



Variations in Place of Death in England

Inequalities or appropriate consequences of age, gender and cause of death?

August 2010

Foreword

Good and timely information is needed to help us improve the care provided to people at the end of their lives – information that takes into account their social and psychological as well as health needs and, where possible and desirable, the wishes of close family and friends.

The Department of Health's National End of Life Care Strategy, published in 2008, pledged to commission a National End of Life Care Intelligence Network (NEoLCIN) to improve current understanding about end of life care provision, build a knowledge and evidence base to inform decision making, and to improve the sharing of data, research and analysis. The Network was launched in May 2010 with a new website to support the delivery of its work programme (www.endoflifecare-intelligence.org.uk).

This report, the first in a series commissioned by the NEoLCIN and written by the South West Public Health Observatory, will be very useful to commissioners and providers of end of life care, researchers and academics, and a wide range of practitioners and policy makers across the health and social care and public and private sectors.

It highlights some fascinating variations in where people die and challenges current thinking about the appropriateness of different end of life care settings for different groups, depending on their age, sex and socioeconomic status. It demonstrates the complex interplay of these factors in determining end of life experiences. As such, reading this report should be a high priority for anyone working in the field.

I look forward to future reports in the series, which are sure to continue challenging assumptions and will provide us with a new wealth of evidence on which to base decisions on end of life care for the future.

Professor Sir Mike Richards, June 2010

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Executive summary

This executive summary highlights some of the key findings from this report.

- This report follows on from the launch of the National End of Life Care Intelligence Network website www.endoflifecare-intelligence.org.uk. It summarises the key features from the first tranche of national End of Life Care Profiles to provide the first comprehensive overview for England of variations in place of death by geography, demography and main cause of death. This report also includes some additional data not included in the profiles, for example analyses by deprivation quintile.
- In 2007, there were 471,092 deaths in England. Of these, 52% (246,412) were in females compared with 48% (224,680) in males. This equates to about 1,300 deaths per day in England and about one death per minute.
- In comparison there were 672,809 live births in 2008 in England which equates to about 1,843 births per day and about 1.3 births per minute.
- The median average number of deaths per Local Authority per year is 1,134, which equates to around 3 deaths per day. However, in some large metropolitan areas such as Birmingham the average annual number of deaths can be very much higher (approximately 9,000).
- Whilst the highest crude mortality rates are in males and females aged 85 and over at 16,759 and 14,731 per 100,000 respectively, the greatest number of deaths are in 65–84 year-olds. In 2007, there were 225,531 (48%) deaths in 65–84 year-olds compared with 81,353 (17%) deaths in under 65 year-olds and 164,208 (35%) deaths in the 85 and over age group.
- Between 1998 and 2007 there was a 19% decrease in the number of deaths in 65 to 84 year olds, a 7% decrease in deaths in the under 65 year olds but a 7% increase in deaths in people aged 85 and over.
- Females tend to die at an older age than males – 43% of females were aged 85 years and older at death compared with 24% of males.
- Females aged 85 and over account for 23% of all deaths.
- Due to the different population sizes of the Government Office Regions (GORs), the average number of deaths per year ranges from 27,083 in the North East to 75,989 in the South East. These differences represent different population sizes.
- There are regional differences in the age at death. The highest proportion of deaths in the under 65s is in London GOR (21%); the North East GOR has the highest proportion of deaths in 65–84 year-olds (53%); and the highest proportion of deaths in people aged 85 and over at death is in the South West (38%).
- The Local Authority with the highest proportion of deaths under 65 is Hackney (30%) and lowest East Dorset (9%), the Local Authority with the highest proportion of deaths aged 85 and over is Worthing (47%) and the lowest Tower Hamlets (21%).
- Over half of people die in hospital (58%; an average of 277,055 per year), with only 19% dying in their own residence (an average of 90,517 people per year).
- The GOR with the highest proportion of people dying in hospital is London (65.7%) and the lowest is the South West (53.7%).

- The Local Authority with the highest proportion of deaths in hospital is Waltham Forest (78.1%) and the lowest is Torbay (44.6%)
- The age group most likely to die in hospital are the 65 to 84 year olds. People from the most deprived quintile of the population are most likely to die in hospital.
- Respiratory diseases are the 'underlying' cause of death category for which the highest proportion of patients dies in hospital (69%)
- The GOR with the highest proportion of people dying in their own residence is the North East (20.5%) and the lowest is London (17.6%).
- The Local Authority with the highest proportion of people dying in their own residence is South Cambridgeshire (27%) and the lowest is Hertsmere (13.7%).
- The proportion of deaths that occurred in the person's own residence decreased with increasing age, from 29% in the under 65s to 12% of deaths in people aged 85 and over.
- A smaller proportion of females overall (16%) die in their own residence compared with males (22%), though a greater proportion of females overall (21%) die in nursing homes or old people's homes than males (10%).
- Nursing and old people's homes play an important role in the care of older adults at the end of life. Together they provide the final care for 16% of the whole population but this is as high as 30% for those aged 85 or over.
- If nursing and old people's homes were to be considered as 'normal' home and these are added to the category 'own residence' then 34.7% of people overall die 'at home' in this broader category and this proportion rises to 44.3% in females aged 85 and over. This latter equates to approximately 47,300 deaths per year which is 10% of the total.
- The South East GOR has the highest proportion of people dying in a hospice (7%), while the North East has the lowest proportion (3%).
- The Local Authority with the highest proportion of people dying in a hospice is Milton Keynes (13.3%). Care has to be taken in interpreting the statistics especially where the proportion of residents dying in hospices is very low because the Office for National Statistics place of death statistics only count deaths in a hospice building. Deaths in a hospice/palliative care unit in an NHS hospital or receiving the support of a Hospice Home Care Team cannot be captured with routine statistics.
- When analyses of those dying by place are undertaken, the distribution across the quintiles of deprivation for those dying in hospices is more or less equal. In contrast, of people dying in hospital a greater proportion are from more deprived quintiles and a similar pattern is seen for those dying at home or in the 'elsewhere' category.
- When deaths are analysed by the principle groups of main 'underlying' causes, cardiovascular disease accounts for the greatest number. There were an average of 150,034 (31.6%) deaths from cardiovascular disease per year in 2005–07, compared with 130,181 (27.4%) deaths from cancer, 128,649 (27.1%) deaths from other causes and 65,854 (13.9%) deaths from respiratory causes.
- The proportion of deaths in which cancer is recorded as the 'underlying' cause is higher in the least deprived quintile (29%) compared with the most deprived (26%) ($p < 0.05$ for z-test of quintile 1 compared with quintile 5).
- The proportion of deaths in which respiratory disease is recorded as the 'underlying' cause is higher in the most deprived quintile (15%) than the least (12%). ($p < 0.05$ for z-test of quintile 1 compared with quintile 5).

- The proportion of deaths due to cancer decreased with increasing age, from 37% in the under 65s to 15% in the over 85s. However, the proportion of deaths due to cardiovascular and respiratory causes increased with increasing age – comparing the under 65s and the 85 and over group, the proportion of deaths due to cardiovascular disease increased from 20% to 37%, while for respiratory disease this increased from 6% to 18%.
- Most deaths occur in hospital. The commonest group is cardiovascular disease (90,618 deaths per year on average), followed by 'other' causes (78,667 deaths per year on average), cancer (62,577 deaths per year on average) and respiratory causes (45,193 deaths per year on average).
- Of the deaths in hospices, most are from cancer, with very few from cardiovascular, respiratory or other causes.
- A higher proportion of people dying from cancer die in their own residence and a lower proportion of people die in hospital compared with respiratory disease, cardiovascular disease and other causes.
- Respiratory disease has the lowest proportion of people dying in their own residence (13%; an average of 8,495 deaths per year) and the highest proportion dying in hospital (69%; an average of 45,193 deaths per year).

1.0 Introduction

This report summarises how many people die per year nationally, regionally and at Local Authority level, and the pattern of death by age, gender, socioeconomic deprivation, cause and place of death. It examines how all these factors interact.

It follows on from the launch of the National End Of Life Care Intelligence Network website www.endoflifecare-intelligence.org.uk and summarises the key features from the first tranche of national End of Life Care Profiles to provide the first comprehensive overview for England of variations in place of death by geography, demography and main cause of death. This report also includes some additional data not included in the profiles, for example analyses by deprivation quintile.

Place of death can be a critical contributor to the quality of death but its contribution is complex, as it is not simply the nature of the physical building but how this impacts upon the desires of the patient, in particular in relation to their psychological, physical, social and spiritual comfort, the opportunities for adequate control of distressing symptoms, and the possibility for family and friends to be present during the final days and hours.

Many people express the desire to die in their 'own' home but it is important to remember that for many older adults their normal 'home' is a nursing or old people's home. This theme emerges strongly throughout this report, especially as the majority of deaths are in older adults. Indeed, 43% of females are aged 85 or over at death and this groups accounts for 23% of all deaths. Unfortunately, sometimes, because of the nature of distressing symptoms and complications of their disease, patients need to be cared for in hospital and sometimes they have a related or unrelated acute complication which results in admission to hospital. This may be the most appropriate place to manage their symptoms and the admission prior to death may not always be avoidable. This report, as a high level overview of place of death does not explore in detail hospital admissions which result in death. However, it provides food for thought and this will be the subject for future detailed analyses through the National End of Life Care Intelligence Network. The more detailed analyses provided in this report and through the national End of Life Care Profiles suggest that current patterns of place of death may indeed be more appropriate to the age of the patient, their terminal condition and social circumstances than previously thought.

In this report we have chosen to present data almost exclusively as absolute numbers and proportions rather than the usual age-specific or age-standardised rates. These latter are available on the national End of Life Care Profiles and are useful for comparing geographies taking into account differences in population demographics, particularly age profiles. The absolute numbers tell a clear story in terms of need for care and the proportions describe the way place of death varies with population segment or cause of death. Using numbers also reminds us that each one of the deaths contributing to these statistics was an individual whose life had meaning. Moreover, the key purpose of the National End of Life Care Intelligence Network is to improve the quality of care at the end of life and needs assessment, the first critical step, requires absolute numbers as well as a thorough understanding of the demographic characteristics of those who die.

2.0 Methodological notes

2.1 Source of data

All data presented in this report are from Office for National Statistics (ONS) mortality files.¹

The mortality files contain extracts from death certificates. Key data items used for this analysis include place of death (see 2.2), postcode or 'normal' place of residence, date of birth, gender and cause of death (see 2.4).

2.2 Place of death

The ONS describes the place of death as either one of 84 communal establishment types or 'own residence' or 'elsewhere'. This scheme is further categorised broadly following the scheme used by ONS in their *DH1 General Mortality Statistics* publication:

Hospital: NHS or non-NHS, acute, community or psychiatric hospitals/units, includes establishments described by ONS as:

- General Hospital (including convalescent)
- Sanatoria
- Geriatric Hospital or Unit
- Chronic Sick
- Maternity Hospital
- Military Hospital
- Psychiatric Hospital
- Psychiatric Unit
- Mental Hostel
- Mentally Handicapped (Adults)
- Mentally Handicapped (Children)
- Mental Nursing Home
- Psychiatric Hospital (Security)
- Mental Holiday Home
- Mental Aftercare
- Mental Hostel (Autism)
- Mentally Handicapped Home (Adults)
- Mentally Handicapped Home (Children)
- Mentally Infirm (Aged)
- Mental Nursing Home
- Mental Rehabilitation
- Multi-function site.

Own Residence: the death occurred in the place of usual residence where this is *not* a communal establishment.

¹ Mortality Statistics DH2 no.32: pages xvi & xviii
http://www.statistics.gov.uk/downloads/theme_health/Dh2_32/DH2_No32_2005.pdf (accessed 6th May 2010)

Old People's Home: Local Authority or private residential home.

Nursing Home: NHS or private nursing home.

Hospice: many hospices are 'free standing' but some are found within NHS hospitals. Also, hospices increasingly work in the community. At present ONS classifies the place of death as Hospice only when the event occurred in a freestanding hospice premises.

Elsewhere: Other communal establishment or a private address other than normal place of residence or outdoor location or nil recorded.

The categorisation of place of death relies on the accuracy of ONS information regarding the nature of establishments caring for the sick. Some care needs to be taken interpreting the hospital and hospice categories in particular. Hospital refers not only to large acute hospitals but also community and psychiatric hospitals (see above). These data will under-report the role of hospices; the death certificate records the physical place of death – not who was caring for a person at the end of their life. This means, for example, if a hospice is actively caring for a person at the end of their life within a hospital setting, the place of death will be recorded as hospital.

2.3 Analysis by deprivation quintile

Index of Multiple Deprivation

Lower Super Output Areas (LSOAs) are small areas of the country specifically devised to improve the reporting and comparison of local statistics. Within England there are 32,482 LSOAs (minimum population 1,000). The Index of Multiple Deprivation (IMD 2007) is a measure of how deprived each LSOA is, based on income, employment, health deprivation, education, skills, training and geographical access to services. LSOAs are grouped into quintiles according to the rank of their deprivation score such that each quintile has equal resident population.

The residential postcode recorded on the death certificate was used to place each deceased person in an LSOA and assign to that death the deprivation quintile of the LSOA.

It is important to note that if a person lives and then dies in a nursing home, for example, the place of death will be recorded as nursing home and the residential postcode on the death certificate will be that of the nursing home. See Appendix A, Figures A1 and A2 for analysis of distribution of nursing and old people's homes (care homes) by quintile of deprivation. This analysis shows that care homes are more likely to have postcodes located in LSOAs with higher rates of deprivation.

