

End of Life Care

Supplement 1: Technical Document

To inform the

Joint Strategic Needs Assessment (JSNA) Report for

Hammersmith and Fulham Kensington and Chelsea Westminster

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Contents

1	Executive summary.....	8
1.1	Background and data sources	8
1.2	Population and number of deaths	8
1.3	Place of death.....	8
1.4	Coordinate my Care	9
1.5	Deaths among hospice patients.....	10
1.6	Deaths in hospital.....	10
1.7	Social care.....	10
2	Background.....	11
2.1	Geography and population	11
2.2	Data sources.....	12
2.2.1	Local data	12
2.2.2	EOLC profile.....	12
2.2.3	Other indicators	12
2.2.4	Hospice patients.....	12
2.2.5	Hospital deaths	13
3	Population and number of deaths.....	14
3.1	Age distribution.....	14
3.2	Ethnicity.....	18
3.3	Deprivation.....	18
3.4	Care Homes	18
3.5	Number of deaths	18
3.5.1	National comparison.....	18
3.5.2	Number of deaths	19
3.5.3	Trend in number of deaths	20
3.5.4	Local variation in the death rate.....	21
3.5.5	Death rate by age.....	25
3.5.6	Death rate by cause of death.....	29
4	Place of Death.....	34
4.1	National comparison	34
4.2	Number of deaths locally	38
4.3	Place of death trends	38
4.4	Place of death – by cause of death	41
4.5	Place of death – by age group.....	43
4.6	Place of death – by ethnicity.....	46
4.6.1	Background	46

4.6.2	Local findings.....	47
4.7	Place of death – by deprivation	48
4.7.1	Background	48
4.7.2	Local findings.....	49
4.8	Local variation in place of death	49
4.8.1	Descriptive findings.....	49
4.8.2	Spatial analysis	53
4.8.3	Deaths in usual residence by GP practice	55
5	Coordinate My Care (CMC).....	59
5.1	Background.....	59
5.2	Number of patients recorded on CMC.....	59
5.3	Preferred place of death	59
5.4	Number of patients on CMC by GP practice	60
5.5	Recorded diagnosis of patients on CMC	60
6	Deaths among hospice patients	62
7	Deaths in hospital	65
7.1	Background.....	65
7.2	Local analysis.....	65
7.3	Hospital palliative care.....	70
8	Social Care	72
8.1	Social Care Expenditure	73
9	Appendix.....	74
9.1	CCG and LA resident and registered populations	74
9.2	Rate of deaths in 2014 per 100,000 population aged 65 years and over.....	74
9.3	Percentage of deaths due to circulatory disease.....	74
9.4	Percentage of deaths due to respiratory disease	74
9.5	Hot spot analysis of the percentage of deaths due to respiratory disease	74
9.6	Place of death by cause of death with 95% confidence intervals	74
9.7	Place of death by age at death with 95% confidence intervals	74
9.8	Location of deaths in 2014 by place of death	74
9.9	Characteristics of the last inpatient admission before death by provider	74
9.10	End of Life Care Profile for LBHF	74
9.11	End of Life Care Profile for RBKC.....	74
9.12	End of Life Care Profile for WCC.....	74

Figures

Figure 1 Percentage of residents aged 65 years and over	15
Figure 2 Percentage of the population aged 65 years and over	16
Figure 3 Index of Multiple Deprivation, 2010 for Hammersmith and Fulham, Kensington and Chelsea and Westminster - National quintiles (20% groupings)	17
Figure 4 Directly Standardised Mortality rate for all causes, 3-year average 2011-13	19
Figure 5 Trend in the number of deaths and the percentage of the population aged 65 years and over .	21
Figure 6 Rate of deaths in 2014 per 100,000 population	23
Figure 7 Hot spot analysis of the death rate per 100,000 population	24
Figure 8 Average number of deaths per year by single year of age	25
Figure 9 Median age at death in 2014 by electoral ward	27
Figure 10 Hot spot analysis of the median age at death	28
Figure 11 Percentage of deaths due to cancer	31
Figure 12 Hot spot analysis of the percentage of deaths due to cancer	32
Figure 13 Hot spot analysis of the percentage of deaths due to circulatory disease	33
Figure 14 Percentage of deaths (excluding deaths due to external causes) occurring in usual residence by local authority, Q3 2013/14 - Q2 2014/15	35
Figure 15 Trend in deaths (excluding deaths due to external causes) occurring in usual residence by CCG resident population	36
Figure 16 Indirectly standardised rate of deaths at home	37
Figure 17 Percentage of all deaths by place of death	39
Figure 18 Percentage of deaths in usual residence, 2006-2014, resident LA, resident CCG and registered CCG populations	40
Figure 19 Place of death by cause of death, 2014	41
Figure 20 Percentage of deaths in usual residence, 2006-2014, by cause of death	42
Figure 21 Place of death by age group, 2014	43
Figure 22 Percentage of deaths in usual residence, 2006-2014, by age group	45
Figure 23 Percentage of deaths in usual residence by country of birth category, 2014	47
Figure 24 Percentage of deaths in usual residence by IMD deprivation quintile within the three boroughs (1 indicates the 20% of LSOA's that are most deprived, 5 the 20% that is least deprived)	49
Figure 25 Percentage of deaths in usual residence by ward, 2014	50
Figure 26 Hot spot analysis showing the areas where the percentage of deaths in usual residence is significantly higher ("hot spot") or lower ("cold spot") than neighbouring areas	51
Figure 27 Deaths in usual residence by GP practice, 2014	56

Figure 28 Percentage of the population aged 65 years and over recorded on Coordinate My Care (CMC) by GP practice	61
Figure 29 Percentage of all deaths that are patients of St Johns hospice, Pembridge hospice or Trinity hospice	63
Figure 30 Coverage by St Johns hospice, Pembridge hospice and Trinity hospice.....	64
Figure 31 Number of inpatient admissions in the two years before death in hospital (all activity before death included)	68
Figure 32 Number of A&E attendances before death in hospital (all activity before death included)	69
Figure 33 Number of first outpatient appointments before death in hospital (all activity before death included)	69
Figure 34 CCG and LA resident and registered populations	75
Figure 35 Rate of deaths in 2014 per 100,000 population aged 65 years and over	76
Figure 36 Percentage of deaths due to circulatory disease.....	77
Figure 37 Percentage of deaths due to respiratory disease	78
Figure 38 Hot spot analysis of the percentage of deaths due to respiratory disease	79
Figure 39 Location of deaths in 2014 by place of death.....	82

Tables

Table 1 Number of residents aged 65 years and over in London Borough of Hammersmith and Fulham, Royal Borough of Kensington and Chelsea and Westminster City Council	14
Table 2 Average number of deaths per year in resident LA, resident CCG and registered CCG populations	20
Table 3 Quintiles of wards with the lowest and highest median age at death, 2014	26
Table 4 Number of deaths by cause of death (residents LA, average 2006-2013).....	29
Table 5 Number of deaths per year by place of death	38
Table 6 Change in the percentage of deaths in usual residence between 2006-2010 and 2011-2014 by age group	44
Table 7 The percentage of deaths in usual residence in those who lived in a care home before death compared to those who did not live in a care home	53
Table 8 Univariate ordinary least squares spatial regression analysis of the association with the percentage of deaths in usual residence	54
Table 9 Practices with a significantly higher or lower percentage of deaths in usual residence in 2014 and their pattern over 2006-2014	57
Table 10 Number of patients recorded on Coordinate My Care (CMC) as a proportion of the practice population aged 65 years and over	59
Table 11 Percentage of patients recorded on Coordinate My Care (CMC) who died in their preferred place of death	60
Table 12 Recorded diagnosis of patients on Coordinate My Care (CMC).....	60
Table 13 Characteristics of the last inpatient admission before death	66
Table 14 Hospital activity in the 2 years before death (from May 2012 until death in 2014/15)	67
Table 15 Place of death by cause of death with 95% confidence intervals.....	80
Table 16 Place of death by age at death with 95% confidence intervals	81
Table 17 Characteristics of the last inpatient admission before death by provider.....	83

Abbreviations

LA	Local Authority
CCG	Clinical Commissioning Group
LBHF	London Borough of Hammersmith and Fulham
RKBC	Royal Borough of Kensington and Chelsea
WCC	Westminster City Council
WL CCG	West London CCG
HF CCG	Hammersmith and Fulham CCG
CL CCG	Central London CCG
QPP	Queens Park and Paddington

1 Executive summary

1.1 Background and data sources

- a) Examination of deaths in the three boroughs is complicated by the geography and the different populations of the organisations responsible for providing services. There are a number of different populations to examine: Resident, Registered, Residents who are Registered, and Registered who are not Resident. Additionally, those who die may do so anywhere in the country.
- b) The analyses included here are based on the following sources: local data on the number of deaths from the Primary Care Mortality Database; The End of Life Care Local Authority profiles; data on individual indicators from the Office of National Statistics or Public Health England; local data on the number of LBHF, RBKC and WCC patients of Trinity hospice and St Johns hospice who died between 1 September 2013 and 31 August 2014, and; data from the Secondary Uses System (SUS) on the hospital activity in the last years of life in patients who died in hospital in 2014/15.

1.2 Population and number of deaths

- c) The percentage of either gender at all ages over 65 for the three boroughs is significantly low compared with England. The exception is in RKBC for those aged 85+ for both genders, with the percentage of women over 85 years close to the England average, but with a significantly high percentage of males older than 85 years because of the Royal Hospital Chelsea.
- d) Care home provision across the three boroughs is among the lowest in England.
- e) The death rate is low compared to other areas, even when taking into account the age distribution of the population. There has been an average of 2,815 deaths per year between 2006 and 2014. In a relatively stable population with a steady percentage aged 65 years or over the number of deaths has reduced by about 18 per year on average.
- f) The death rate varies among local areas from 53 to 4,191 per 100,000 population and is associated with the number of care home beds, population age and the level of deprivation.
- g) The median age at death is 83 years for women and 76 years for men. Median age at death varies from 66 years in Earl's Court to 88 years in Pembridge. It is significantly associated with an older population age.
- h) On average there are 844 (30%) deaths per year due to cancer, 768 (27%) due to circulatory disease, 341 (12%) deaths due to respiratory disease and 863 (31%) deaths due to other causes. The percentage of deaths due to cancer is significantly higher in the north of WCC and is significantly associated with an older median age at death.

1.3 Place of death

- i) The percentage of deaths occurring in usual residence (at home or in a care home) in LBHF is the second highest in London (significantly higher than the average). In WCC and in RBKC the percentage of deaths at home or in a care home is similar to the London average.

- j) In 2014, of a total of 2,980 deaths, 1,192 occurred in a care home or home, 270 in a hospice and 1,518 in a hospital or elsewhere.
- k) Between 2006 and 2011 the percentage of deaths in hospital decreased from 63% to 52%, while the percentage remained essentially the same over the last four years. Over the same period deaths in usual residence increased. The percentage of deaths in a Hospice increased by nearly a third from 7.5% to 9.5%, and has been stable for the last five years.
- l) Cancer deaths are significantly more likely to occur in a hospice compared to other causes of death, while deaths due to respiratory disease are more likely to occur in hospital. Deaths due to circulatory disease are more likely to occur at home or in a care home.
- m) The proportion of deaths in a care home increases with age, with a significantly higher number of deaths in those aged 85 years and over occurring in a care home. A significantly higher proportion of deaths in those aged younger than 75 years occur in hospice compared to the older age groups, this is likely to be related to the high proportion of cancer deaths (43% of deaths) in this age group.
- n) In LBHF, the proportion of deaths in usual residence in those aged 85 years and over has increased more strongly than in the other boroughs and than in the other age groups.
- o) National and international literature suggests that palliative care and end of life care provision for BAME groups is often inadequate and that they are less likely to die at home or in a care home. However, local data showed no significant difference between most countries of birth in the percentage of deaths in usual residence and local data from St Johns hospice suggests there is no inequality by ethnicity in hospice coverage. Only 17% of deaths in those born in North Africa occurred in usual residence, which is significantly lower than the average 40%.
- p) Local data does not show significant differences by deprivation in the proportion of deaths in usual residence.
- q) The percentage of deaths in usual residence varies among wards from 18% to 100%. The percentage of deaths in usual residence is significantly associated with the number of care home beds and the death rate, but the majority of local variation could not be explained.

1.4 Coordinate my Care

- r) The CMC Monthly Data overviews show that in H&F CCG 3.9% of the patients aged 65 years and over (542 patients) are recorded on CMC. A lower proportion of patients are recorded on CMC in the other two CCGs: 2.0% in WL CCG (469 patients) and 2.2% in CL CCG (763 patients).
- s) Of the patients with a CMC record who died, and for whom the place of death and preferred place of death are recorded, approximately 65% died in their preferred place of death. The proportion of patients recorded on CMC who died in hospital is lower than the average for all CCGs patients
- t) The percentage of patients aged 65 years and over on the CMC list varies by practice from 14.9% to 0.2%
- u) The majority of patients on CMC are diagnosed with cancer (H&F CCG: 53%, WL CCG: 51%, CL CCG: 58%)

1.5 Deaths among hospice patients

- v) There are three hospices that serve the three boroughs: Trinity hospice, Pembridge hospice and St. Johns Hospice.
- w) There appears to be some variation between wards in their coverage by the hospices. In the wards in the north east of the boroughs a lower proportion of deaths appear to be hospice patients. These are areas with a relatively high death rate These are areas with a relatively high death rate.
- x) There is good coverage of the boroughs. There is some overlap in the areas that are covered by the hospices, particularly by Pembridge hospice and Trinity hospice. In the areas where the coverage of the hospices overlap (e.g. in the middle of K&C) it appears that a higher proportion of all deaths are hospice patients.

1.6 Deaths in hospital

- w) The majority of people who died in hospital are aged over 75 years and were admitted following an emergency admission. Average length of stay of the last admission before death of 16.5 days. The primary diagnosis of the last admission before death was respiratory disease for 31% of patients, circulatory disease for 20%, and cancer for 16%.

1.7 Social care

- x) The rate of persons discharged from hospital with the intention of rehabilitation (aged 65 years and over) is similar to the England average (relatively high in WCC, statistical significance not assessed).
- y) Unpaid carers may help reduce hospital admission and promote home deaths. In the Census 2011, 12,334 people in LBHF reported that they provide unpaid care, 10,978 in RKBC and 15,878 in WCC.

2 Background

2.1 Geography and population

Examination of deaths in the three boroughs is complicated by the geography and the different populations of the organisations responsible for providing services.

A Local Authority (LA) has a geographic area and is responsible for all the residents in that area. A CCG primarily has a patient population which is registered with GPs who are within a geographic area, but the patients may be resident anywhere in the UK. Not all the patients registered with a CCG live within its geographic area. The geographic area of a CCG is not always the same as that of a LA.

In the Tri-Borough area Hammersmith and Fulham CCG (HF CCG) is coterminous with the London Borough of Hammersmith and Fulham (LBHF); West London CCG (WL CCG) includes the whole of the Royal Borough of Kensington and Chelsea (RKBC) plus the North-West area of Westminster City (WCC) known as Queens Park and Paddington (QPP); and Central London CCG (CL CCG) covers Westminster City minus QPP.

There are therefore a number of different populations to examine: Resident, Registered, Residents who are Registered, and Registered who are not Resident. While collectively the population of the three LAs is largely similar to the population of the three CCGs, there are substantial differences between individual LAs and CCGs. For example, CL CCG has 170,200 residents and 209,250 registered patients. Of its registered patients 60,250 do not live within its boundaries (of which 26,000 do not live in LBHF, RBKC or WCC but in another London borough), and 21,200 patients resident within its boundaries are registered with other CCGs. WCC, within which CL CCG sits, has 241,400 residents, 169,300 of which are registered with CL CCG. Figure 34 in the appendix on page 75 shows the different populations of individual LAs and CCGs.

Additionally, those who die may do so anywhere in the country. Hospitals serving the LA may be in a different LA, and patients may move home or into a care home but die before they are registered with a GP in a new CCG. There may also be a distortion in deaths attributable to either the LA or CCG as the three LAs have among the very lowest provision of care home beds in the country, and residents may be placed out of the area when they need a care home. In the 3 months after first moving into a residential home the mortality rate is 30% and for a nursing home it is 40%.

2.2 Data sources

The analyses included here are based on the following sources:

2.2.1 Local data

We have used local data on the number of deaths by LA residents, CCG residents, and CCG registered patients from the Primary Care Mortality Database. This is the most recent data available, and includes characteristics of the deaths such as age, cause of death and postcode. However, as it is only available locally, we cannot compare this data to other areas in London and England.

2.2.2 EOLC profile

The End of Life Care Local Authority profiles (see appendices from page 74) are produced annually by the Public Health England National End of Life Care Intelligence Network. They include 56 indicators, grouped as Population (13), Deaths (9), Place of Death (4), Cause of Death (6), Deaths in Hospital (4), Care Homes (3), Social Care (10), and Social Care Expenditure (6). The most recent profiles were produced in 2012 and report on data for 2008-10 or 2010/11 depending on the indicator. Partly updated End of Life Care Profiles published in October 2015 include comparator data on place of death for 2013 (see fingertips.phe.org.uk/profile/end-of-life).

2.2.3 Other indicators

For some individual indicators more recent data is available, including:

- Office of National Statistics population estimates by age
- Standardised Mortality Rates from the Compendium of Public Health Indicators
- Office of National Statistics mortality rates by year of age
- More recent information on place of death for Q3 2013/14 – Q2 2014/15 from the Public Health England National End of Life Care Intelligence Network based on data from the Office of National Statistics
- Indirectly standardised rate of deaths at home from the Compendium of Public Health Indicators

Some of these are available by registered CCG population only (e.g. trend data of the place of death data), or use a different methodology (e.g. the place of death data excludes deaths due to external causes).

2.2.4 Hospice patients

Data on the number of LBHF, RBKC and WCC patients of Trinity hospice and St Johns hospice who died between 1 September 2013 and 31 August 2014 including their postcode of residence and place of death (i.e. hospice, patient's home or care home) has been provided by the hospices. Pembridge hospice has not yet returned data.

2.2.5 Hospital deaths

Data from the Secondary Uses System (SUS) on the hospital activity in the last years of life in patients who died in hospital in 2014/15 has been used.

3 Population and number of deaths

3.1 Age distribution

The indicators in the End of Life Care profiles show that the percentage of either gender at all ages over 65 for the three boroughs is significantly low (11%) compared with England (18%), and slightly lower than London (12%). WCC and LBHF are below the regional average and RKBC is above. The exception is in RKBC for those aged 85+ for both genders, with the percentage of women over 85 years close to the England average, but with a significantly high percentage of males older than 85 years because of the Royal Hospital Chelsea.

There are differences in the scale of projected change in population between the three boroughs, but previous projections have proved unreliable and have been subject to large scale readjustment. Table 1 below and Figure 1 below show that the older population has increased since 2006 (the sharp increase after 2011 is likely to be due to incorporating the findings from the Census 2011 into the population estimates).

Table 1 Number of residents aged 65 years and over in London Borough of Hammersmith and Fulham, Royal Borough of Kensington and Chelsea and Westminster City Council

	2006	2007	2008	2009	2010	2011	2012	2013
All ages	562,749	559,974	558,340	558,989	558,492	560,278	559,638	561,120
% change year on year		-0.5%	-0.3%	0.1%	-0.1%	0.3%	-0.1%	0.3%
65+	60,074	59,697	59,729	59,989	60,171	60,464	62,613	64,935
% change year on year		-0.6%	0.1%	0.4%	0.3%	0.5%	3.6%	3.7%

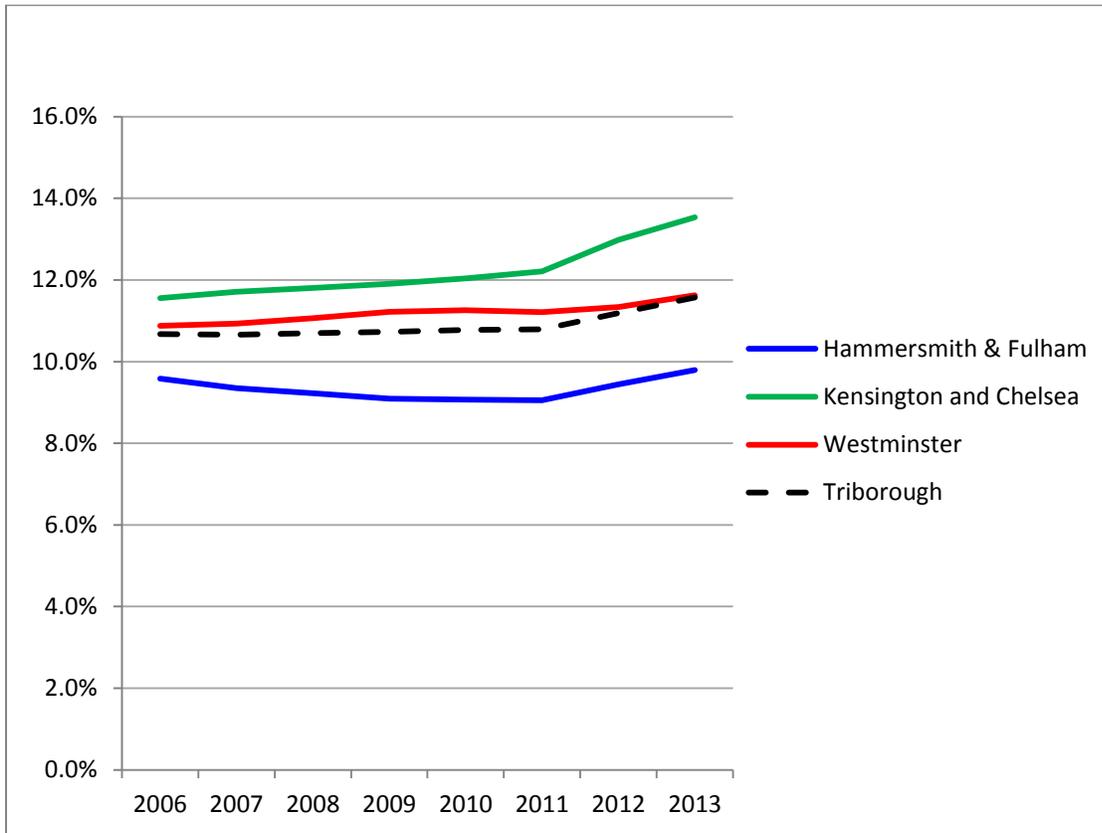
Source: Office for National Statistics, mid-year estimates

Table 1 shows that the older population has increased since 2006 (the sharp increase after 2011 is likely to be due to incorporating the findings from the Census 2011 into the population estimates)

Figure 2 below shows that the percentage of older people varies between the wards. Wards (2013) with an older population include:

- *More than 15% aged 65 years or over*
 - Abbey Road and Regent’s park in the north of WCC
- *13-14% aged 65 years and over*
 - Stanley, Cremorne, Royal Hospital and Hans Town in the south of RBKC
 - Palace Riverside in the south of LBHF
 - Tachbrook in the south of WCC
 - Norland and Campden in RBKC

Figure 1 Percentage of residents aged 65 years and over



Source: Office for National Statistics, mid-year estimates

Figure 1 shows that the older population has increased since 2006 (the sharp increase after 2011 is likely to be due to incorporating the findings from the Census 2011 into the population estimates)

Figure 2 Percentage of the population aged 65 years and over

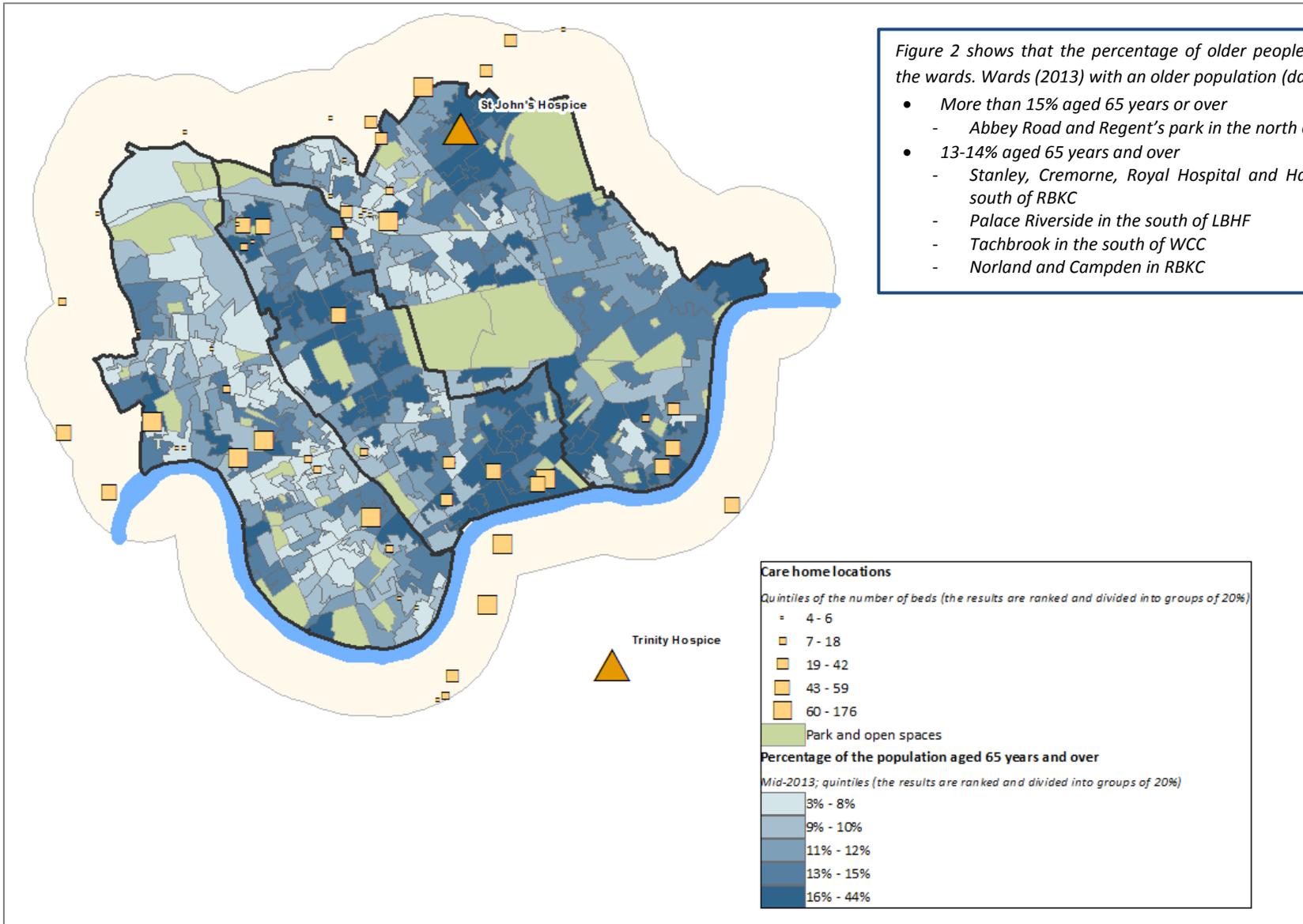
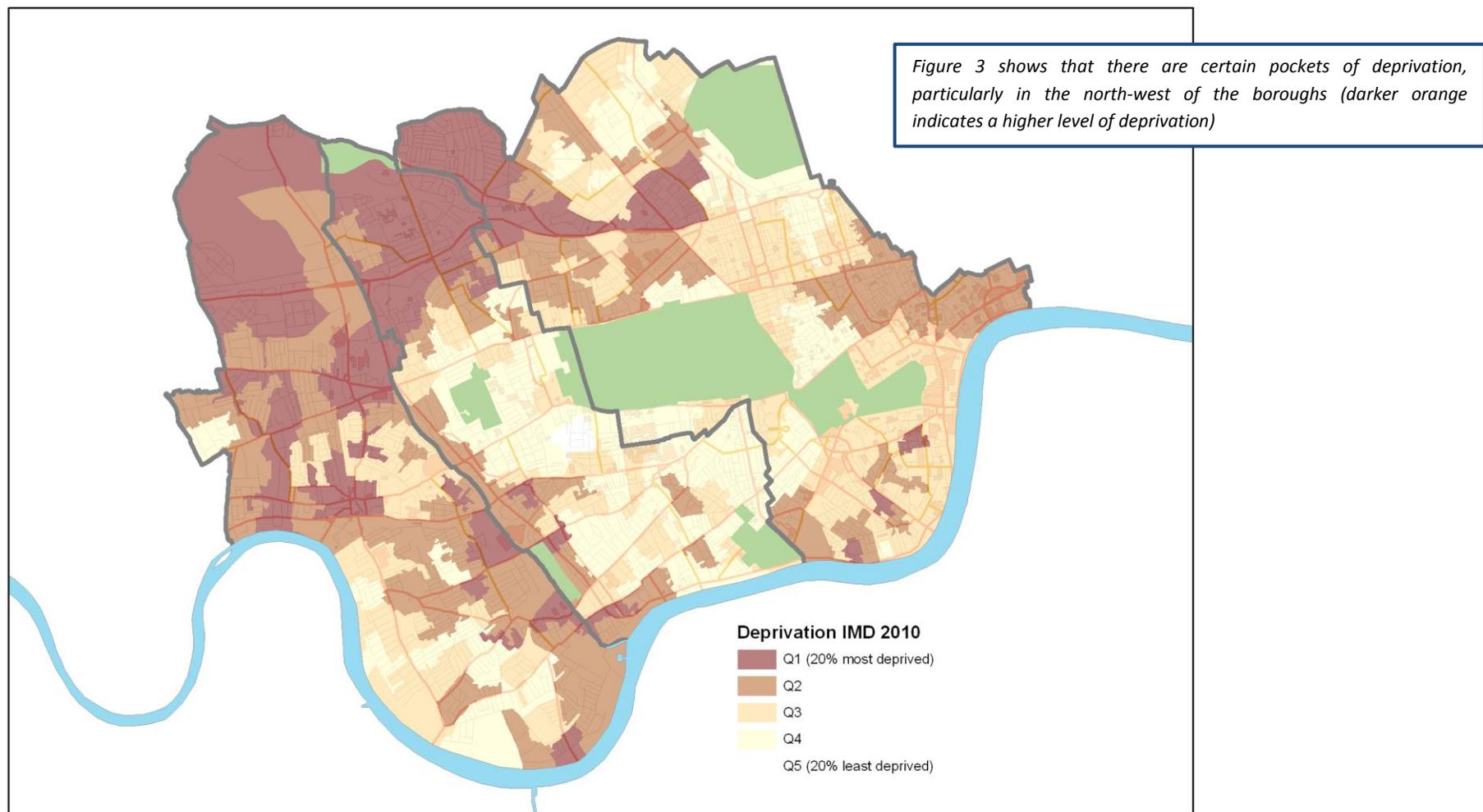


Figure 2 shows that the percentage of older people varies between the wards. Wards (2013) with an older population (dark blue) include:

- More than 15% aged 65 years or over
 - Abbey Road and Regent's park in the north of WCC
- 13-14% aged 65 years and over
 - Stanley, Cremorne, Royal Hospital and Hans Town in the south of RBKC
 - Palace Riverside in the south of LBHF
 - Tachbrook in the south of WCC
 - Norland and Campden in RBKC

Figure 3 Index of Multiple Deprivation, 2010 for Hammersmith and Fulham, Kensington and Chelsea and Westminster - National quintiles (20% groupings)



3.2 Ethnicity

As shown in the End of Life Care profiles (see appendices from page 74), the proportion who are Black, Asian and Minority Ethnic (BAME) is similar across the three boroughs, and is higher than in England but similar to London.

