

SUPPORTING SYSTEM REDESIGN IN THE CITY OF MANCHESTER

WE ARE
MACMILLAN.
CANCER SUPPORT

Linking local and national datasets to improve the outcomes and delivery of cancer care pathways in Manchester

C Chapman¹, J Flynn¹, J Melvin¹, D Chapman², W Makin³, N Bundred⁴, P Barber⁴

1. Macmillan Cancer Support 2. Monitor Deloitte 3. The Christie Hospital NHS FT 4. University Hospital of South Manchester NHS FT

Background

In 2010, Macmillan Cancer Support worked with Monitor Group to perform retrospective analysis of almost 85,000 cancer patients' interactions with the NHS in England over seven years. This was achieved through linking and analysing Cancer Registry data with Hospital Episode Statistics.

The programme of work became known as Routes from Diagnosis (RfD). It was expanded with several City of Manchester (CoM) partners to develop an understanding of baseline service use across secondary care breast and lung cancer pathways, through the addition of local provider data.

Methods

A Manchester extract of original RfD data was used to compare outcomes of CoM patients diagnosed with breast and lung cancer in 2002 and 2004, with the national cohort. It was based on eight clinically meaningful outcome groups that consider length of survival, co-morbidities and resource usage.

A&E, outpatient, primary care and palliative care data were added, to construct a patient-level pseudonymised dataset capturing patients' treatment activities across multiple settings of care.

Survivorship outcome groups for breast cancer

Limited survival	Limited – moderate survival	Survival
1 0 to 6 months survival	3 1 to 7 years survival with 4 or without other inpatient diagnoses	6 7+ years survival with cancer complications
2 1 to 5 years survival with cancer complications		7 7+ years survival with other inpatient diagnoses
	5 5 to 7 years survival with cancer complications	8 7+ years survival with no other inpatient diagnoses

Survivorship outcome groups for lung cancer

Limited survival	Limited – moderate survival	Survival
1 0 to 6 months survival	3 6 months to 7 years survival with other inpatient diagnoses	6 7+ years survival with cancer complications
2 6 to 12 months survival with cancer complications	4 6 months to 7 years survival with limited intervention	7 7+ years survival with other inpatient diagnoses
	5 1 to 7 years survival with cancer complications	8 7+ years survival with no other inpatient diagnoses

Conclusion

Localising the Routes from Diagnosis framework has highlighted the inequalities in outcomes that can exist across a local health economy, but which may be masked when considering aggregate