2.4 Cause of death

The single 'underlying' cause of death is determined from the death certificate by the ONS and coded using the ICD-10 system (International Classification of Disease, Tenth Issue). This code is used to categorise cause of death as follows:

- Cancer: C00 to C97 or D00 to D48 - includes all malignant, benign and in-situ neoplasms.
- Respiratory disease: J00 to J99 - includes influenza, pneumonia, bronchitis, emphysema, asthma and other chronic obstructive pulmonary disease.
- Cardiovascular disease: I00 to I52 and I60 to I69 - includes rheumatic fever, rheumatic heart disease, hypertension, ischaemic heart disease, stroke.

- Other: an 'underlying' cause of death not included in the first three categories

An 'underlying' cause of death is defined by the World Health Organisation as:

- the disease or injury that initiated the train of events directly linked to death; or
- the circumstances of the accident or violence that produced the fatal injury.

Diseases or conditions, regardless of whether or not they are the 'underlying' cause of death, are recorded if they are either part of the causal sequence of events leading to death, or they contribute to the death but are not part of the causal sequence, and are referred to in this report as 'mentions'.

According to the 'rules' concerning the recording of deaths, people with a particular disease who die from a completely unrelated cause will not have that disease recorded as either an 'underlying' or 'mentioned' cause of death. For example, a person with cancer who dies of a road accident will not have cancer recorded as either an 'underlying' or 'mentioned' cause of death. Consequently, the numbers of deaths referred to in this report are not a true measure of the numbers of people 'who die and who have' a particular disease, nor are the numbers shown a measure of either: i) incidence (numbers of people newly diagnosed with a disease); or prevalence (numbers of people living with a disease).

In this report, analyses of cause of death are presented for 'underlying' cause of death and also for any 'mention' of a particular cause of death.

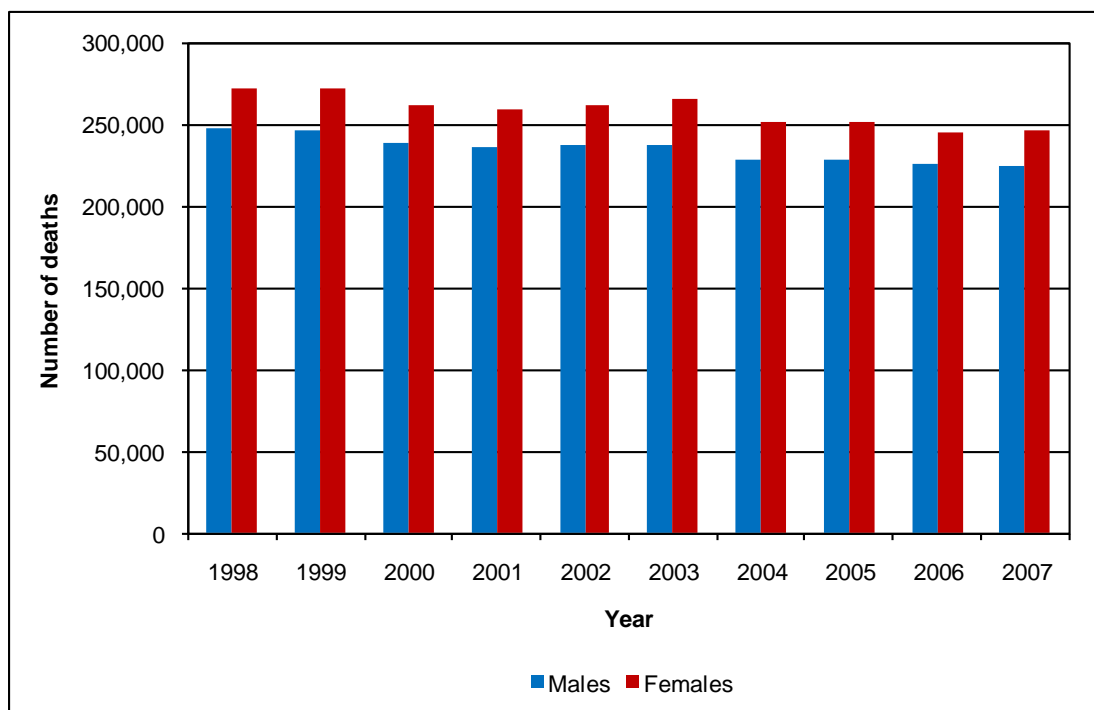
As described above, the 'underlying' causes of death have been grouped into four main categories: cancer, cardiovascular, respiratory and other using ICD-10 Chapters. The 'other' underlying causes of death category is a mixed bag of conditions including dementia, neurodegenerative diseases, external causes (accidents, suicides and homicides), gastrointestinal conditions, diseases of the genitourinary tract and others. Dementia, which is a condition common in the very elderly, and in particular amongst residents of nursing and old people's homes, also presents specific challenges for end of life care. Dementia appears in both chapters F and G of ICD-10. Figures B1, B2 and B3 in Appendix B show the variation by age group and gender in the most common groups of these conditions, which are recorded as 'underlying' cause of death and are categorised in this report as 'other'. Of note, external causes (accidents, suicides, homicide) account for about 34% of the 'underlying' causes of death in males under 65. In females aged 85 and over, mental and behavioural disorders (includes Alzheimer's) together with diseases of the nervous system, and diseases of the digestive system each account for more than 10% of the groups of 'underlying' causes in the 'other' category.

3.0 Deaths in England by age, sex and deprivation: how many people die and who?

3.1 Trends in numbers of deaths in England, 1998–2007

- In 2007, there were 471,092 deaths in England.
- There were more deaths in females (246,412) than males (224,680) in 2007 – 52% of deaths were in females compared with 48% in males.
- Over the last 10 years, the number of deaths per year has decreased by 9% (from 520,453 in 1998 to 471,092 in 2007) (Figure 1).
- There was a 9% decrease in the number of deaths from 1998–2007 in both sexes (from 248,249 in males and 272,204 in females).
- It is important to note that, despite the decrease in numbers of deaths in recent years – primarily due to reductions in mortality from cardiovascular disease – the numbers are expected to start to rise very significantly within about four years because of changing demographics, most importantly the ageing ‘baby boom’ population which will produce a much greater number of older adults.² In Figure 2 it is clear that the number of deaths in those aged 85 and over is rising (7%) in the last decade.

Figure 1: Number of deaths in England by year and sex, 1998–2007



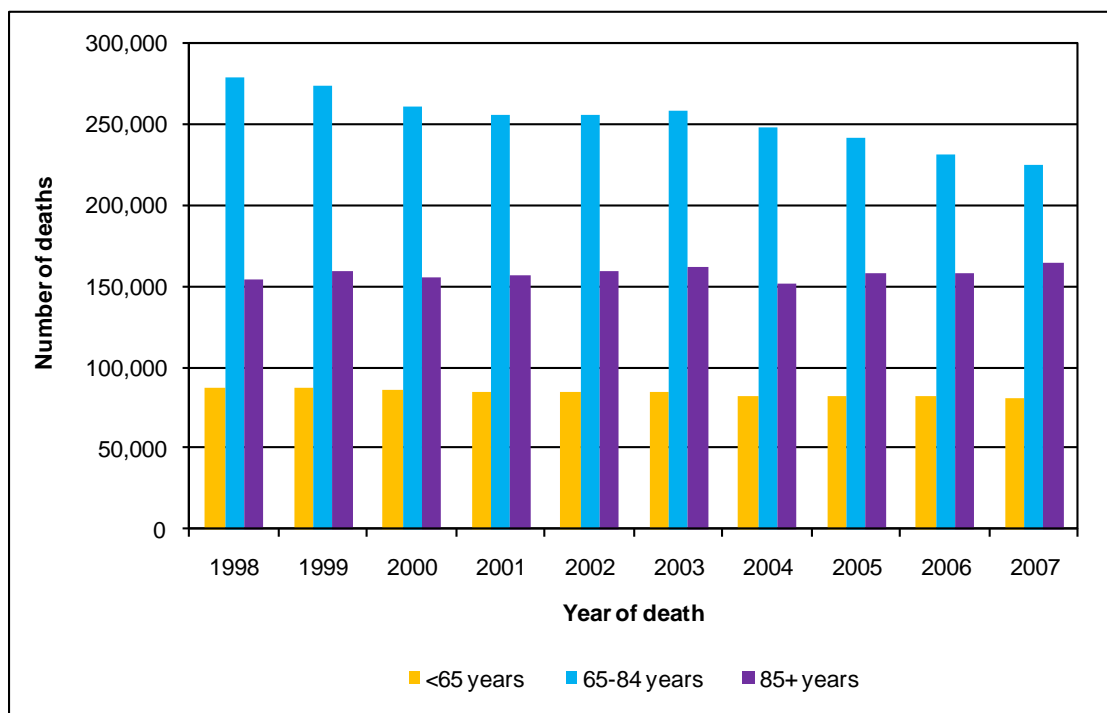
Source: South West Public Health Observatory from Office for National Statistics data

² Gomes B, Higginson IJ. Where people die (1974–2030): past trends, future projections and implications for care. *Palliative Medicine* 2008; 22: 33–41.

3.2 Distribution and trends in the numbers of deaths by age group

- In 2007 the greatest number of deaths was in 65–84 year-olds, 225,531, compared with 81,353 deaths in under 65 year-olds and 164,208 deaths in the 85 and over age group (Figure 2).
- The largest reduction in deaths has been seen in the 65–84 year olds. There has been a 19% decrease in the number of deaths in 65–84 year-olds over the last 10 years (from 278,812 in 1998). This compares with a 7% decrease in the under 65s (from 87,500) and a 7% increase in the over 85s (from 154,141).
- The decrease in the number of deaths in 65–84 year-olds largely accounts for the decrease in the overall number of deaths over the last 10 years.

Figure 2: Number of deaths in England by year and age group, 1998–2007

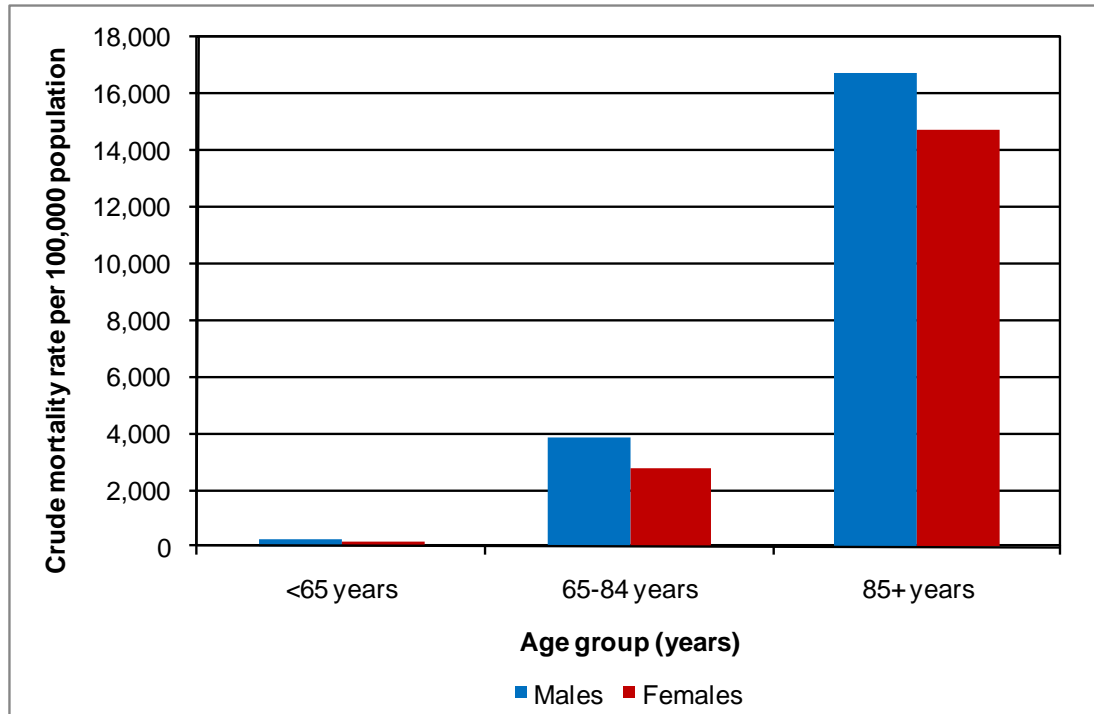


Source: South West Public Health Observatory from Office for National Statistics data

Considering deaths in England between 2005 and 2007:

- Figure 3 shows the crude mortality rates per 100,000 population for the three age groups and males and females separately.

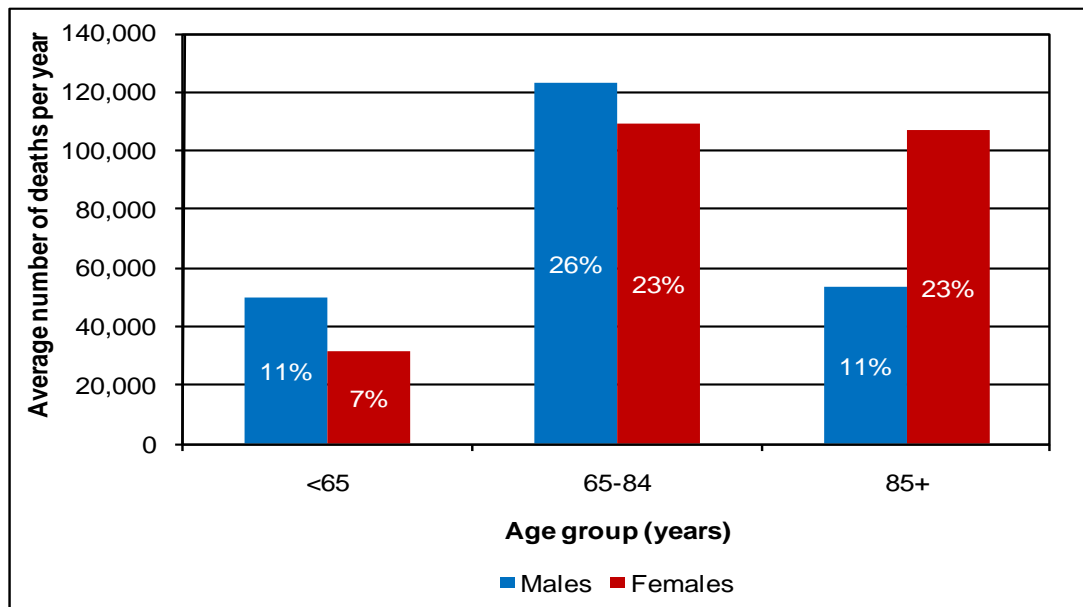
Figure 3: Crude mortality rate per 100,000 by sex and age group, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

- On average there were 474,719 deaths per year. Of these, 17% were in people aged under 65 (81,934 per year on average), 49% were in 65–84 year-olds (232,625 per year on average) and 34% were in the 85 and over age group (160,160 per year on average).
- Deaths in females aged 85 years and over account for 23% of all deaths (106,859 per year on average), however deaths in males in this age group account for only 11% of all deaths (53,301 per year on average) (Figure 4).