3.3 Deprivation

The percentage of residents in the most deprived quintile is significantly high and comparable to London for LBHF and WCC. It is significantly low compared to London, though very close to the England average, for RKBC.

Figure 3 shows that there are certain pockets of deprivation, particularly in the north-west of the boroughs.

3.4 Care Homes

Care home bed provision nationally is 114.1 beds per 1,000 aged 75+ (End of Life Care profile). Provision across the three boroughs is less than half of this at 45.5 per 1,000 (59.3 in LBHF, 46.6 in RBKC and in WCC it is the lowest in England at 35.7). RBKC has a large capacity of approximately 300 at Royal Hospital Chelsea for armed forces veterans who move to the hospital from the whole of the UK, and if these are excluded RBKC has the lowest provision of care home places in England.

The national figures on care home bed provision would suggest that there should be 3,300 beds used by the three borough's population if there was average need, and provision was typical of England. In-borough capacity is just over on third of this. Surrounding areas also have low provision. Adult Social Care are aware of 1,886 people in care home beds funded by the NHS and the three LAs. These places are funded inside the borough (40%), the rest of London (40%), and outside London (20%). This suggests that the LAs are using nearly 2/3rds of the England average, and close to the average for London. The LAs are not aware of how many additional people self fund (as they have no contact with the LA).

The location of local care homes is shown in Figure 2 above (indicated by the yellow squares).

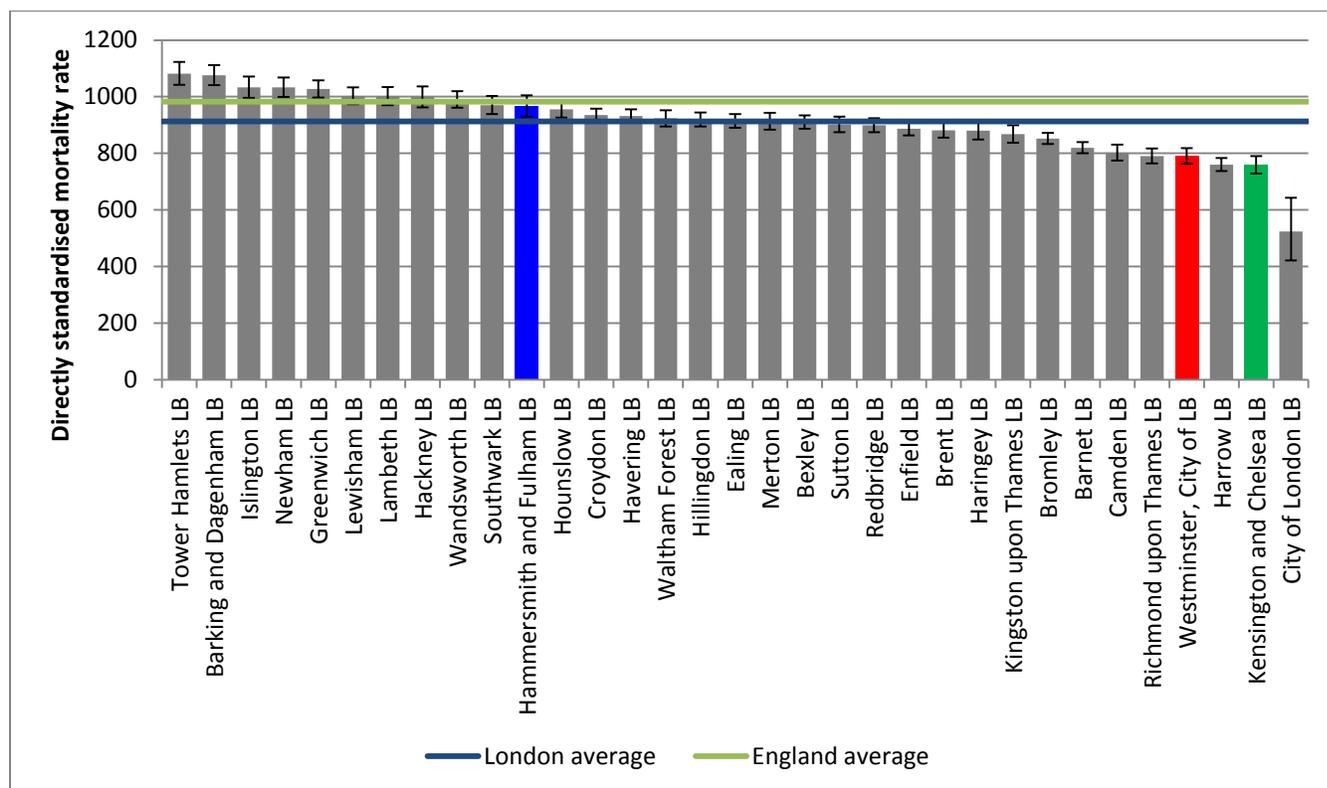
3.5 Number of deaths

3.5.1 National comparison

The End of Life care profiles show that crude deaths rates are low, particularly in RKBC and WCC (which has the lowest crude death rate in England). This is expected given the low proportion of elderly patients. However crude deaths rates are proportionately lower than would be expected based on the proportion of elderly patients, particularly in RKBC and WCC.

The mortality in areas with different populations can be compared by using the Directly Standardised Mortality Rate, which takes into account the age and sex distribution of the population. This is shown in Figure 4 below (from the Compendium of Public Health Indicators). The death rate is significantly lower in WCC and RKBC, and similar to the average in LBHF.

Figure 4 Directly Standardised Mortality rate for all causes, 3-year average 2011-13



Source: Compendium of Population Health Indicators, Health and Social Care Information Centre

Figure 4 shows that the death rate is significantly lower in WCC and RKBC, and similar to the average in LBHF. A Directly Standardised Mortality Rate is used to compare the mortality in areas with different populations and takes into account the age and sex distribution of the population.

3.5.2 Number of deaths

Table 2 gives the number of deaths occurring within the LA and CCG geographic areas. It does not include deaths in CCG registered patients who live outside the area (an average of 279 (9%) deaths).

While CCG resident and registered numbers may be similar for an individual CCG they are not necessarily the same people who have died. The resident numbers include patients from other CCGs and the registered numbers include patients resident in other areas. Of the deaths associated with either three LAs or three CCGs, 79% associated with both the LAs and the CCGs. Of the deaths in residents of the LA's, 12% are not registered with any of the three CCGs.

Table 2 Average number of deaths per year in resident LA, resident CCG and registered CCG populations

Organisation	LBHF LA	RKBC LA	WCC LA	HF CCG	WL CCG	CL CCG	HF CCG	WL CCG	CL CCG
Average deaths per year	LA Resident			CCG Resident			CCG Registered		
	904	818	1093	906	1099	822	829	1071	816

Table 2 gives the number of deaths occurring within the LA and CCG geographic areas. It does not include deaths in CCG registered patients who live outside the area (an average of 279 (9%) deaths). The resident numbers include patients from other CCGs and the registered numbers include patients resident in other areas. Of the deaths associated with either three LAs or three CCGs, 79% associated with both the LAs and the CCGs. Of the deaths in residents of the LA's, 12% are not registered with any of the three CCGs.

3.5.3 Trend in number of deaths

Figure 5 below, based on local mortality data, shows the trend in the number of deaths for residents in the three LAs collectively. Between 2006 and 2014 deaths have varied between 2,707 (2014) and 2,972 (2007) a year, with a standard deviation of 82 deaths. The average has been 2,815 but there has been an approximate reduction of 18 deaths each year. During that time the estimated total population in the three LAs has remained stable, with a small 2% increase in WCC and LBHF, and a 6% reduction in RKBC.

However, at the same time as there has been a small but consistent reduction in the number of deaths, the number of those aged 65+ has increased by 8% (as shown in Figure 5 below). There has been a 5% increase in LBHF, 10% in RKBC, and 9% in WCC. This is the group in whom the majority of deaths occur (77%), which suggests that population projections alone are unlikely to be aid in projecting the number of deaths in the future.

The Office of National Statistics (ONS) gives mortality rates by year of age for England in the past and projected forward to 2030. Between 2006 and 2014 (the period for which we have consistent death records) the mortality rates fell roughly by 15%, except for the most elderly. The projection forward from 2014 to 2024 suggests a similar continuing 15% reduction. The effect is to postpone death to older age groups, but at some point that shift will cease and the number of deaths will increase again. The experience with predictions for pension shows that determining when that may occur has previously proved unreliable.

In the medium term, a qualitative prediction would be that the number of deaths occurring is not likely to change significantly over the next ten years. This takes into account the small increase in the ageing population predicted by ONS, the expected reduction in death rates. Also considered is the placing outside the area of those who need accommodation in a care home, a group with a high death rate who stop being both residents of a LA or registered with a CCG.

Figure 5 Trend in the number of deaths and the percentage of the population aged 65 years and over

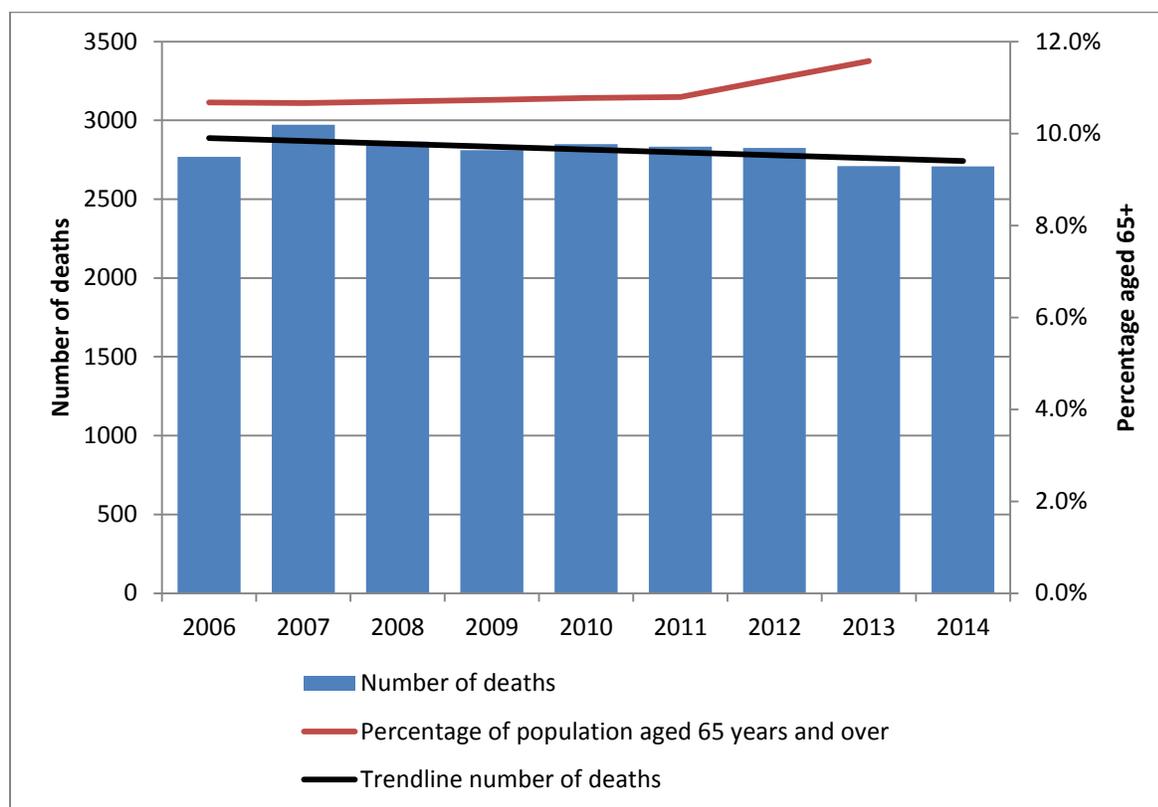


Figure 5 shows there has been an average of 2,815 deaths per year but there has been an approximate reduction of 18 deaths each year. The estimated total population in the three LAs has remained stable, while the number of those aged 65+ (in which the majority of deaths occur) has increased by 8%.

3.5.4 Local variation in the death rate

Figure 6 below shows the number of deaths per 100,000 population in 2014. The dark blue colour indicates that an area has a relatively high death rate.

Figure 7 below shows that the death rate is significantly lower than in neighbouring areas in the area shown in blue in the middle of RBKC (based on a hot spot analysis). This is an affluent area (as shown in Figure 3). Ordinary Least Squares analysis shows that higher levels of deprivation are significantly associated with a higher death rate although it only explains 2% of the variation in the death rate between areas.

Factors that are more strongly associated with the death rate include the population age (as shown in Figure 2) and the number of care home beds. These three variables together explain 68% of the variation. The presence of a care home is indicated in Figure 6 below by the yellow squares. Care home residents are on average older and in poorer health than the general population. In the 3 months after first moving into a residential home the mortality rate is 30% and for a nursing home it is 40%.

To partly take into account differences in population age, Figure 35 in the Appendix shows the number of deaths per 100,000 population aged 65 years and over. This highlights areas with a younger population but a relatively high death rate. These tend to be the more deprived areas, particularly the wards in the north-west of the boroughs.

Figure 6 Rate of deaths in 2014 per 100,000 population

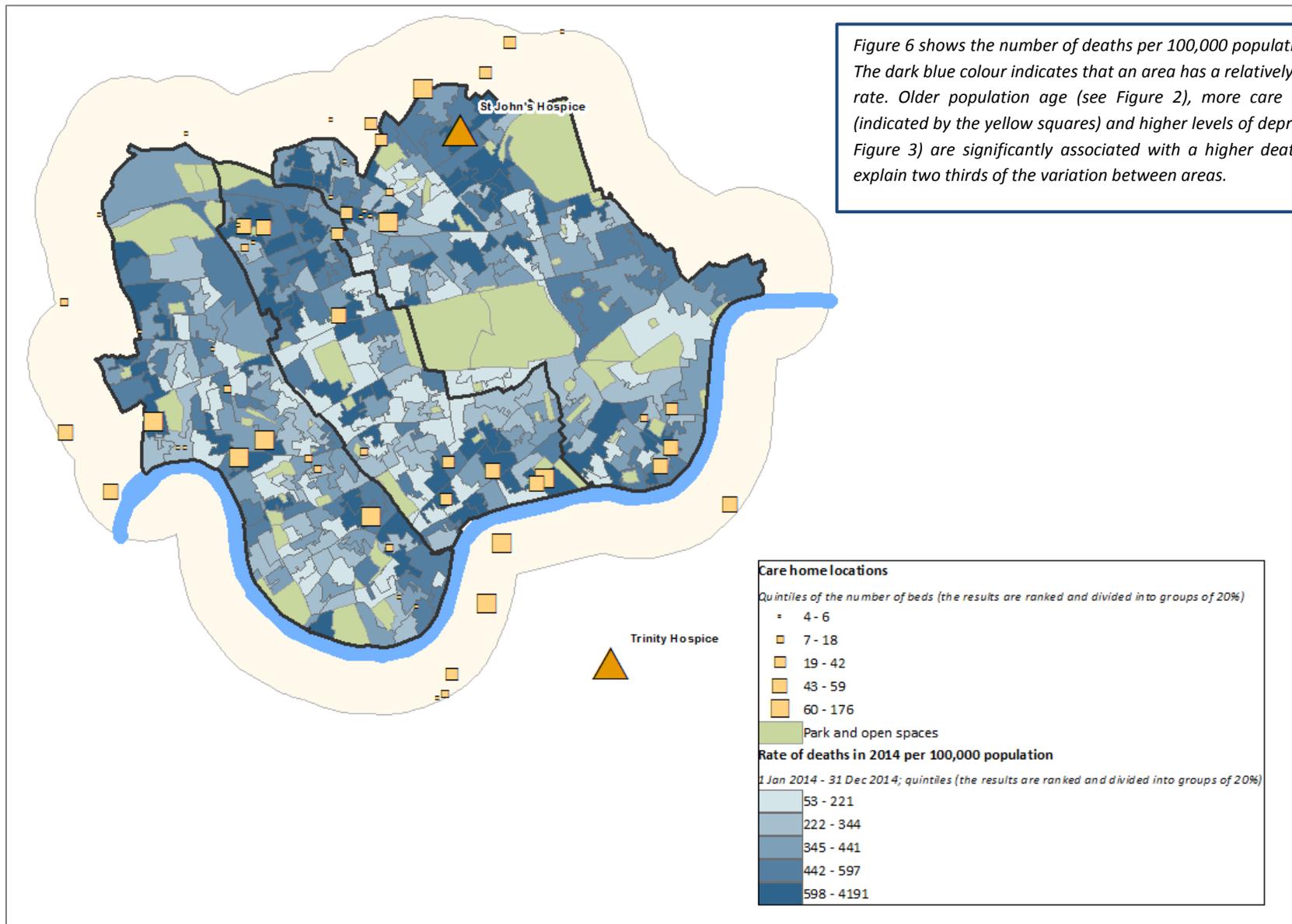


Figure 6 shows the number of deaths per 100,000 population in 2014. The dark blue colour indicates that an area has a relatively high death rate. Older population age (see Figure 2), more care home beds (indicated by the yellow squares) and higher levels of deprivation (see Figure 3) are significantly associated with a higher death rate and explain two thirds of the variation between areas.

Figure 7 Hot spot analysis of the death rate per 100,000 population

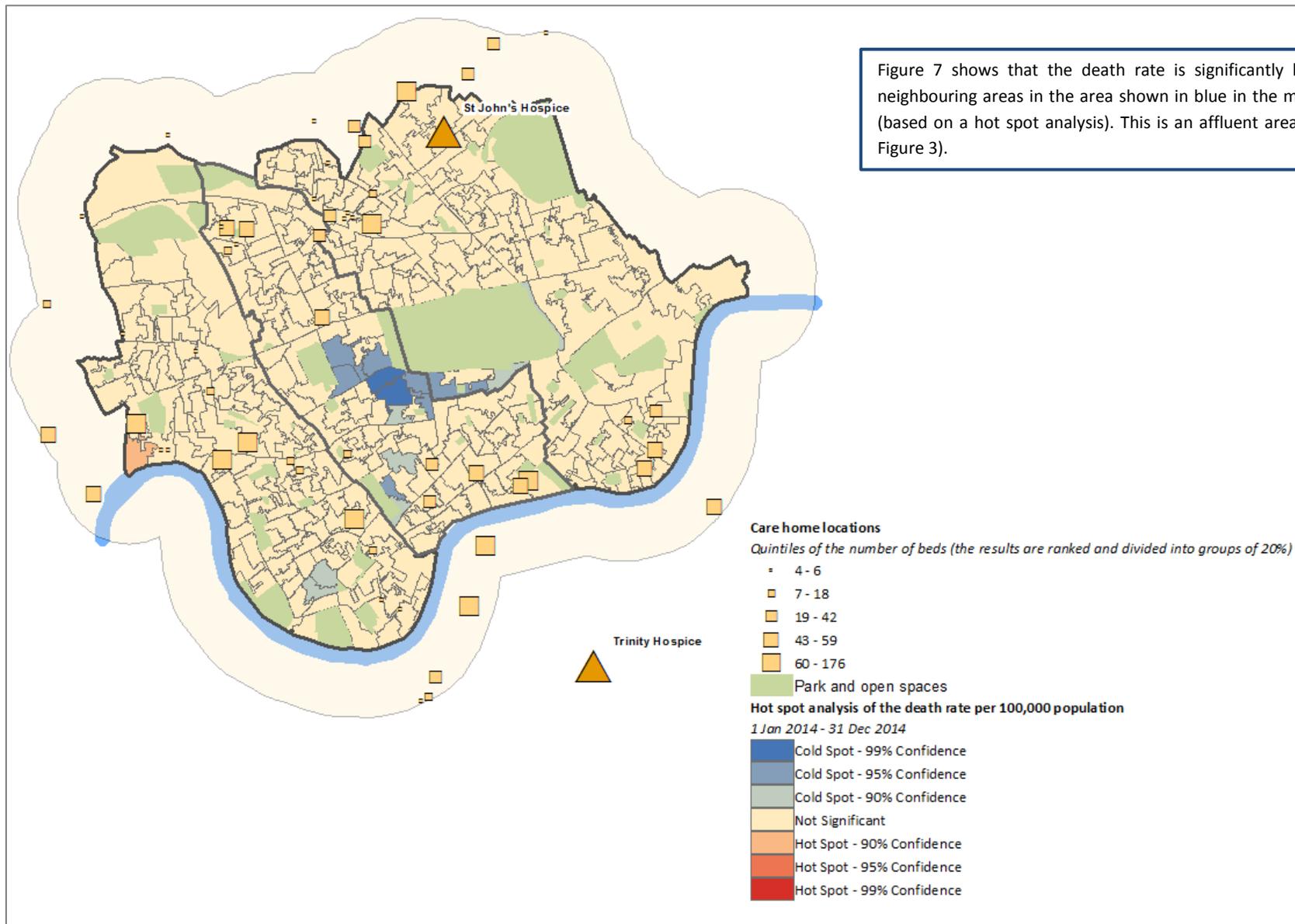


Figure 7 shows that the death rate is significantly lower than in neighbouring areas in the area shown in blue in the middle of RBKC (based on a hot spot analysis). This is an affluent area (as shown in Figure 3).

3.5.5 Death rate by age

Figure 8 below shows that the majority of deaths occur in those aged between 75 and 95 years, with a peak at age 85 years. A smaller, second peak is seen in young children aged 0 or 1 years. However, this is only a small proportion of the total population in this age group: in 2013 there were 19 deaths in children aged 0 or 1 years, out of a total population of 14,545 (0.13%). In comparison, there were 449 deaths in older people aged 90 years and over, 15% of the total population in this age group (3,053 people). The cumulative percentage shows that approximately 25% of deaths occur before the age of 57, 50% before the age of 78 years, 75% of deaths before the age of 86, and 85% of deaths before the age of 90.

Figure 8 Average number of deaths per year by single year of age

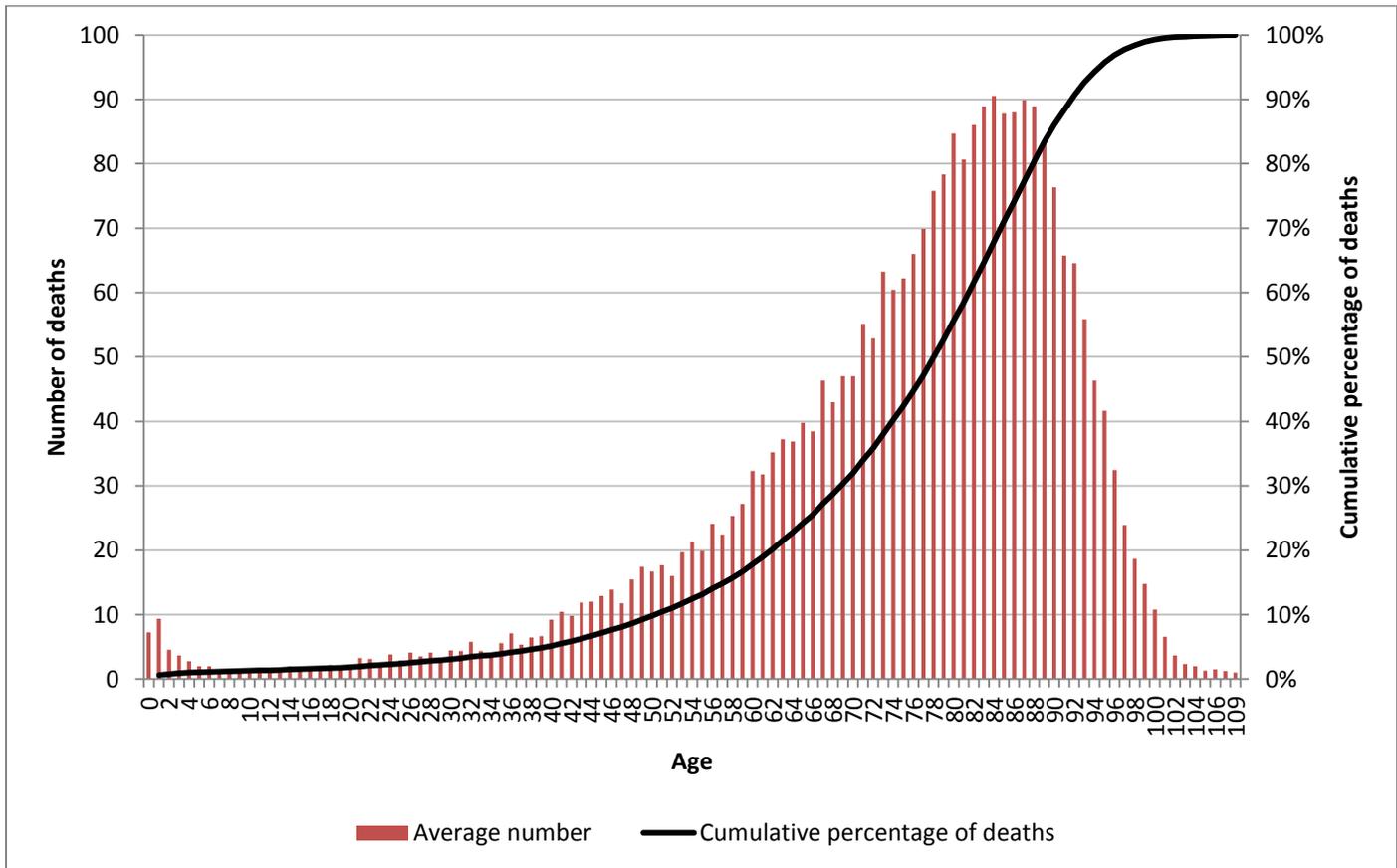


Figure 8 shows that the majority of deaths occur in those aged between 75 and 95 years, with a peak at age 85 years. A smaller, second peak is seen in young children aged 0 or 1 years although this is only a small proportion of the total population in this age group.

The median age at death is 83 years for women and 76 years for men.

Figure 9 below shows the local variation in the median age at death in 2014. Lighter colours indicate a younger median age of death. More details on the wards with the highest and lowest mean age at death is included in Table 3 below.

Figure 10 below shows the areas where the median age at death is significantly lower (shown in blue) or higher (shown in red) than in neighbouring areas. There are two hotspots where the median age is significantly higher than in the neighbouring areas: in Abbey Road in the north of WCC, and in the south of RBKC. Cold spots where the median age is significantly lower include: Earl's Court, Shepherd's Bush Green, College Park and Old Oak and Golborne/St. Helens. This reflects the age of those living in the area.

An older population age (as shown in Figure 2 above) is significantly associated with a higher median age at death (based on Ordinary Least Squares analysis).

Table 3 Quintiles of wards with the lowest and highest median age at death, 2014

Ward name	Median age at death	Number of deaths
Wards with a median age at death lower than 75		
Earl's Court*	66	37
Addison	70	39
Harrow Road	71.5	48
Askew	72	54
West End	73	54
Hyde Park	73	49
North End	73	35
Notting Dale	74	58
Fulham Reach	74	41
Colville	66	44
Warwick	70	42
Wards with a median age at death of 84 years or higher		
Pembridge	88	30
Palace Riverside	86.5	36
Courtfield	86	39
Royal Hospital	85.5	72
Avonmore and Brook Green	85	65
Abingdon	85	38
Abbey Road*	84	65
Marylebone High Street	84	51

Table 3 lists the wards with the highest and lowest mean age at death. See also Figure 9

*Median age at death is significantly lower or higher than in neighbouring areas

Figure 9 Median age at death in 2014 by electoral ward

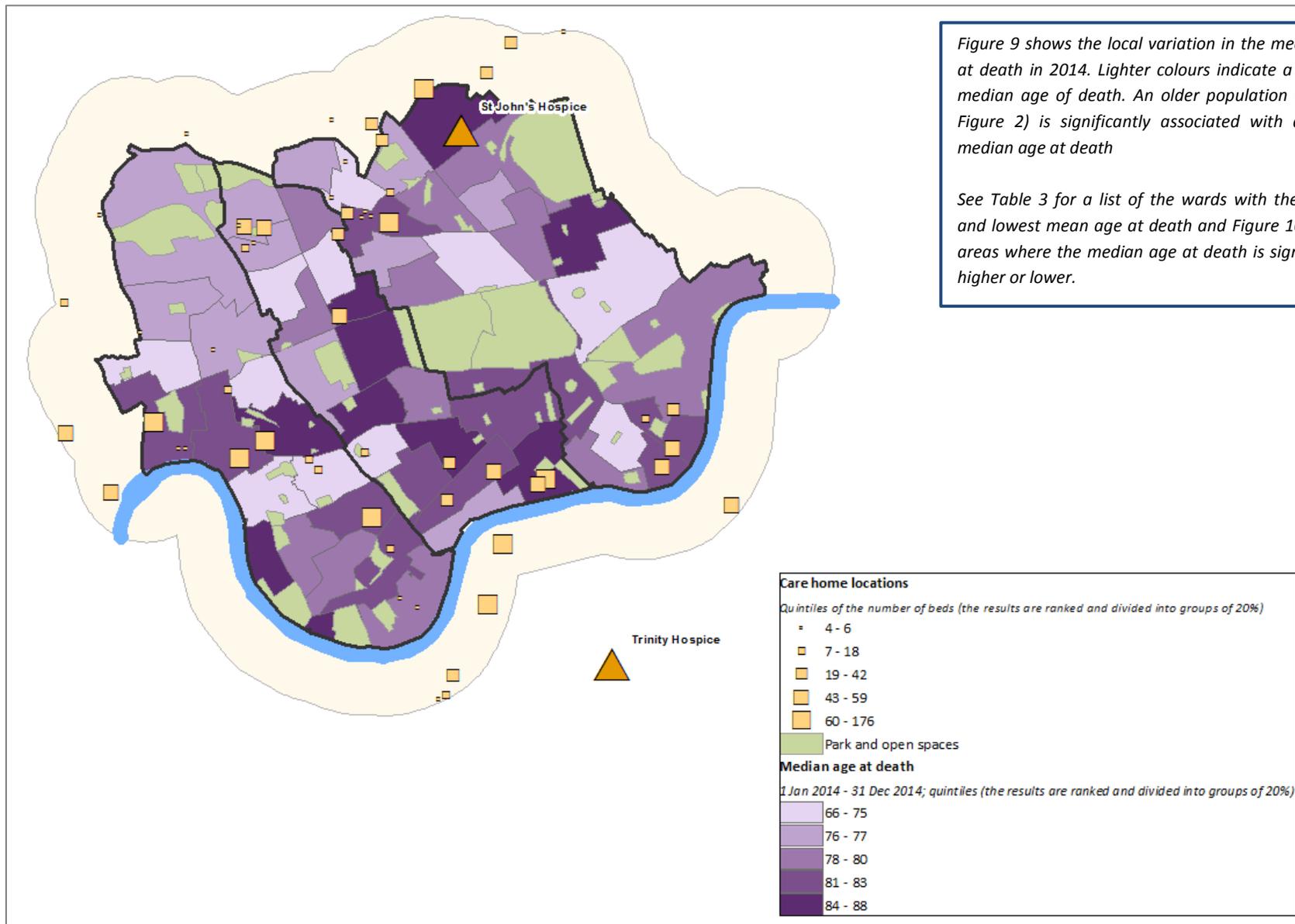


Figure 9 shows the local variation in the median age at death in 2014. Lighter colours indicate a younger median age of death. An older population age (see Figure 2) is significantly associated with a higher median age at death

See Table 3 for a list of the wards with the highest and lowest mean age at death and Figure 10 for the areas where the median age at death is significantly higher or lower.