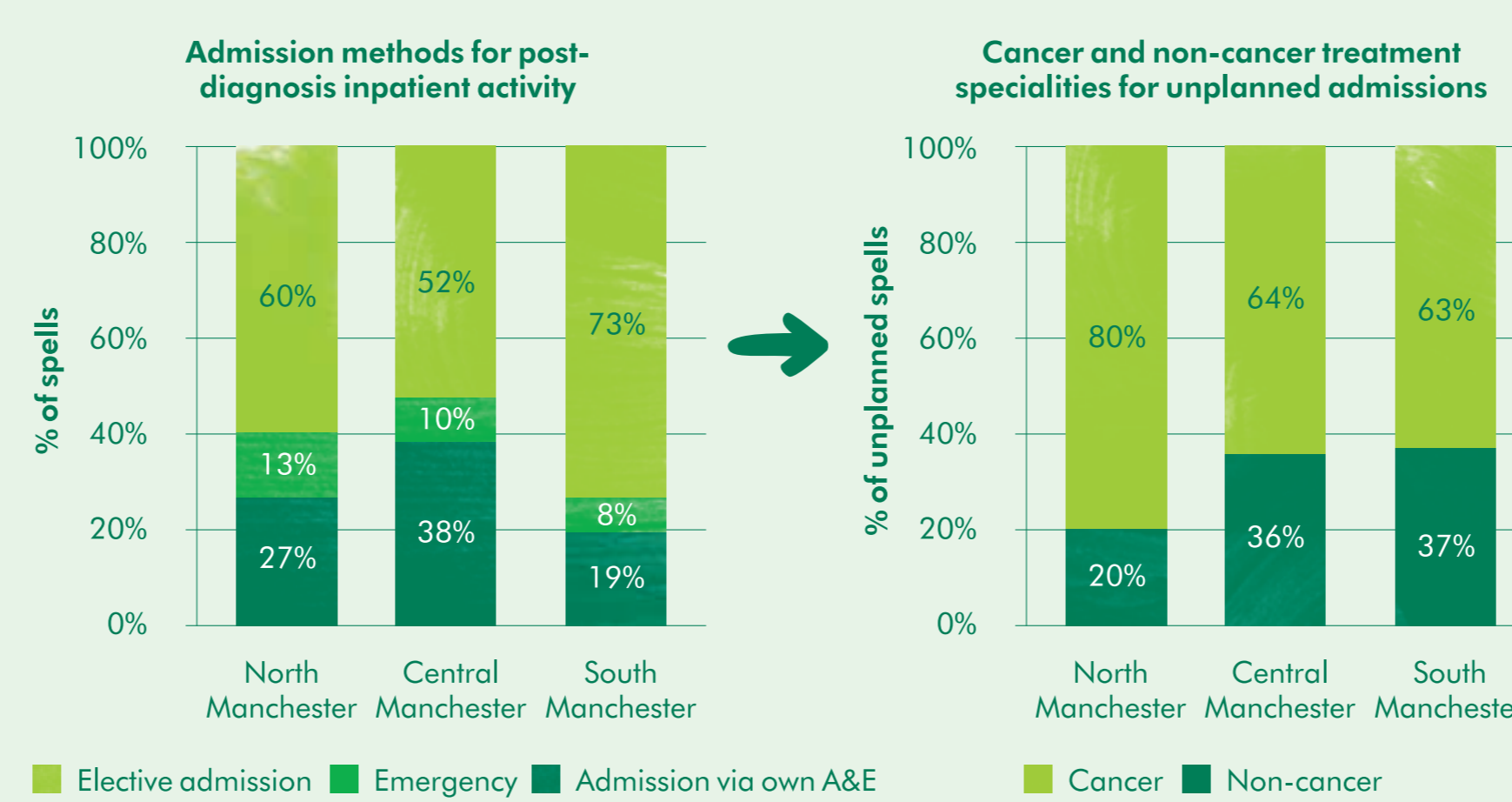
Results

Breast cancer

RfD showed a similar survivorship outcome profile between CoM patients and the English cohort. However, the addition of local provider data revealed large variations across the local health economy.

Key geographic differences in the rate and cause of unplanned admissions were evident (see Figure A). 38% of inpatient admissions for breast cancer patients in Central Manchester CCG were via A&E, versus 19% for South Manchester CCG, despite a similar proportion of this activity being cancer-related (64% and 63% respectively).