Figure 4: Average number of deaths per year in England, 2005–07, by sex and age group (percentage contribution to all deaths shown in labels)



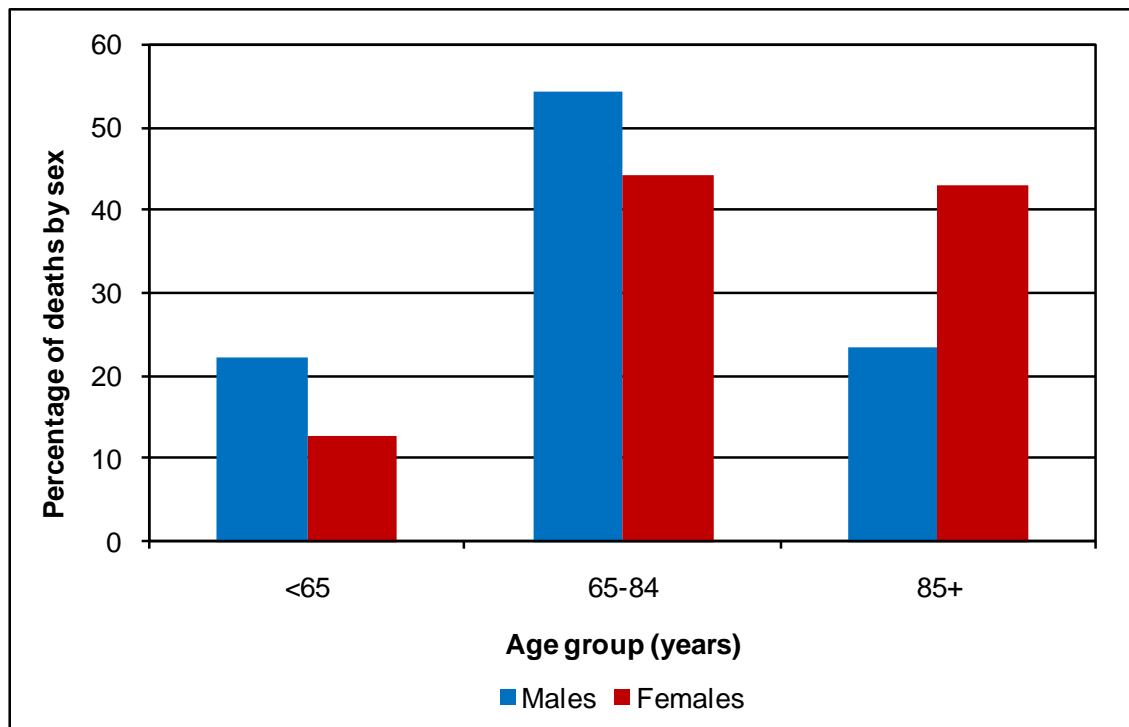
Note: Percentages do not total to 100 due to rounding.

Source: South West Public Health Observatory from Office for National Statistics data

Considering deaths in England from 2005–07 by sex for each age group shows that the age at death depends on sex (Figure 5):

- Females tend to die at an older age than males: 43% of female deaths are in the 85 and over age group compared with 24% of male deaths ($p < 0.05$ for z-test of proportions).
- A higher proportion of males than females die aged under 65 years (22% compared with 13%) or between 65 and 84 years (54% compared with 44%) (for both, $p < 0.05$ for z-test of proportions) (Figure 5).

Figure 5: Proportion of deaths by age group for males and females, deaths in England, 2005–07

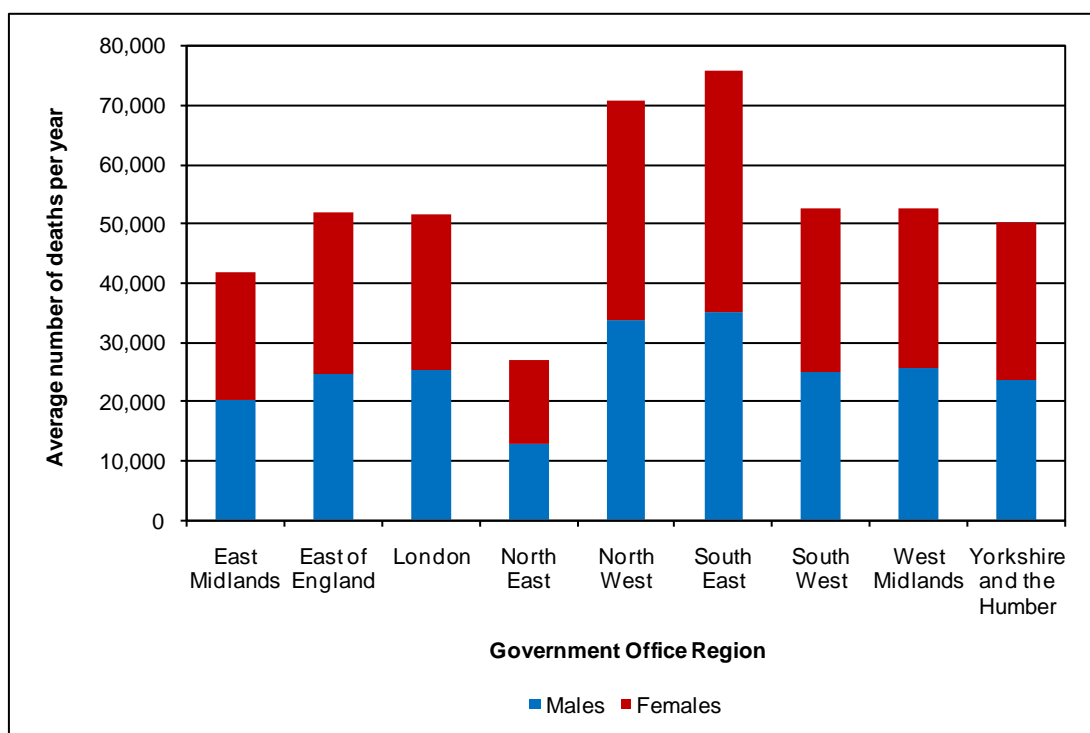


Source: South West Public Health Observatory from Office for National Statistics data

3.3 Regional and Local Authority differences in number of deaths and by gender

- The average number of deaths per year ranged from 27,083 in the North East to 75,989 in the South East (Figure 6). This largely reflects the different population sizes of the regions but age structure also plays a role (see Appendix C). To check whether mortality rates are higher or lower it is necessary to compare age-standardised rates. These are available on the website in the national End of Life Care Profiles (www.endoflifecare-intelligence.org.uk).
- Across the Government Office Regions (GORs) there was little difference in the proportion of male and female deaths. The South East had the highest proportion of deaths in females at 54%; the West Midlands and London both had the lowest proportion of deaths in females at 51%; this compares with 52% for England. This reflects the age structure of the regions and longer female life-expectancy.

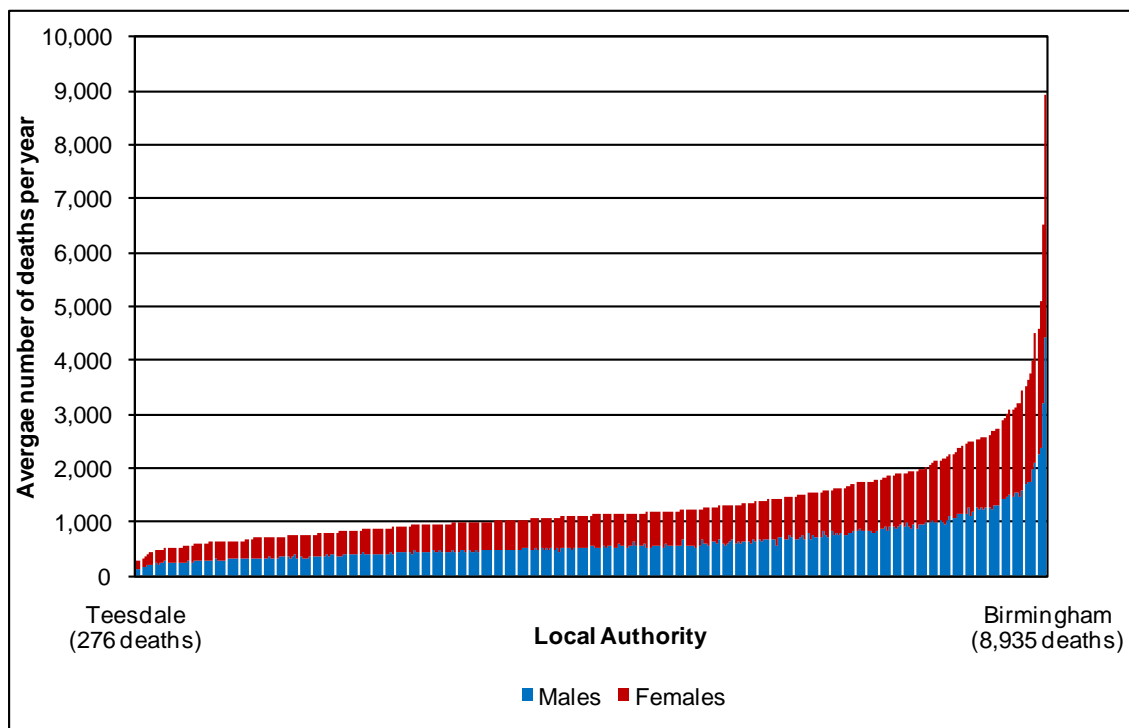
Figure 6: Number of deaths by Government Office Region in England by sex, average per year, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

- The Local Authority with the highest average number of deaths per year was Birmingham (an average of 8,935 deaths per year: 4,426 deaths in males; 4,509 deaths in females) (Figure 7).
- The Local Authority with the lowest average number of deaths per year was Teesdale (an average of 276 deaths per year: 130 in males; 145 in females (differences due to rounding)) (Figure 7).
- The median average number of deaths per year in a Local Authority was 1,134. This is equivalent to about three deaths per day. The median average number of deaths in males was 533 (average deaths per year), while in females the median average was 586.
- Given the relatively small numbers of people dying each day, it will be important to estimate for each patient who dies how many more are within their last weeks and months of life and therefore may need end of life care.

Figure 7: Number of deaths in each Local Authority in England in males and females, average per year, 2005–07

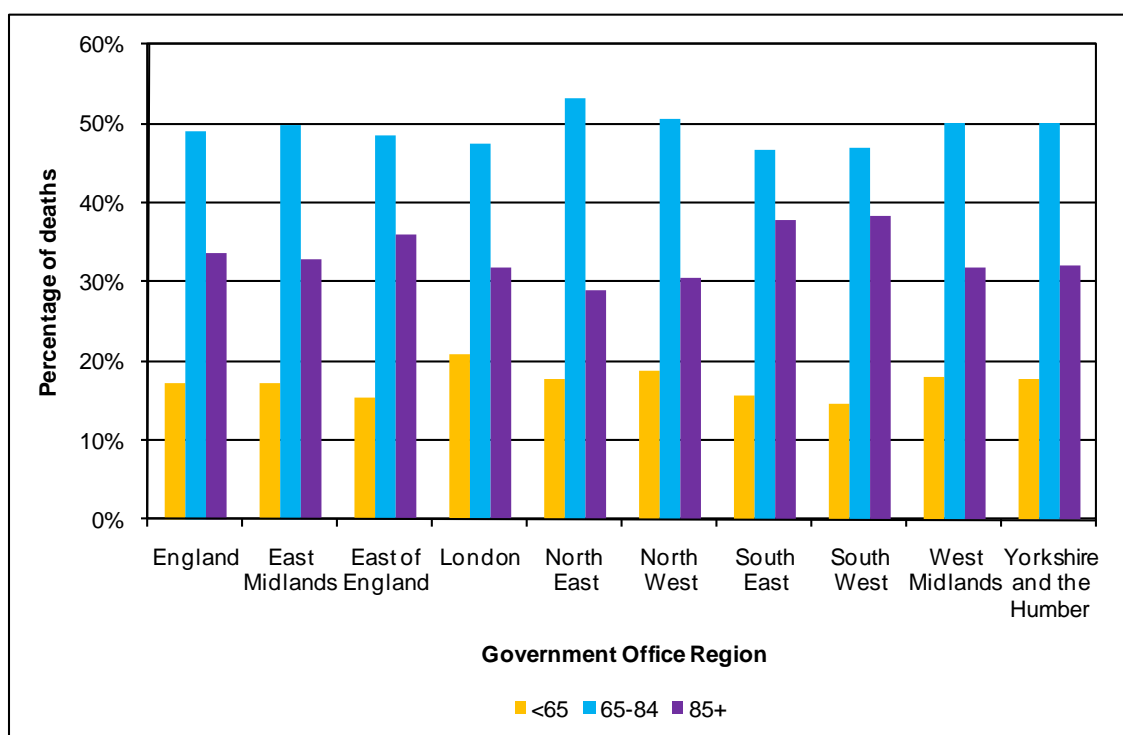


Source: South West Public Health Observatory from Office for National Statistics data