Figure 10 Hot spot analysis of the median age at death

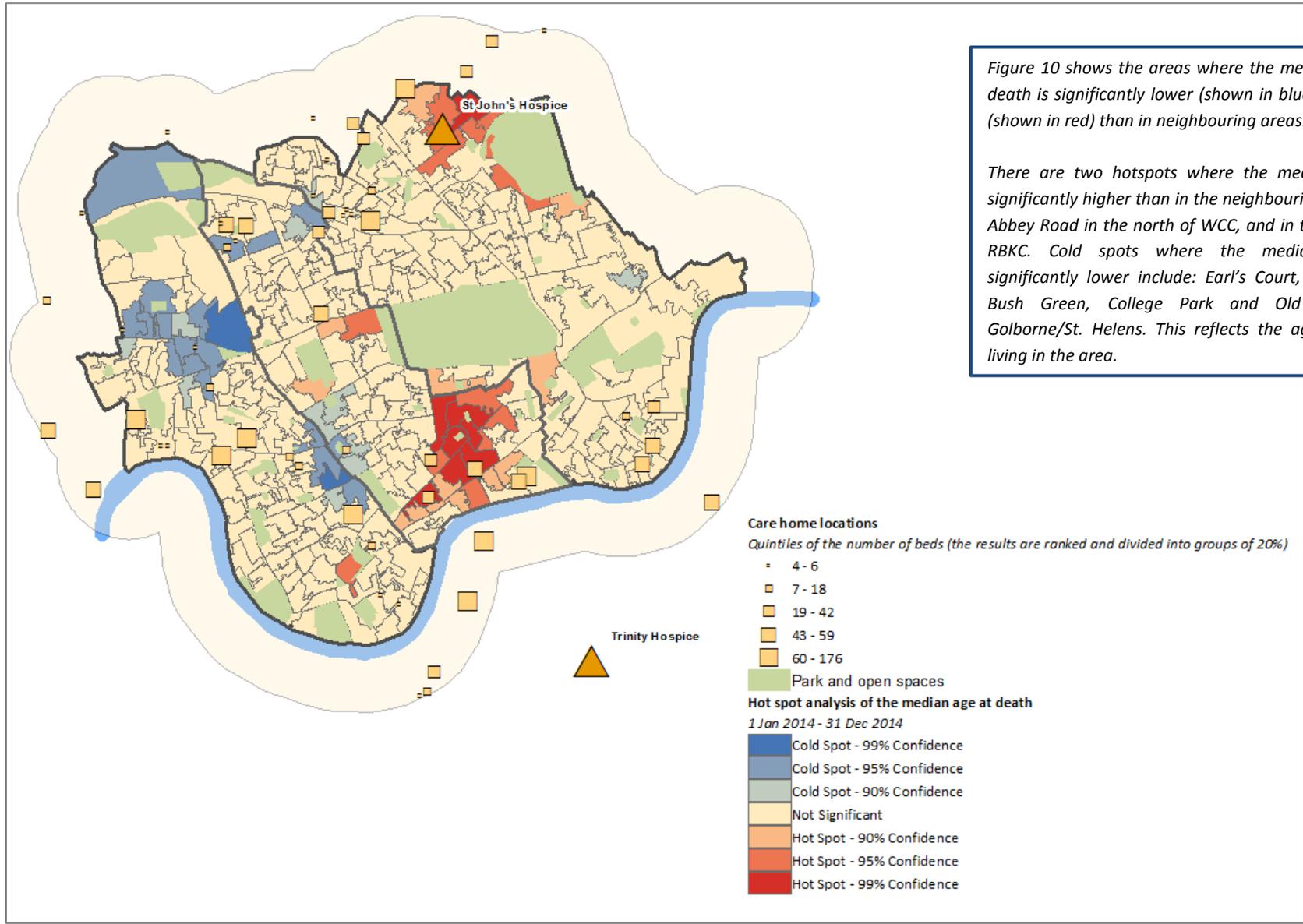


Figure 10 shows the areas where the median age at death is significantly lower (shown in blue) or higher (shown in red) than in neighbouring areas.

There are two hotspots where the median age is significantly higher than in the neighbouring areas: in Abbey Road in the north of WCC, and in the south of RBKC. Cold spots where the median age is significantly lower include: Earl's Court, Shepherd's Bush Green, College Park and Old Oak and Golborne/St. Helens. This reflects the age of those living in the area.

3.5.6 Death rate by cause of death

The percentage of deaths by cause of death reflects the relatively young population. The End of Life Care Profiles show that a relatively low percentage of deaths is due to respiratory disease (does not reach statistical significance in LBHF) and dementia, whereas a relatively high percentage is due to cancer (does not reach statistical significance in LBHF and West) and liver disease. The percentage of deaths due to cardiovascular disease and renal disease are similar to the England average.

Local mortality data shows that on average there are 844 (30%) deaths per year due to cancer, 768 (27%) due to circulatory disease, 341 (12%) deaths due to respiratory disease and 863 (31%) deaths due to other causes as shown in the Table 4 below.

Table 4 Number of deaths by cause of death (residents LA, average 2006-2013)

Cause of death	All ages		0-17 years		18-64 years		65-74 years		75-84 years		85+ years	
	n	%	n	%	n	%	n	%	n	%	n	%
Cancer	844	30%	2	7%	214	36%	212	43%	257	33%	160	18%
Circulatory disease	768	27%	2	6%	111	19%	133	27%	225	29%	298	33%
Respiratory disease	341	12%	1	4%	35	6%	52	10%	109	14%	145	16%
Other causes	863	31%	27	86%	236	40%	97	20%	193	25%	302	33%
Total	2,815		31		596		493		783		905	

Table 4 shows that on average there are 844 (30%) deaths per year due to cancer, 768 (27%) due to circulatory disease, 341 (12%) deaths due to respiratory disease and 863 (31%) deaths due to other causes. Compared to England, more deaths are due to cancer, and less due to respiratory disease and dementia (reflecting the relatively young population).

Figure 11 below shows the proportion of deaths in 2014 that were due to cancer, Figure 36 and Figure 37 in the Appendix show the proportion due to circulatory disease and respiratory disease. The percentage of deaths due to cancer varies from 0% to 75% across the wards. A hot spot analysis shows that the percentage of deaths due to cancer is significantly higher in the north of WCC (shown in Figure 12 below). The prevalence of cancer increases with age, and the percentage of deaths due to cancer is significantly associated with median age at death (based on Ordinary Least Squares analysis).

The percentage of deaths due to circulatory disease ranges from 0% to 42% across the wards. The percentage of deaths due to circulatory disease is significantly higher in the south of LBHF (see the hot

spot analysis results in Figure 13 below). The pattern is the reverse of pattern for the percentage of deaths due to cancer as these are the two main cause of death.

The percentage of deaths due to respiratory diseases varies from 0% to 22% across the wards. No significant areas with a higher percentage of deaths due to respiratory disease were found (see Figure 38 in the Appendix).

Figure 11 Percentage of deaths due to cancer

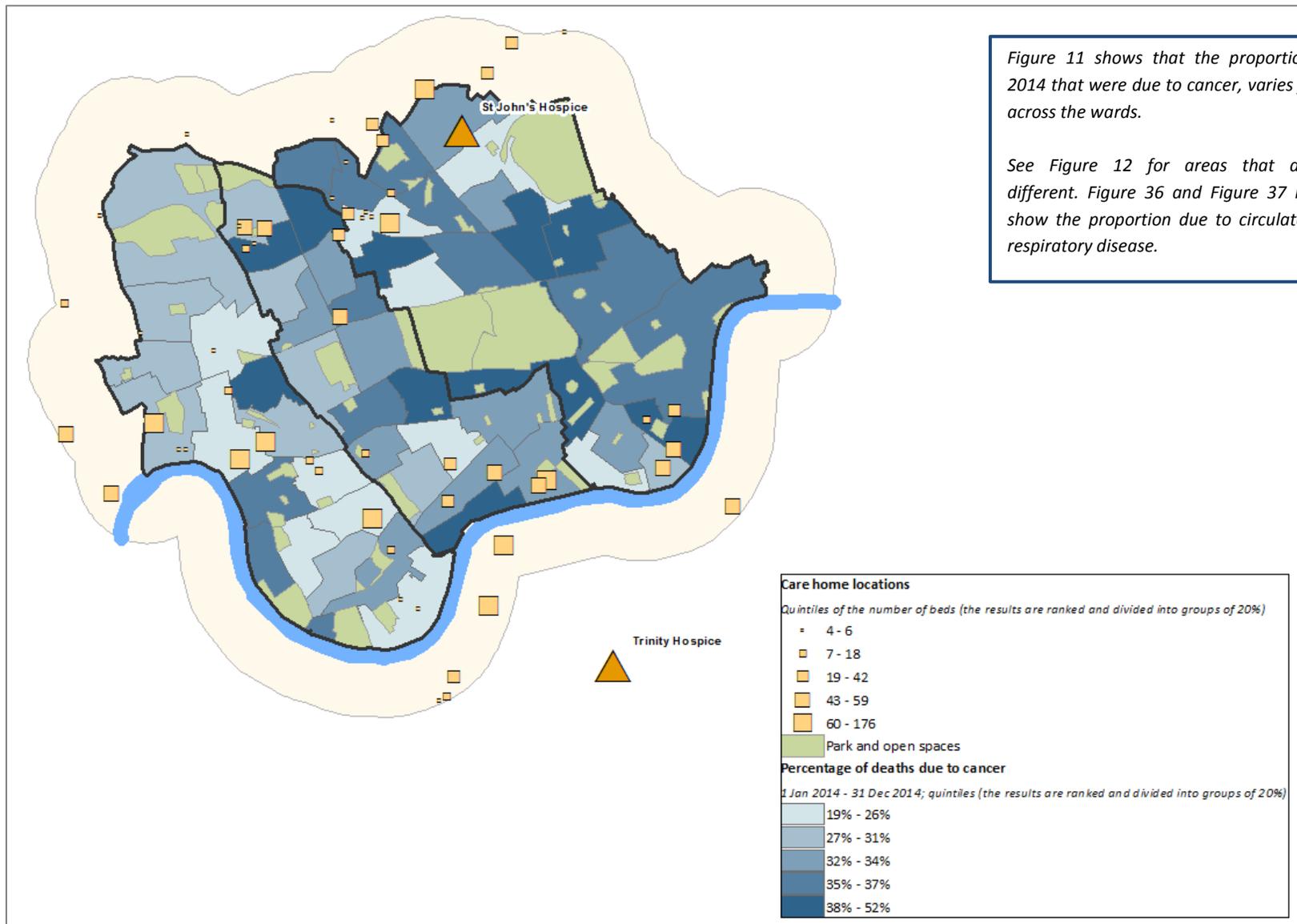


Figure 11 shows that the proportion of deaths in 2014 that were due to cancer, varies from 0% to 75% across the wards.

See Figure 12 for areas that are significantly different. Figure 36 and Figure 37 in the Appendix show the proportion due to circulatory disease and respiratory disease.

Figure 12 Hot spot analysis of the percentage of deaths due to cancer

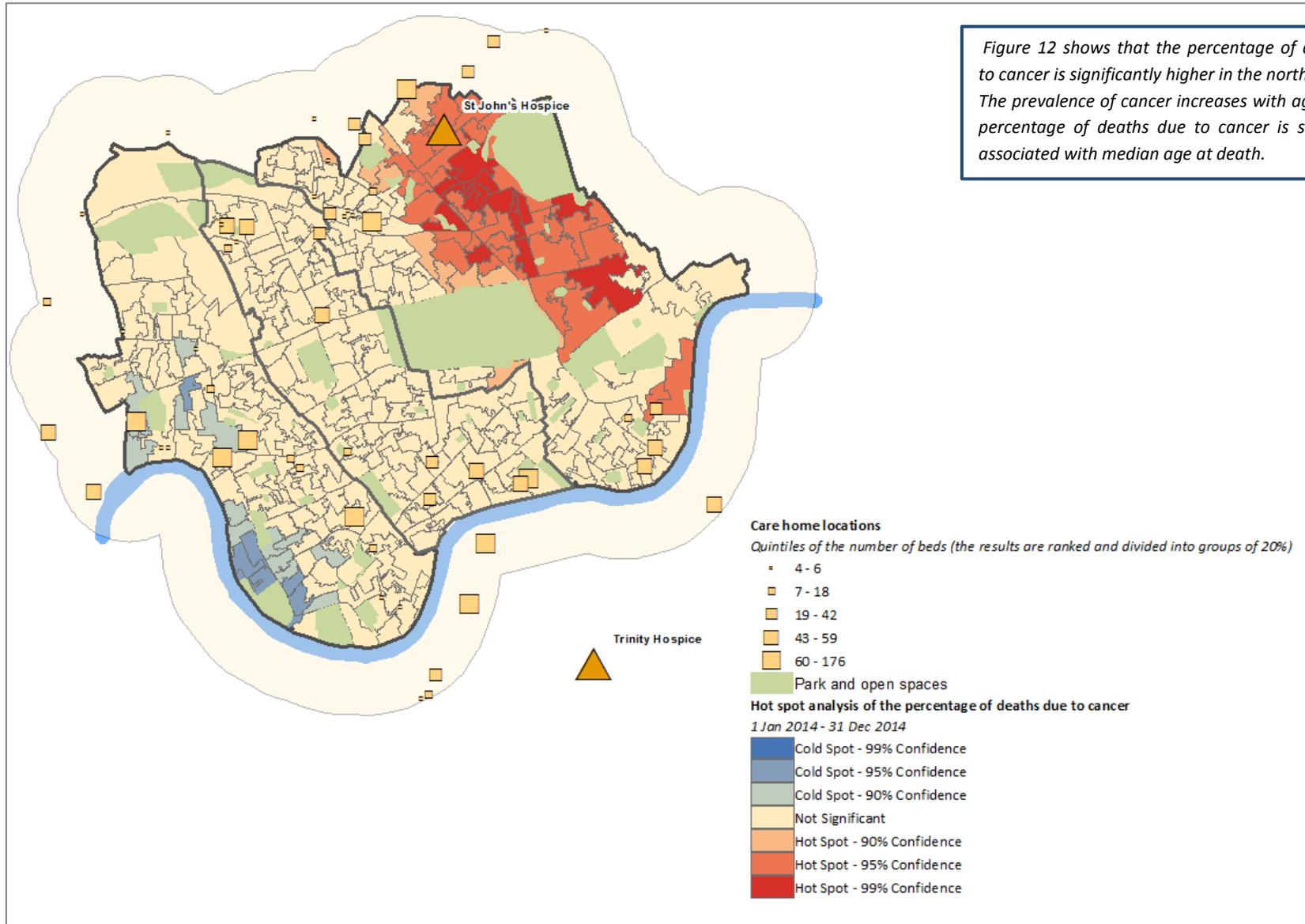


Figure 12 shows that the percentage of deaths due to cancer is significantly higher in the north of WCC. The prevalence of cancer increases with age, and the percentage of deaths due to cancer is significantly associated with median age at death.

Figure 13 Hot spot analysis of the percentage of deaths due to circulatory disease

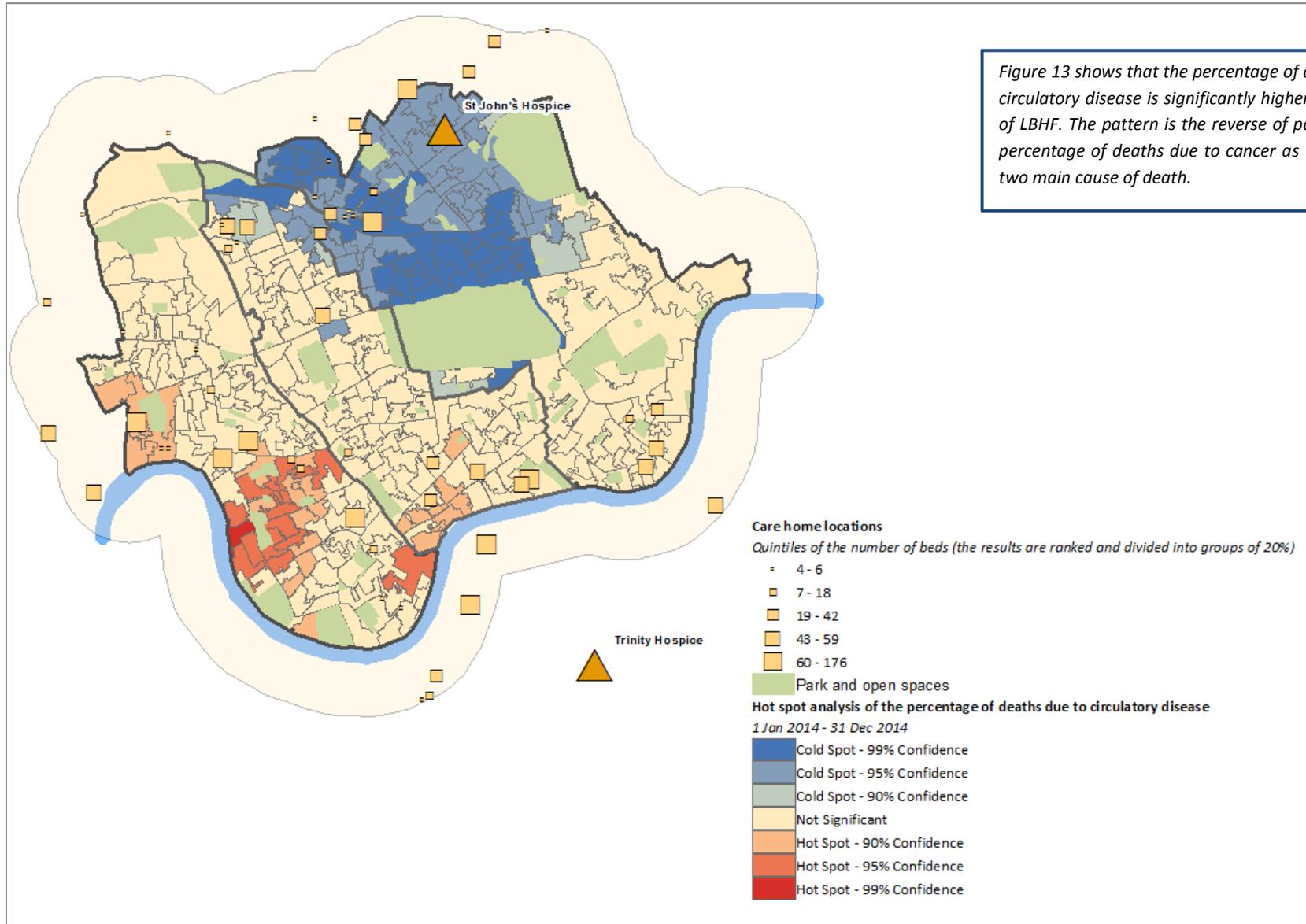


Figure 13 shows that the percentage of deaths due to circulatory disease is significantly higher in the south of LBHF. The pattern is the reverse of pattern for the percentage of deaths due to cancer as these are the two main cause of death.

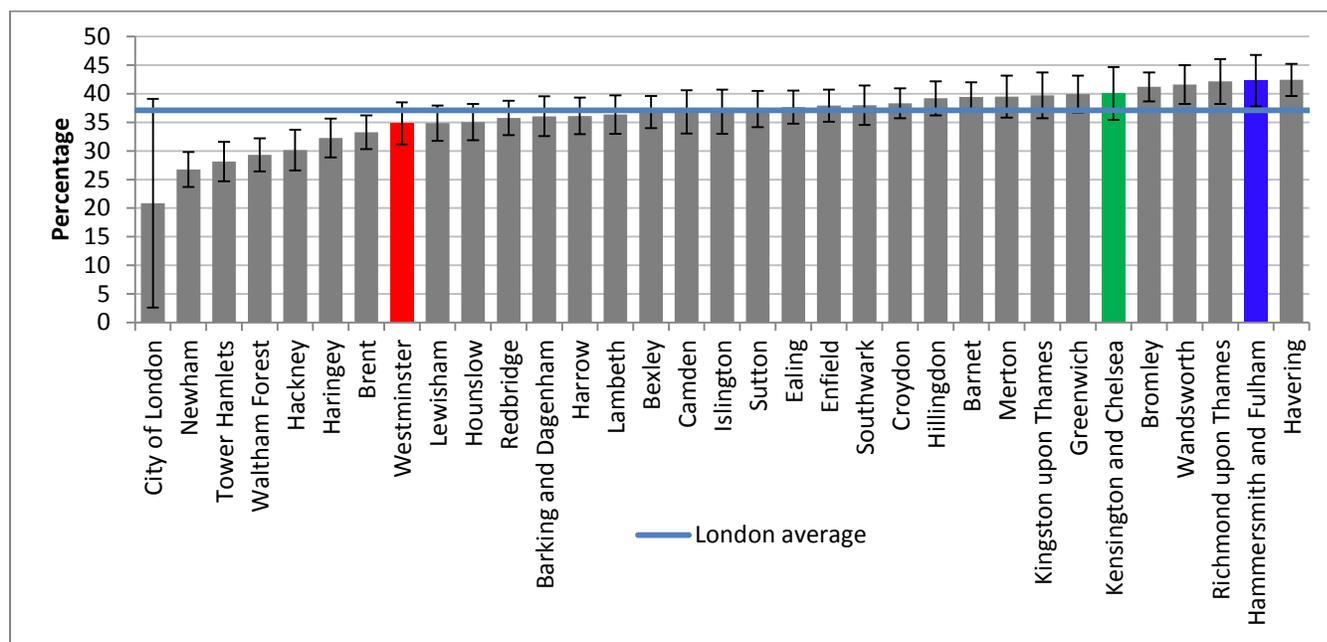
4 Place of Death

4.1 National comparison

The End of Life Care profile (based on data for 2013) shows that the percentage of deaths in a care home is relatively low (significantly lower than the England average in the three boroughs; similar to the London average in LBHF and RBKC and significantly lower than the London average in WCC). This is expected, as the number of care homes and the number of care home beds are also significantly lower (as described in the section on Population). The percentage of deaths at home is significantly higher than the England average (22%) and the London average (22%) in LBHF (27%), WCC (27%) and RBKC (26%). The percentage of deaths in a hospice is relatively high, WCC has the highest proportion of deaths in hospice in London. The number of deaths in hospital is similar to the England average (and lower than the London average) or higher than average (WCC, similar to the London average).

More recent data reporting the percentage of deaths at home or in a care home (Figure 14 below) shows that the percentage for LBHF is the second highest in London (significantly higher than the average). In WCC and in RBKC the percentage of deaths at home or in a care home is similar to the London average. While the percentage of deaths at home is high in all three boroughs, WCC ranks lower than the other two boroughs (not statistically significant) when measuring deaths in usual residence (i.e. home or a care home), as it has the third lowest percentage of deaths in care home in London. The methodology of this indicator differs from that used in the profiles and the local analyses as it excludes deaths due to external causes. However, the number of deaths due to external causes is relatively low: 149 deaths in 2014 (6% of all deaths).

Figure 14 Percentage of deaths (excluding deaths due to external causes) occurring in usual residence by local authority, Q3 2013/14 - Q2 2014/15



Source: Public Health England National End of Life Care Intelligence Network based on data from the Office of National Statistics

Figure 14 shows that the percentage for LBHF is the second highest in London. In WCC and in RBKC the percentage of deaths at home or in a care home is similar to the London average. While the percentage of deaths at home is high in all three boroughs, WCC ranks lower than the other two boroughs (not statistically significant) when measuring deaths in usual residence (i.e. home or a care home), as it has the third lowest percentage of deaths in care home in London.

The methodology of this indicator differs from that used in the profiles and the local analyses as it excludes deaths due to external causes. However, the number of deaths due to external causes is relatively low: 149 deaths in 2014 (6% of all deaths).

No trend data is available for this indicator from the National End of Life Care Intelligence Network for the resident population. However trend data is available for CCG residents (see Figure 15 below). The proportion of people dying at home is lower for residents of WL CCG (38%) than for residents of RKBC (40%), whereas the proportion dying at home is higher for residents of CL CCG (36%) than for WCC (35%). The CCG and LA areas of Hammersmith & Fulham are the same. This is investigated further using the local mortality data in the next section.

The trend data for CCG residents (Figure 15 below) shows that the percentage of people dying at home has increased in HF CCG, and remained stable in CL CCG and WL CCG. As the average for London shows an increasing trend, the trend data explains why WCC ranks lower in the more recent data than in the End of Life care profile while HF CCG ranks higher in the more recent data for Q3 2013/14 (the proportion dying in usual residence in HF CCG has increased faster than the average for London).

Figure 15 Trend in deaths (excluding deaths due to external causes) occurring in usual residence by CCG resident population

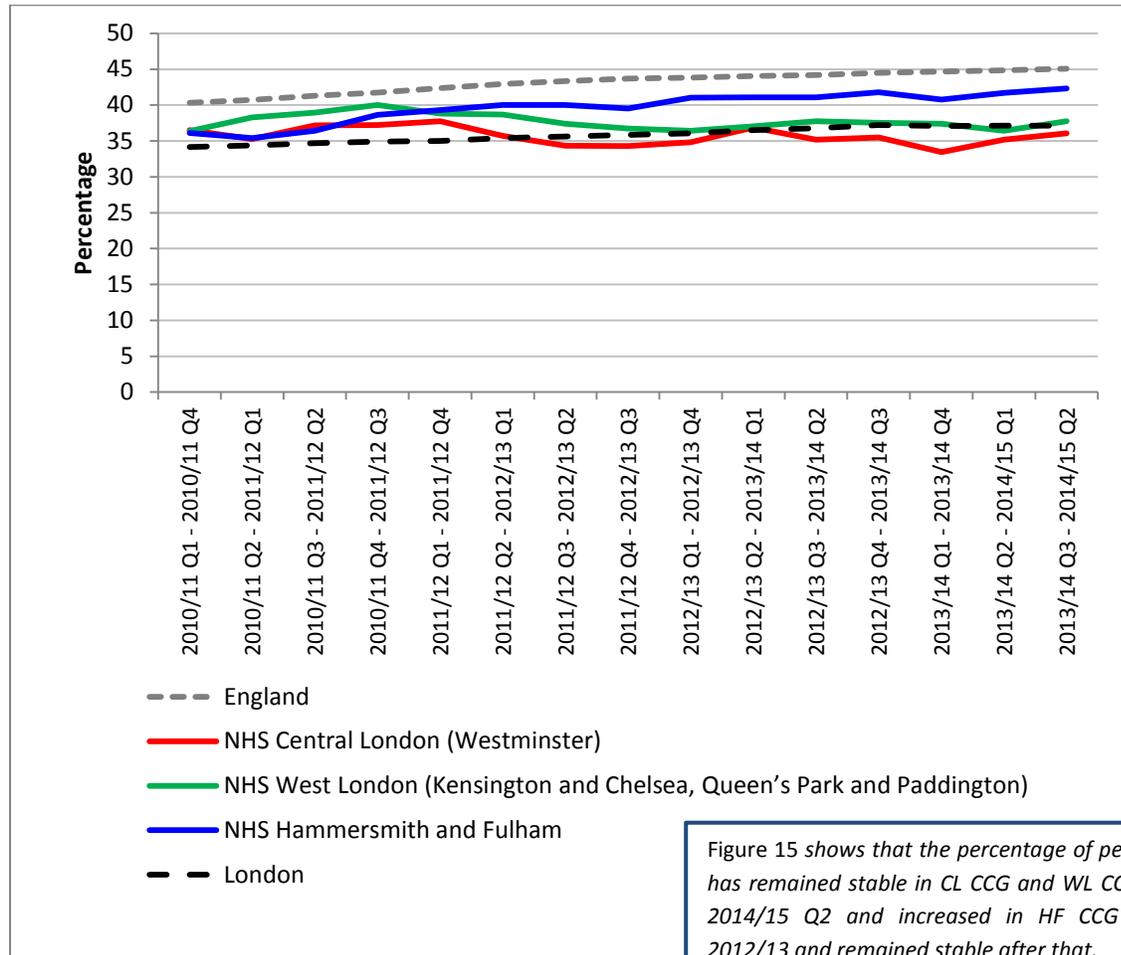
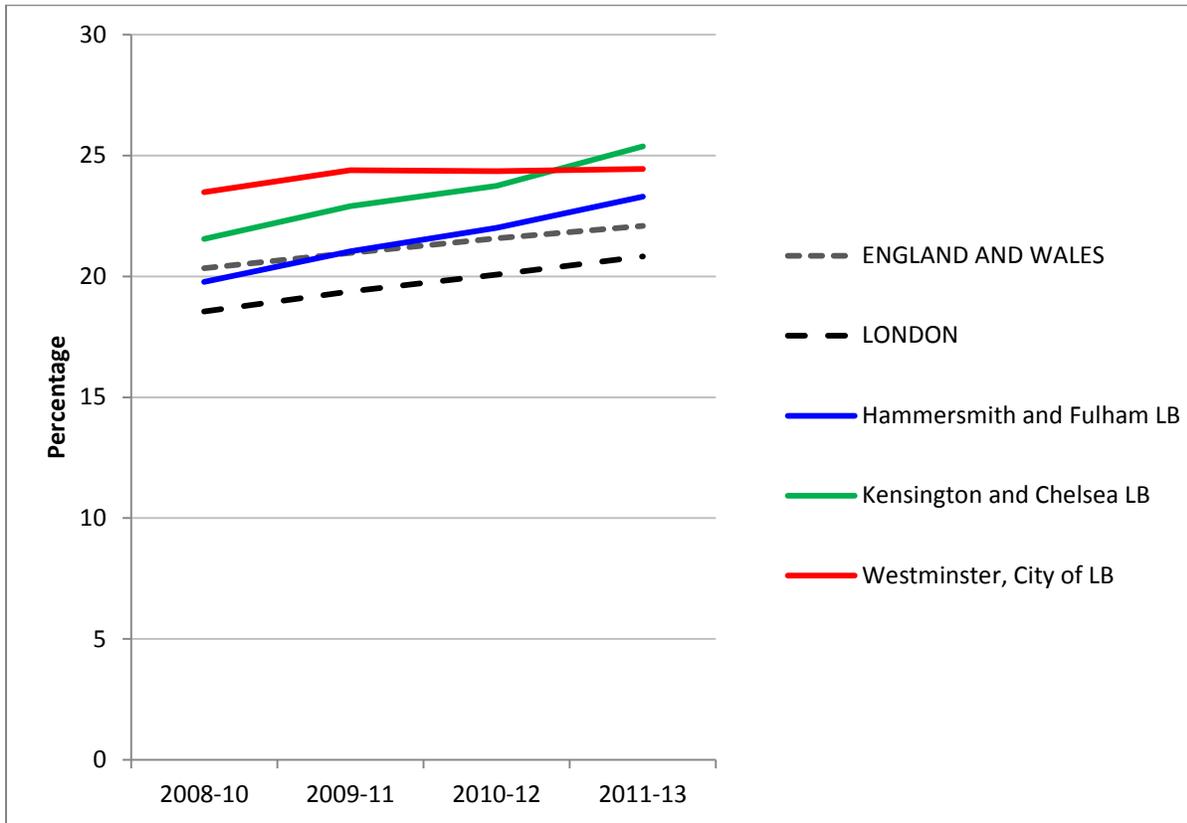


Figure 15 shows that the percentage of people dying at home has remained stable in CL CCG and WL CCG from 2010/11 to 2014/15 Q2 and increased in HF CCG from 2010/11 to 2012/13 and remained stable after that.