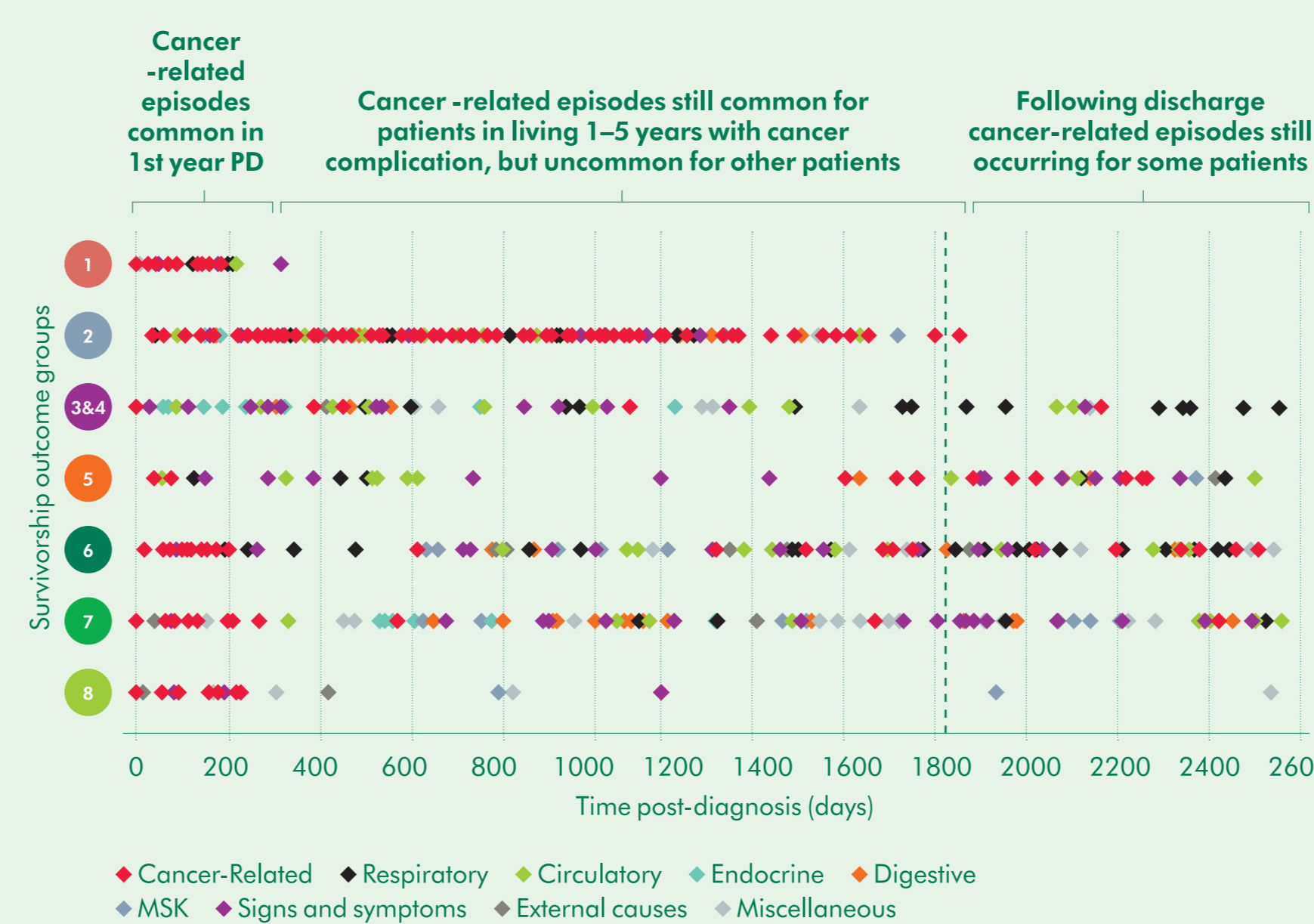
Figure A: Differences in rate and cause of unplanned admissions by CCG



The chi-square statistic for Admission methods for post-diagnosis inpatient activity is 73.3909, with a p-value of < 0.00001. The result is significant at p < .05 and at p < .01

When this data is collated across the CoM, we can see that cancer is an ongoing cause of unplanned activity post-diagnosis across the outcome groups. There are clear implications for the system dependent on the outcome group a person is in, as demonstrated by Figure B.

Figure B: All post-diagnosis unplanned inpatient episodes by survivorship outcome group (colour-coded by primary diagnosis)

