Exploring variation using a pathway tool

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Pathway tool approach

- RMP is piloting the use of tool developed by HDI (Health Data Insight) which enables pathway level analysis of the cancer registry data collected by Public Health England.

- Tool allows linkage of following including intervals between them.
  - Diagnosis details
  - Date of death
  - HES activity (inpatient, outpatient, A&E)
  - Treatments received (surgery, radiotherapy, chemotherapy
  - All diagnostics (recording in HES or DIDs dataset)
  - Cancer Waiting Times activity

- Work has started via an honorary contract within PHE, with the medium term view for data to be shared directly via a data sharing agreement.

- Initial focus has been on lung and colorectal.
Early diagnosis examples
Colonoscopies 6-36 months prior to diagnosis of colorectal cancer

Background

• BMJ article published in November 2019 focusing on post colonoscopy colorectal cancer rates. https://www.bmj.com/content/367/bmj.l6090

• Uses 6-36 months to define a post colonoscopy colorectal cancer rate. (i.e. assumption is cancer or pre-cancerous polyp would have been present at colonoscopy)

• Covers diagnoses between 2005 and 2013, with a overall rate of 7.4% decreasing from 9.0% in 2015 to 6.5% in 2013.

• Rates lower for colonoscopies undertaken as part of bowel screening programme (3.6%)

• Rates higher for NHS activity conducted by a private provider (9.3%)
Colonoscopies 6-36 months prior to diagnosis of colorectal cancer

Graph showing the proportion of colorectal cancer diagnosis with a record of a colonoscopy between 6 months and 3 years before diagnosis, for patients diagnosed between 2013 & 2017 by West London CCG

Key (95%) confidence interval
Green - Rate is significantly lower than the rest of West London
Blue - Rate is in line with rest of West London
Red - Rate is significantly higher than the rest of West London
Survival and treatment variation – Focus on stage 4 colorectal cancer for patients aged 70+
1 year crude survival for Colorectal cancer stage 4 diagnosis by CCG and STP in West London for patients diagnosed between 2013 & 2017
Patients aged 70+

- Variation by CCG in 1 year survival varies from 23.7% to 42.9%
- North West London’s rate was significantly lower than the South West London.
- If all CCG in West London, had matched the best (42.9%) an extra 82 patients would be alive per year a year after diagnosis, representing 9.6% of patients with this diagnosis.
Deep dive stage 4 patients aged 70+
8. One year crude survival by treatments received in the 1st year for patients resident in West London. Patients aged 70+ with stage 4 colorectal cancer between 2013 to 2016.

Analysis by treatment type shows across West London 1 year survival is as follows by treatment types received in the 1st year after diagnosis:

- Surgery & chemotherapy: 80.4%
- Chemotherapy only: 50.3%
- Surgery only: 39.8%
- No treatment: 9.9%

Survival is similar by treatment modality between South West London and North West London.
Breakdown of treatments received in 1st year for patients diagnosed with stage 4 colorectal cancer aged 70+ - North West London compared to South West London

- More patients receive chemotherapy as a single modality in South West London (24% vs 14%)
- More patients who have both surgery and chemotherapy in South West London (15% vs 10%)
- Less patients received no treatment in South West London (44% vs 54%)
Comparison of chemotherapy rates within a year of diagnosis by CCG in West London for patients diagnosed with stage 4 colorectal cancer aged 70+ between 2013 and 2017

Graph showing the proportion of patients ages 70+ diagnosed between 2013 & 2017 with stage 4 colorectal cancer receiving chemotherapy within a year of diagnosis by CCG in West London

**RAG rating (95% confidence interval)**
- Green - CCG/STP rate is **significantly higher** than the rest of West London
- Black - CCG/STP rate is **in line** with the rest of West London
- Red - CCG/STP rate is **significantly lower** than the rest of West London

Proportion of patients having chemotherapy:

- Croydon: 51.6%
- Merton: 44.9%
- Wandsworth: 41.1%
- Kingston: 40.5%
- Richmond: 40.0%
- Sutton: 37.9%
- Ealing: 36.5%
- Harrow: 33.6%
- Hounslow: 30.0%
- Brent: 30.3%
- West London: 28.5%
- Hillingdon: 22.7%
- Hammersmith & Fulham: 21.6%
- NWL overall: 26.8%
- SWL overall: 43.1%

West London overall - 34.9%
National variation in 1 year crude survival for stage 4 colorectal cancer in patients aged 70+
by STP footprint

-South West London has highest survival nationally in this cohort of patients


National variation from 39.0% to 25.0%.
## Potential patients alive at 1 year if best Alliance nationally matched Colorectal Cancer – for each stage for <70 & 70+ age bands

<table>
<thead>
<tr>
<th>Stage at diagnosis</th>
<th>National (Best Alliance) – Additional patients alive</th>
<th>National (Best Alliance) - % of deaths this accounts for</th>
<th>West London contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>81</td>
<td>5.2%</td>
<td>7</td>
</tr>
<tr>
<td>Stage 2</td>
<td>173</td>
<td>4.1%</td>
<td>13</td>
</tr>
<tr>
<td>Stage 3</td>
<td>512</td>
<td>37.0%</td>
<td>45</td>
</tr>
<tr>
<td>Stage 4</td>
<td>689</td>
<td>14.4%</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,455</strong></td>
<td><strong>15.6%</strong></td>
<td><strong>90</strong></td>
</tr>
</tbody>
</table>

Following estimates used
National (best alliance) – combined impact of matching best alliance nationally for under 70s and 70+ age groups. Stage 1 & 2 uses 2013-17 combined to estimate, and stage 3 & 4 uses 2017 only
Above excludes those patients with unknown stage so figures are likely to higher.
Overview

• Alliance access to the cancer registry data with a pathway tool to allow visualisation of pathway allows granular analysis of data.

• Analysis shows variation in both metrics related to early diagnosis and well as treatment access.

• Moves discussion on from ‘not enough data available’ to what we are going to do about reducing variation.

• Next steps
  • More tumour types
  • Review of treatment types (e.g. immunotherapy)
  • Other diagnostics prior to diagnosis (e.g. Upper GI endoscopy, Chest CT)
  • A&E attendances prior to presentation