Source: Public Health England National End of Life Care Intelligence Network based on data from the Office of National Statistics

Taking into account the age and sex distribution of the population, Figure 16 below shows that the percentage of deaths at home (not including care homes) has increased in line with the London average in RKBC and LBHF, but that that the percentage of residents dying at home has remained stable in WCC.

Figure 16 Indirectly standardised rate of deaths at home



Source: Compendium of Population Health Indicators, Health and Social Care Information Centre

Taking into account the age and sex distribution of the population, Figure 16 shows that the percentage of deaths at home (not including care homes) has increased in line with the London average in RKBC and LBHF, but that that the percentage of residents dying at home has remained stable in WCC.

4.2 Number of deaths locally

We have further analysed the number of deaths by place of death using local mortality data.

Table 5 below shows the number of deaths in registered and residents occurring by type of place; their usual residence (Home or Care Home), a Hospice, or Hospital and Other. Other is other community establishments, e.g. prisons or hostels, and accidental deaths. The deaths categorised as Other are similar in number to those occurring in a Hospice.

Table 5 Number of deaths per year by place of death

Year	Care Home or	Hospice	Hospital and Other	Total Deaths
2006	899	222	1,930	3,051
2007	991	231	2,044	3,266
2008	990	211	1,919	3,120
2009	969	275	1,833	3,077
2010	1,072	242	1,816	3,130
2011	1,197	276	1,634	3,107
2012	1,138	286	1,666	3,090
2013	1,166	273	1,593	3,032
2014	1,192	270	1,518	2,980

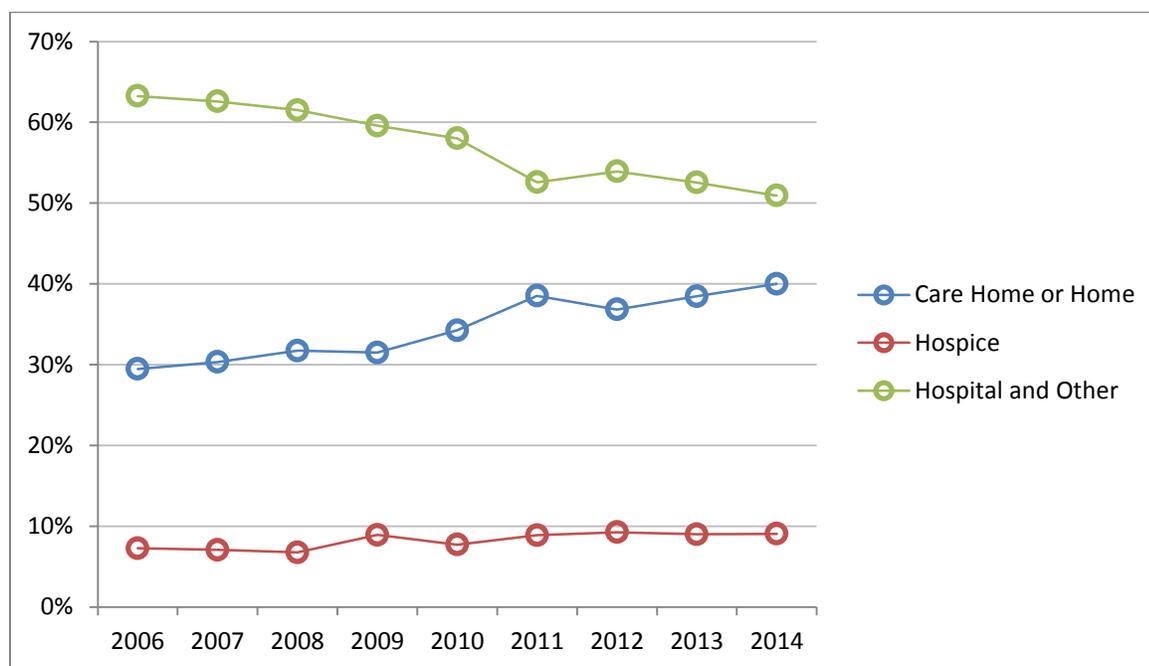
Source: Local Mortality Data; LA resident or CCG registered patients place of death

Table 5 shows the number of deaths in registered and residents occurring by type of place; their usual residence (Home or Care Home), a Hospice, or Hospital and Other. Other is other community establishments, e.g. prisons or hostels, and accidental deaths.

4.3 Place of death trends

Figure 17 below shows whether deaths occur in someone's usual residence (Home or Care Home), a Hospice or Hospital/Other. Over the first 6 years there was a reduction in the number and percentage (from 63% to 52%) of deaths occurring in hospital. The percentage has remained essentially the same for the last 4 years. There was a balancing increase in deaths at people's usual residence (from 29% to 39%) over the same period, and this has also been stable for the last 4 years. The percentage of deaths in a Hospice increased by nearly a third from 7.5% to 9.5%, and has been stable for the last five years.

Figure 17 Percentage of all deaths by place of death



Source: Local Mortality Data; LA resident or CCG registered patients place of death

Figure 17 shows whether deaths occur in someone's usual residence (Home or Care Home), a Hospice or Hospital/Other. Over the first 6 years there was a reduction in the number and percentage (from 63% to 52%) of deaths occurring in hospital. The percentage has remained essentially the same for the last 4 years. There was a balancing increase in deaths at people's usual residence (from 29% to 39%) over the same period, and this has also been stable for the last 4 years. The percentage of deaths in a Hospice increased by nearly a third from 7.5% to 9.5%, and has been stable for the last five years.

Of the deaths in care home among CCG registered patients, 23% are in care homes outside the H&F CCG, WL CCG and CL CCG area. Over 85% of these are registered with WL CCG and over 75% are in Wandsworth. About 1% are in care homes outside London where presumably the person dying has done so immediately after placement in a care home and before they are able to re-register with a new GP, a process that is usually rapid and automatic as it is arranged by care home staff. This suggests that considerably more will move into a care home outside London, re-register with a local GP, die shortly afterwards, and not be counted in our LA or CCG death statistics. This will also affect those who move to care homes in London, though not for the large group of patients in Wandsworth care homes.

The three charts that follow (Figure 18 below) show the proportion of deaths in the usual residence (Care Home or Home) by resident and registered for LA and CCG. The recent stabilisation of rates is evident across all, with only small differences between the three views.

Figure 18 Percentage of deaths in usual residence, 2006-2014, resident LA, resident CCG and registered CCG populations

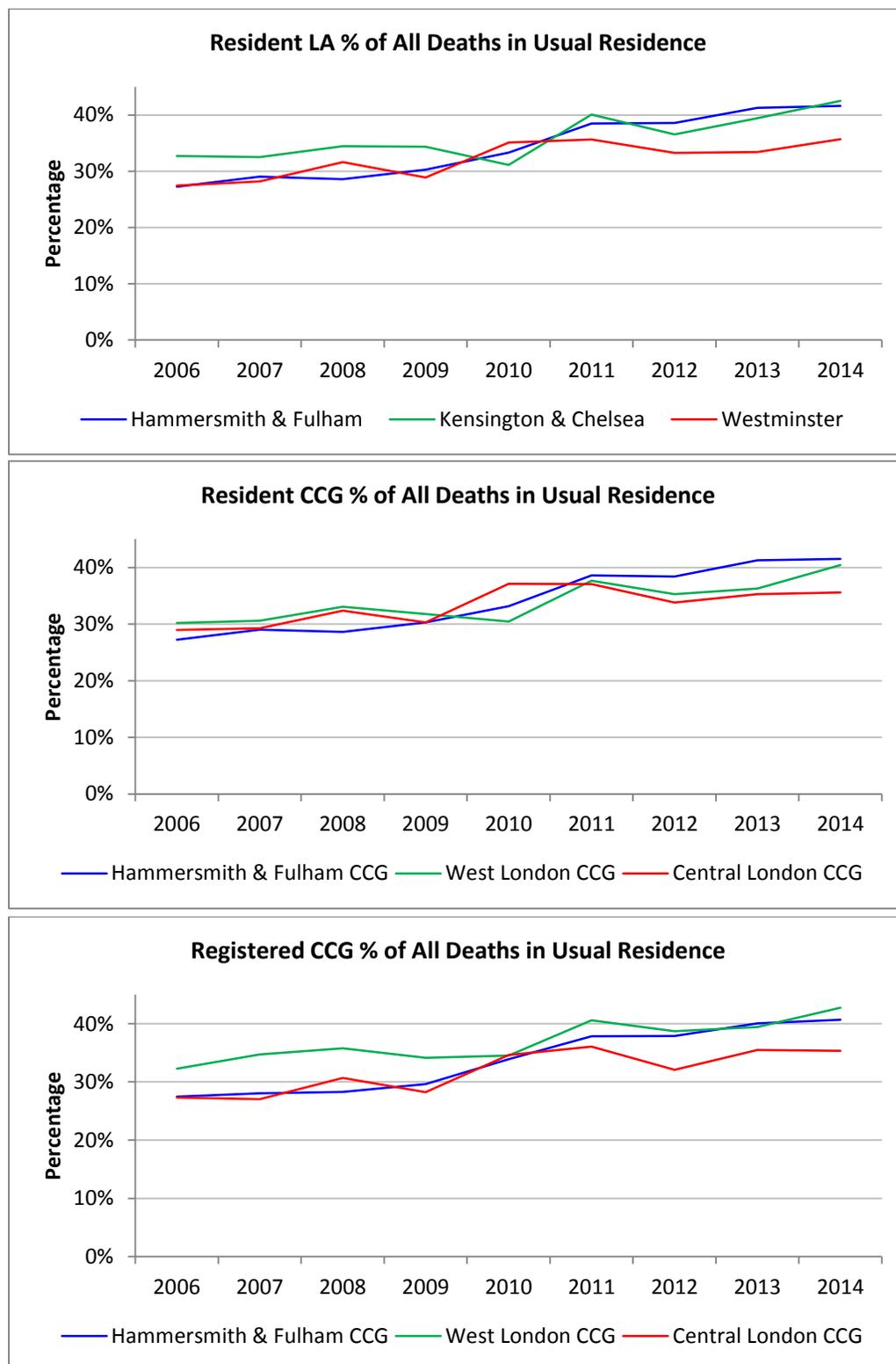
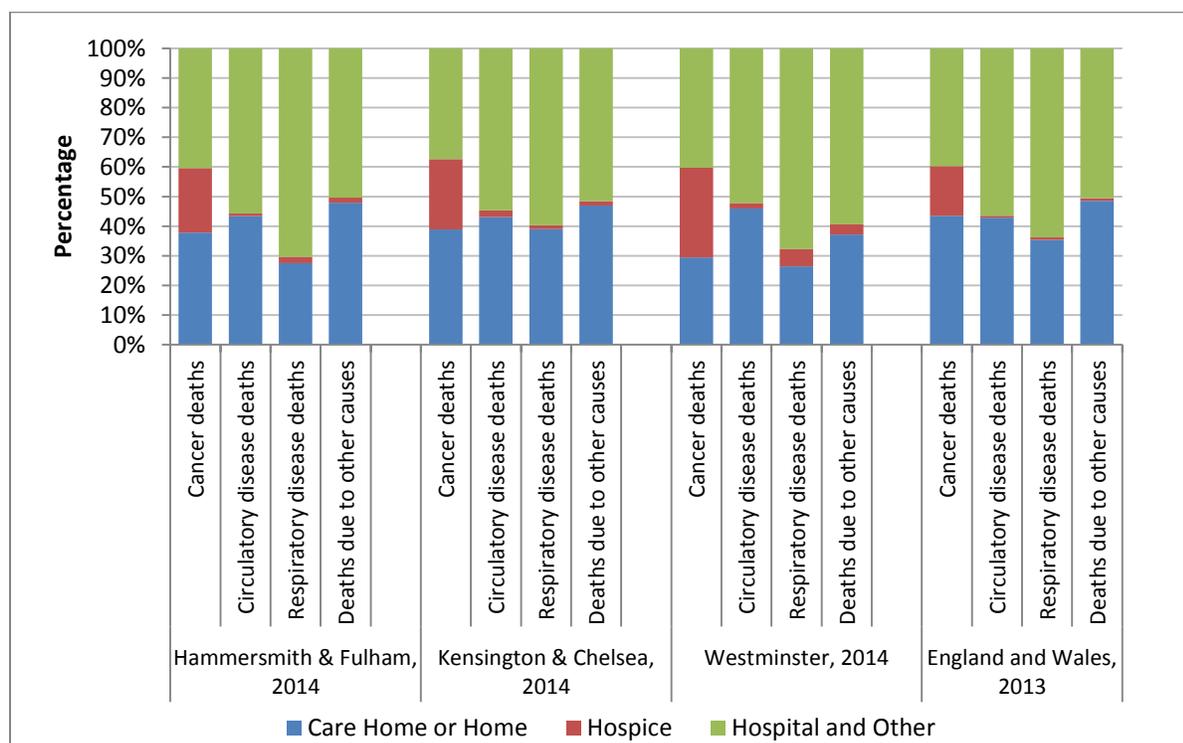


Figure 18 shows the proportion of deaths in the usual residence (Care Home or Home) by resident and registered for LA and CCG. The recent stabilisation of rates is evident across all, with only small differences between the three views.

4.4 Place of death – by cause of death

Figure 19 shows the place of death by cause of death. Cancer deaths are significantly more likely to occur in a hospice compared to other causes of death (see Table 16 in the Appendix for the confidence intervals). Of the cancer deaths, 24% are in a hospice (LBHF: 22%, RKBC: 24%, WCC: 30% compared to an average of 17% in England and Wales) whereas hospice deaths make up only a very low percentage of the deaths due to causes other than cancer. A relatively high percentage of hospice deaths are seen in WCC (30% of cancer deaths). Hospice deaths are further investigated in section 5 on page 59.

Figure 19 Place of death by cause of death, LA residents, 2014



Source: Local mortality data (2014) and Office for National Statistics Mortality Statistics: *Deaths Registered in England and Wales (Series DR), 2013, Table 12*

Figure 19 shows the place of death by cause of death. Cancer deaths are significantly more likely to occur in a hospice compared to other causes of death. Of the cancer deaths, 24% are in a hospice whereas hospice deaths make up only a very low percentage of the deaths due to causes other than cancer. A significantly higher proportion of deaths due to respiratory disease occur in hospital. Deaths due to circulatory disease are more likely to occur at home or in a care home.

A significantly higher proportion of deaths due to respiratory disease occur in hospital (63%) in all areas (LBHF 70%, RKBC: 60%, WCC: 68%, national average: 64%) compared to the other causes of death. Deaths due to circulatory disease are more likely to occur at home or in a care home (significantly more likely than deaths due to cancer and respiratory, similar to deaths due to other causes).

The trend of the proportion of deaths that occur in usual residence is relatively similar for all causes of death (see Figure 20 below).

Figure 20 Percentage of deaths in usual residence, 2006-2014, by cause of death

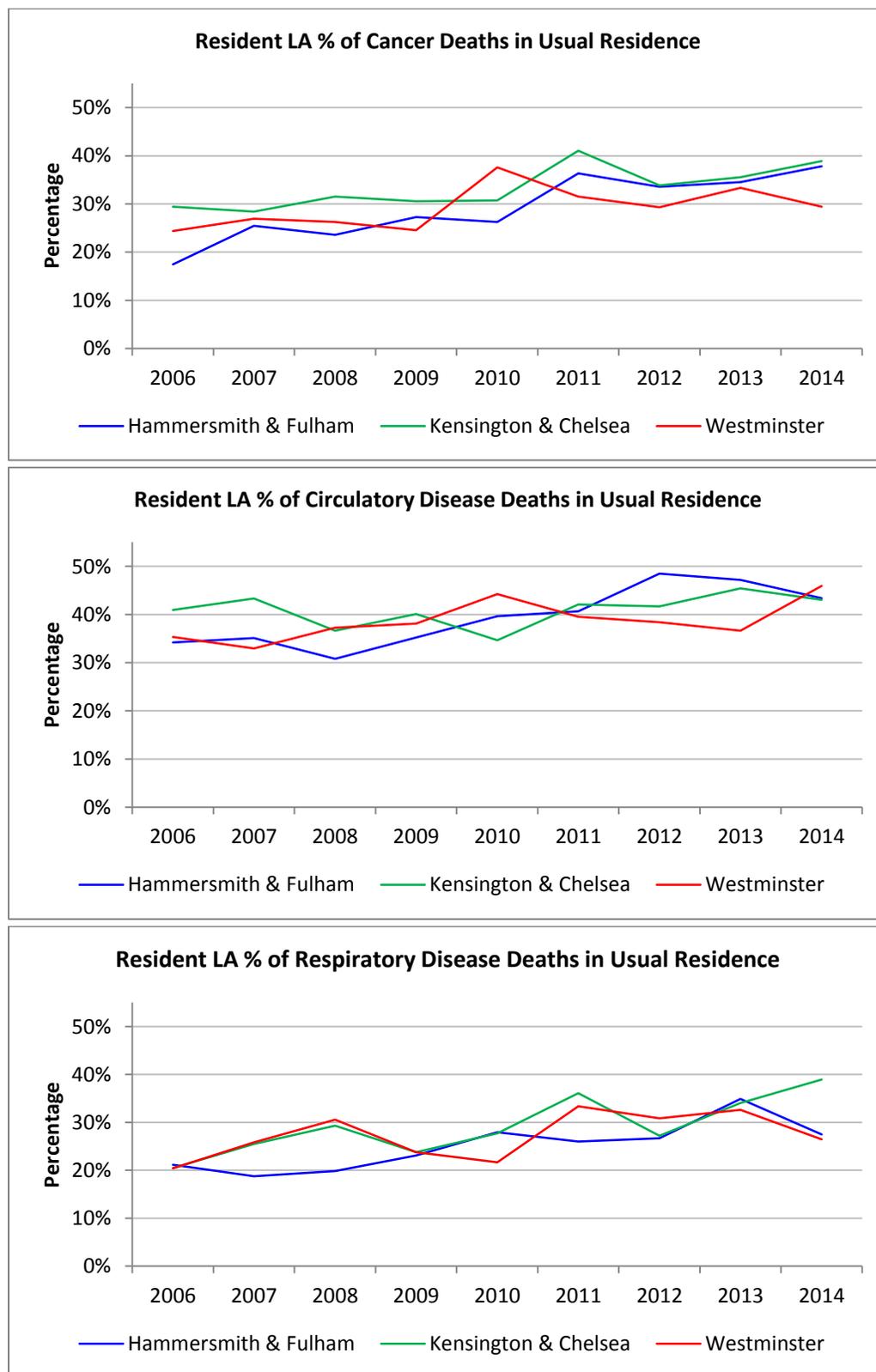
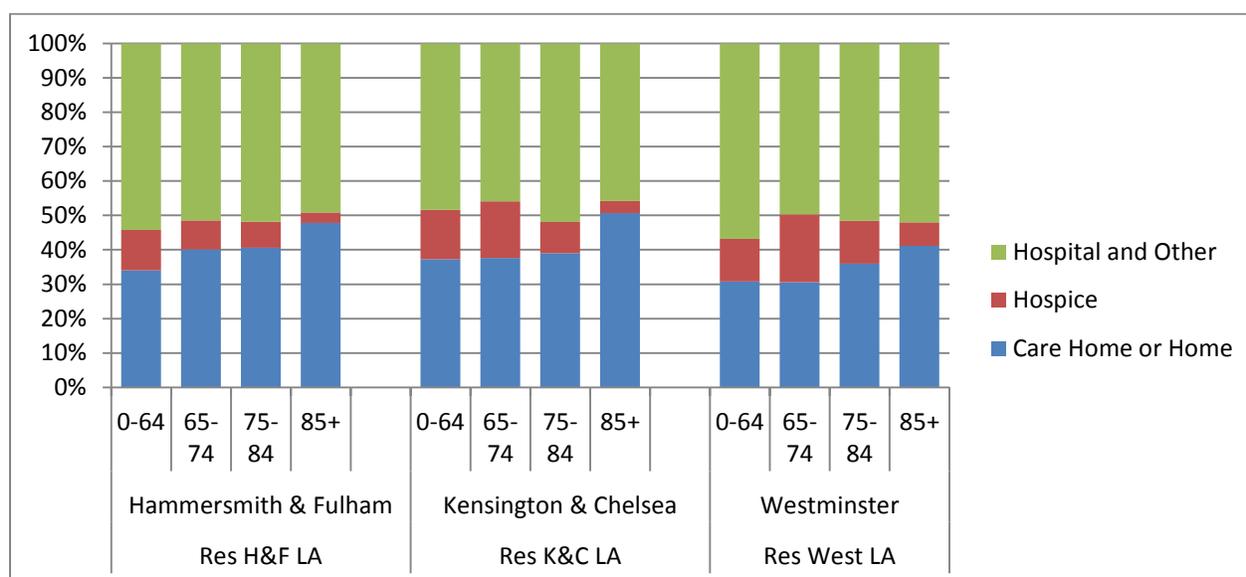


Figure 20 shows that the trend of the proportion of deaths that occur in usual residence is relatively similar for all causes of death

4.5 Place of death – by age group

Unsurprisingly, Figure 21 below shows that the proportion of deaths in a care home increases with age, with a significantly higher number of deaths in those aged 85 years and over occurring in a care home (LBHF: 27%, RKBC: 25%, WCC: 18%; see Table 17 in the Appendix for the confidence intervals. This pattern is seen across London.). A significantly higher proportion of deaths in those aged younger than 75 years occur in hospice compared to the older age groups, similar to the pattern seen across London (Source: EOLC profile). This is likely to be related to the high proportion of cancer deaths (43% of deaths) in this age group (Figure 19 showed that 24% of cancer deaths are in a hospice whereas hospice deaths make up only a very low percentage of the deaths due to causes other than cancer).

Figure 21 Place of death by age group, 2014



Source: Local Mortality Data

Figure 21 shows that the proportion of deaths in a care home increases with age, with a significantly higher number of deaths in those aged 85 years and over occurring in a care home. A significantly higher proportion of deaths in those aged younger than 75 years occur in hospice compared to the older age groups, this is likely to be related to the high proportion of cancer deaths.

Figure 22 below and Table 6 below show the trend of the proportion of death occurring in usual residence. In LBHF, the proportion of deaths in usual residence in those aged 85 years and over has increased more strongly than in the other boroughs, than the average for London (statistically significant in 2012 only) and England (significant), and than in the other age groups. In 2014, 48% of deaths by LBHF residents aged 85 years and over were in usual residence, this is similar to RKBC (51%) and higher than in WCC (41%).

Table 6 Change in the percentage of deaths in usual residence between 2006-2010 and 2011-2014 by age group

	Average per year 2006-2010			Average per year 2011-2014			% Change in % deaths in usual residence
	n deaths	n deaths in usual residence	% deaths in usual residence	n deaths	n deaths in usual residence	% deaths in usual residence	
85+							
LBHF	259	85	33%	223	109	49%	48%
RKBC	287	115	40%	231	106	46%	14%
WCC	343	111	32%	286	110	38%	19%
All	889	312	35%	740	326	44%	25%
75-84							
LBHF	264	74	28%	187	72	38%	36%
RKBC	236	72	31%	177	62	35%	15%
WCC	304	88	29%	243	78	32%	11%
All	803	234	29%	606	212	35%	20%
65-74							
LBHF	171	47	27%	128	45	35%	29%
RKBC	132	38	29%	110	41	38%	31%
WCC	202	60	30%	145	49	34%	13%
All	505	145	29%	382	135	35%	23%
0-64							
LBHF	227	68	30%	162	55	34%	14%
RKBC	178	51	28%	120	44	36%	28%
WCC	244	73	30%	198	64	32%	8%
All	649	191	30%	480	163	34%	15%
All Ages							
LBHF	920	274	30%	701	282	40%	35%
RKBC	833	276	33%	637	253	40%	20%
WCC	1093	332	30%	871	301	35%	14%
All	2846	882	31%	2209	836	38%	22%
TOTAL	2846	882	31%	2209	836	38%	22%

Source: Public Health Mortality File

Table 6 shows the trend of the proportion of death occurring in usual residence. See also Figure 22. In LBHF, the proportion of deaths in usual residence in those aged 85 years and over has increased more strongly than in the other boroughs and than in the other age groups. In 2014, 48% of deaths by LBHF residents aged 85 years and over were in usual residence, this is similar to RKBC (51%) and higher than in WCC (41%).

Figure 22 Percentage of deaths in usual residence, 2006-2014, by age group

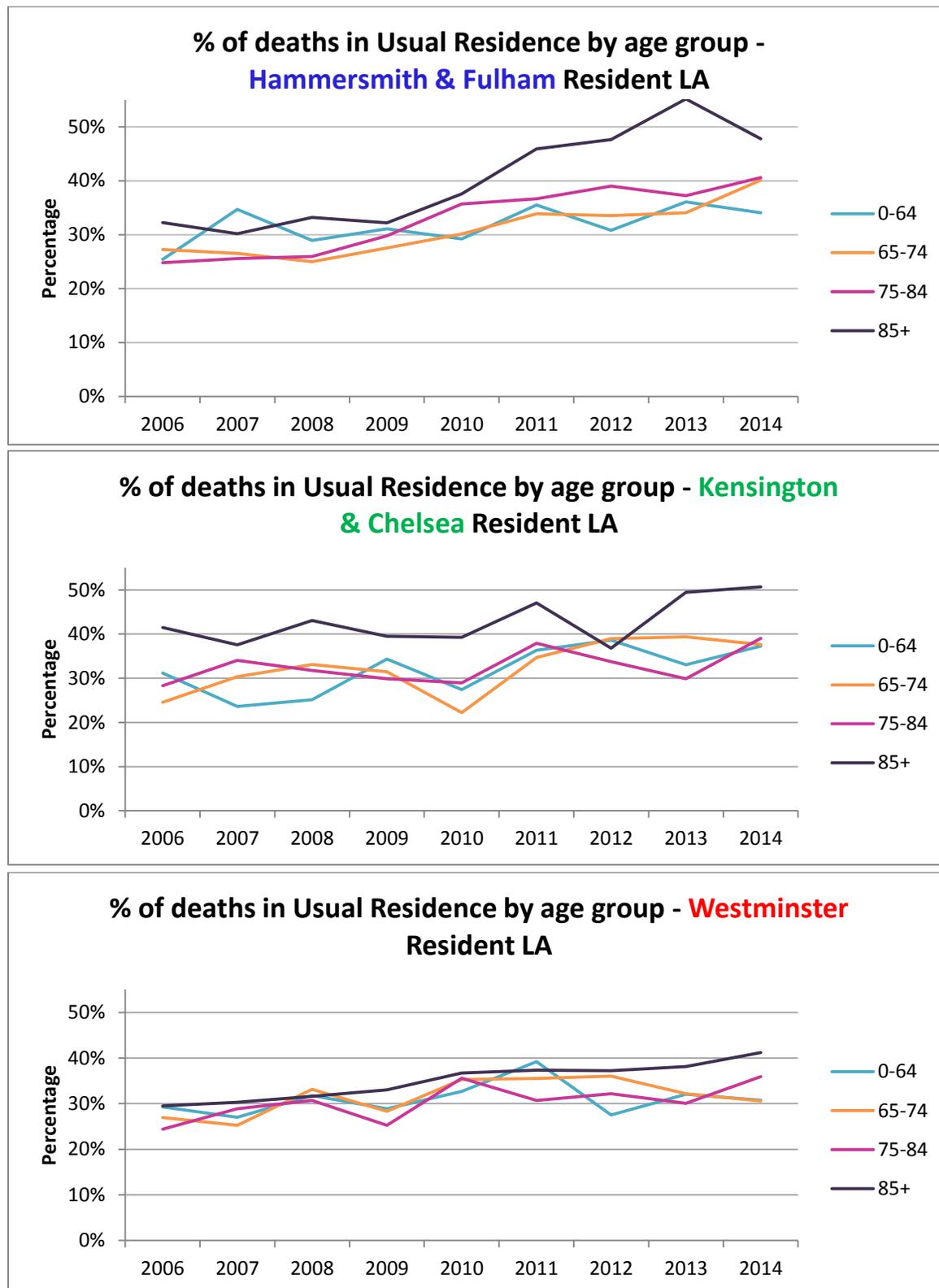


Figure 22 shows the trend of the proportion of death occurring in usual residence. See also Table 6. In LBHF, the proportion of deaths in usual residence in those aged 85 years and over has increased more strongly than in the other boroughs and than in the other age groups. In 2014, 48% of deaths by LBHF residents aged 85 years and over were in usual residence, this is similar to RKBC (51%) and higher than in WCC (41%).