3.4 Regional and Local Authority variation in proportion of deaths by age group

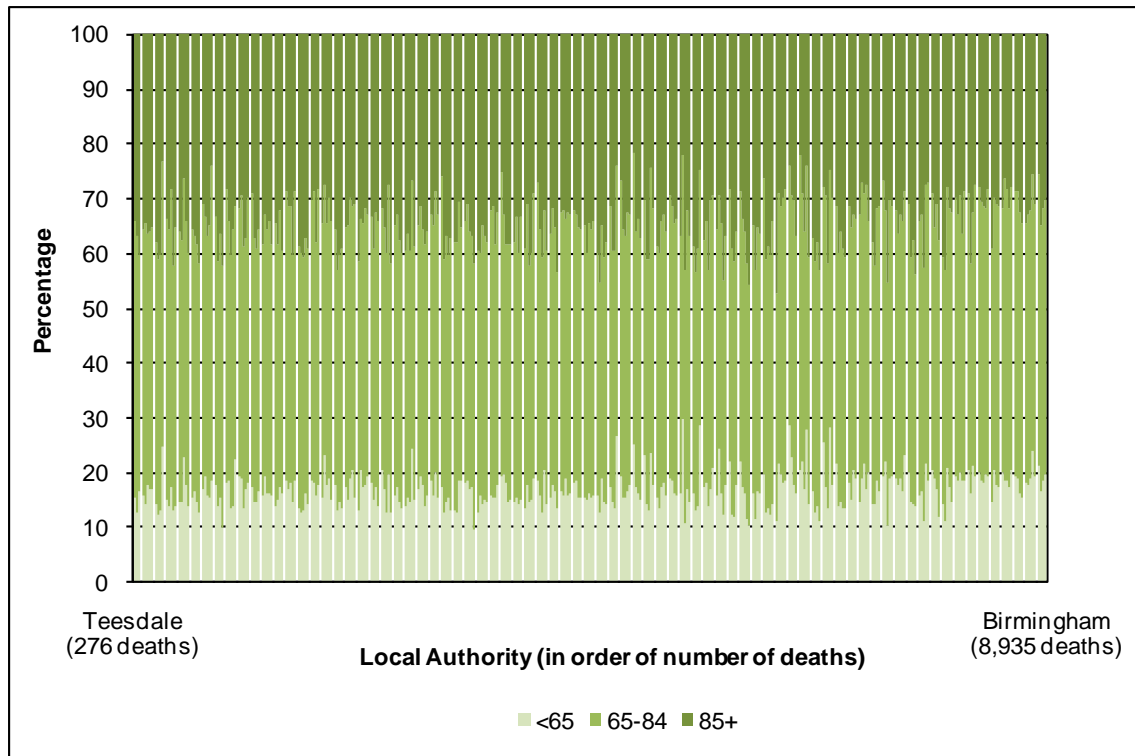
- The South East, South West and East of England had the lowest proportion of deaths in the under 65s (South East, 16%; South West, 15%; East of England, 15%) and the highest proportions of deaths in 85 year-olds and over (South East, 38%; South West, 38%; East of England, 36%) (Figure 8).
- In contrast, London GOR had the highest proportion of deaths in the under 65s (21%).
- The North East GOR had the lowest proportion of deaths in the 85s and over (29%), and the highest proportion in 65–84 year-olds (53%).

Figure 8: Proportion of deaths by age in each Government Office Region in England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

- Hackney had the highest proportion of deaths that were in the under 65 age group (30%), while East Dorset had the lowest (9%) (see Appendix I, Table I4).
- In the 65–84 year-old age group, Knowsley had the highest proportion of deaths (57%), while Worthing had the lowest (42%) (see Appendix I, Table I4).
- Worthing had the highest proportion of deaths in the 85 and over age group (47%), while Tower Hamlets had the lowest (21%) (see Appendix I, Table I4).

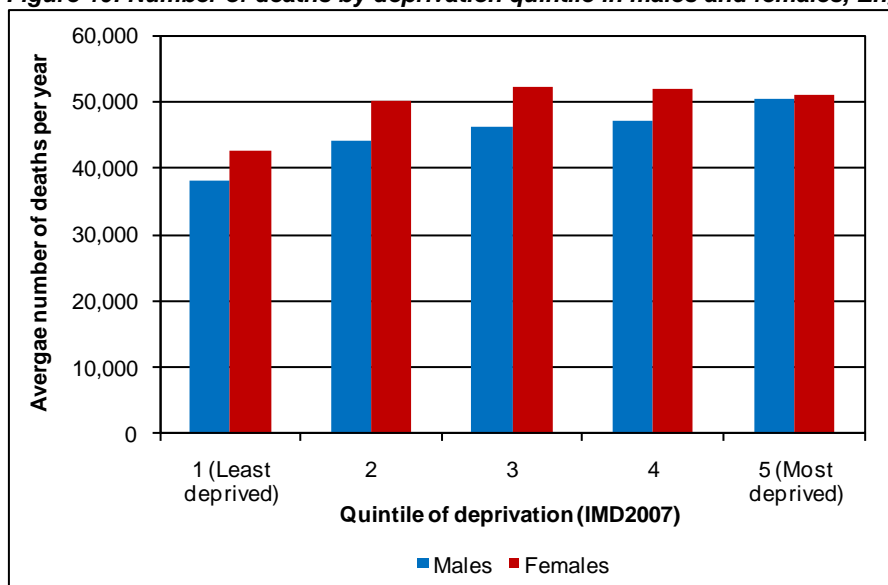
Figure 9: Proportion of deaths by age group in each Local Authority in England, 2005–07

Source: South West Public Health Observatory from Office for National Statistics data

3.5 Variation in numbers and proportion of deaths by deprivation quintile

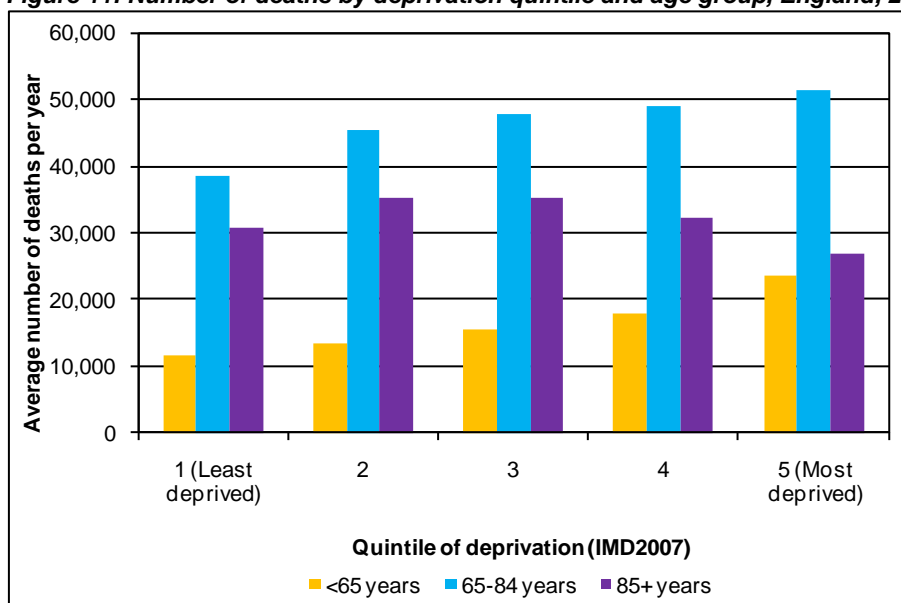
- In males, there are more deaths in more deprived groups and the number of deaths decreases with decreasing deprivation (Figure 10).
- In females, the number of deaths is similar across the four most deprived quintiles, but is lowest in the least deprived quintile (Figure 10).
- In the under 65 and 65–85 year age groups, the number of deaths is lowest in the least deprived group and highest in the most deprived group (Figure 11). However, in the 85 and over age group, the number of deaths in the most deprived group is less than in the least deprived group (Figure 11). This reflects population demographics (see Appendix D, Figures D1, D2 and D3) which show the population distribution by age group and deprivation quintile).

Figure 10: Number of deaths by deprivation quintile in males and females, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

Figure 11: Number of deaths by deprivation quintile and age group, England, 2005–07

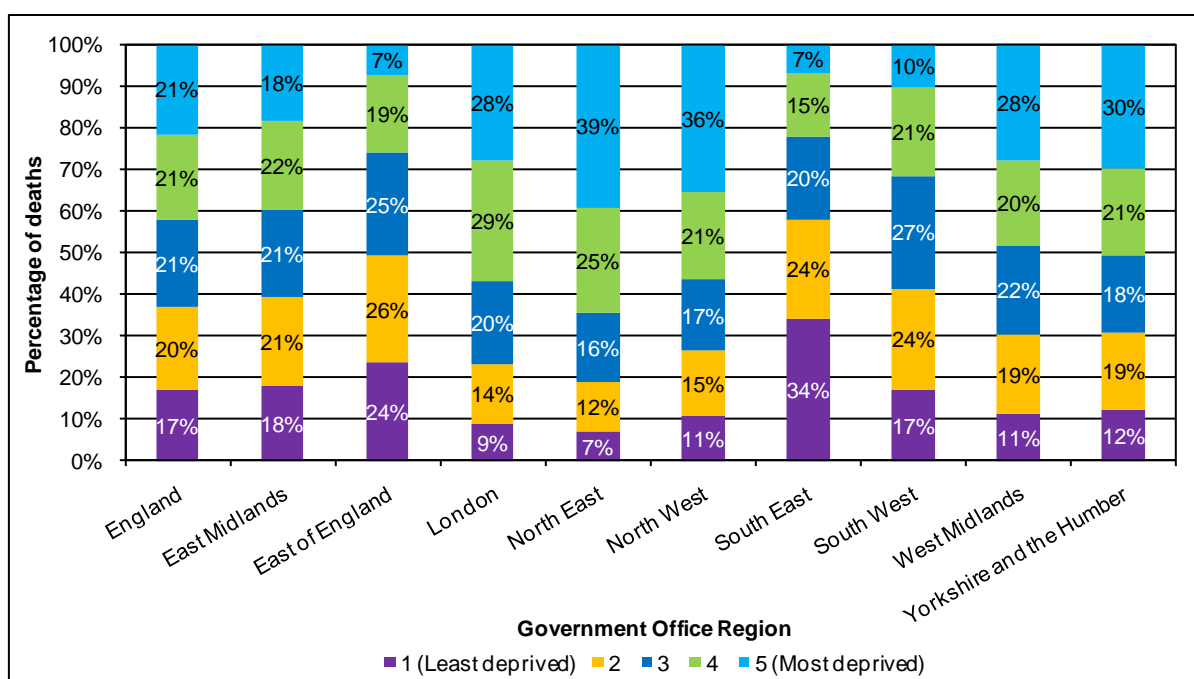


Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

The proportion of deaths in each deprivation quintile varies between the Government Office Regions (Figure 12).

- The proportion of deaths in the most deprived quintile varies from 7% in the East of England and the South East to 39% in the North East. In comparison, the proportion of deaths in the least deprived quintile varies from 7% in the North East to 34% in the South East.
- The North East has the most deaths in more deprived quintiles while the East of England and the South East have the fewest deaths in more deprived quintiles.
- These patterns reflect the demographics of the regions.
- These variations are important if greater resources are required to care for people dying in more deprived circumstances (see Appendix C).

Figure 12: Proportion of deaths by deprivation quintile and Government Office Region, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

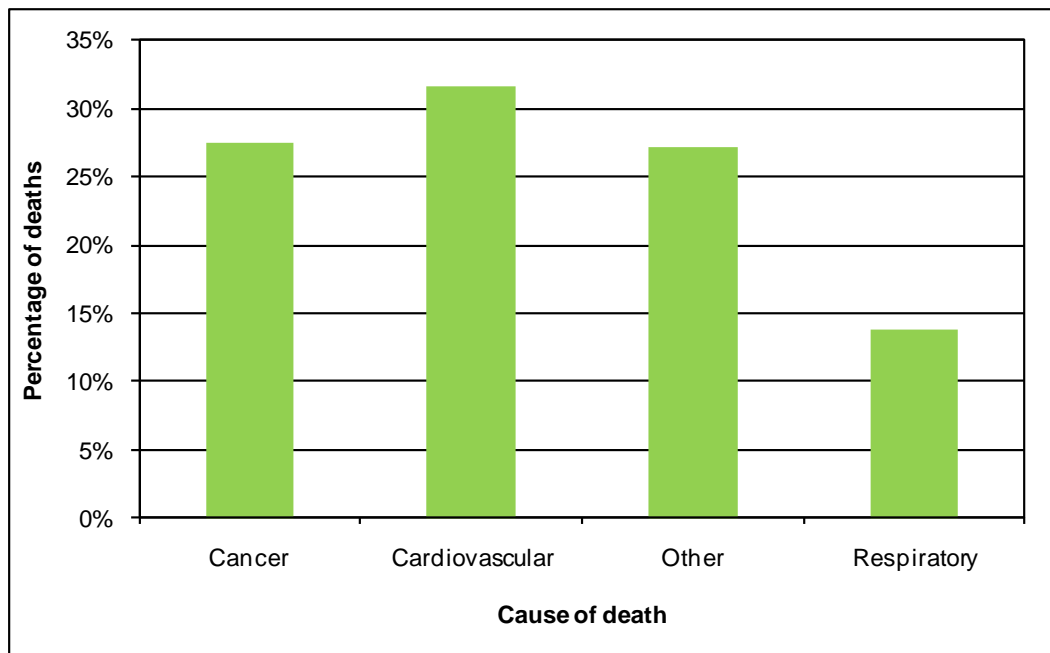
4.0 Cause of death

4.1 'Underlying' cause of death by age and sex

- As described in the Methodological Notes section, 'underlying' causes of death were grouped into deaths from cancer, cardiovascular disease, respiratory disease or another ('other') cause. A person will have a single recorded 'underlying' cause of death and so is included in only one category.
- Most deaths were from cardiovascular disease. There were an average of 150,034 (31.6%) deaths from cardiovascular disease per year in 2005–07, compared with 130,181 (27.4%) deaths from cancer, 128,649 (27.1%) deaths from 'other' causes and 65,854 (13.9%) deaths from respiratory causes (Figure 13) (deaths do not total to 474,719 due to rounding).