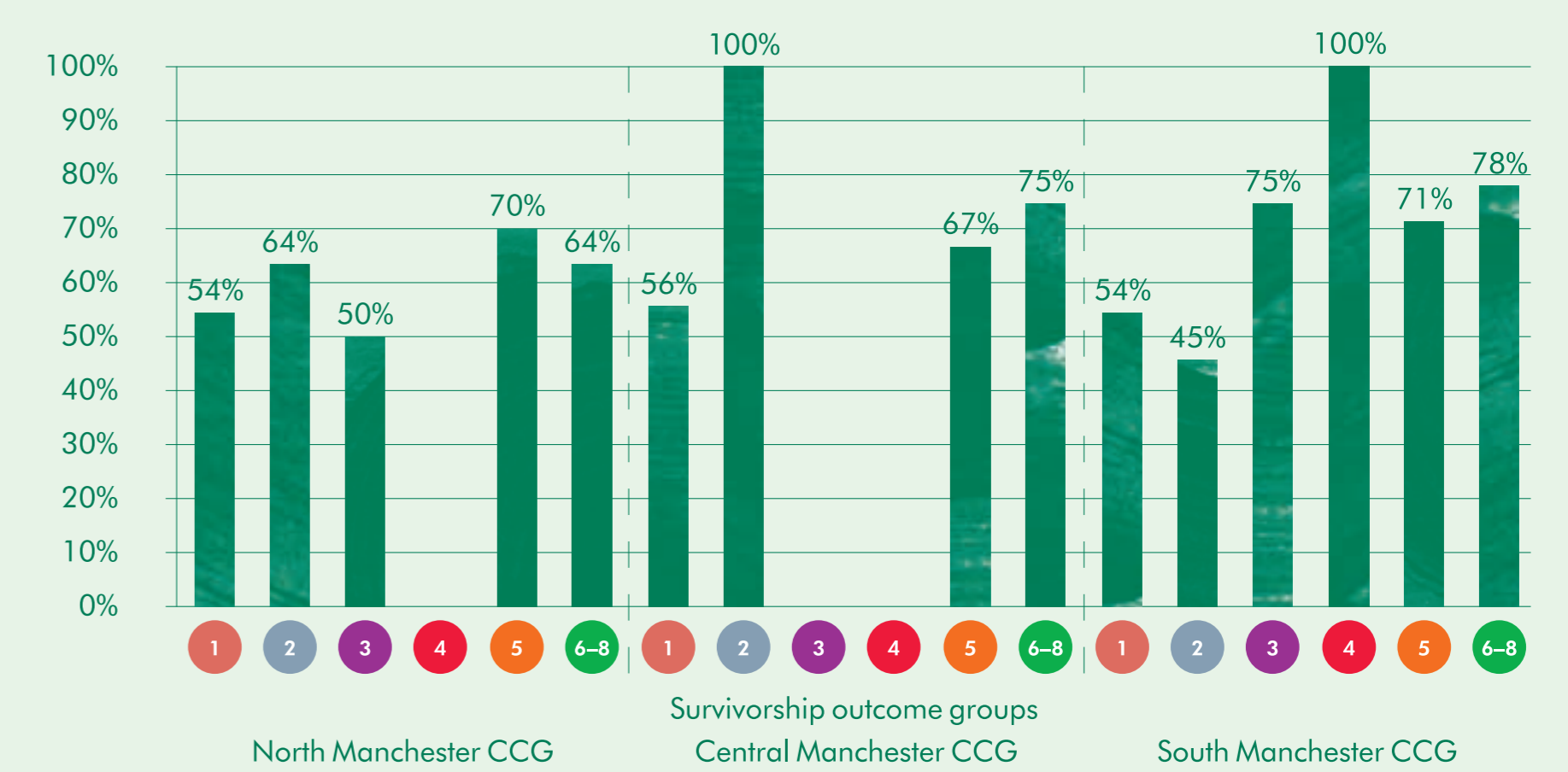


However, we can also see from this that those in less-poor outcome groups, such as groups 6 and 7, still have significant levels of unplanned inpatient episodes – including cancer-related ones – up to the study cut-off point of seven years.

Lung cancer

Significant variation was observed in lung cancer patients' pre-diagnosis pattern of contact with the NHS between CCGs (shown by Figure C).