4.6 Place of death – by ethnicity

4.6.1 Background

A review of 45 literature reviews describing unmet needs and disparities in end of life care for BAME groups by Marie Curie (*source: see [here](#)*) reports the following key findings:

- “Several authors reported that BAME groups had lower access to palliative and end of life care services when compared to White British people. This was associated with lack of referrals, lack of awareness of relevant services, previous bad experiences when accessing care, a lack of information in relevant languages or formats and family/religious values conflicting with the idea of hospice care.”
- The most discussed issue of disparities and unmet needs when receiving care was “poor communication between the healthcare professional and the patient/family. This was associated with lack of sensitivity to cultural/religious differences, lack of availability of translators and low availability of training for healthcare professionals.” Studies from the United States reported disparities in end of life decision making, and some disparities in health outcomes.

The report concludes that “overall, palliative care and end of life care provision for BAME groups is often inadequate”.

Analysis linking hospital data to ONS death registration (including people who had a hospital admission in the year prior to death) by the Public Health England National End of Life Care Intelligence network (*source: see [here](#)*) shows that there is variation in place of death by ethnic group. Those in the White British ethnic group were significantly more likely to die at home or in a care home (32%) than those in other ethnic groups, with only about 17% of deaths by those in the Pakistani or Bangladeshi ethnic groups occurring in usual residence. The “[What we know now, 2014](#)” report on end of life care from Public Health England references a “study that examined patterns in place of death among black and minority ethnic groups (BAME) in London”, which “found that country of birth impacts on place of death with BAME groups more likely to die in a hospital and less likely to die at home or in a hospice, however, it is not clear whether these differences result from patient-centred preferences, or other environment or service-related” (Source: Koffman et al. [PLos One 2014](#)).

In the national survey of Patient Activity Data for Specialist Care services, the recording of ethnicity has improved (in recorded by 92% of services). On average 7% of new people accessing palliative care were described as non-white, compared to 14% of the total population (note that this figure is for all ages, and may be lower in older age groups). The report concludes that while the number of ethnic minority people accessing palliative care is increasing, it is still low.

4.6.2 Local findings

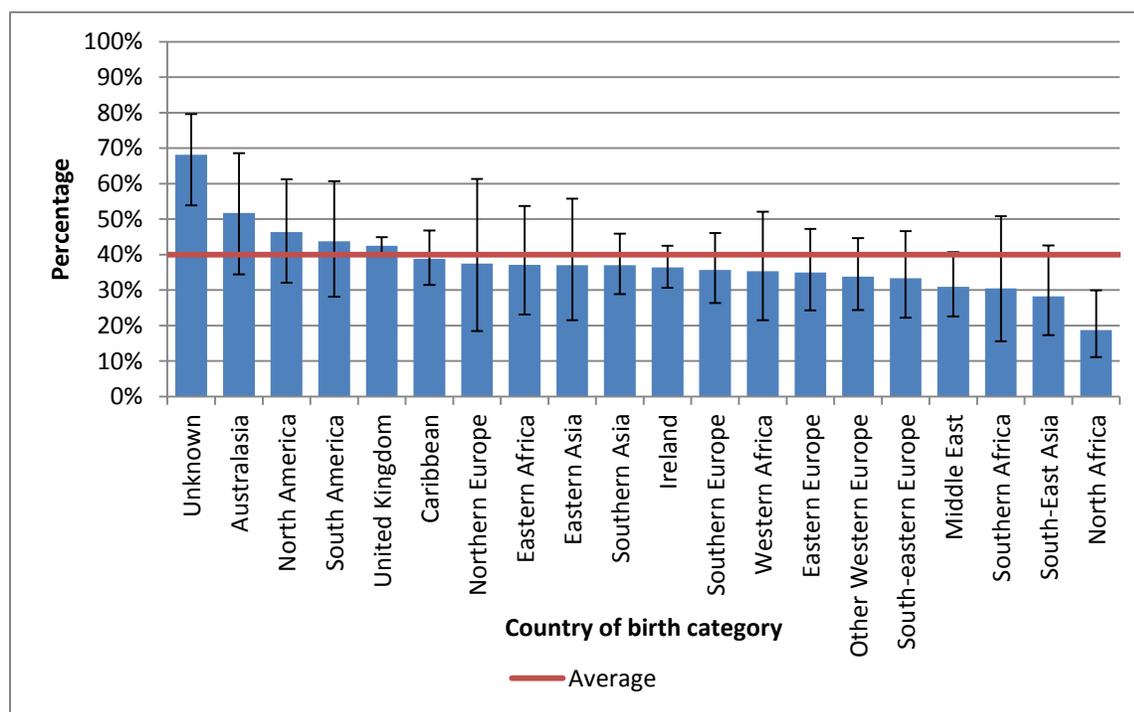
4.6.2.1 Deaths in usual residence

The local deaths data includes information on country of birth. While ethnicity is a multi-faceted phenomenon and based on subjective identification, here we use country of birth as a proxy of ethnicity as we do not have access to any other information (we are not able to link the deaths data to the hospital data as done in the report by Public Health England described above). This measure does not take into account white people born abroad, and second and third generation children born in the UK since migration.

Those born in the United Kingdom account for 56% of deaths (1,671 deaths) and those born in Ireland for 9% of deaths (161 deaths). The other categories of country of birth each account for less than 5% of deaths. Country of birth was not known for 2% of deaths (47 deaths).

Figure 23 below shows no significant difference in the percentage of deaths that occurred in usual residence between most categories of county of birth. Deaths in those born in North Africa were less likely to occur in usual residence (12 of 64 deaths in usual residence, 19% compared to the average of 40%), while deaths in those with an unknown country of birth were more likely to occur in usual residence (32 of 47 deaths in usual residence, 68%).

Figure 23 Percentage of deaths in usual residence by country of birth category, 2014



The error bars show the 95% confidence interval calculated using the Wilson Score Method ([Analytical Tools for Public Health](#)).

While ethnicity is a multi-faceted phenomenon and based on subjective identification, here we use country of birth as a proxy of ethnicity as we do not have access to any other information. Figure 23 shows no significant difference in the percentage of deaths that occurred in usual residence between most categories of county of birth. Deaths in those born in North Africa were less likely to occur in usual residence.

4.6.2.2 Deaths in hospice

Local data from St Johns hospice (see Table 7) shows that 22% of patients in 2014 are from BAME groups, this is comparable to the percentage of BAME residents in Westminster (main area serviced by the hospice) in these age groups (23%), suggesting that there is no inequality by ethnicity in hospice coverage.

Table 7 Deaths in St Johns Hospice patients by ethnicity and age

Age group	All Westminster residents		St Johns hospice patients		
	Observed percentage in each age group	Observed percentage BAME in each age group	Observed percentage in each age group	Expected percentage of total BAME in each age group	Observed percentage in BAME (total only)
25-64	84%	38%	24%	38% x 24% = 9%	N/A
65-74	8%	24%	17%	24% x 17% = 4%	N/A
75-84	5%	22%	28%	22% x 28% = 6%	N/A
85+	2%	12%	32%	12% x 32% = 4%	N/A
Total	100%	35%	100%	23%	22%

Sources: Local data provided by St Johns hospice, 2014; GLA 2012 Round Final Ethnic Group Population Projection (EGPP) figures for Westminster, 2014

Table 7 shows that 22% of St Johns Hospice patients are from BAME groups. This is comparable to the percentage of BAME residents in Westminster (main area serviced by the hospice) in these age groups (23%), suggesting that there is no inequality by ethnicity in hospice coverage.

4.7 Place of death – by deprivation

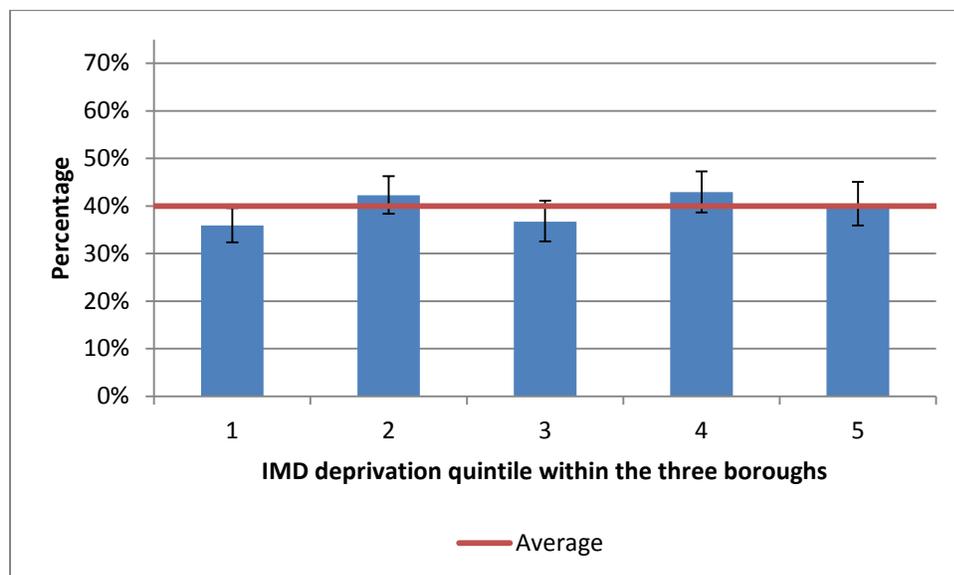
4.7.1 Background

National analysis shows that the proportion of deaths in hospital (62% compared with 55%) and at home (20% compared with 19%) is higher in more deprived quintiles than less deprived quintiles ($p < 0.05$ for z-test of quintile 1 compared with quintile 5) (Source: *Public Health England End of Life Care Intelligence Network, Variations in Place of Death in England, August 2010*).

4.7.2 Local findings

Local data does not show significant differences in the proportion of deaths in usual residence by deprivation. The proportions of deaths in usual residence is slightly lower than the average in the most deprived areas (quintile 1, 36% of deaths) and the areas with average deprivation (quintile 3, 36% of deaths) but this does not reach statistical significance. There is also no significant trend across the quintiles of deprivation.

Figure 24 Percentage of deaths in usual residence by IMD deprivation quintile within the three boroughs (1 indicates the 20% of LSOA's that are most deprived, 5 the 20% that is least deprived)



The error bars show the 95% confidence interval, calculated using the Wilson Score Method (*Analytical Tools for Public Health*).

Figure 24 shows there are no significant differences in the proportion of deaths in usual residence by deprivation

4.8 Local variation in place of death

4.8.1 Descriptive findings

Figure 25 below shows the percentage of deaths that occurred at home or in a care home. Figure 25 is based on where the patient lived (e.g. for someone who died in hospital, data is shown at location of the home). For a map based on where the patient died (e.g. for someone who died in hospital, data is shown at the location of the hospital), please refer to Figure 39 in the Appendix.

A hot spot analysis (see Figure 26 below) shows an area in RBKC where the percentage of deaths in usual residence is significantly higher than neighbouring areas and an area in the north of WCC where it is significantly lower.

Figure 25 Percentage of deaths in usual residence by ward, 2014

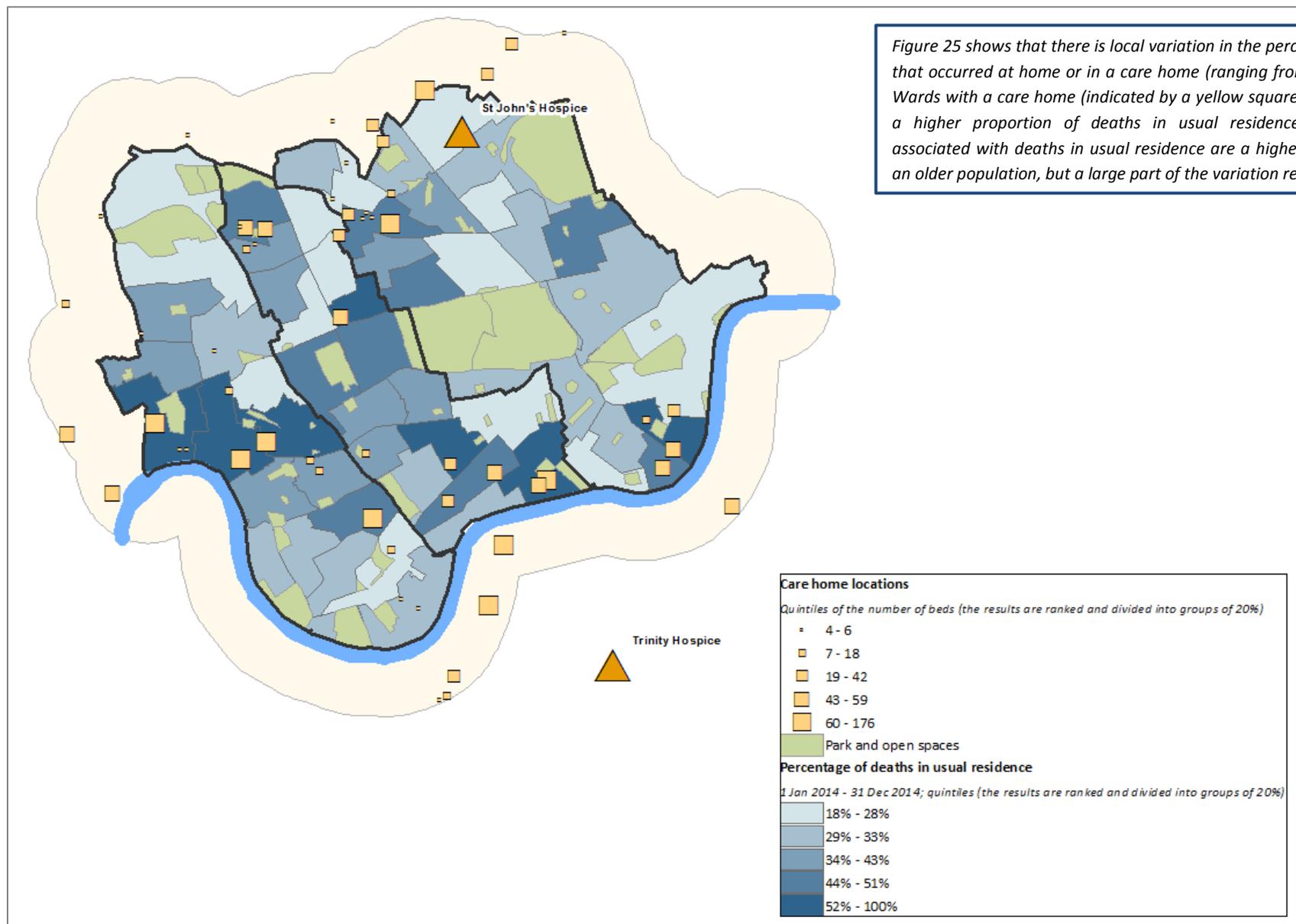
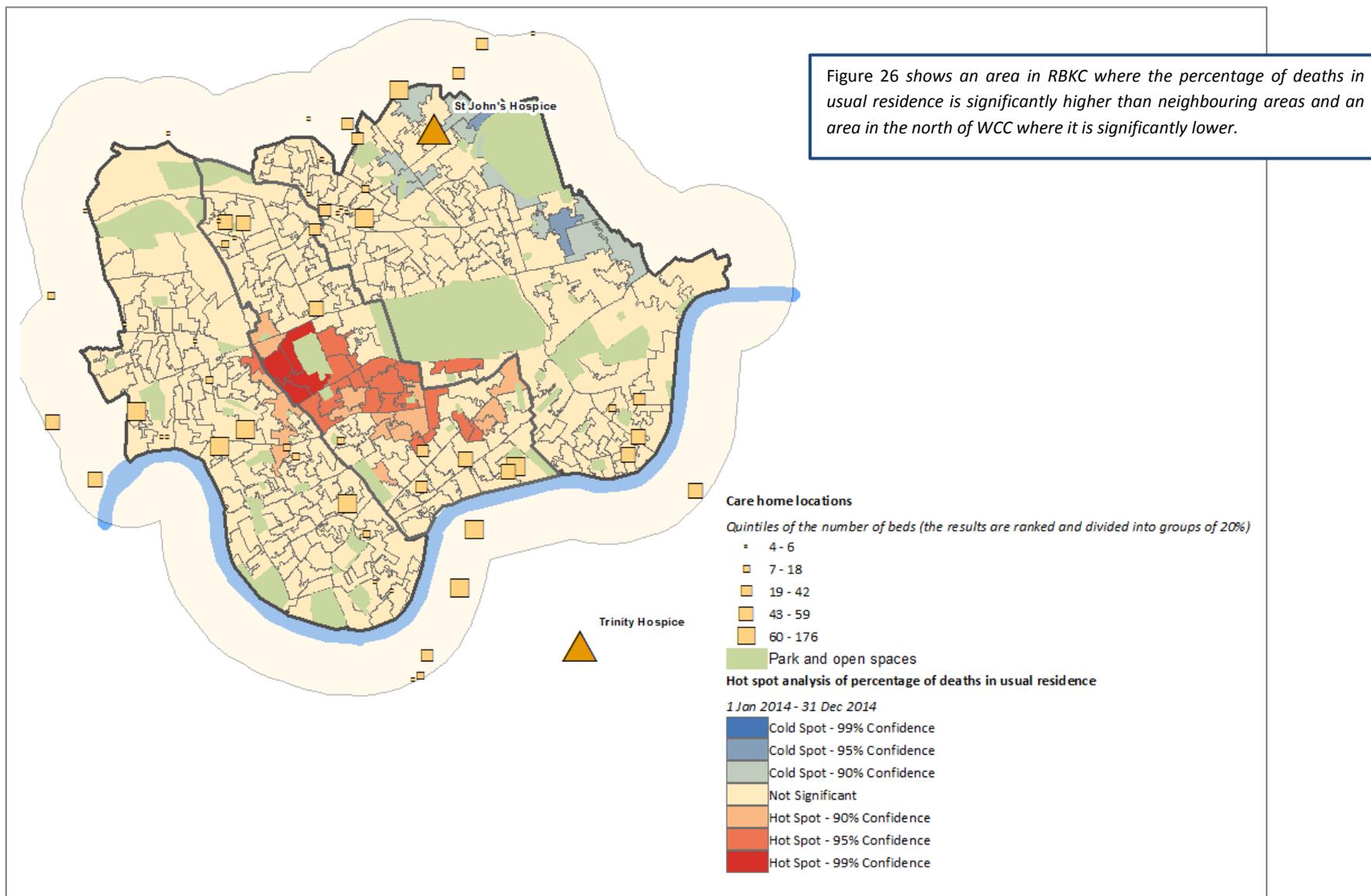


Figure 25 shows that there is local variation in the percentage of deaths that occurred at home or in a care home (ranging from 18% to 100%). Wards with a care home (indicated by a yellow square) appear to have a higher proportion of deaths in usual residence. Other factors associated with deaths in usual residence are a higher death rate and an older population, but a large part of the variation remains unknown.

Figure 26 Hot spot analysis showing the areas where the percentage of deaths in usual residence is significantly higher (“hot spot”) or lower (“cold spot”) than neighbouring areas



The previous sections investigated potential associations between deaths in usual residence and the following factors:

- *Cause of death.* Deaths due to circulatory disease are more likely to occur at home or in a care home, while deaths due to respiratory disease are less likely to occur at home or in a care home.
- *Age.* Deaths in people aged 85 years and older are more likely to occur in usual residence.
- *Ethnicity.* Few significant associations with ethnicity were found. Deaths in those born in North Africa were less likely to occur in usual residence, while deaths in those with an unknown country of birth were more likely to occur in usual residence.
- *Deprivation.* Local data does **not** show significant differences in the proportion of deaths in usual residence by deprivation.

When comparing Figure 25 to Figure 3 and Figure 9, there does **not** seem to be a clear association between local variation in place of death and deprivation or age at death. Deaths due to circulatory disease (see Figure 36 and Figure 19) may be slightly more likely to occur in the usual residence.

In addition, wards with a care home (indicated by a yellow square) appear to have a higher proportion of deaths in usual residence. This is further investigated in Table 8 below.

Of the people who lived in a care home before their death, 84% died in the same place. Of the people who did not live in a care home (who lived at home), 31% died in their home. People who live in a care home are much more likely to die in their home, and much less likely to die in hospital, than people who do not live in a care home. This is apparent in all age groups and is therefore not explained by the higher age of care home residents.

Please note that there were 225 patients in 2014 who died in a care home, but for whom the postcode of residence at death did not match the postcode of the care home. It is most likely that the family member registering death gave the postcode of the previous residence regarded as “home”. It is possible that visitors may collapse and die in a care home, but the number is likely to be very low in comparison to the very high mortality rate among residents of care homes. Some may have been receiving respite care or had a temporary admission to a care home to avoid a hospital admission. For the 225 patients it was assumed that if they died in a care home they were effectively resident in it. The “corrected” postcode has been used in all maps for residence. When these postcodes are not “corrected” the same patterns are seen but they are less strong – 71 % (cf. 84%) of those who lived in a care home died in their usual place of residence, compared to 36% (cf. 31%) of those who did not live in a care home. This last group necessarily excludes the 225 patients who died in a care home but were recorded as being resident elsewhere.

Table 8 The percentage of deaths in usual residence in those who lived in a care home before death compared to those who did not live in a care home

Residence before death		Place of death				
		Usual residence	Not in usual residence			
		Home or Care Home	Hospital	Elsewhere	Hospice	Other
Did not live in a care home	All	31%	54%	0%	11%	4%
	0-64	33%	32%	12%	47%	9%
	65-74	31%	51%	0%	16%	2%
	75-84	30%	57%	0%	11%	2%
	85+	31%	61%	0%	6%	2%
			Home or Care Home	Hospital	Elsewhere	Hospice
Lived in care home	All	84%	16%	0%	0%	0%
	0-64	82%	11%	0%	4%	4%
	65-74	85%	15%	0%	0%	0%
	75-84	79%	21%	0%	1%	0%
	85+	86%	14%	0%	0%	0%

Table 8 shows that of the people who lived in a care home before their death, 84% died in the same place. Of the people who did not live in a care home (who lived at home), 31% died in their home. People who live in a care home are much more likely to die in their home, and much less likely to die in hospital, than people who do not live in a care home. This is apparent in all age groups and is therefore not explained by the higher age of care home residents.

Wards with a high proportion of deaths (as shown in Figure 6) appear to have a higher proportion of deaths in usual residence.

There may also be some natural variation between wards due to chance, which can be enlarged if the numbers are small. However, when taking into account small numbers by considering the number of deaths and the percentage of deaths in combination, there are no substantial changes to the pattern.

4.8.2 Spatial analysis

We investigated the following variables using ordinary least squares analysis in Arc GIS:

- Number of care home beds
- Percentage of deaths due to circulatory disease/cancer/respiratory disease
- Median age at death
- Death rate
- Population age – percentage of the population aged 65 years and over
- Deprivation

Individual associations between each of these factors and percentage of deaths in usual residence are shown in Table 9 below.

Table 9 Univariate ordinary least squares spatial regression analysis of the association with the percentage of deaths in usual residence

	Coefficient	Type of relationship	Significant	R squared – how much of the variation does the variable explain?
Care home beds (0-146)	0.004	Positive: areas with a higher number of care homes have a <i>higher</i> percentage of deaths in usual residence	Yes	7%
Death rate (0-4191)	0.0001	Positive: areas with a higher death rate have a <i>higher</i> percentage of deaths in usual residence	Yes	5%
Percentage population 65+ (0-100)	0.56	Positive: areas with a higher percentage of residents aged 65 years and over have a <i>higher</i> percentage of deaths in usual residence	Borderline (p=0.06)	0.8%
Median age at death (0-97)	0.002	Positive: areas with a higher median age at death have a <i>higher</i> percentage of deaths in usual residence	No	0.6%
Deaths due to cancer (0-100)	-0.09	Negative: areas with a higher percentage of deaths due to cancer have a <i>lower</i> percentage of deaths in usual residence	No	0.5%
Deaths due to CVD (0-100)	0.09	Positive: areas with a higher percentage of deaths due to CVD have a <i>higher</i> percentage of deaths in usual residence	No	0.3%
Deaths due to respiratory disease (0-100)	-0.05	Negative: areas with a higher percentage of deaths due to respiratory disease have a <i>lower</i> percentage of deaths in usual residence	No	0.2%
Deprivation (8-59)	-0.0005	Negative: areas with a higher level of deprivation have a <i>lower</i> percentage of deaths in usual residence	No	0.2%

Table 9 shows that a higher number of care home beds, a higher death rate and an older population (borderline significance) are significantly associated with a higher percentage of deaths at home. However, a large part of the variation remains unknown as exploratory analysis investigating different combinations of variables fails to find a performing model (only 7% of the variation can be explained).

While this confirms some of the associations described in the section “descriptive findings”, exploratory analysis investigating different combinations of variables fails to find a performing model (only 7% of the variation can be explained).

Other factors not investigated here may further explain the variation. These may include differences between individual GP’s and differences in the social care provision in the area. The variation may also be due to chance.

4.8.3 Deaths in usual residence by GP practice

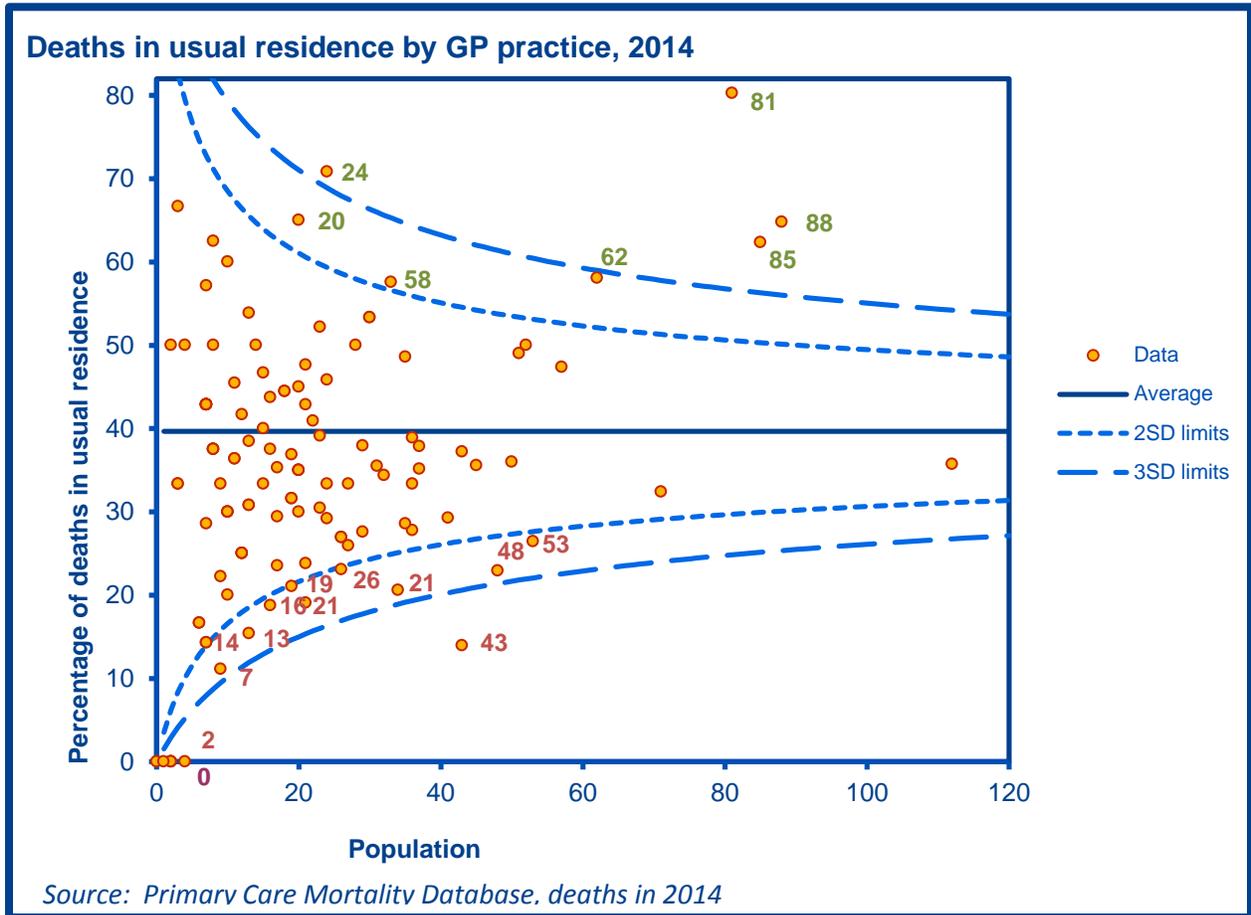
Figure 27 shows a funnel plot of the percentage of deaths in usual residence by GP practice in 2014. Of the 119 practices, 5 are above or below three standard deviations (excluding the 3 practices with population of 2 and no deaths in usual residence) and have a significantly higher or lower percentage of deaths in usual residence in 2014 (see Table 10). This higher than what would be expected by chance alone (we would expect by chance only two outliers per 1000 observations). A further 12 practices are above or below two standard deviations (due to chance we would expect about 5 outliers per 100 observations).

However, there is variation from year to year and not all of the practices that were outliers in 2014, are outliers in the years before that. If the practices consistently have a low or high percentage of deaths in usual residence over the 9 years (2006-2014) you can be more confident that they are different. This is further investigated using control charts.