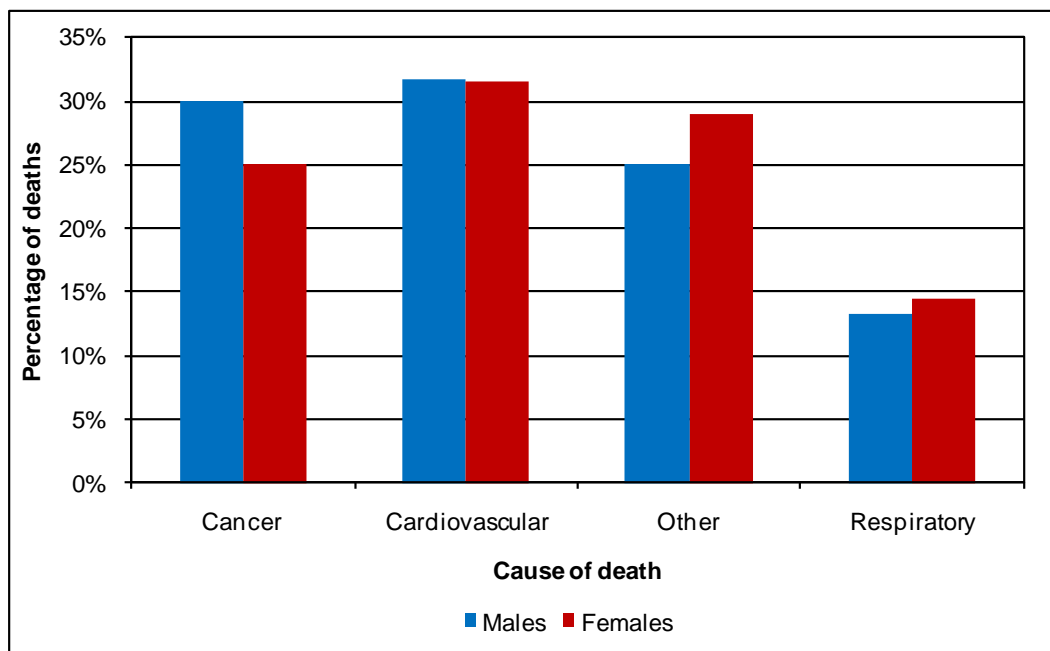
- While the proportion of deaths from cardiovascular disease and respiratory disease were similar in males and females, cancer was the second most frequent cause of death in males and the third in females (Figure 14).

Figure 13: Cause of death ('underlying' cause): proportion of deaths in England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

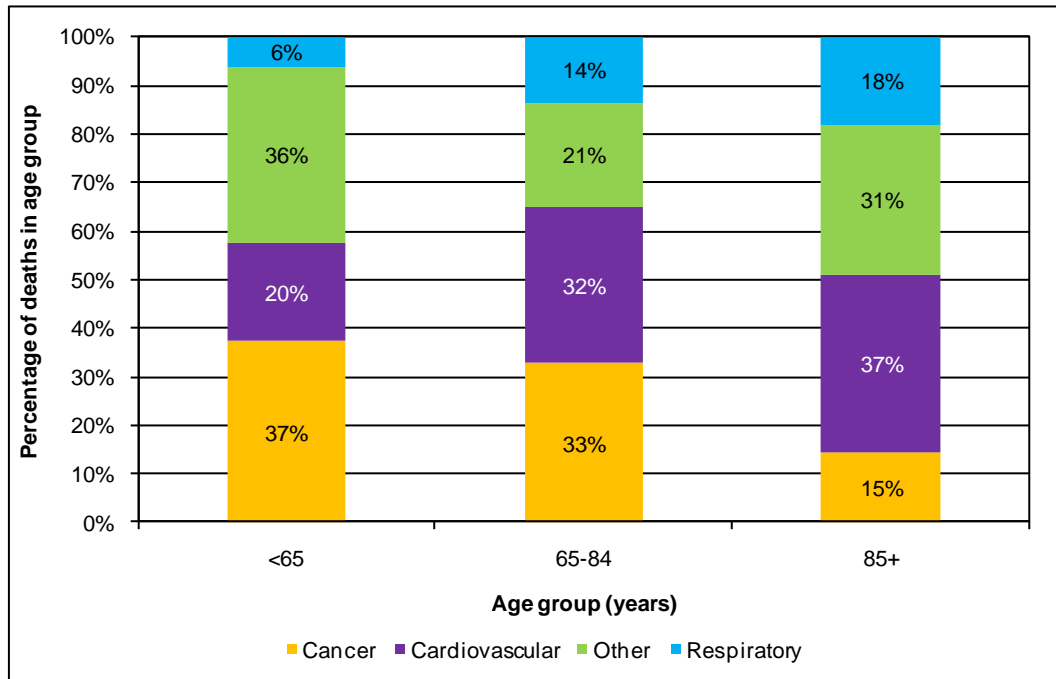
Figure 14: Cause of death ('underlying' cause), by sex: proportion of deaths in males and females in England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

- The proportion of deaths due to cancer decreases with increasing age, and deaths due to cardiovascular and respiratory causes increase with increasing age (Figure 15) ($p < 0.05$ for z-test of proportion in under 65 year-olds compared with 85 and over group).

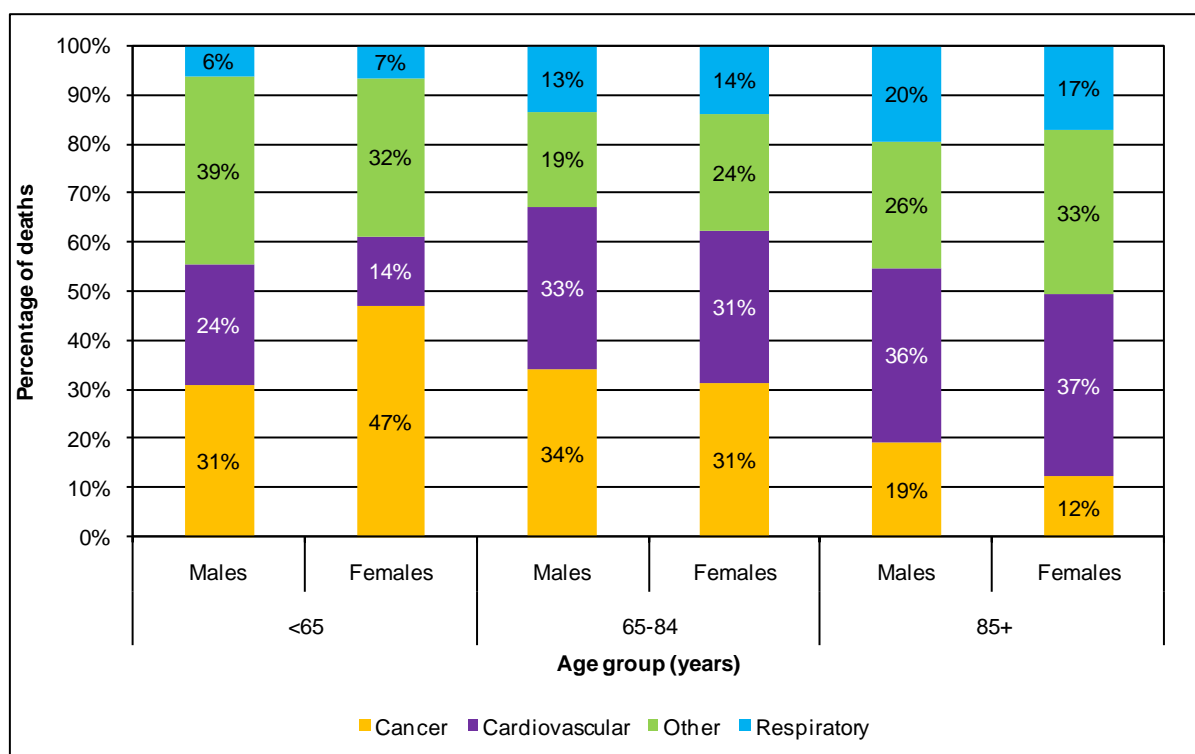
Figure 15: Cause of death ('underlying' cause), by age: proportion of deaths in age group in England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

- In under 65 year-olds, a higher proportion of females (47%) died from cancer compared with males (31%), but in older age groups a higher proportion of males died from cancer than females (Figure 16) ($p < 0.05$ for z-test of difference in proportions). This reflects the age-specific death rates of the site-specific causes of cancer deaths in males and females.
- In the under 65 years age group, a smaller proportion of females (14%) died from cardiovascular disease than males (24%) ($p < 0.05$ for z-test of difference in proportions). However, this proportion was more similar in the other age groups (Figure 16).
- The proportion of males and females who died from respiratory disease was more similar across all the age groups but increases with age (Figure 16) ($p < 0.05$ for z-test of difference in proportions).
- In under 65 year-olds the proportion of deaths due to 'other' causes was higher in males (39%) than females (32%), while in the 65–84 years and 85 and over groups the proportion was higher in females than males (for all, $p < 0.05$ for z-test of difference in proportions) (Figure 16). The proportion of deaths in the 'other' category are higher in the under 65 year olds and 85 and older groups than in the 65-84 group (for all, $p < 0.05$ for z-test of difference in proportions). See Appendix B for more in-depth analysis of the breakdown of the 'other' category of 'underlying' cause of death. The disease groups within this category which contribute to death vary with age and sex such that external causes (accidents, suicide, homicide) are more common in younger adults, especially males, and more chronic diseases, including dementia, more common with increasing age. Diseases of the digestive tract are consistently one of the most common groups.

Figure 16: Cause of death ('underlying' cause) by age and sex: proportion of deaths in males and females in age group in England, 2005–07

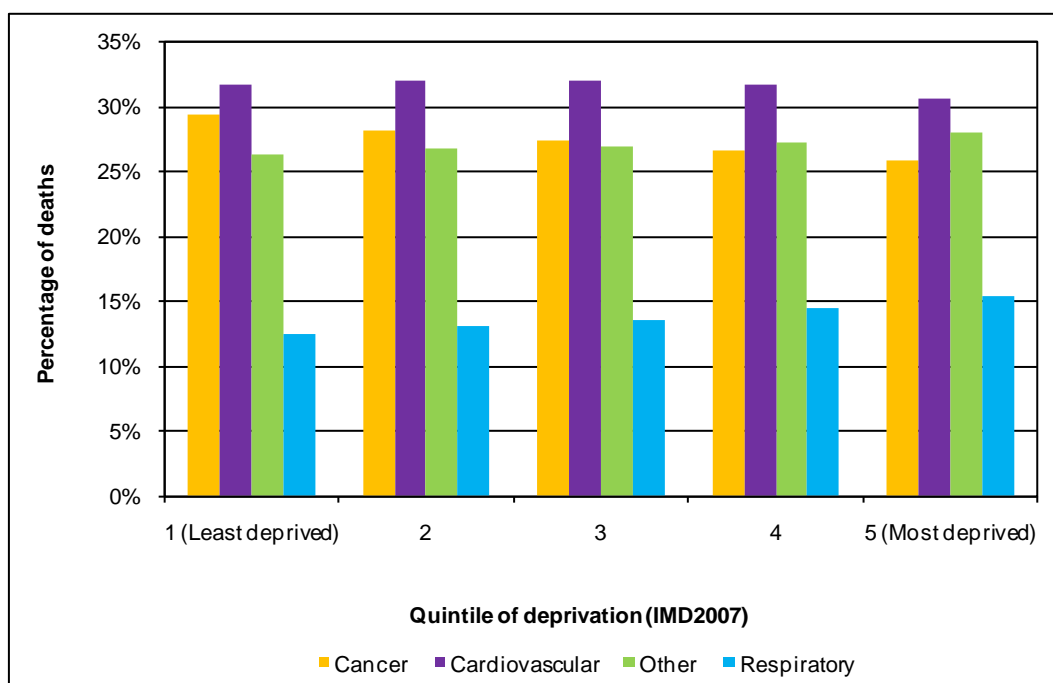


Source: South West Public Health Observatory from Office for National Statistics data

4.2 'Underlying' cause of death by deprivation quintile

- The proportion of deaths from cancer as the 'underlying' cause is higher in less deprived quintiles than more deprived quintiles, decreasing from 29% in the least deprived quintile to 26% in the most deprived quintile ($p < 0.05$ for z-test of quintile 1 compared with quintile 5). This may reflect the relative greater importance of diseases other than cancer among more deprived quintiles reflecting the legacy of smoking related diseases.
- The proportion of deaths from respiratory disease and other causes increases with increasing deprivation ($p < 0.05$ for z-test of quintile 1 compared with quintile 5). For respiratory disease this increases from 12% of deaths in the least deprived quintile to 15% of deaths in the most deprived quintile, while for other causes the increase is from 26% in the least deprived quintile to 28% in the most deprived quintile.

Figure 17: 'Underlying' cause of death by deprivation quintile (Index of Multiple Deprivation 2007), England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

4.3 'Underlying' and contributory causes of death

See Section 2, Methodological Notes for definitions of 'underlying' and 'mentioned' causes of death.

