0</td>
<td>70.0</td>
<td>54,391</td>
<td>66.9</td>
<td>66.2</td>
<td>67.6</td>
<td>Similar to England</td>
</tr>
<tr>
<td>Oesophagus</td>
<td>1,173</td>
<td>16.0</td>
<td>13.0</td>
<td>18.9</td>
<td>36,075</td>
<td>16.6</td>
<td>16.0</td>
<td>17.3</td>
<td>Similar to England</td>
</tr>
<tr>
<td>Stomach</td>
<td>1,182</td>
<td>25.4</td>
<td>22.0</td>
<td>28.9</td>
<td>27,496</td>
<td>21.3</td>
<td>20.6</td>
<td>22.1</td>
<td>Borderline above England</td>
</tr>
<tr>
<td>Breast</td>
<td>8,688</td>
<td>84.2</td>
<td>82.4</td>
<td>86.1</td>
<td>203,983</td>
<td>86.0</td>
<td>85.7</td>
<td>86.4</td>
<td>Similar to England</td>
</tr>
<tr>
<td>Cervix</td>
<td>568</td>
<td>77.8</td>
<td>73.7</td>
<td>81.9</td>
<td>12,716</td>
<td>61.3</td>
<td>59.6</td>
<td>63.0</td>
<td>Significantly above England</td>
</tr>
<tr>
<td>Prostate</td>
<td>7,564</td>
<td>89.6</td>
<td>87.8</td>
<td>91.4</td>
<td>193,518</td>
<td>88.3</td>
<td>87.9</td>
<td>88.7</td>
<td>Similar to England</td>
</tr>
<tr>
<td>Uterus</td>
<td>1,682</td>
<td>76.1</td>
<td>72.9</td>
<td>79.2</td>
<td>36,632</td>
<td>76.7</td>
<td>75.9</td>
<td>77.5</td>
<td>Similar to England</td>
</tr>
</tbody>
</table>

*Source: ONS*

**Opportunities to improve 5 year survival by:**

- increasing proportion of early stage diagnoses
- identifying and addressing variations in (radical) treatment rates
- ensuring universal and timely access to molecular testing, enabling optimal use of innovative treatments

(*) Age-standardisation cannot be based on the complete five age groups but four instead. The age range that fails one of the robustness criteria is combined with a neighbouring age range before the age standardised figure is calculated.

(;) Where it was not possible to age-standardise, the unstandardised estimate has been presented instead.
How data on variations in care has improved outcomes

Trends in one- & five- year net survival & surgical resections

Sources: S Walters et al. Br J Cancer: 2015;113(5):848-60 (updated) & D West, Society of Cardiothoracic Surgeons
Proportion (%) of stage I & II NSCLC patients receiving surgery; England and Wales 2016

Source: National Lung Cancer Audit 2017

Source: National Cancer Registration and Analysis Service: www.ncin.org.uk
Reducing variations requires collective wisdom across a cancer alliance

Data is integral to help us change practice...

Avoid blind spots & lop-sided solutions

Think beyond ‘top down’ vs ‘bottom up’ change

Don’t pilot and push out when seeking to spread

Bring together all the skills & perspective needed

Improvement needs action at all levels

Nurture peer networks to enable iterative learning
Events from referral to treatments before death in lung cancer patients (single trust)
Events from diagnosis in deceased lung cancer patients (single trust)
A&E attendances pre- and post- diagnosis for deceased lung cancer patients: single trust view
Lung cancer patients with surgery as first treatment (2015-17) – volume of activities and median days
Lung cancer patients with surgery as first treatment (2015-17) – volume of activities and median days
Lung cancer patients with surgery as first treatment (2015-17) – volume of activities and median days
Data completeness - patients characteristics

Trust level COSD dashboard – can filter by tumour groups, first seen trusts and date of diagnosis
Evaluate data as close to real time as possible

R Dashboard feeding COSD Level 2 data back to NCEL MDTs

- Data completeness over time
- Boxplot comparison with England and alliance
- SPC for variation in data completeness over time
- Alliance
  - Trust
  - Tumour Gp
- COSD L2 metric
- Export data tables
Data is integral to help us change practice

- Bring together all the skills & perspective needed
- Improvement needs action at all levels
- Nurture peer networks to enable iterative learning
Data is integral to help us change practice

The pathway tool

- Makes the rich cancer registry data more accessible, potentially to the whole Cancer community.
- Gives ‘infinitely’ flexible insights into variations in care. Potentially a way to produce audits in the future.
- Peer networks plays an important role in quality improvement.
- Requires analytical support and addressing data lag.

This work uses data provided by patients and collected by the NHS as part of their care and support.