Control chart tests (signals: 7 continuous years above or below the mean; 4 continuous years one standard deviation above or below the mean, 2 continuous years more than 2 standard deviations above or below the mean; 1 year more than 3 standard deviations above or below the mean) show that there are 27 practices where at least one of signals indicates they are above average, and 12 practices that are below average (3 practices are both below and above average). Figure 29 shows the control charts for the 6 practices that were significantly above or below average in in 2014 (as shown in Figure 27 and Table 10). There are different patterns, including a continuously high percentage of deaths in usual residence (including Dr Boreham & Partners, Royal Hospital Chelsea and Hammersmith Surgery), an increasing percentage of deaths in usual residence (including Brook Green Medical Centre and The Notting Hill Medical Centre), or a continuously low percentage of death in usual residence (including The Surgery (Dasgupta)).

Differences between practices may be expected because of differences in their population, for example the presence of a care home, the number of homeless patients, and the death rate. Some differences however may be due to good practice, and it may be helpful to further understand why the percentage of deaths in usual residence is high in some practices and if there is anything that may be replicated by other practices.

Figure 27 Deaths in usual residence by GP practice, 2014



For the practice names of the numbered points in the figure, please refer to Table 10

Figure 27 shows practices with a higher (number in green) or lower (numbers in red) percentage of deaths in usual residence. Of the 119 practices, 5 are above or below three standard deviations and have a significantly higher or lower percentage of deaths in usual residence in 2014. This higher than what would be expected by chance alone (we would expect by chance only two outliers per 1000 observations). A further 12 practices are above or below two standard deviations (due to chance we would expect about 5 outliers per 100 observations).

End of Life Care Technical Document (to inform Joint Strategic Needs Assessment)

Table 10 Practices with a significantly higher or lower percentage of deaths in usual residence in 2014 and their pattern over 2006-2014

Number in figure	Practice name	Number of deaths in usual residence (2014)	Number of deaths (2014)	Percentage of deaths in usual residence (2014)	Pattern 2006-2014
88	The Belgravia Surgery	57	88	65%	Does not meet signals
85	Brook Green Medical Centre	53	85	62%	9 above mean; 6 more than one SD above mean; 5 more than 2 SD above mean; 1 more than 3 SD above mean
81	Dr Boreham & Partners	65	81	80%	9 above mean; 9 more than one SD above mean; 9 more than 2 SD above mean; 9 more than 3 SD above mean
24	Royal Hospital, Chelsea	17	24	71%	9 above mean; 9 more than one SD above mean; 9 more than 2 SD above mean; 3 more than 3 SD above mean
20	The New Surgery	13	20	65%	Does not meet signals
62	Hammersmith Surgery	36	62	58%	9 above mean; 9 more than one SD above mean; 3 more than 2 SD above mean
33	The Notting Hill Med Centre	19	33	58%	8 below mean; 7 more than one SD below mean; 2 more than two SD below mean – more than two SD above mean in 2014 only
43	St Johns Wood Medical Practice	6	43	14%	Does not meet signals
2	Imperial College Health Centre	0	2	0%	Small numbers
2	Kings College Health Centre	0	2	0%	Small numbers
2	Canberra Centre For Health		2	0%	Small numbers
1	Earls Court Health and Wellbeing Centre		1	0%	Small numbers
4	The Golborne Medical Centre		4	0%	Small numbers
53	Lisson Grove Health Centre	14	53	26%	Does not meet signals
48	White City Health Centre	11	48	23%	Does not meet signals
21	Ashville Surgery	4	21	19%	Does not meet signals
16	Cassidy Road Medical Centre	3	16	19%	Does not meet signals
13	The Surgery (Dasgupta)	2	13	15%	7 below mean
26	Knightsbridge Medical Centre	6	26	23%	Does not meet signals
19	The Bayswater Surgery	4	19	21%	Does not meet signals
34	The Elgin Clinic	7	34	21%	Does not meet signals
9	Milne House Medical Centre	1	9	11%	Does not meet signals

Table 10 shows the 5 practices that consistently have a high percentage of deaths in usual residence over the 9 years (2006-2014), and 1 practice with a consistently low percentage (practices that were higher or lower in 2014 only are included in grey). Please also see the accompanying graphs in Figure 29.

Figure 29 Percentage of deaths in usual residence by GP practice in 2006-2014 (control charts)

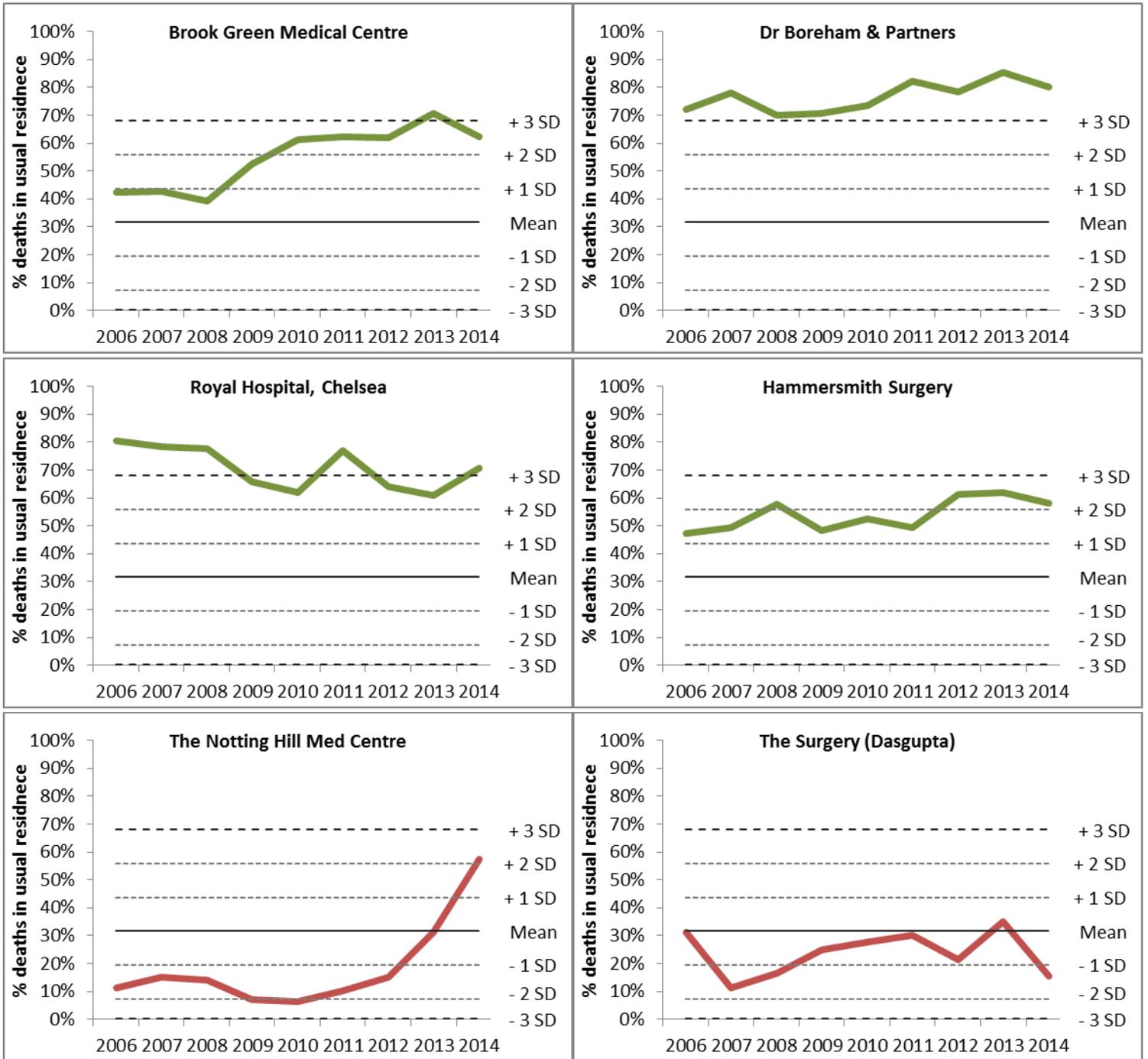


Figure 29 shows the trend data for the 6 practices that were significantly above or below average (as shown in Figure 27 and Table 10). Dr Boreham & Partners, Royal Hospital Chelsea and Hammersmith Surgery show a continuously high percentage of deaths in usual residence; Brook Green Medical Centre and The Notting Hill Medical Centre show an increasing percentage of deaths in usual residence; and The Surgery (Dasgupta) shows a continuously low percentage of death in usual residence.

5 Coordinate My Care (CMC)

5.1 Background

The CCGs have adopted the Coordinate My Care (CMC) tool to record the treatment and place of death preferences of patients.

Building on the recommendation for coordinated care and care planning in the national strategy, Coordinate My Care (CMC) is a clinical service that allows health professionals (with a legitimate reason) to have access to a patient’s care plan outlining their condition, treatment, key contact details, and wishes and preferences, as they approach the end of their life. This is particularly helpful for emergency situations.

5.2 Number of patients recorded on CMC

The CMC Monthly Data overviews from 8 July 2015 (data reflects the previous data) show that in H&F CCG 3.9% of the patients aged 65 years and over (542 patients) are recorded on CMC (see Table 11). A lower proportion of patients are recorded on CMC in the other two CCGs: 2.0% in WL CCG (469 patients) and 2.2% in CL CCG (763 patients).

Table 11 Number of patients recorded on Coordinate My Care (CMC) as a proportion of the practice population aged 65 years and over

	Number on CMC list	Total practice population aged over 65 years	% of patients aged over 65 on CMC list
H&F CCG	763	19484	3.92%
WL CCG	542	27448	1.97%
CL CCG	469	21453	2.19%

Table 11 shows that in H&F CCG 3.9% of the patients aged 65 years and over are recorded on CMC. A lower proportion of patients are recorded on CMC in the other two CCGs: 2.0% in WL CCG and 2.2% in CL CCG.

5.3 Preferred place of death

Of the patients with a CMC record who died, and for whom the place of death and preferred place of death are recorded, approximately 65% died in their preferred place of death (see Table 12). The proportion of patients recorded on CMC who died in hospital is lower than the average for all CCGs patients (H&F CCG: 21% of patients with a CMC record compared to 49% of all patients; WL CCG: 17% of

patients with a CMC record compared to 58% of all patients; CL CCG: 14% of patients with a CMC record compared to 49% of all patients).

Table 12 Percentage of patients recorded on Coordinate My Care (CMC) who died in their preferred place of death

	Deaths of CMC patients	Deaths with place of death recorded and patients expressing preferred place of death	Patients who died in (first) preferred place of death	CMC patients who died in hospital
H&F CCG	324	145	63.4%	21%
WL CCG	199	92	65.2%	17%
CL CCG	231	140	65.7%	14%

Of the patients with a CMC record who died, and for whom the place of death and preferred place of death are recorded, approximately 65% died in their preferred place of death. The proportion of patients recorded on CMC who died in hospital is lower than the average for all CCGs patients.

5.4 Number of patients on CMC by GP practice

The percentage of patients aged 65 years and over on the CMC list varies by practice from 14.9% to 0.2% as shown in Figure 28.

5.5 Recorded diagnosis of patients on CMC

The majority of patients on CMC are diagnosed with cancer (H&F CCG: 53%, WL CCG: 51%, CL CCG: 58%) as shown in Table 13.

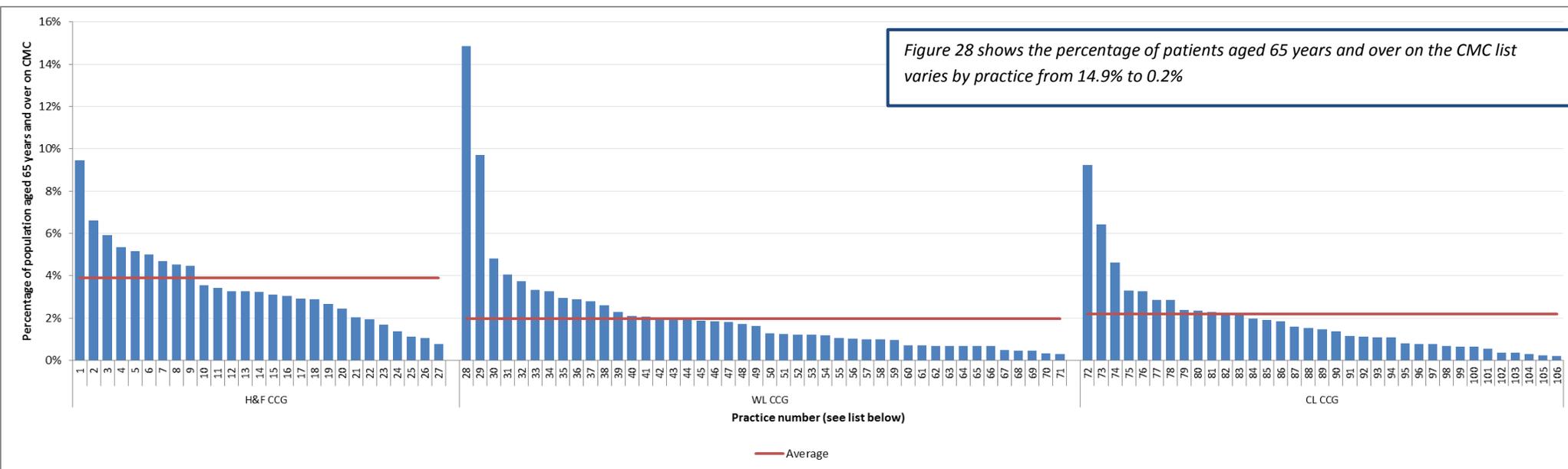
Table 13 Recorded diagnosis of patients on Coordinate My Care (CMC)

	H&F CCG	WL CCG	CL CCG
Cancer	53%	51%	58%
Cardiac	4%	4%	5%
COPD	4%	5%	3%
Dementia	17%	17%	16%
Neurological	4%	7%	7%
Renal	4%	2%	2%
Other	14%	14%	9%

Table 13 shows that the majority of patients on CMC are diagnosed with cancer

End of Life Care Technical Document (to inform Joint Strategic Needs Assessment)

Figure 28 Percentage of the population aged 65 years and over recorded on Coordinate My Care (CMC) by GP practice



Not all practices in the CMC reports could be matched to practice registration information on HSCIC

Legend of practice names

H&F CCG			WL CCG			CL CCG							
1	Hammersmith Surgery	21	Shepherds Bush Medical Centre	28	The Notting Hill Medical Centre	48	The Foreland Medical Centre	68	Kensington Park Medical Centre	72	North West London Medical Centre	92	Marylebone Health Centre
2	Brook Green Medical	22	Ashchurch Surgery	29	The Surgery	49	Rosary Garden Surgery	69	Meanwhile Garden	73	The Westbourne Green Surgery	93	Marven Medical Practice
3	Sands End Health Clinic	23	The Practice, Canberra	30	Emperor's Gate Centre for Health	50	Stanhope Mews Surgery	70	MFDICAL CFNTRF	74	Belgravia Surgery	94	Cavendish Health Centre
4	The Fulham Medical Centre	24	Dr Uppal & Partners	31	Emperor's Gate Centre for Health	51	Shirland Road Medical	71	The Golborne Medical Centre	75	Victoria Medical	95	Lai Chung Fong Queens Park
5	North End Medical Centre	25	Dr Mirza's Practice	32	The Chelsea Practice	52	Barlby Road Surgery		Westbourne Grove	76	Soho Centre for Health	96	Imperial College Health Centre
6	Salisbury Surgery	26	The Bush Doctors	33	The Surgery	53	Half Penny Steps Health			77	Fitzrovia Medical	97	Soho Square General Practice
7	Brook Green Surgery	27	Fulham Cross Medical	34	Portland Road	54	Portobello Medical Centre			78	The Doctor Hickey	98	Nagarajan Queens Park Health
8	The New Surgery			35	The Exmoor Surgery	55	Colville Health Centre			79	Paddington Green	99	Dr Maher Shakarchi's Practice
9	Hammersmith & Fulham Centres for Cassidy Road Medical Centre			36	The Pembroke Villas	56	Holland Park Surgery			80	Woodfield Road	100	Ground Floor Lanark Medical
10	Cassidy Road Medical Centre			37	The Good Practice	57	Srikrishnamurthy Harrow			81	Covent Garden	101	Crompton Medical Centre
11	Richford Gate Medical Centre			38	Kings Road Medical	58	The Practice Beacon			82	Millbank Medical	102	Little Venice Medical Centre
12	The Medical Centre, Dr Jefferies & The Lilyville Surgery			39	Elgin Clinic	59	Brompton Medical Centre			83	Third Floor Lanark	103	Crawford Street Surgery
13	The Medical Centre, Dr Kukar			40	North Kensington	60	Royal Hospital Chelsea			84	Mayfair Medical	104	Wellington Health Centre
14	Lillie Road Health Centre			41	The Golborne Medical	61	Fluxman Harrow Road			85	Lisson Grove	105	Bayswater Medical Centre
15	Sterndale Surgery			42	The Surgery	62	St. Quintin Health Centre			86	The Randolph	106	Newton Medical Centre
16	Park Medical Centre			43	The Abingdon Health	63	The Surgery			87	Dr Victoria Muir's		
17	Ashville Surgery			44	Knightsbridge	64	The Surgery			88	Connaught Square		
18	The Old Oak Surgery			45	The Garway Medical	65	The Surgery			89	St John's Wood		
19	Dr Dandapat & Partners			46	The Redcliffe Surgery	66	The Surgery			90	Ahmed N Queens		
20				47	Scarpsdale Medical	67	New Elgin Practice			91	Maida Vale Medical		

6 Deaths among hospice patients

There are three hospices that serve the three boroughs: Trinity hospice, Pembridge hospice and St. Johns Hospice. We have received data from these hospices on the place of residence of their patients from LBHF, RBKC or WCC who died between 1 September 2013 and 31 August 2014.

Figure 29 below shows that percentage of all deaths (based on the PCMD local mortality data) that were patients of St Johns Hospice, Pembridge Hospice or Trinity Hospice (based on the local data provided by the hospices). There appears to be some variation between wards in their coverage by the hospices. In the wards in the north east of the boroughs a lower proportion of deaths appear to be hospice patients. These are areas with a relatively high death rate (see *[Add reference to Figure 6]*).

The coverage of the hospices is further investigated in Figure 30 below. The ellipses show the areas in which 95% (red for St Johns, blue for Pembridge and purple for Trinity; two standard deviations) and 68% (one standard deviation) of the deaths of hospice patients resident in H&F, K&C or WCC occurred.

There is good coverage of the boroughs. The figure shows that the areas in which 95% of the deaths in the three boroughs among hospice patients of St Johns, Pembridge and Trinity occur cover the three boroughs fully. There is some overlap in the areas that are covered by the hospices, particularly by Pembridge hospice and Trinity hospice (in addition to overlap of the wider coverage areas, for these two hospices the areas in which 68% of the deaths occurred also overlap). In the areas where the coverage of the hospices overlap (e.g. in the middle of K&C) it appears that a higher proportion of all deaths are hospice patients.

Figure 29 Percentage of all deaths that are patients of St Johns hospice, Pembridge hospice or Trinity hospice

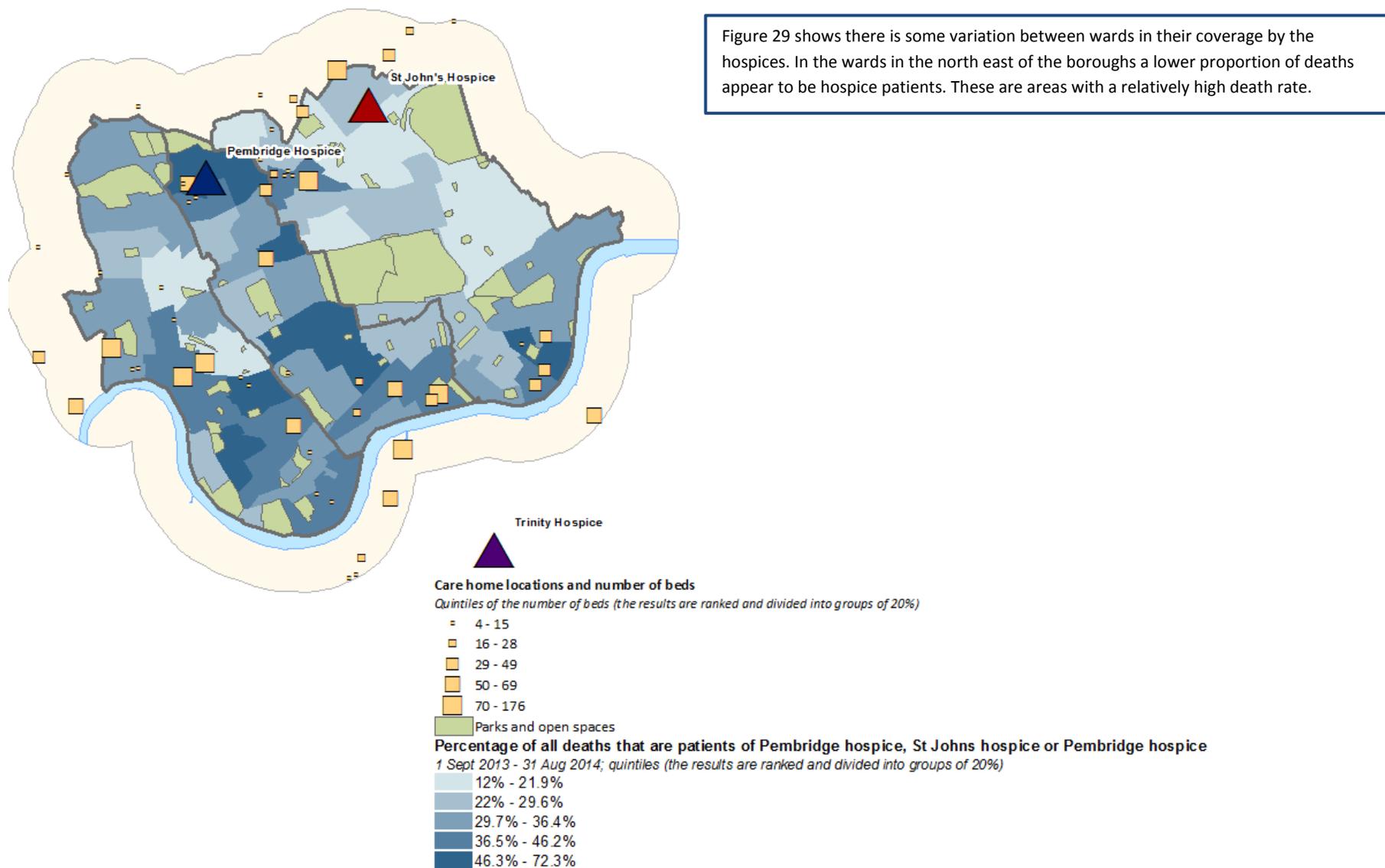


Figure 29 shows there is some variation between wards in their coverage by the hospices. In the wards in the north east of the boroughs a lower proportion of deaths appear to be hospice patients. These are areas with a relatively high death rate.

Figure 30 Coverage by St Johns hospice, Pembridge hospice and Trinity hospice

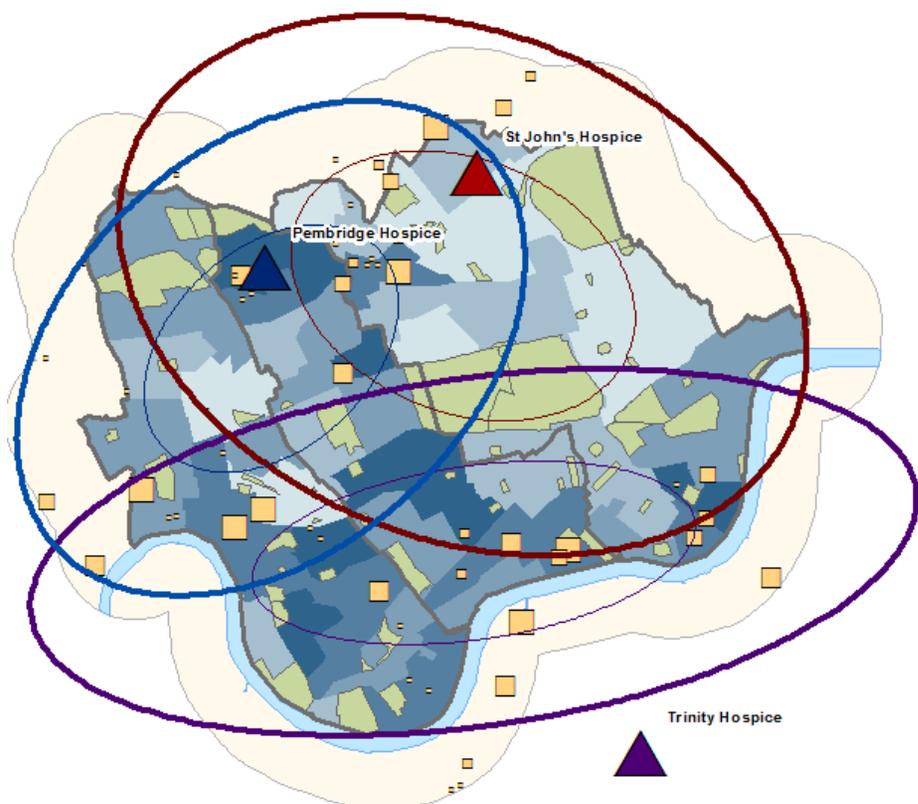


Figure 30 shows there is good coverage of the boroughs.

The figure shows that the areas in which 95% of the deaths in the three boroughs among hospice patients of St Johns, Pembridge and Trinity occur cover the three boroughs fully.

There is some overlap in the areas that are covered by the hospices, particularly by Pembridge hospice and Trinity hospice (in addition to overlap of the wider coverage areas, for these two hospices the areas in which 68% of the deaths occurred also overlap). In the areas where the coverage of the hospices overlap (e.g. in the middle of K&C) it appears that a higher proportion of all deaths are hospice patients.

- Two standard deviation ellipse for deaths among Pembridge patients - this ellipse covers 95% of the Pembridge deaths
 - One standard deviation ellipse for deaths among Pembridge patients - this ellipse covers 68% of the Pembridge deaths
 - Two standard deviation ellipse for deaths among St Johns patients - this ellipse covers 95% of the St Johns deaths
 - Two standard deviation ellipse for deaths among Trinity patients - this ellipse covers 95% of the Trinity deaths
 - One standard deviation ellipse for deaths among St Johns patients - this ellipse covers 68% of the St Johns deaths
 - One standard deviation ellipse for deaths among Trinity patients - this ellipse covers 68% of the Trinity deaths
 - Parks and open spaces
- Percentage of all deaths that are patients of Pembridge hospice, St Johns hospice or Pembridge hospice**
 1 Sept 2013 - 31 Aug 2014; quintiles (the results are ranked and divided into groups of 20%)
- 12% - 21.9%
 - 22% - 29.6%
 - 29.7% - 36.4%
 - 36.5% - 46.2%
 - 46.3% - 72.3%

7 Deaths in hospital

7.1 Background

A report by [Public Health England End of Life Care Network](#) found that:

- In final 12 months before death 90% had some hospital care.
- 90% of people died in hospital following an emergency admissions (88% in London)
- 38% of people who died in hospital are aged 85 years or older and died following an emergency admission (38% in London)
- 49% of people died in hospital following an emergency admission were in hospital between 8 and 90 days in that admission (51% in London)
- Average length of stay in hospital (days) per person for admissions that ended with the person's death is 12.9 (13.8 in London)

A cohort study of Scottish hospitals has found that large numbers of hospital inpatients have entered the last year of their lives. They found that 29% of hospital inpatients on a given census date died within 12 months of their admission (*Source: Clark et al. 2014 Palliative Medicine*). Most likely to die were men, older patients, deprived patients, and those admitted to a medical specialty.

The national End of Life Care profile for the three boroughs shows:

- The percentage of terminal admissions that are emergencies or that are by people aged 85 years and over are similar to the England average.
- The percentage of terminal admissions that are 8 days or over is significantly higher than the England average in RBKC and WCC and similar to the England average in LBHF (RBKC 54%, WCC 54%, LBHF 52%, England average 49%, data for 2010/11).

A high percentage of terminal admissions with a long stay can indicate that people who die in the hospital are coming in too early. However, this indicator is difficult to interpret as the indicator only includes people who die at hospital. Therefore patients who are discharged and die at home are not included in the indicator, whereas people who die shortly after admission to hospital (and could potentially have remained at home) are included as a terminal admission of less than 8 days.

7.2 Local analysis

In 2014/15, 1,153 patients of the three boroughs died in hospital. Characteristics of their last inpatient admission (during which they died) are shown in Table 14 below.

- The majority of people were admitted following an emergency admission: 93% (75% were admitted from the accident and emergency).
- Average length of stay of the last admission before death is 16.5 days; 57% of people had a stay of more than 8 days.

- The majority of those who died in hospital are aged over 75 years (29% aged between 75 and 84 years, and 37% aged 85 years or over).
- Older patients appear to be more likely to be admitted following an emergency admission (97% of those aged 85 years and over compared with 84% aged younger than 65).
- The primary diagnosis of the last admission before death was respiratory disease for 31% of patients, circulatory disease for 20%, and cancer for 16%.
- Almost all patients diagnosed with respiratory disease were admitted following an emergency admission, compared to 82% of patients with circulatory disease.
- Those diagnosed with a condition other than cancer, cardiovascular disease or respiratory disease had a relatively long length of stay.

Table 14 Characteristics of the last inpatient admission before death

	Total	Comparison: London 2008-10	Age at death				Primary diagnosis			
			0-64	65-74	75-84	85+	Cancer	CVD	Respiratory	Other
Total	1153 admissions	-	18%	17%	29%	37%	16%	20%	31%	34%
Percentage of people who died in hospital following an emergency admission	93%	88%	84%	95%	93%	97%	89%	82%	99%	91%
Average length of stay (min-max, SD)	16.5 days (0-232, 22)	13.8 days	17.3	17.3	17.7	14.9	15.5	14.1	15.3	19.5
Stay of 0-1 days	13%	-	17%	9%	12%	14%	12%	20%	10%	13%
Stay of 2-7 days	30%	-	29%	30%	29%	32%	29%	28%	38%	25%
Stay of 8-90 days	57%	51%	55%	60%	59%	54%	59%	52%	52%	62%

*excluding 77(7%) where length of stay is missing

Table 14 shows the characteristics of the last inpatient admission (during which they died) of the 1,153 patients of the three boroughs who died in hospital. Main findings are that the majority of people were admitted following an emergency admission; older patients appear to be more likely to be admitted following an emergency admission; almost all patients diagnosed with respiratory disease were admitted following an emergency admission, and; those diagnosed with a condition other than cancer, cardiovascular disease or respiratory disease had a relatively long length of stay.