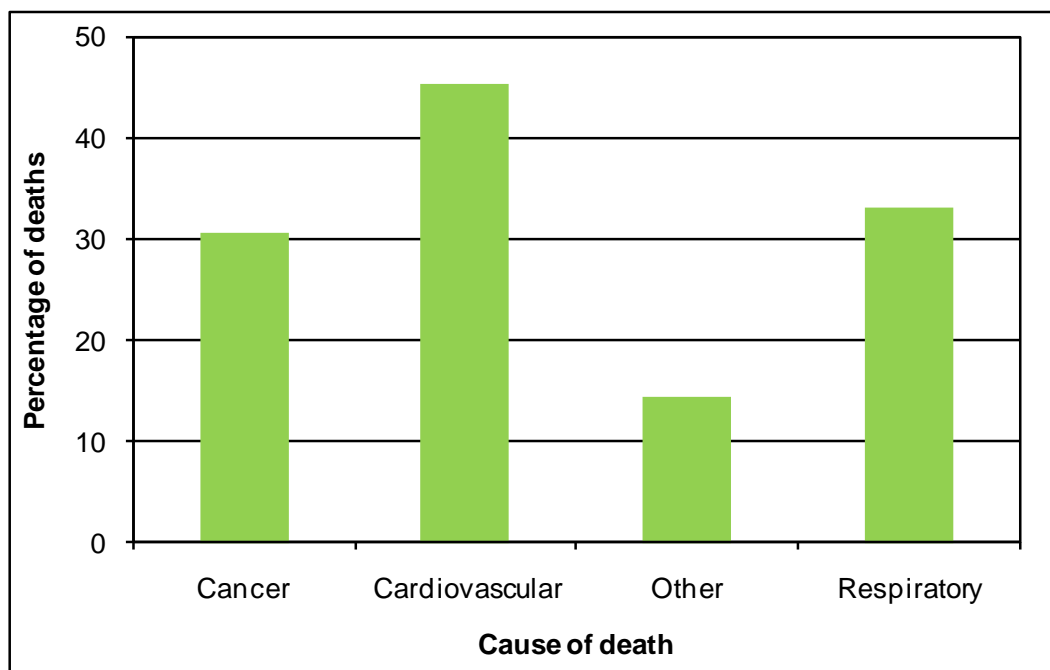
- All cause of death fields were analysed for each death to identify deaths with cancer, cardiovascular disease or respiratory disease as an 'underlying' or 'mentioned' cause. Since up to 15 causes can be specified for each death, a person can be included in more than one category. This is in contrast to the analysis of 'underlying' cause of death where each person is included in only one category.
- People included in the 'other' category are those without a cancer, cardiovascular or respiratory cause 'mentioned' in any of the cause of death fields.

- The proportion of people with cancer, respiratory disease or cardiovascular disease 'mentioned' as an 'underlying' or contributory cause of death was higher than the proportion of people with cancer, respiratory disease or cardiovascular disease as the 'underlying' cause of death. The proportion of deaths with respiratory disease as an 'underlying' or 'mentioned' cause was 33% compared with 14% as the 'underlying' cause, while 45% of deaths had cardiovascular disease as an 'underlying' or 'mentioned' cause, compared with 32% as an 'underlying' cause. For cancer, 31% of deaths had cancer as an 'underlying' or 'mentioned' cause, compared with 27% as an 'underlying' cause.

These findings are important as they reinforce the common knowledge that many people have more than one condition. Sometimes these are multiple, especially in the elderly, which contribute to death. Moreover, it is common, even for cancer patients to die with cancer rather than from it.

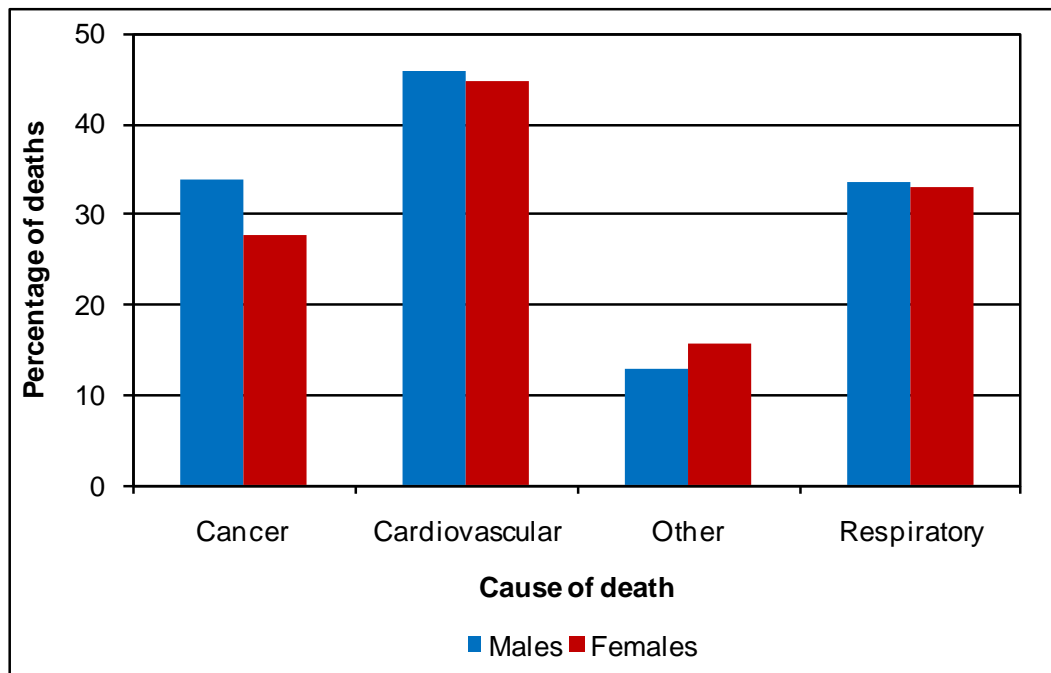
- Care needs to be tailored to these complex needs especially amongst the elderly.

Figure 18: Cause of death as 'mentioned' in any cause field, proportion of deaths in England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

Figure 19: Cause of death as 'mentioned' in any cause field, proportion of deaths in males and females, England, 2005–07

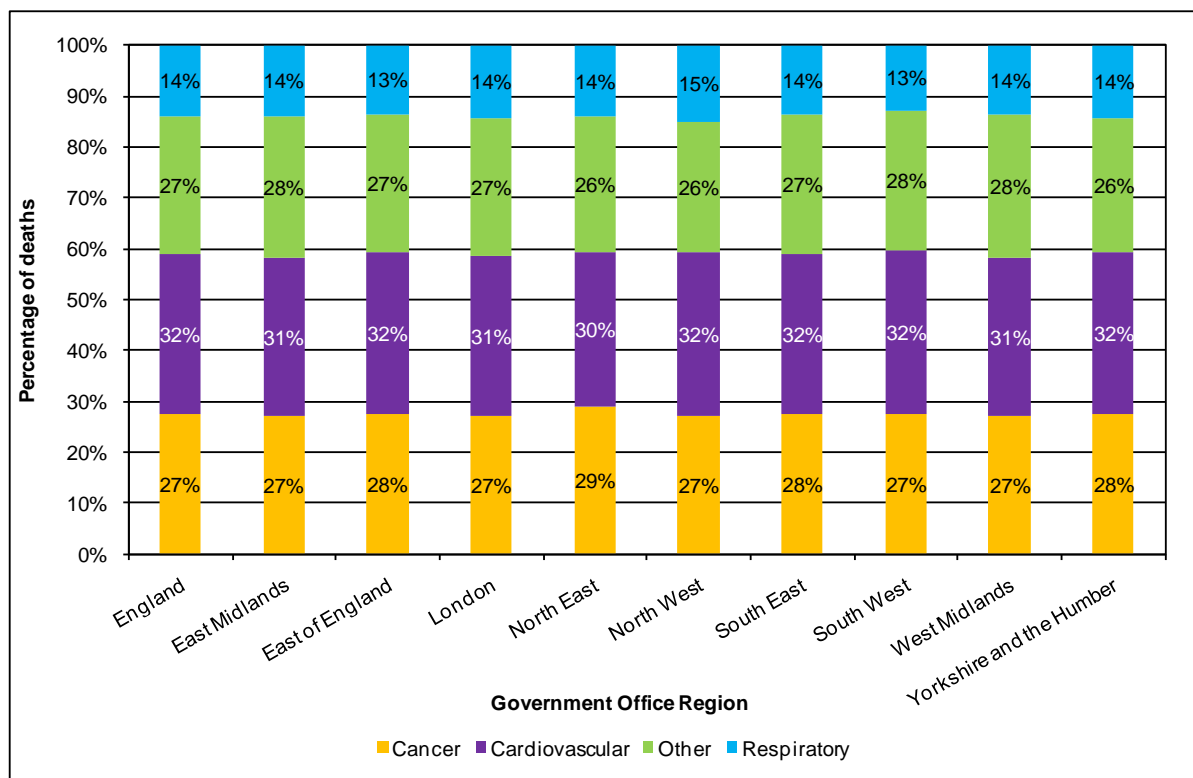


Source: South West Public Health Observatory from Office for National Statistics data

4.4 Regional differences in 'underlying' cause of death

- The proportion of deaths of each type was similar across the Government Office Regions (GORs) (Figure 20). This was also the case when the data were analysed by sex (charts not shown).

Figure 20: Cause of death by Government Office Region, proportion of deaths by Government Office Region in England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

4.5 Age group-specific regional differences in 'underlying' cause of death

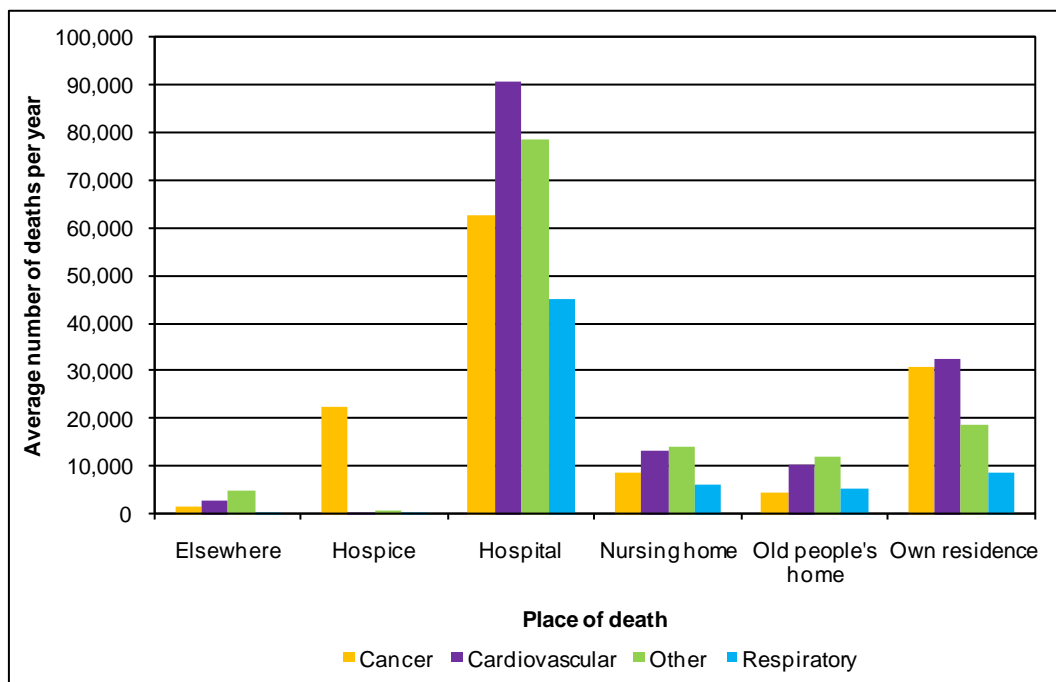
The charts for the results presented in this section are shown in Appendix E.

- London GOR had the highest proportion of people aged under 65 who died from other causes and the lowest proportion who died from cancer compared with other regions (Figure E1).
- In people aged under 65, the proportion of people who died from cancer was highest in the East of England, the South West and the South East GORs compared with the other GORs and England (Figure E1) (for all, $p < 0.05$ for z-test of proportion in GOR compared with England).
- In the under 65s, the proportion of deaths from respiratory and cardiovascular causes was similar across the regions (Figure E1).
- The proportion of deaths from cardiovascular, cancer, respiratory disease and other causes was similar across the regions for 65–84 year-olds and for the 85 year-olds and over (Figures E2 and E3).

