Association of prevalence and comorbidities at diagnosis for those living with cancer in London

Public Health England

NHS

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BACKGROUND

Comorbidity may impact the effectiveness and delivery of cancer treatment, survival outcomes, and quality of life. This study explored demographic variation in people living in London with serious comorbidities at the time of their cancer diagnosis.

Analysis was carried out comparing those who have no serious comorbidities recorded with those who have at least one serious comorbidity. Twenty year prevalence was also calculated to provide context for demographic variation.

METHODS

- Data on people living in London diagnosed with cancer (excluding non-melanoma skin cancer) from 1995-2014, alive on 31/12/14, was extracted from Public Health England's cancer registry.

- For those with multiple cancers, the most recent cancer was used.

- A Charlson Comorbidity Index (CCI) severity-weighted score was derived using details in the diagnosis fields of inpatient Hospital Episode Statistics and assigned to records of those diagnosed 2007-2014. (figure 1 and table 1).

Table 1: List of diagnoses used to assign a severity-weighted CCI score

Acute Myocardial Infarction	Connective Tissue Disorder	HIV	Peripheral Vascular Disease
Cancer (excl. metastatic)	Dementia	Liver Disease	Pulmonary Disease
Cerebral Vascular Accident	Diabetes	Paraplegia	Renal Disease
Congestive Heart Failure	Diabetes Complications	Peptic Ulcer	Severe Liver Disease

cancer diagnosis

2 year look-back period
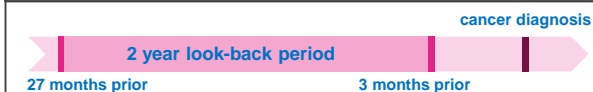
27 months prior   **3 months prior**

Figure 1: A CCI score is derived for each patient using qualifying diagnoses from a 27-3 month look-back period prior to cancer diagnosis
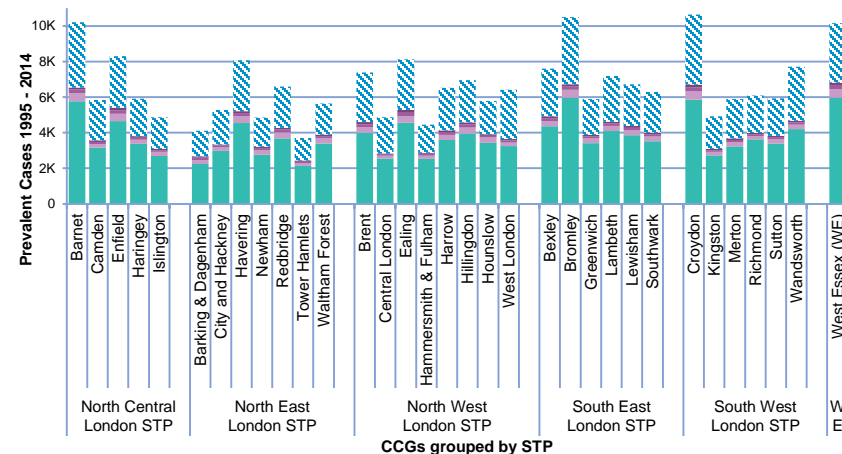
DISCUSSION AND CONCLUSION

This work provides new intelligence on comorbidity variation by demographic factors. It also provides commissioners with data to further understanding of people who have complex disease pathways.

Results of this analysis—using prevalence and CCI score—provides an important view of cancer in London. However, the score only takes into account serious comorbid diagnoses recorded in inpatient admissions in the 27 to 3 months prior to cancer diagnosis.

To build upon these results, further analysis is planned using a broader definition of comorbidity and exploring prevalent patients who have developed a comorbidity after cancer diagnosis.
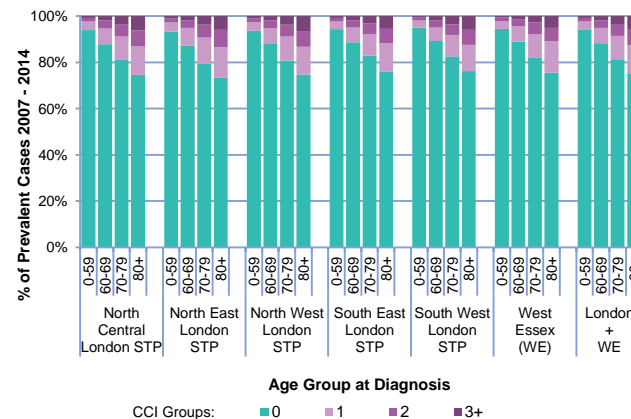
- 219,444 people living with cancer were diagnosed 1995-2014[1].

- 140,613 people, diagnosed 2007-2014, have a CCI score assigned. 88% have a score of zero, 7% have a score of one, 3% have a score of two and 2% have a score of three or more (figure 2).

- Those 80 and over account for 10% of the CCI cohort, however they account for 21% of those with at least one serious comorbidity.

- Males account for 47% and females 53% of the CCI cohort. However males account for 55% of those with at least one serious comorbidity, females account for 45%.

- For those with at least one serious comorbidity, statistically significant variation was found by age at diagnosis (figure 3), deprivation (figure 4), gender, and years since diagnosis (results not shown).
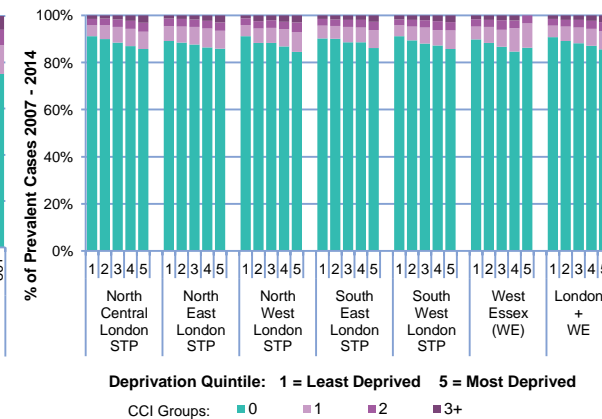
RESULTS

CCI Groups: 0   1   2   3+   Cases diagnosed prior to 2007 (no Charlson score)

Figure 2: Counts of prevalent patients in London diagnosed 1995-2014 by clinical commissioning group (CCG), sustainability and transformation plan (STP), and by CCI scores of 0, 1, 2, 3+ for those diagnosed from 2007-2014

CCI Groups: 0   1   2   3+

Figure 3: Percentage of prevalent patients in London diagnosed 2007-2014 by STP, age at diagnosis, and by CCI scores of 0, 1, 2, 3+

Deprivation Quintile: 1 = Least Deprived   5 = Most Deprived

CCI Groups: 0   1   2   3+

Figure 4: Percentage of prevalent patients in London diagnosed 2007-2014 by STP, deprivation, and by CCI scores of 0, 1, 2, 3+

ACKNOWLEDGEMENTS AND REFERENCES