Please refer to Table 18 on page 83 in the Appendix for the characteristics of the last inpatient admission (during which the patient died) by each of the three main providers: Imperial College Healthcare NHS Trust, Chelsea and Westminster Hospital NHS Foundation Trust and University College London Hospitals NHS Foundation Trust.

During the 2 years before death, those who died in hospital had on average 5 outpatient appointments, 4 A&E attendances and 6 inpatient admissions (see Table 15). On average, patients who died in hospital had their last outpatient attendance 5 month before death, their last A&E attendance 2 months before death, and they were admitted 18 days before their death. In the last month of death, 75% of those who died in hospital attended A&E and 25% had an outpatient appointment.

Table 15 Hospital activity in the 2 years before death (from May 2012 until death in 2014/15)

	Average number of months of last activity before death	Average number of months of all activity before death	Total activity	1 month before death	2-6 months before death	6 months - 1 year before death	1-2 years before death
First outpatient attendance	Number average per patient; % at least one attendance/admission						
All referral sources	5	10	5,401 4.7 84%	430 0.4 25%	1,420 1.2 50%	1,325 1.1 46%	2,065 1.8 56%
GP referral	5	11	2,173 1.9 64%	131 0.1 9%	567 0.5 29%	536 0.5 27%	874 0.8 39%
A&E attendances	2	9	5084 4.4 95%	1,104 1.0 75%	1,364 1.2 56%	1,033 0.9 39%	1,583 1.4 49%
Admitted patient care	0 (18 days)	8	7,283 6.3 100%	1,313 1.1 100%	2,184 1.9 72%	1,670 1.4 53%	2,116 1.8 61%

Table 15 shows that during the 2 years before death, those who died in hospital had on average 5 outpatient appointments, 4 A&E attendances and 6 inpatient admissions. On average, patients who died in hospital had their last outpatient attendance 5 month before death, their last A&E attendance 2 months before death, and they were admitted 18 days before their death. In the last month of death, 75% of those who died in hospital attended A&E and 25% had an outpatient appointment.

Table 15, Figure 31, Figure 32 and Figure 33 seem to suggest that the percentage of patients who have an inpatient admission increases gradually over the 2 years before death, the number of A&E attendances increase in the 3- 4 months before death (75% of deaths were admitted following an A&E attendance), and outpatient attendances slightly increase in the 2 months before death. These figures give the information in months before admission, with the last month also shown in days.

Figure 31 Number of inpatient admissions in the two years before death in hospital (all activity before death included)

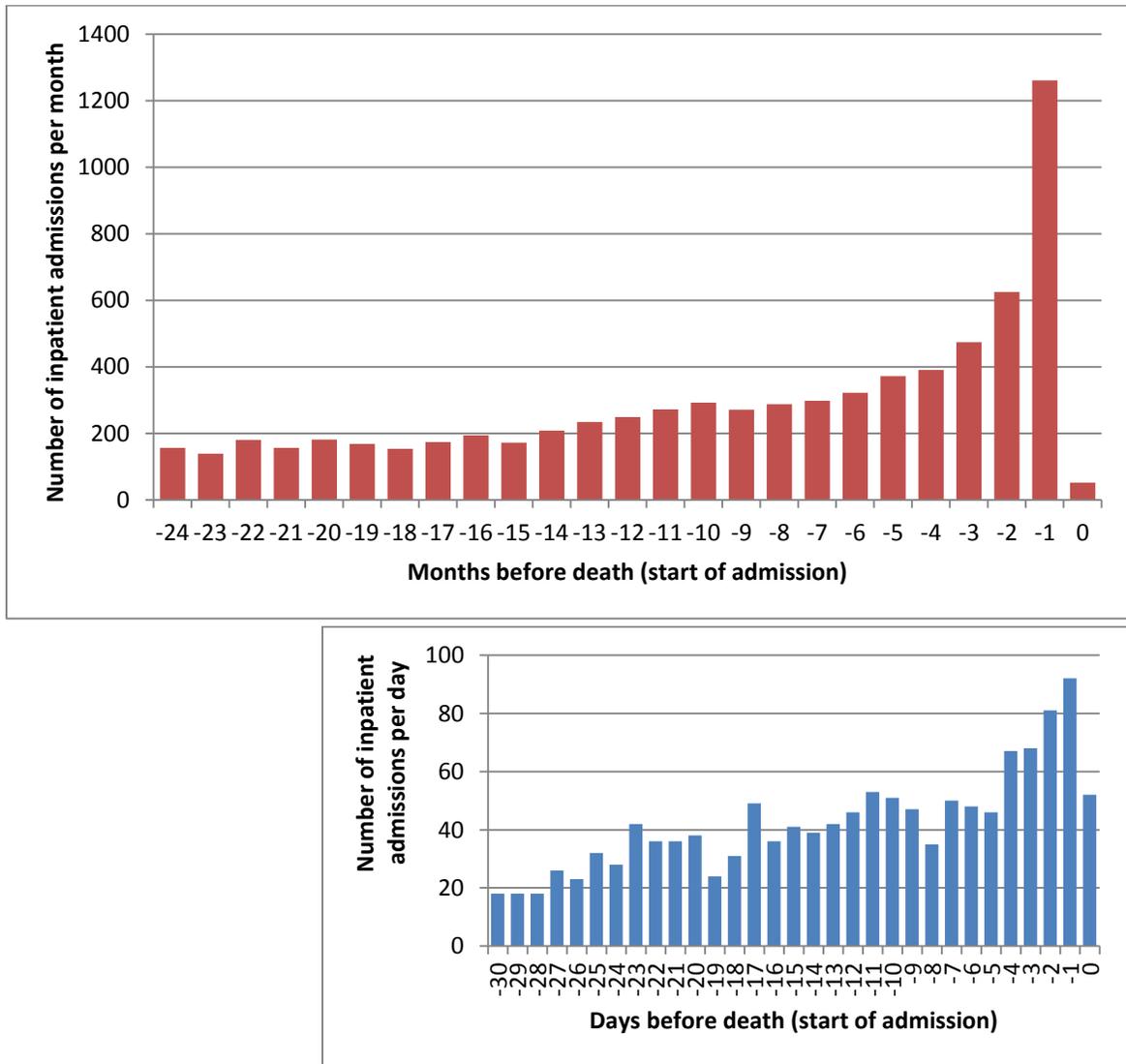


Figure 31 suggests that the percentage of patients who have an inpatient admission increases gradually over the 2 years before death in hospital, with a peak in the last week before death.

Figure 32 Number of A&E attendances before death in hospital (all activity before death included)

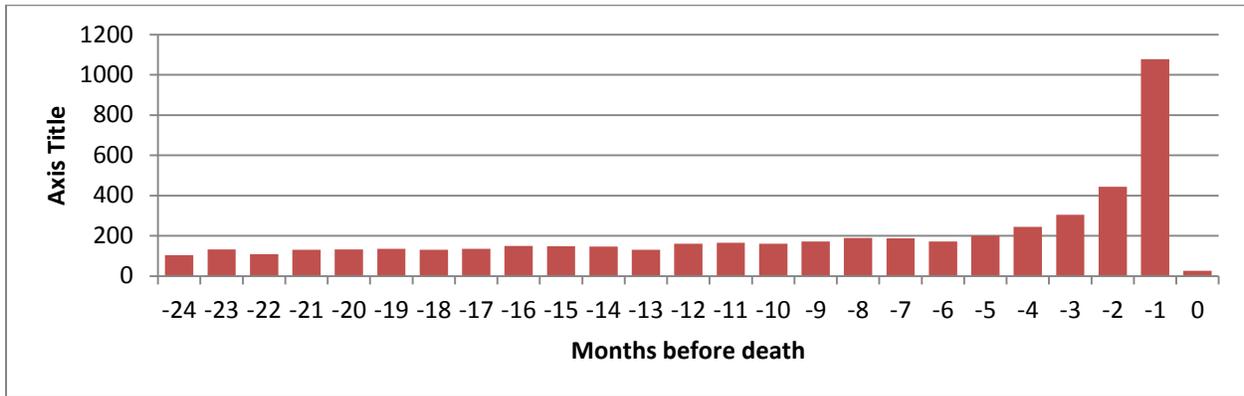


Figure 32 suggests that the number of A&E attendances increase in the 3-4 months before death in hospital (75% of deaths were admitted following an A&E attendance).

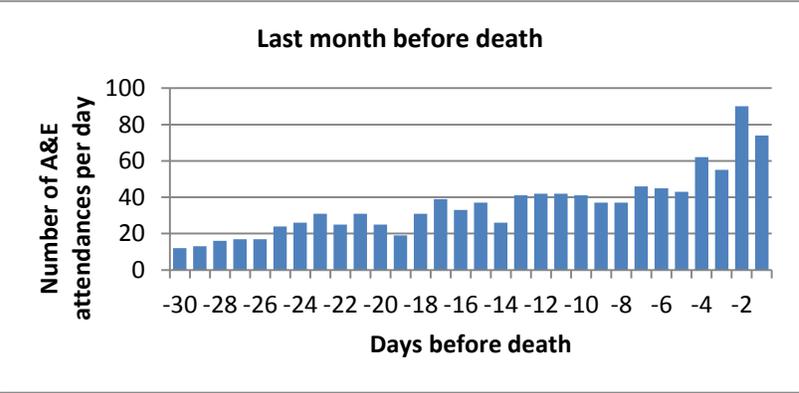


Figure 33 Number of first outpatient appointments before death in hospital (all activity before death included)

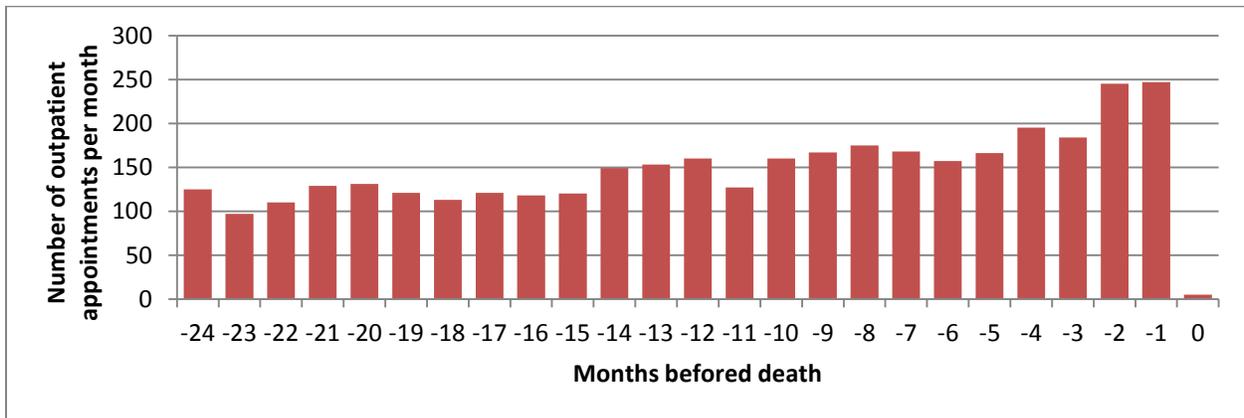
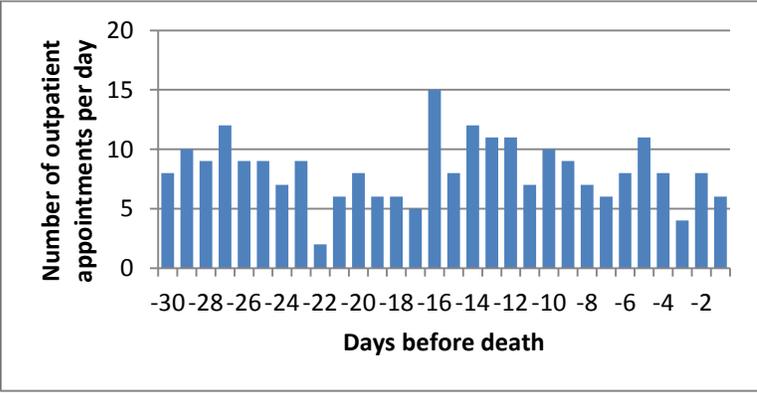


Figure 33 suggests that outpatient attendances slightly increase in the 2 months before death in hospital.



7.3 Hospital palliative care

A research study estimates that 63% of deaths require palliative care in England (Source: [Murtagh et al. Palliative Care 2014](#))

The Minimum Data Set (Source: see [here](#)) is a survey of 451 hospice and specialist palliative care provider organisations. The response rate in London is 68%.

By comparing Minimum Data Set data from 2013/14 to ONS deaths data from 2013, it can be seen that younger people (aged 64 and under) appear to have disproportionate access to specialist palliative care in all settings, accounting for 13.5% of deaths but always at least 23.8% of people accessing any specialist palliative care setting.

People diagnosed with cancer are far more likely to have access to specialist palliative care compared to those diagnosed with other terminal conditions and this disparity is particularly pronounced in Inpatient settings. While data from 2008-2014 show a clear increase in people with diagnoses other than cancer accessing specialist palliative care services across all settings, there continues to be a disparity in access to specialist palliative care services on the basis of diagnosis.

The Health and Social Care Information Centre (HSCIC) recommends the following indicators of specialist inpatient palliative care or hospice services provided by hospital trusts (Source: [HSCIC, 2013](#)):

- If any Hospital Episode Statistics (HES) diagnosis field in any episode in the spell has an ICD-10 code of Z51.5 then the patient is identified as having a diagnosis of palliative care
- If the HES treatment specialty field has a value of 315 for any episode in the spell then the patient is identified as being treated under the palliative medicine treatment specialty

HSCIC reports several limitations in the coding of palliative care diagnoses:

- a) Some organisations interpret the guidance to mean that any patient who has any contact with a member of the palliative care team, regardless of the type of activity, is receiving palliative care and therefore should be coded to Z51.5.
- b) Other organisations only use the code if the patient is seen specifically by a palliative care consultant.
- c) A few organisations only use the code if the patient were under the care of a palliative care consultant or in a hospice facility.

HSCIC further reports: “The issues above indicate that there is difficulty in establishing a consistent definition of what constitutes a specialist inpatient palliative care unit, with some trusts having specific on-site units, others with joint-funded hospices based within hospital grounds and others with specialist palliative care teams covering wards. It is even more difficult to quantify the extent to which units are

used by people outside of the usual catchment area of the hospital. Research was conducted as to whether a list of specialist palliative care units was available, including seeking advice from the National End of Life Care Intelligence Network. They have responded to our enquiry indicating that they do not hold such a list and that they themselves struggle to identify such units.”

Therefore, there are large differences nationally and locally in the percentage of finished provider spells with palliative care diagnosis coding or with palliative medicine treatment specialty coding.

All trusts use palliative care diagnosis coding, although some more frequently than others (national findings for 2012 - 17% of trust up to 0.5%, 44% of trusts: 0.5-1.0%, 36% of trusts: 1.0-2.0% and 3% of trusts more than 2% of spells). The palliative care treatment specialty code is not used by approximately two thirds of trusts across England. Of the trusts that do use the code, most use it infrequently: less than 0.25% of spells in 24% of trusts.

Due to these limitations and variation in coding, we were not able to draw meaningful conclusions from an analysis of hospital palliative care activity.

8 Social Care

The End of Life Care Profiles include several indicators on social care. These are described here.

The rate of persons discharged from hospital with the intention of rehabilitation (aged 65 years and over) is similar to the England average (relatively high in WCC, statistical significance not assessed). A higher value of this indicator can imply a greater demand for social care for persons over 65 years in recovery.

The average user experience of person aged 65 years and over is relatively low (significantly lower in WCC, does not reach significance in LBHF and RKBC) based on survey data (2010/11).

The rate of people aged 65 years and over who receive self-directed support (direct payments and individual budgets intended to offer clients and carers' greater flexibility and independence in how support is provided) is relatively high in RKBC, similar to the England average in LBHF and low in WCC. A higher rate may indicate a greater need for services or a more developed use of self-directed support or better access to services. Other measures of supply, demand and access to social care include the number of the number of people receiving social care support, the number of assessments and the number of care packages delivered. The number of completed assessments is average in all three boroughs, whereas the number of persons who received a care package (similar to the England average in RKBC) or social care support is relatively high (statistical significance not assessed).

"When people no longer require hospital treatment, it is important for their wellbeing to minimise unnecessary delays in transfers of care to their usual place of residence (or other appropriate setting). Also, delays cause 'bed blocking' and use NHS budget which could be spent on treating others." (From the End of Life Care profile indicator guidance) The number of persons whose transfers of care were delayed, as well as the number of days of delay, is similar to the national average in RKBC and WCC, and slightly higher in LBHF (significance not assessed). The Better Care Fund aims to reduce delayed transfers of care.

Unpaid carers may help reduce hospital admission and promote home deaths. The number of persons entitled to Carers Allowance is relatively low in all three boroughs, whereas the number of carers who receive social care support is relatively high in LBHF, and relatively low in WCC and RKBC (statistical significance not assessed). In LBHF 605 carers receive social care support (3460/100,000 aged 65+), in RKBC 350 (1440/100,000 aged 65+ and in WCC 220 (814/100,000 aged 65+). However, the majority of carers do not receive social care support and are not known to the council. In the Census 2011, 12,334 people in LBHF reported that they provide unpaid care, 10,978 in RKBC and 15,878 in WCC.

8.1 Social Care Expenditure

Social care expenditure (measured by spend on residential and nursing care, home care, direct payments, day care or day services and meals) is similar to the national average in RKBC (except for a relatively high spend on day care) and relatively high in LBHF and WCC (particularly spend on residential and nursing care).

9 Appendix

These attachments are provided on the following pages

9.1 CCG and LA resident and registered populations

9.2 Rate of deaths in 2014 per 100,000 population aged 65 years and over

9.3 Percentage of deaths due to circulatory disease

9.4 Percentage of deaths due to respiratory disease

9.5 Hot spot analysis of the percentage of deaths due to respiratory disease

9.6 Place of death by cause of death with 95% confidence intervals

9.7 Place of death by age at death with 95% confidence intervals

9.8 Location of deaths in 2014 by place of death

9.9 Characteristics of the last inpatient admission before death by provider

9.10 End of Life Care Profile for LBHF

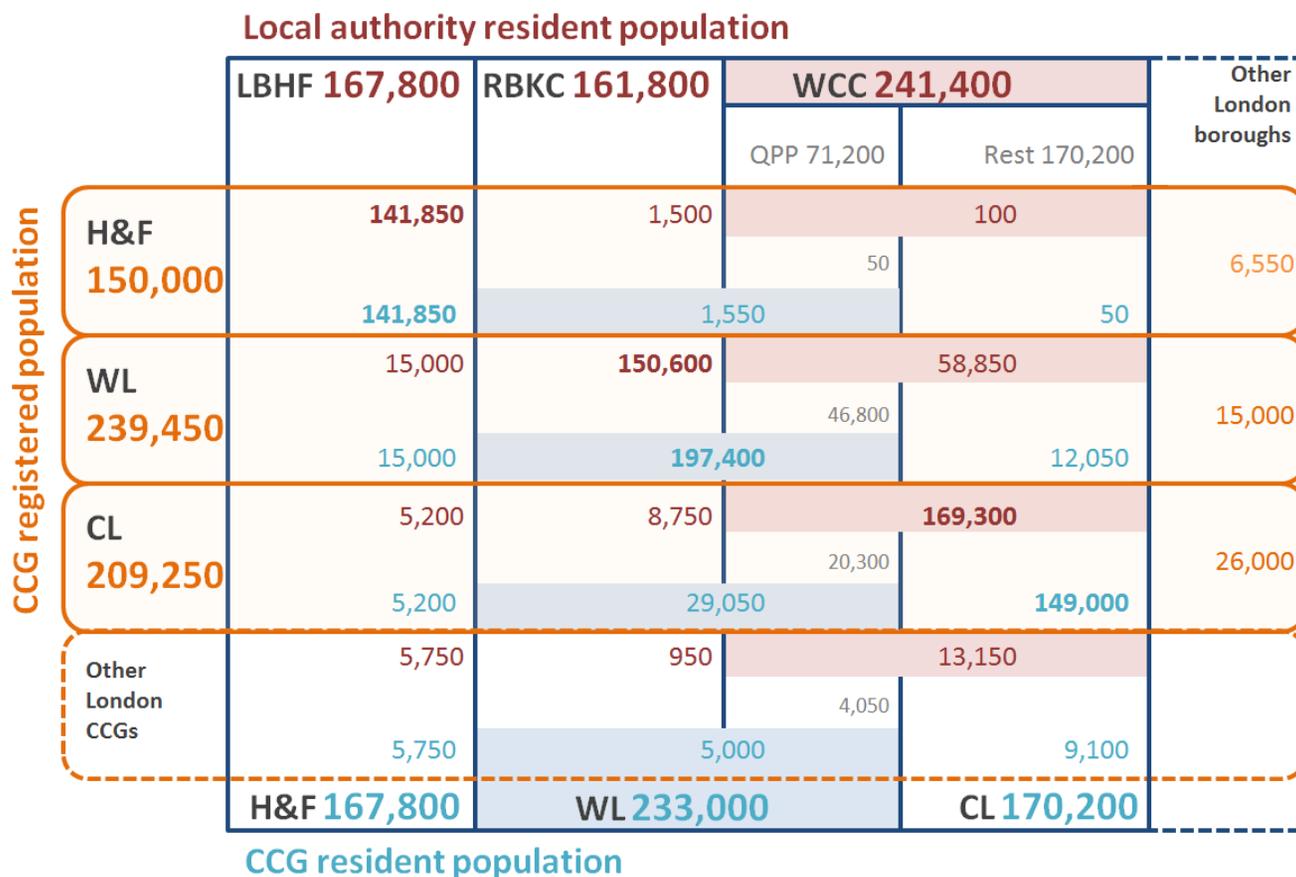
9.11 End of Life Care Profile for RBKC

9.12 End of Life Care Profile for WCC

Different populations have been examined in this document: Resident, Registered, Residents who are Registered, and Registered who are not Resident. Figure 34 shows the different populations of individual LAs and CCGs.

For example, CL CCG has 170,200 residents and 209,250 registered patients. Of its registered patients 60,250 do not live within its boundaries (of which 26,000 do not live in LBHF, RBKC or WCC but in another London borough), and 21,200 patients resident within its boundaries are registered with other CCGs. WCC, within which CL CCG sits, has 241,400 residents, 169,300 of which are registered with CL CCG.

Figure 34 CCG and LA resident and registered populations



Source: Health and Social Care Information Centre, April 2015. To be able to use the same source of data for LA resident, CCG registered and CCG resident populations, we have used estimates from the GP payment system for all information in this figure. When someone has moved but has not yet registered with a new GP the information on place of residence will not be accurate.

Figure 35 Rate of deaths in 2014 per 100,000 population aged 65 years and over

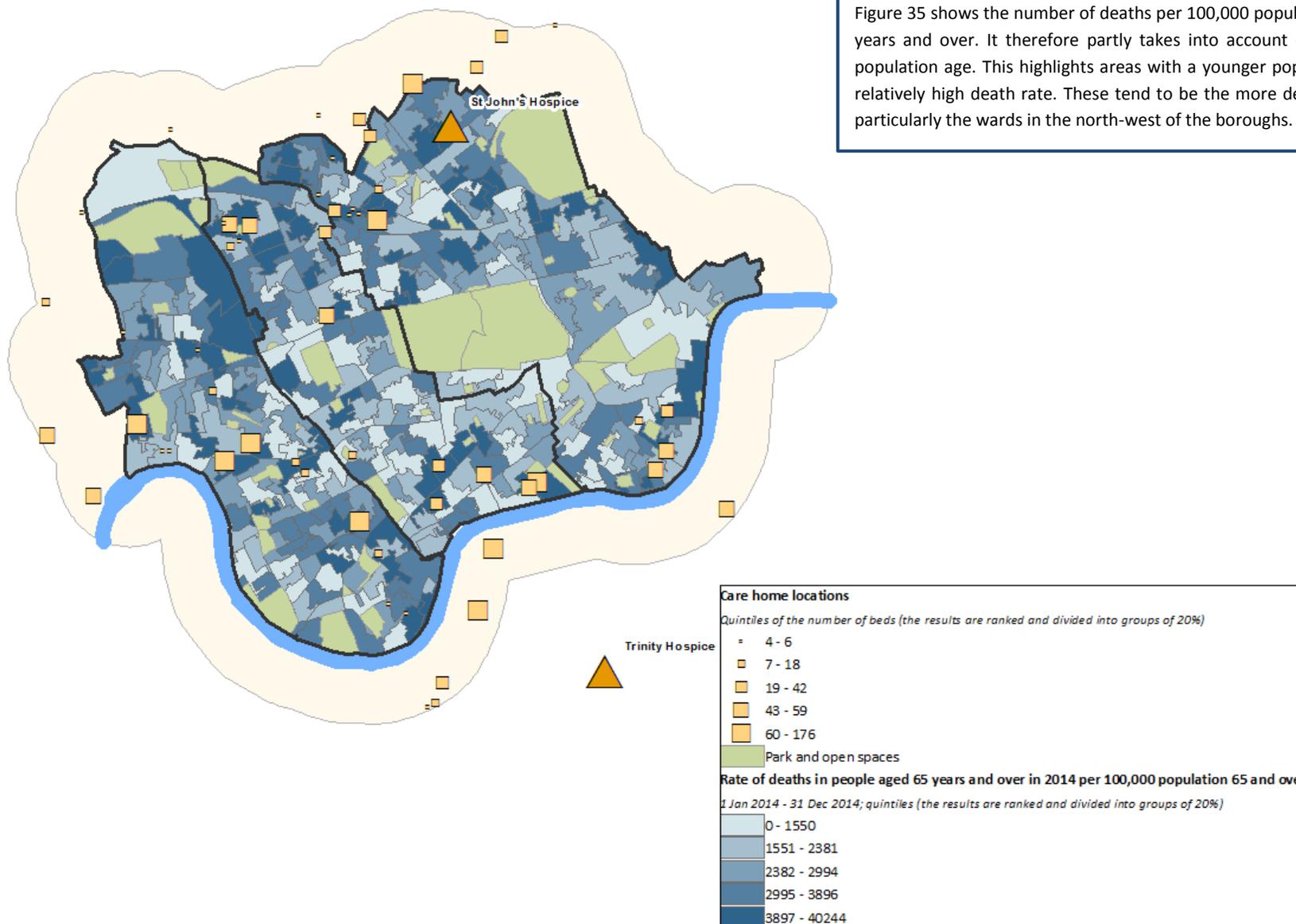


Figure 35 shows the number of deaths per 100,000 population aged 65 years and over. It therefore partly takes into account differences in population age. This highlights areas with a younger population but a relatively high death rate. These tend to be the more deprived areas, particularly the wards in the north-west of the boroughs.