4.6 'Underlying' cause of death by place

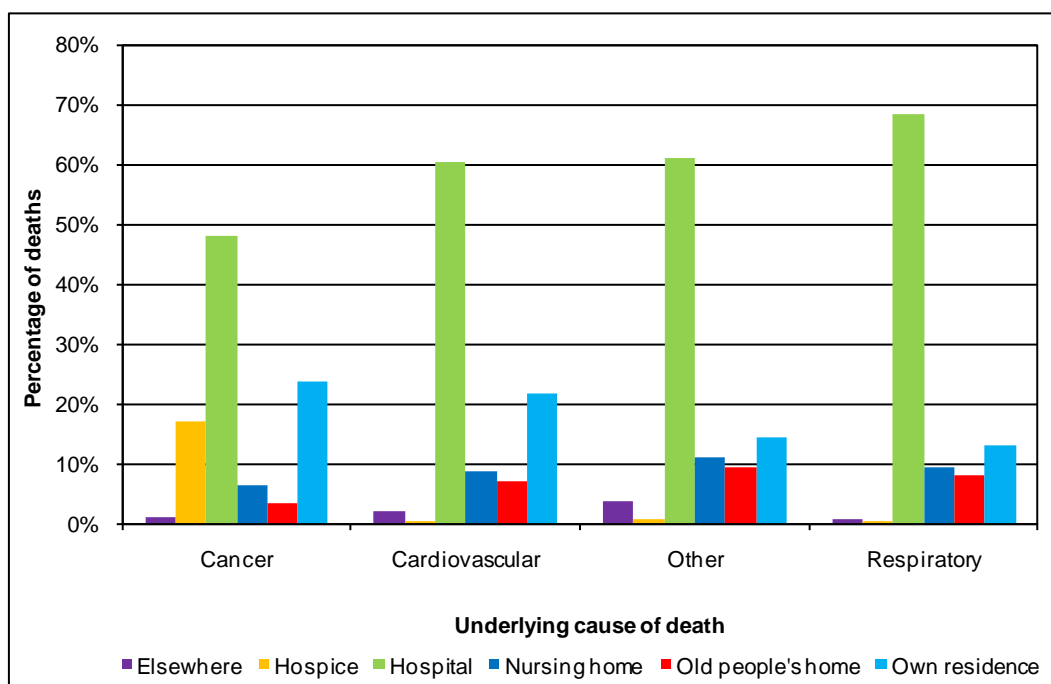
- Most deaths occur in hospital and the greatest number are from cardiovascular disease (90,618 deaths per year on average), followed by other causes (78,667 deaths per year on average), cancer (62,577 deaths per year on average) and respiratory causes (45,193 deaths per year on average) (Figure 21).
- The number of people dying from cancer in their own residence (30,920 per year on average) exceeds the number dying in hospices (22,228), nursing homes (8,472) and old people's homes (4,430) (Figure 21).
- Of the deaths in hospices, most are from cancer, with very few from cardiovascular, respiratory or other causes (Figure 21).
- In nursing and old people's homes, most deaths are due to 'other' causes, followed by cardiovascular disease, while numbers of deaths from cancer are lower (Figure 21).
- A higher proportion of people dying from cancer die in their own residence and a lower proportion die in hospital compared with the other three causes of death (Figure 22).
- Respiratory disease has the lowest proportion of people dying in their own residence (13%; an average of 8,495 deaths per year) and the highest proportion dying in hospital (69%; an average of 45,193 deaths per year) (Figure 22).

Figure 21: Place of death by 'underlying' cause: average number of deaths per year, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

Figure 22: 'Underlying' cause of death by place: proportion of deaths from each cause, England, 2005–07



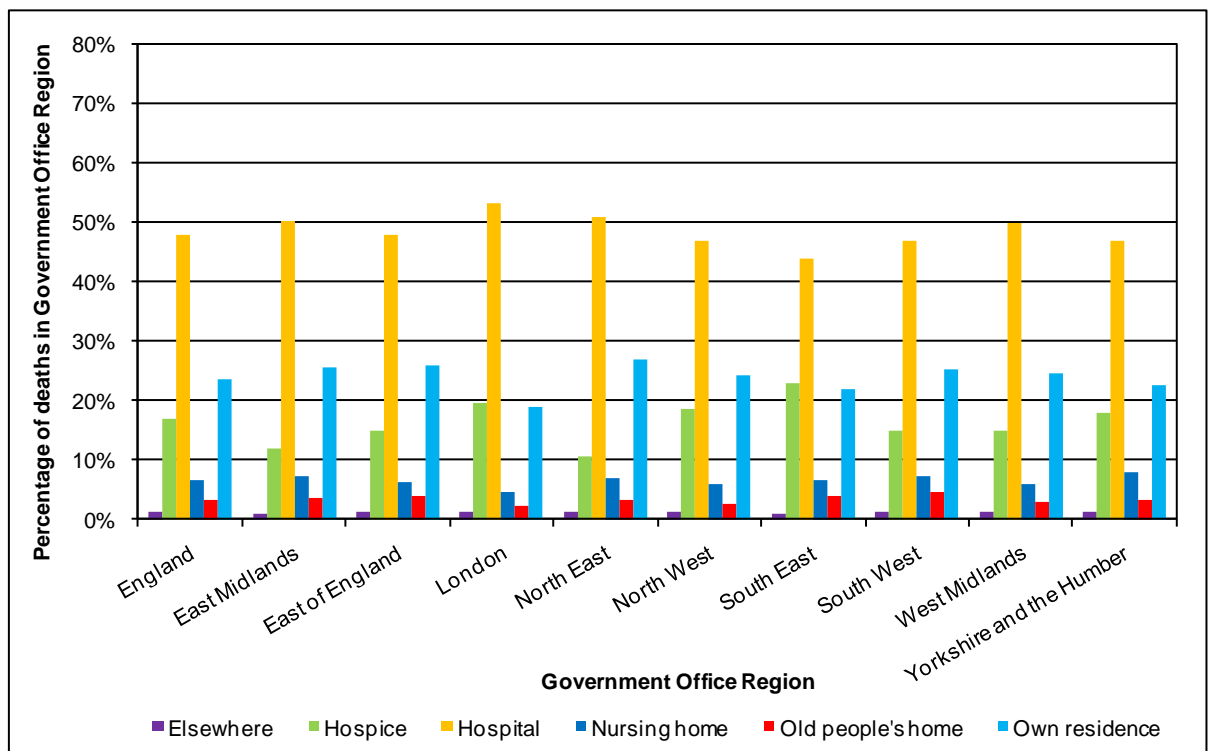
Source: South West Public Health Observatory from Office for National Statistics data

4.7 Regional differences in place of death by 'underlying' cause

- The proportion of cancer deaths that occur in a hospice depends on the region, with the highest proportions in the South East, North West and London Government Office Regions (GORs) (23%, 19% and 19%), and the lowest proportions in the North East GOR (11%) (Figure 23).
- The proportion of people dying from cancer in hospital is higher in London GOR than in the other GORs (53% compared with 48% for England), while the proportion dying in their own residence is lower (19% compared with 24% for England) (Figure 23) ($p < 0.05$ for z-test of London GOR compared with England).
- For deaths from cardiovascular disease, respiratory disease and deaths from other causes the proportion of people dying at each place is similar across the regions, except for London and the South West GORs, which have the highest and lowest proportion of deaths in hospital respectively (Figures 24–26).

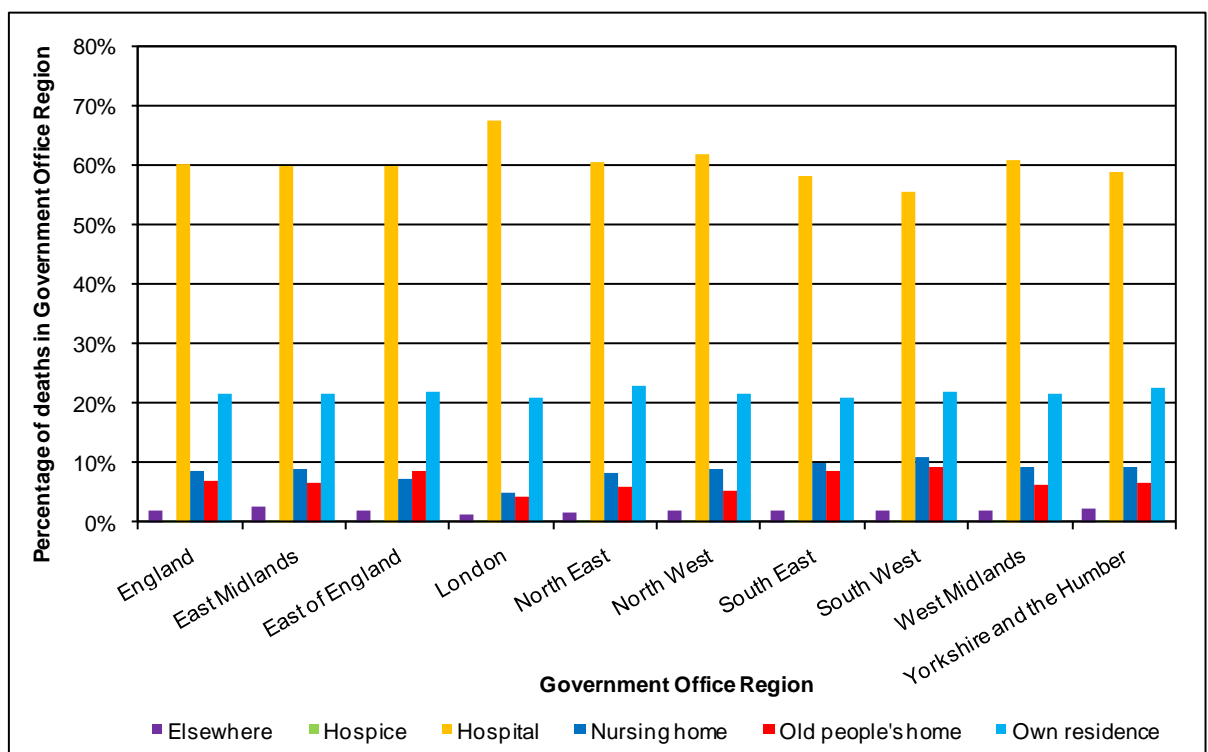
Appendix F shows replicate versions of Figures 23, 24, 25 and 26 as F1, F2, F3 and F4 in which nursing home, old people's home and own residence have been combined. This represents a group which are individuals' 'home' and shows some interesting results across the main causes of death.

Figure 23: Place of death from cancer: proportion of cancer deaths by Government Office Region in England, 2005–07



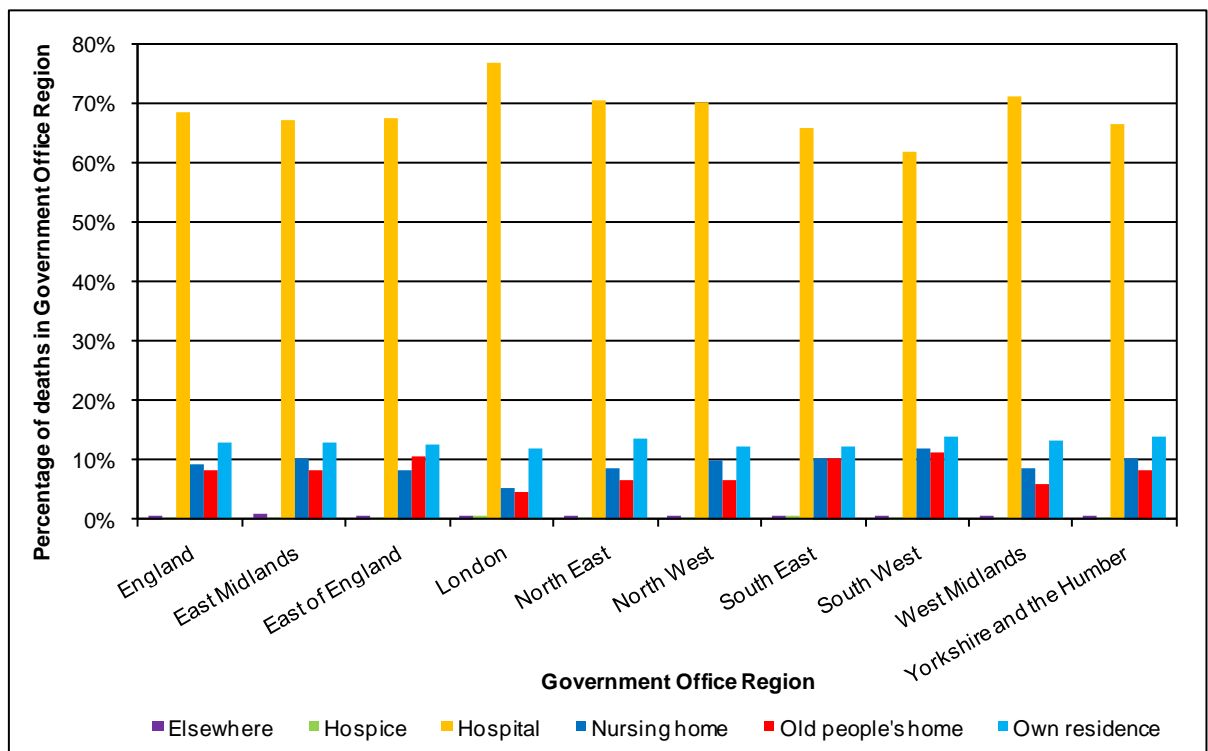
Source: South West Public Health Observatory from Office for National Statistics data

Figure 24: Place of death from cardiovascular disease: proportion of cardiovascular deaths by Government Office Region in England, 2005–07