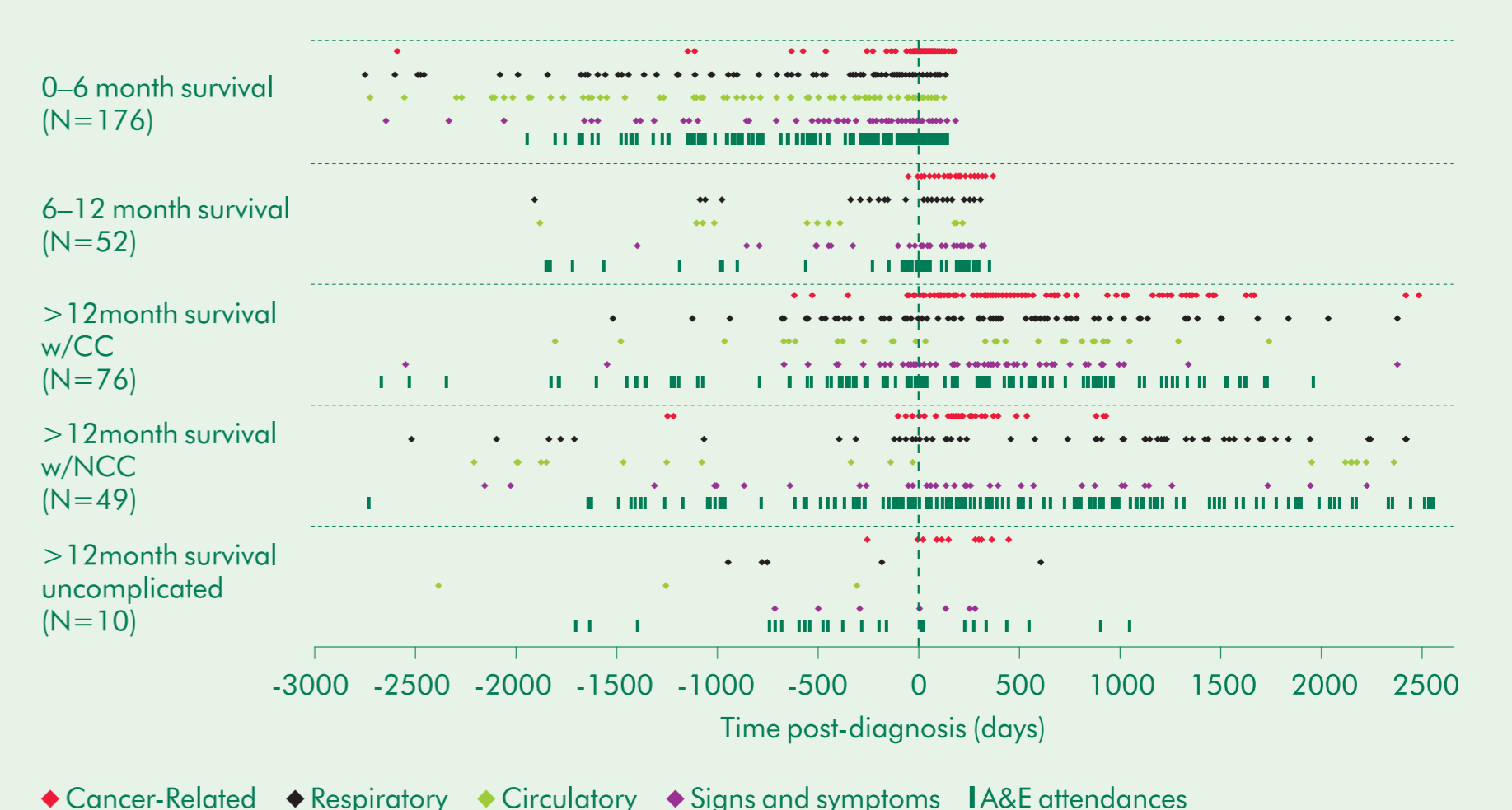
Figure C: Proportion of 2009 lung cancer patients with at least one secondary care contact in the year pre-diagnosis



These variations in activity were replicated in survivorship, with between 42% and 61% of patients surviving less than 6 months post-diagnosis across CCGs.

When patients from all three CCGs were considered together, analysis of pre-diagnosis acute sector activity revealed a considerable quantity of unplanned activity in the years leading up to diagnosis. This was particularly the case for patients with, ultimately, very poor post-diagnosis survival. This is demonstrated in Figure D.

Figure D: Differences in both rate and cause of unplanned admissions



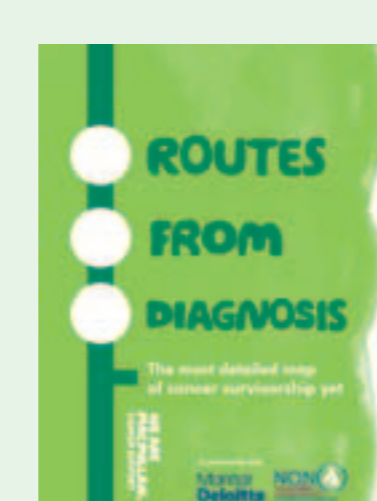
'average' data alone. Outputs from the analysis identify potential areas for service redesign interventions to improve the outcomes and delivery of cancer care services in the City of Manchester.

These would supplement the other work-streams that Macmillan is pursuing in the area.

In partnership with:



Acknowledgements
We would like to thank all the people, both locally and nationally, who supported RfD by ensuring we had robust information governance and who made this work possible.



See Routes from Diagnosis: the most detailed map of cancer survivorship yet for further findings here: bit.ly/macmillanrfd