Figure 36 Percentage of deaths due to circulatory disease

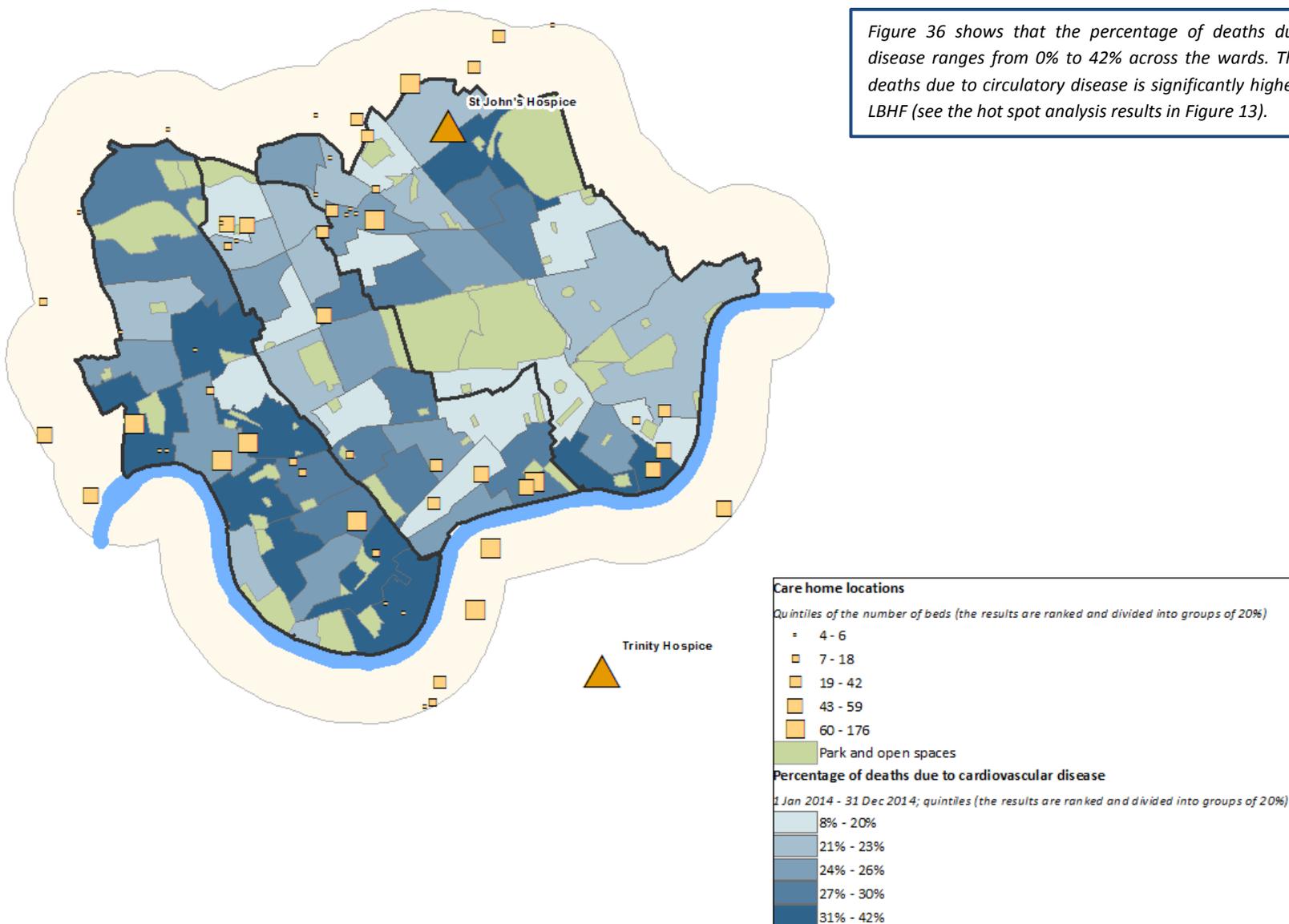


Figure 37 Percentage of deaths due to respiratory disease

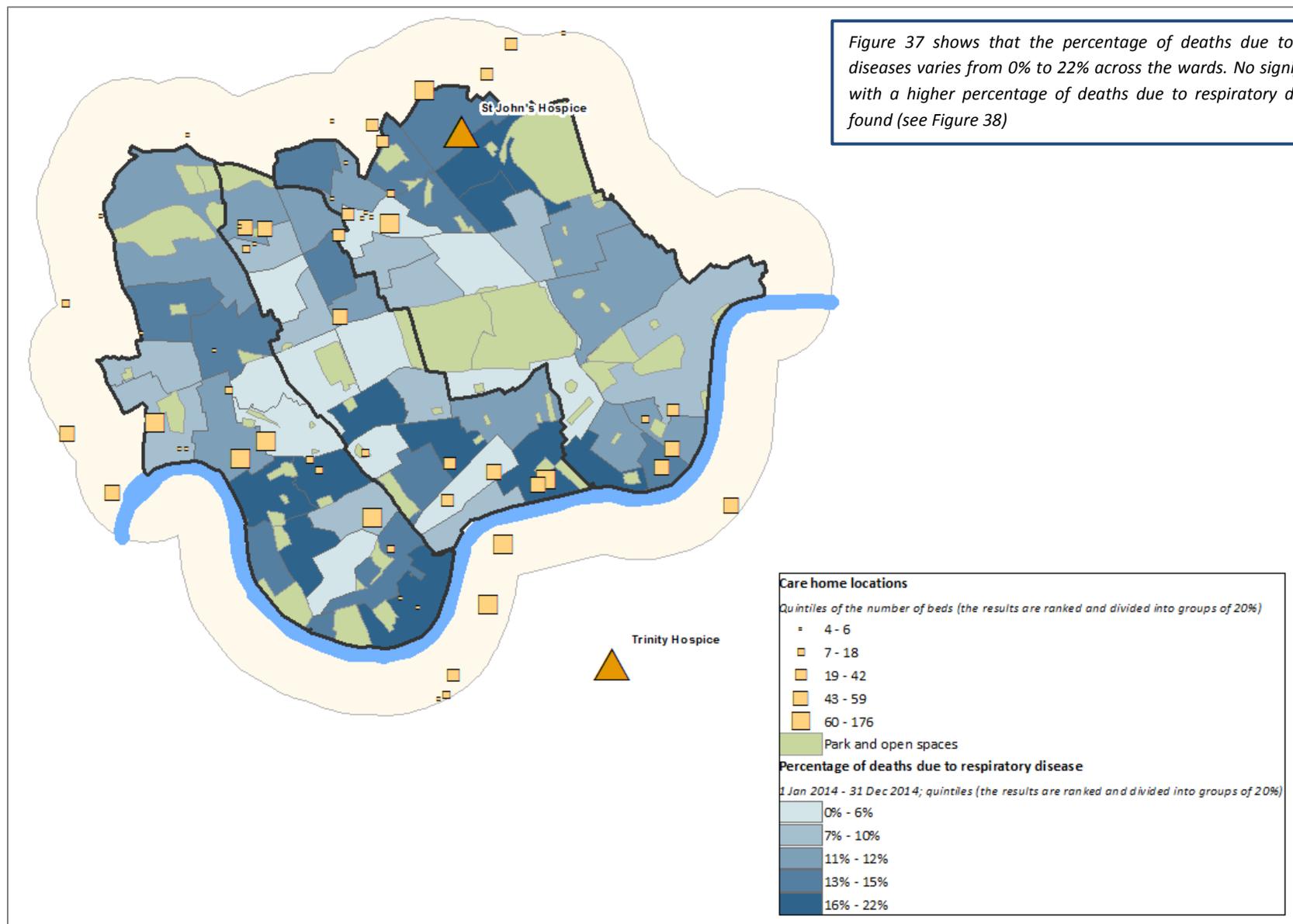


Figure 37 shows that the percentage of deaths due to respiratory diseases varies from 0% to 22% across the wards. No significant areas with a higher percentage of deaths due to respiratory disease were found (see Figure 38)

Figure 38 Hot spot analysis of the percentage of deaths due to respiratory disease

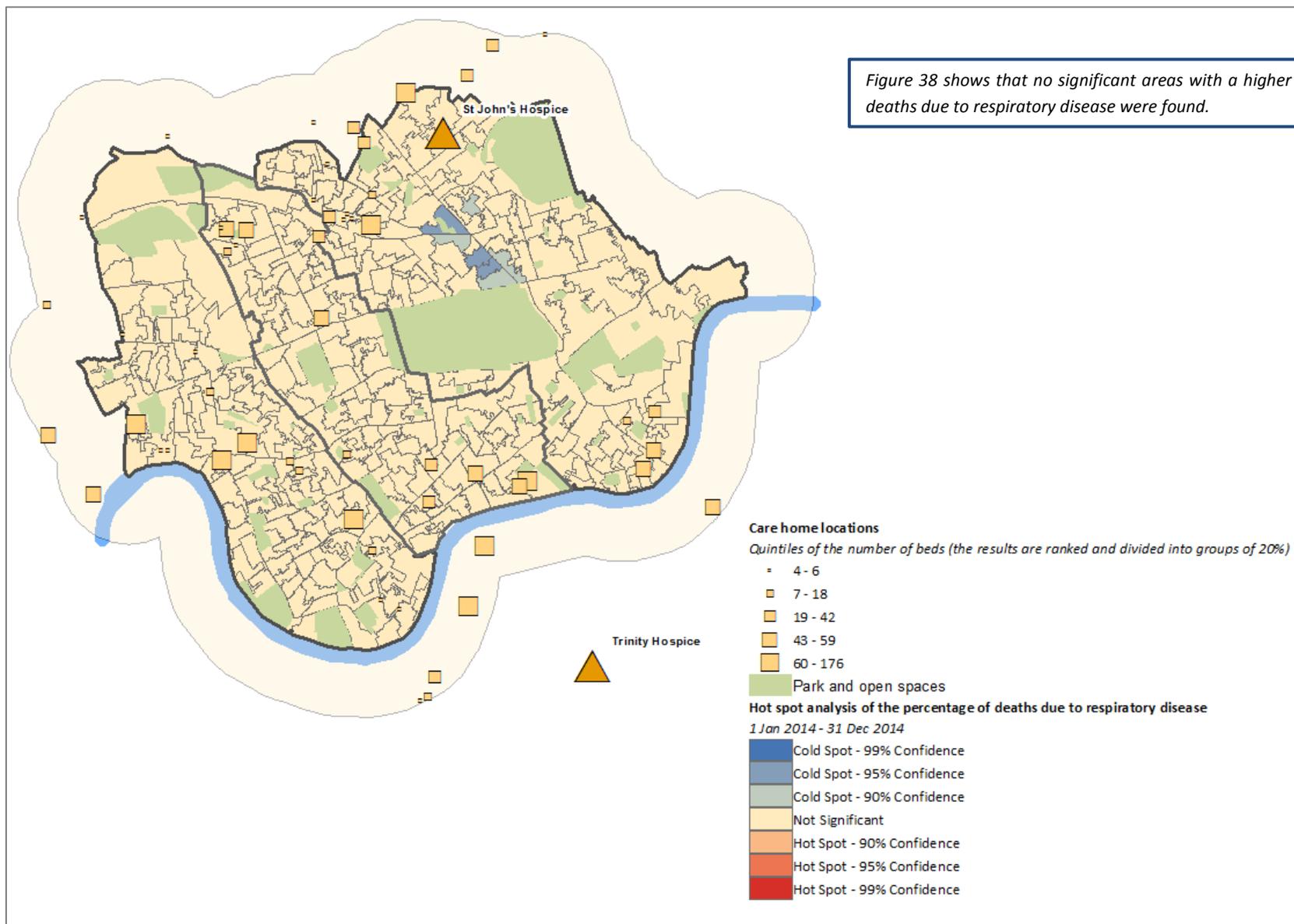


Table 16 Place of death by cause of death with 95% confidence intervals

	Number of deaths by cause in location	Total number of deaths by cause for all locations	Percentage of deaths in each place of death	Lower 95% confidence interval	Upper 95% confidence interval
Home or Care home					
Cancer	292	840	35%	32%	38%
Circulatory	303	684	44%	41%	48%
Respiratory	87	289	30%	25%	36%
Other	334	840	40%	37%	43%
Hospital					
Cancer	319	840	38%	35%	41%
Circulatory	354	684	52%	48%	55%
Respiratory	189	289	65%	60%	71%
Other	435	840	52%	48%	55%
Hospice					
Cancer	217	840	26%	23%	29%
Circulatory	11	684	2%	1%	3%
Respiratory	10	289	3%	2%	6%
Other	21	840	3%	2%	4%
Other					
Cancer	12	840	1%	1%	2%
Circulatory	16	684	2%	1%	4%
Respiratory	3	289	1%	0%	3%
Other	50	840	6%	5%	8%

Where the confidence intervals of two percentages do not overlap, they are significantly different.

The 95% confidence intervals are calculated using the Wilson Score Method (*Analytical Tools for Public Health*).

Table 16 gives the confidence intervals for Figure 19 (place of death by cause of death). Circulatory deaths are significantly more likely to occur in a home or care home, respiratory deaths are significantly more likely to occur in hospital and cancer deaths are significantly more likely to occur in a hospice.

Table 17 Place of death by age at death with 95% confidence intervals

	Number of deaths	Total number of deaths (for each age group)	Percentage of deaths in each place of death	Lower 95% confidence interval	Upper 95% confidence interval
0-64					
Care home or home	190	566	34%	30%	38%
Hospice	72	566	13%	10%	16%
Hospital and other	304	566	54%	50%	58%
65-74					
Care home or home	1398	4439	31%	30%	33%
Hospice	562	4439	13%	12%	14%
Hospital and other	2479	4439	56%	54%	57%
75-84					
Care home or home	2230	7047	32%	31%	33%
Hospice	597	7047	8%	8%	9%
Hospital and other	4220	7047	60%	59%	61%
85+					
Care home or home	3186	8145	39%	38%	40%
Hospice	386	8145	5%	4%	5%
Hospital and other	4573	8145	56%	55%	57%

Where the confidence intervals of two percentages do not overlap, they are significantly different.

The 95% confidence intervals are calculated using the Wilson Score Method ([Analytical Tools for Public Health](#)).

Table 16 gives the confidence intervals for Figure 21 (place of death by age). Those aged 85 years and over are significantly more likely to die in a home or care home. Younger people (aged 0-64 years) are significantly more likely to die in hospice.

Figure 39 Location of deaths in 2014 by place of death

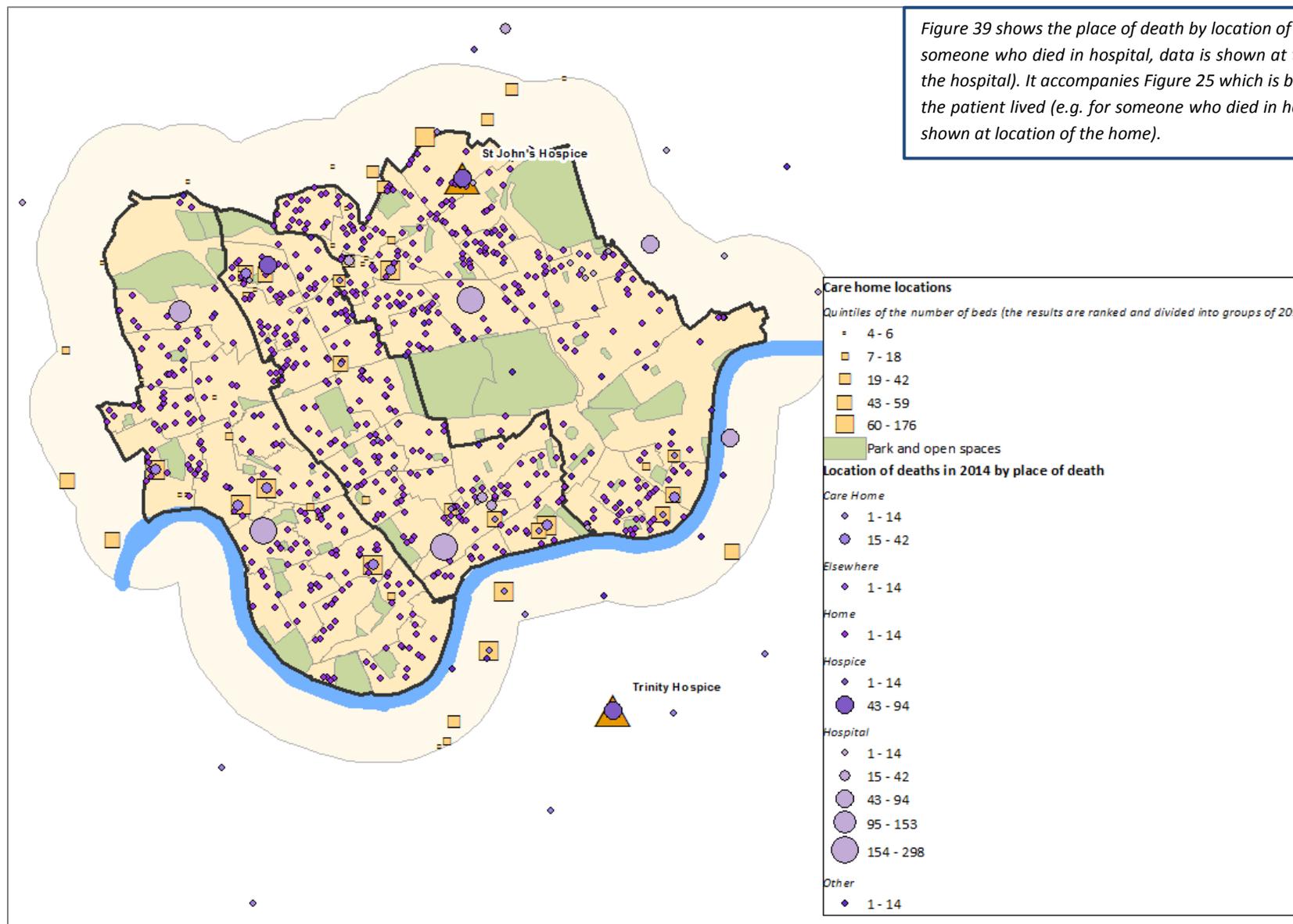
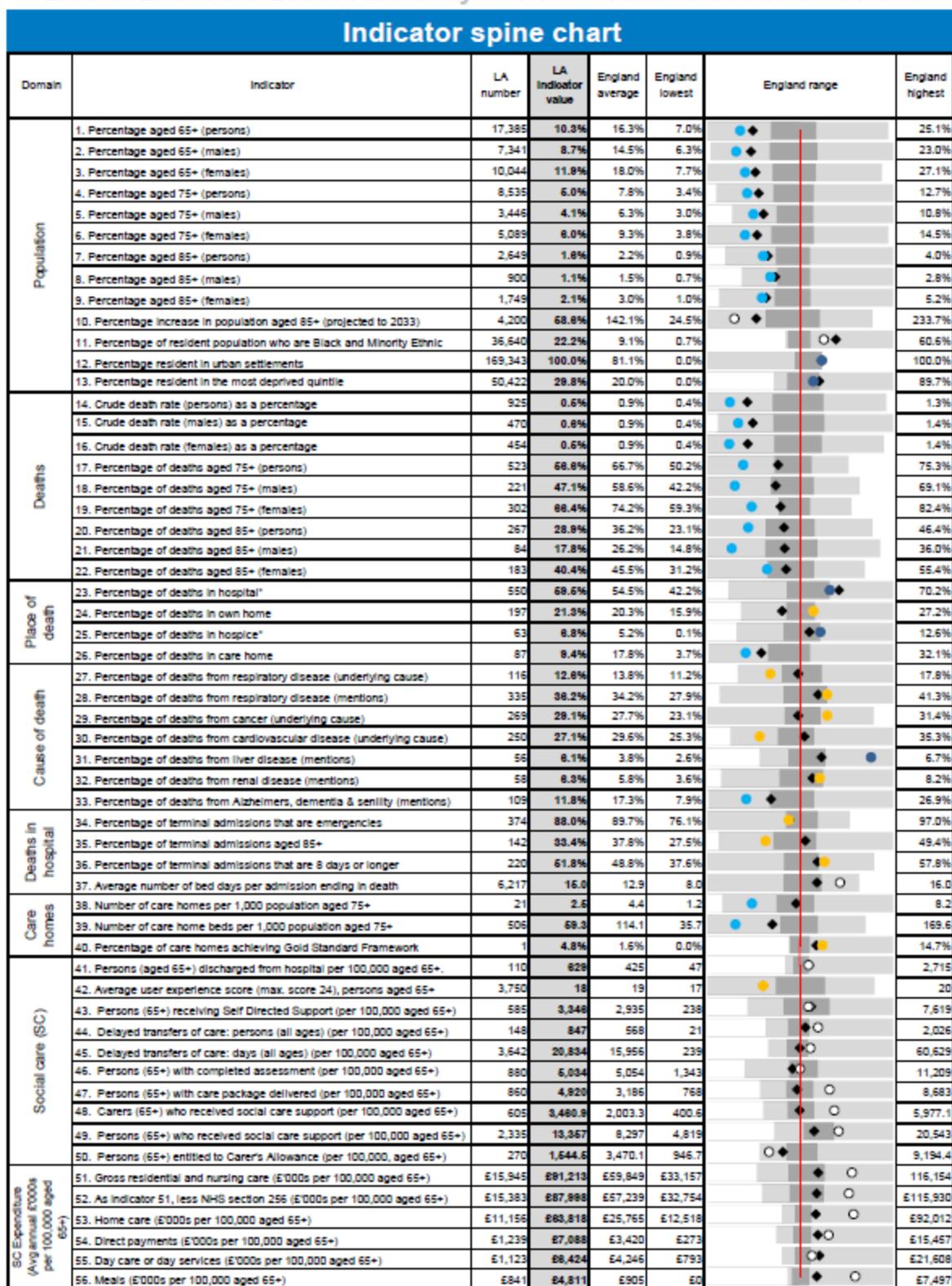


Table 18 Characteristics of the last inpatient admission before death by provider

	Total	Imperial college healthcare NHS trust	Chelsea and Westminster Hospital NHS Foundation Trust	University College London Hospitals NHS Foundation Trust
Total	1153	677 (59% of admissions)	241 (21% of admissions)	56 (5% of admissions)
Percentage of people who died in hospital following an emergency admission	93%	96%	93%	91%
Length of stay				
Average length of stay (min-max, SD)	16.5 days (0-232, 22)	14.9 days (0-152, 18)	18.3 days (0-232, 25)	21.6 days (0-155, 26)
Stay of 0-1 days	13%	13%	11%	11%
Stay of 2-7 days	30%	29%	30%	21%
Stay of 8-90 days	57%	53%	55%	59%
Age at death				
0-64	18%	16%	10%	23%
65-74	17%	17%	14%	13%
75-84	29%	32%	28%	32%
85+	37%	34%	47%	32%
Cause of death				
Cancer	16%	16%	14%	29%
CVD	20%	20%	15%	23%
Respiratory	31%	33%	32%	20%
Other	34%	31%	39%	29%

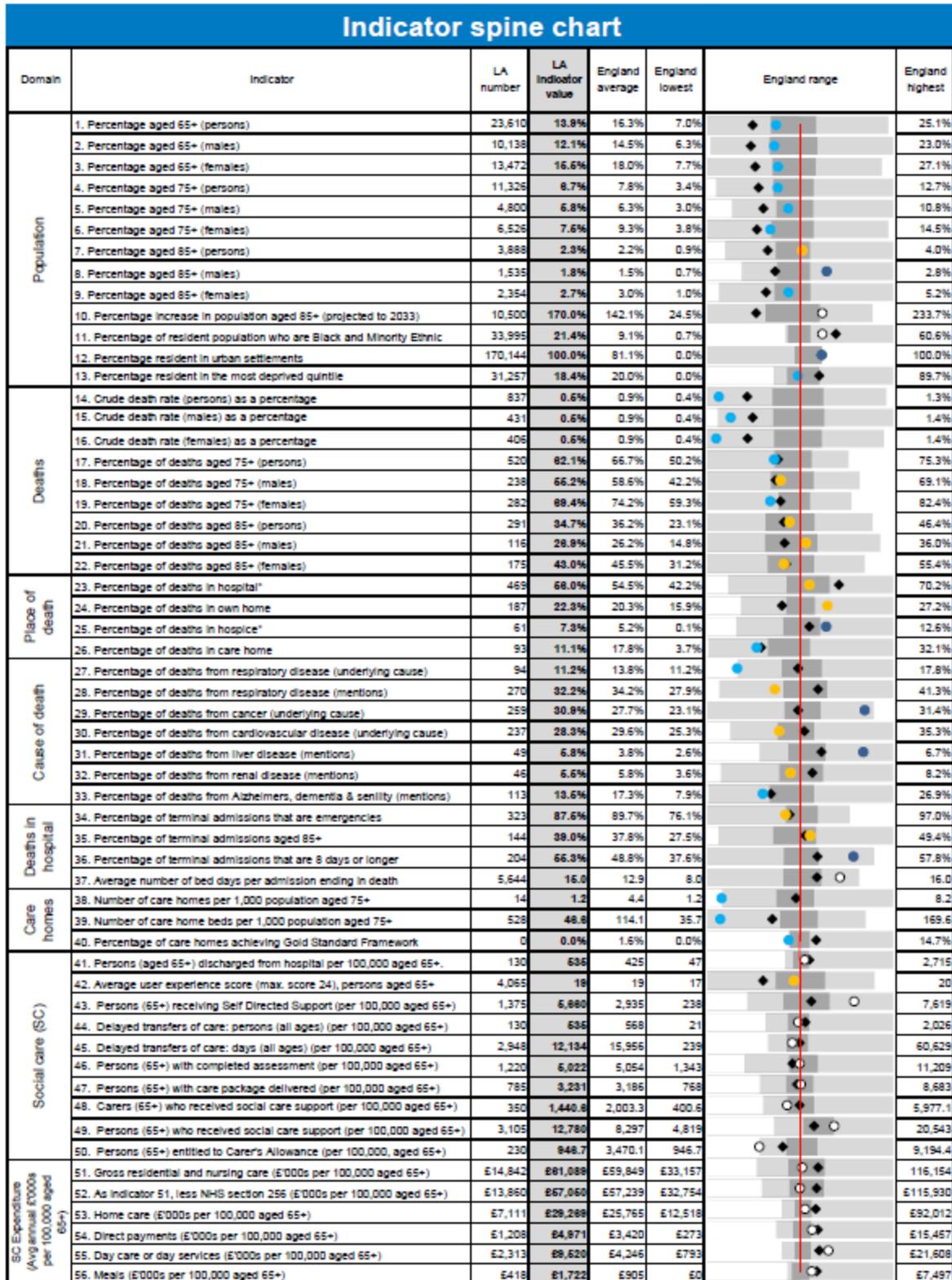
Table 18 shows the characteristics of the last inpatient admission before death for the 1,153 people who died in hospital in 2014/15 by provider.

End of Life Care Local Authority Profile - Hammersmith & Fulham



Notes: The totals for males and females combined may not equal the 'persons' total, due to rounding. * It is not possible to distinguish between hospital deaths and deaths in specialist palliative care units/hospices that are based in hospitals, so hospital deaths may be an over-count and hospice deaths an under-count.

End of Life Care Local Authority Profile - Kensington & Chelsea



Notes: The totals for males and females combined may not equal the 'persons' total, due to rounding. * It is not possible to distinguish between hospital deaths and deaths in specialist palliative care units/hospices that are based in hospitals, so hospital deaths may be an over-count and hospice deaths an under-count.

End of Life Care Local Authority Profile - City of Westminster

Indicator spine chart							
Domain	Indicator	LA number	LA Indicator value	England average	England lowest	England range	England highest
Population	1. Percentage aged 65+ (persons)	26,525	10.8%	16.3%	7.0%		25.1%
	2. Percentage aged 65+ (males)	11,901	8.4%	14.5%	6.3%		23.0%
	3. Percentage aged 65+ (females)	14,624	11.8%	18.0%	7.7%		27.1%
	4. Percentage aged 75+ (persons)	12,869	6.2%	7.8%	3.4%		12.7%
	5. Percentage aged 75+ (males)	5,628	4.6%	6.3%	3.0%		10.8%
	6. Percentage aged 75+ (females)	7,240	6.8%	9.3%	3.8%		14.5%
	7. Percentage aged 85+ (persons)	3,778	1.6%	2.2%	0.9%		4.0%
	8. Percentage aged 85+ (males)	1,585	1.0%	1.5%	0.7%		2.8%
	9. Percentage aged 85+ (females)	2,193	1.8%	3.0%	1.0%		5.2%
	10. Percentage increase in population aged 85+ (projected to 2033)	7,900	108.1%	142.1%	24.5%		233.7%
	11. Percentage of resident population who are Black and Minority Ethnic	48,571	28.8%	9.1%	0.7%		60.6%
	12. Percentage resident in urban settlements	249,717	100.0%	81.1%	0.0%		100.0%
	13. Percentage resident in the most deprived quintile	70,149	28.1%	20.0%	0.0%		89.7%
Deaths	14. Crude death rate (persons) as a percentage	1,085	0.4%	0.9%	0.4%		1.3%
	15. Crude death rate (males) as a percentage	564	0.4%	0.9%	0.4%		1.4%
	16. Crude death rate (females) as a percentage	521	0.4%	0.9%	0.4%		1.4%
	17. Percentage of deaths aged 75+ (persons)	632	68.2%	66.7%	50.2%		75.3%
	18. Percentage of deaths aged 75+ (males)	281	49.8%	58.6%	42.2%		69.1%
	19. Percentage of deaths aged 75+ (females)	351	67.0%	74.2%	59.3%		82.4%
	20. Percentage of deaths aged 85+ (persons)	339	31.3%	36.2%	23.1%		46.4%
	21. Percentage of deaths aged 85+ (males)	124	21.8%	26.2%	14.8%		36.0%
	22. Percentage of deaths aged 85+ (females)	215	41.4%	45.5%	31.2%		55.4%
Place of death	23. Percentage of deaths in hospital*	604	66.7%	54.5%	42.2%		70.2%
	24. Percentage of deaths in own home	270	24.8%	20.3%	15.9%		27.2%
	25. Percentage of deaths in hospice*	101	9.3%	5.2%	0.1%		12.6%
	26. Percentage of deaths in care home	77	7.1%	17.8%	3.7%		32.1%
Cause of death	27. Percentage of deaths from respiratory disease (underlying cause)	127	11.7%	13.8%	11.2%		17.8%
	28. Percentage of deaths from respiratory disease (mentions)	331	30.6%	34.2%	27.9%		41.3%
	29. Percentage of deaths from cancer (underlying cause)	322	29.7%	27.7%	23.1%		31.4%
	30. Percentage of deaths from cardiovascular disease (underlying cause)	322	29.7%	29.6%	25.3%		35.3%
	31. Percentage of deaths from liver disease (mentions)	58	6.3%	3.8%	2.6%		6.7%
	32. Percentage of deaths from renal disease (mentions)	62	6.7%	5.8%	3.6%		8.2%
Deaths in hospital	33. Percentage of deaths from Alzheimers, dementia & senility (mentions)	118	10.8%	17.3%	7.9%		26.9%
	34. Percentage of terminal admissions that are emergencies	446	88.7%	89.7%	76.1%		97.0%
	35. Percentage of terminal admissions aged 85+	174	34.8%	37.8%	27.5%		49.4%
	36. Percentage of terminal admissions that are 8 days or longer	272	64.1%	48.8%	37.6%		57.8%
	37. Average number of bed days per admission ending in death	7,414	16.0	12.9	8.0		16.0
Care homes	38. Number of care homes per 1,000 population aged 75+	17	1.8	4.4	1.2		8.2
	39. Number of care home beds per 1,000 population aged 75+	459	36.7	114.1	35.7		169.6
	40. Percentage of care homes achieving Gold Standard Framework	1	6.8%	1.6%	0.0%		14.7%
Social care (SC)	41. Persons (aged 65+) discharged from hospital per 100,000 aged 65+	240	888	425	47		2,715
	42. Average user experience score (max. score 24), persons aged 65+	4,865	18	19	17		20
	43. Persons (65+) receiving Self Directed Support (per 100,000 aged 65+)	475	1,767	2,935	238		7,619
	44. Delayed transfers of care: persons (all ages) (per 100,000 aged 65+)	161	688	568	21		2,026
	45. Delayed transfers of care: days (all ages) (per 100,000 aged 65+)	3,394	12,664	15,956	239		60,629
	46. Persons (65+) with completed assessment (per 100,000 aged 65+)	1,070	8,868	5,054	1,343		11,209
	47. Persons (65+) with care package delivered (per 100,000 aged 65+)	1,190	4,402	3,185	768		8,683
	48. Carers (65+) who received social care support (per 100,000 aged 65+)	220	813.7	2,003.3	400.6		5,977.1
	49. Persons (65+) who received social care support (per 100,000 aged 65+)	3,550	18,181	8,297	4,819		20,543
	50. Persons (65+) entitled to Carer's Allowance (per 100,000, aged 65+)	340	1,267.8	3,470.1	946.7		9,194.4
SC Expenditure (Avg annual £'000s per 100,000 aged 65+)	51. Gross residential and nursing care (£'000s per 100,000 aged 65+)	£25,313	£83,827	£59,849	£33,157		116,154
	52. Ad indicator 51, less NHS section 256 (£'000s per 100,000 aged 65+)	£22,666	£88,898	£57,239	£32,754		£115,930
	53. Home care (£'000s per 100,000 aged 65+)	£14,801	£64,748	£25,765	£12,518		£92,012
	54. Direct payments (£'000s per 100,000 aged 65+)	£1,840	£8,808	£3,420	£273		£15,457
	55. Day care or day services (£'000s per 100,000 aged 65+)	£3,962	£14,866	£4,246	£793		£21,608
	56. Meals (£'000s per 100,000 aged 65+)	£720	£2,883	£905	£0		£7,497

Notes: The totals for males and females combined may not equal the 'persons' total, due to rounding. * It is not possible to distinguish between hospital deaths and deaths in specialist palliative care units/hospices that are based in hospitals, so hospital deaths may be an over-count and hospice deaths an under-count.