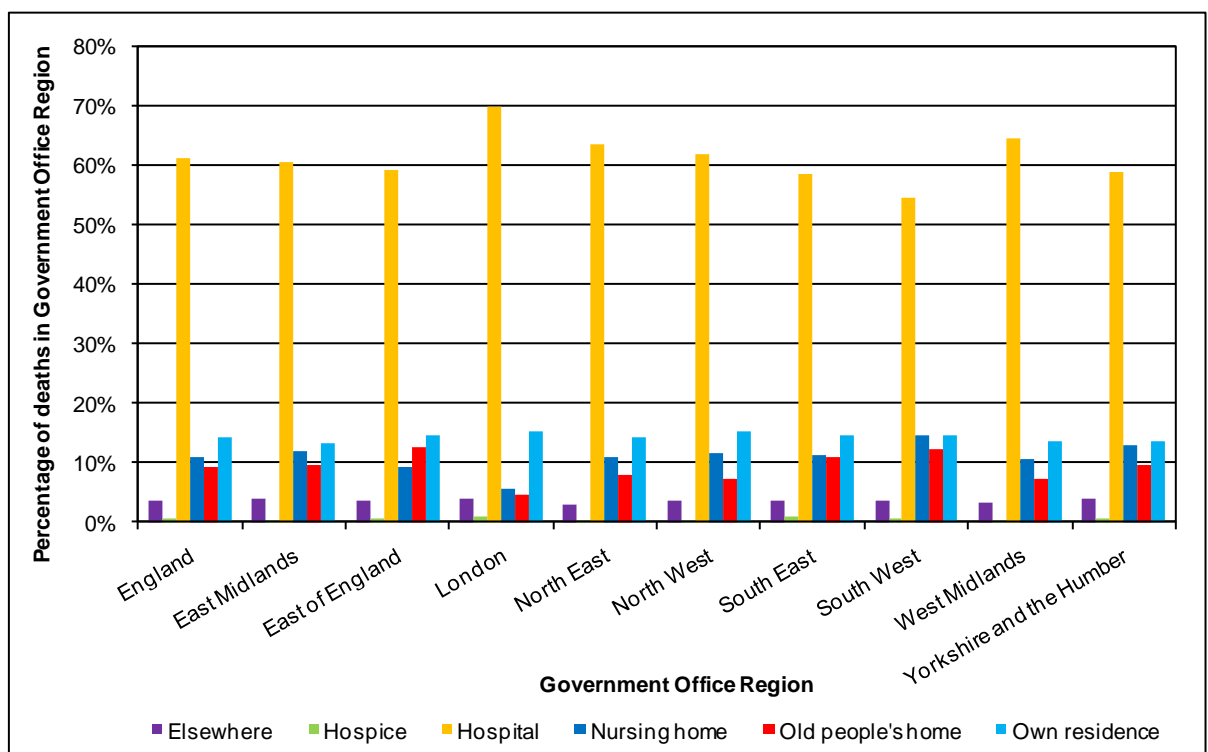
Source: South West Public Health Observatory from Office for National Statistics data

Figure 25: Place of death from respiratory disease: proportion of deaths from respiratory disease by Government Office Region in England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

Figure 26: Place of death from other causes: proportion of deaths from other causes by Government Office Region in England, 2005–07



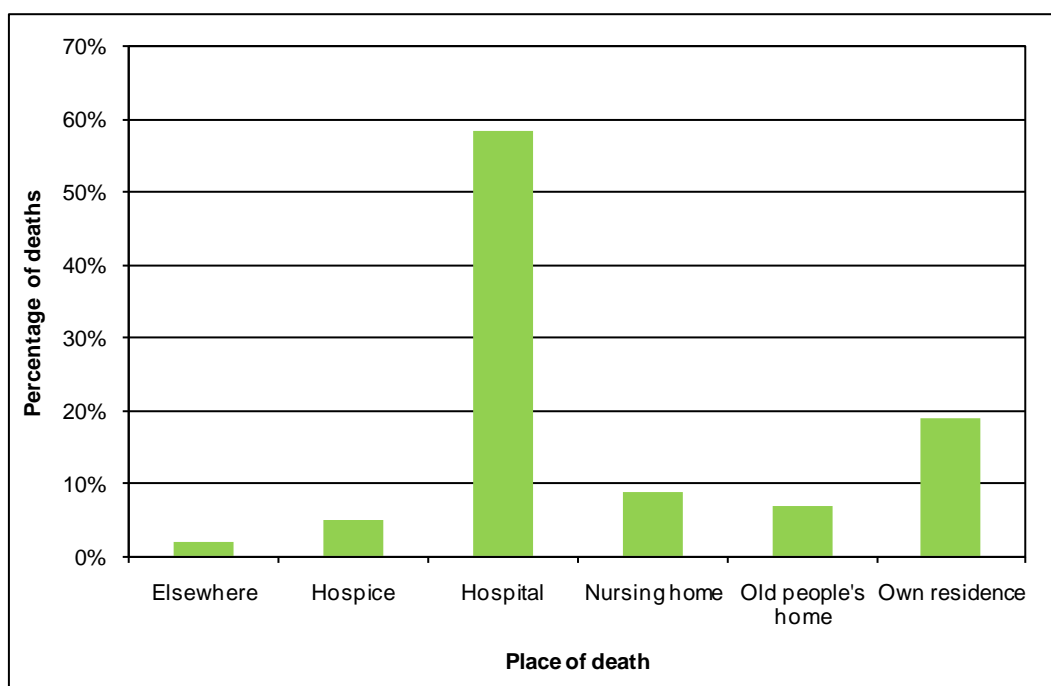
Source: South West Public Health Observatory from Office for National Statistics data

5.0 Place of death

5.1 Place of death by age and sex

- The proportion of people dying in hospital includes those who die in community and cottage hospitals. The proportion of people receiving palliative care does not include people receiving palliative care outside of a hospice.
- Over half of people die in hospital (58%; an average of 277,055 per year), with only 19% dying in their own residence (an average of 90,517 people per year) (Figure 27).
- An average of 23,608 (5%) people per year die in a hospice, 41,969 (9%) in a nursing home and 32,138 (7%) in an old people's home, with 9,432 (2%) dying elsewhere.

Figure 27: Place of death: proportion of deaths in England, 2005–07



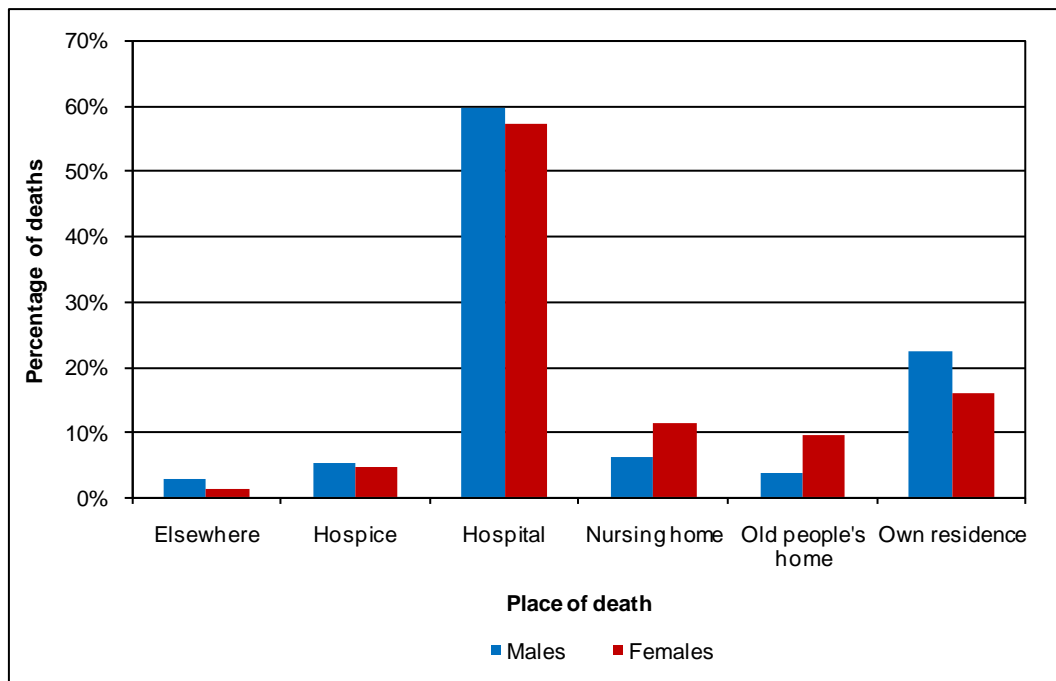
Source: South West Public Health Observatory from Office for National Statistics data

- A greater proportion of females (21%) die in nursing homes or old people's homes than males (10%) (Figure 28) ($p < 0.05$ for z-test of difference in proportions). This is seen for the two older age groups (Figure 29) ($p < 0.05$ for z-test of difference in proportions).
- A smaller proportion of females (16%) die in their own residence compared with males (22%) (Figure 28). This is seen across all age groups (Figure 29). ($p < 0.05$ for z-test of difference in proportions).
- In all age groups, most deaths occur in hospital (Figure 29) – the greatest proportion was in the 65–84 years group at 61%, while the lowest proportion was in the under 65 group at 54%. The proportion of males and females dying in hospital is similar (Figure 28) (though the difference is significant ($p < 0.05$ for z-test of difference in proportions)).
- The proportion of deaths in each age group that occurred in the person's own residence, in a hospice or elsewhere decreased with increasing age (Figure 29) (for all, $p < 0.05$ for z-test of

difference in proportions). For deaths in the person's own residence, this decrease was from 29% in the under 65s to 12% of deaths in people aged 85 and over.

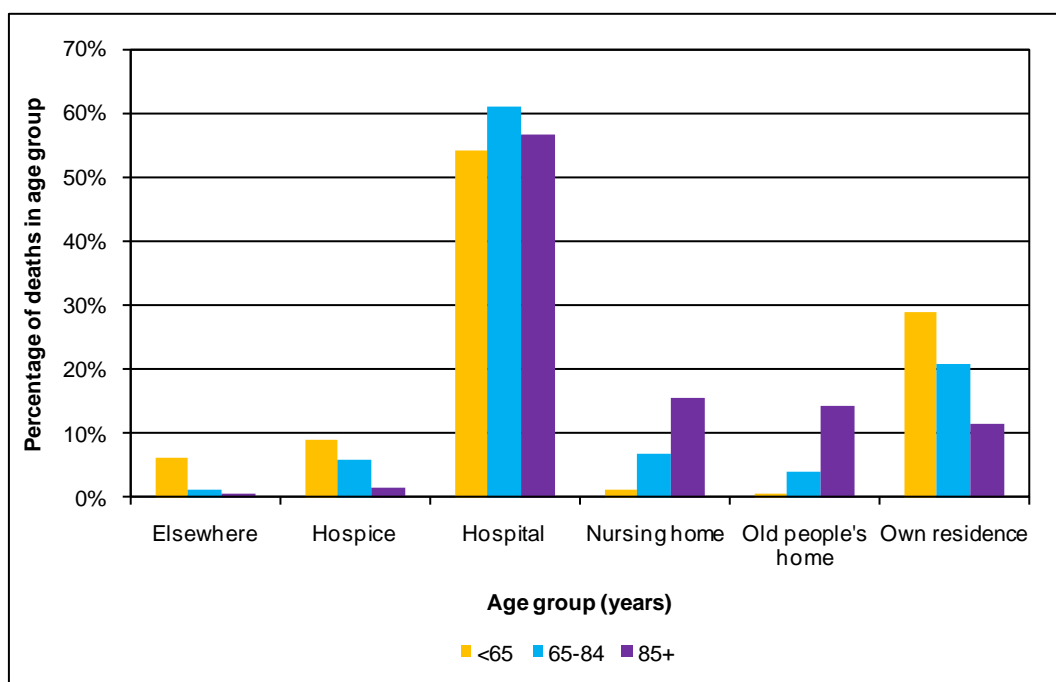
- The proportion of deaths in nursing homes or old people's homes increased with increasing age (Figure 29) ($p < 0.05$ for z-test of difference in proportions).
- The 85 and over age group is the only age group in which more people die in a nursing home or old people's home, than in their own residence (Figure 29).

Figure 28: Place of death by sex: proportion of deaths in males and females, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

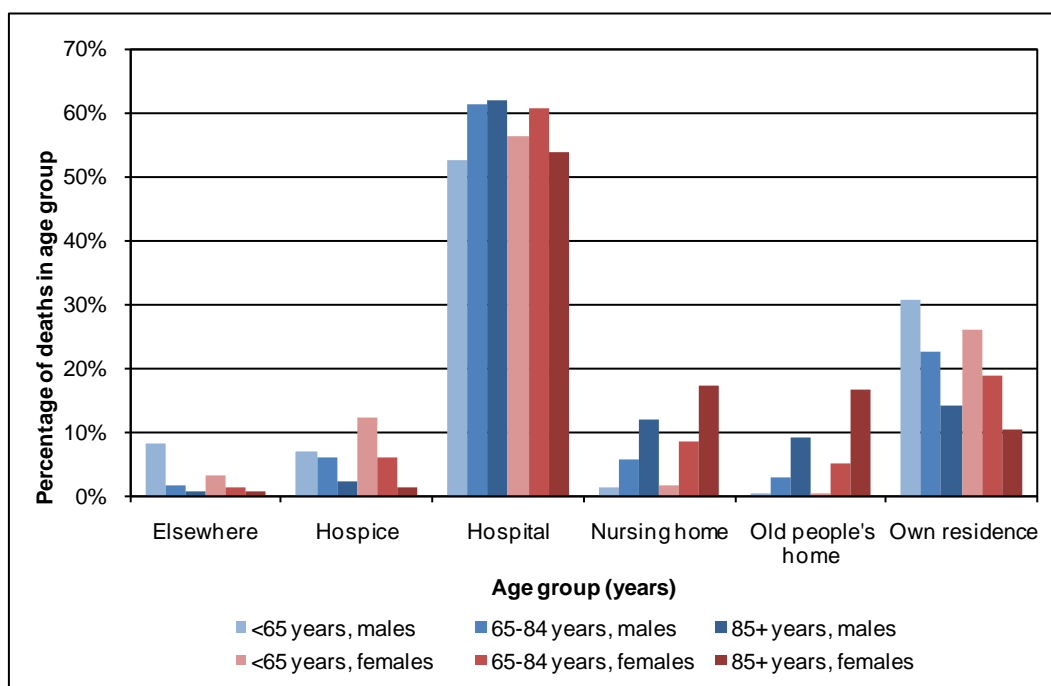
Figure 29: Place of death by age: proportion of deaths in each age group, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

- The age group with the highest proportion of deaths in a hospice as a proportion of the total for that group is females aged under 65 (12%) (Figure 30).
- In men, the proportion of deaths in hospital is highest in the oldest age group (53% in the under 65s compared with 62% in males aged 85 and over), but in females the 65–84 year-old age group has the highest proportion of people dying in hospital (61%) (Figure 30).

Figure 30: Place of death by age and sex: proportion of deaths in males and females in each age group, England, 2005–07



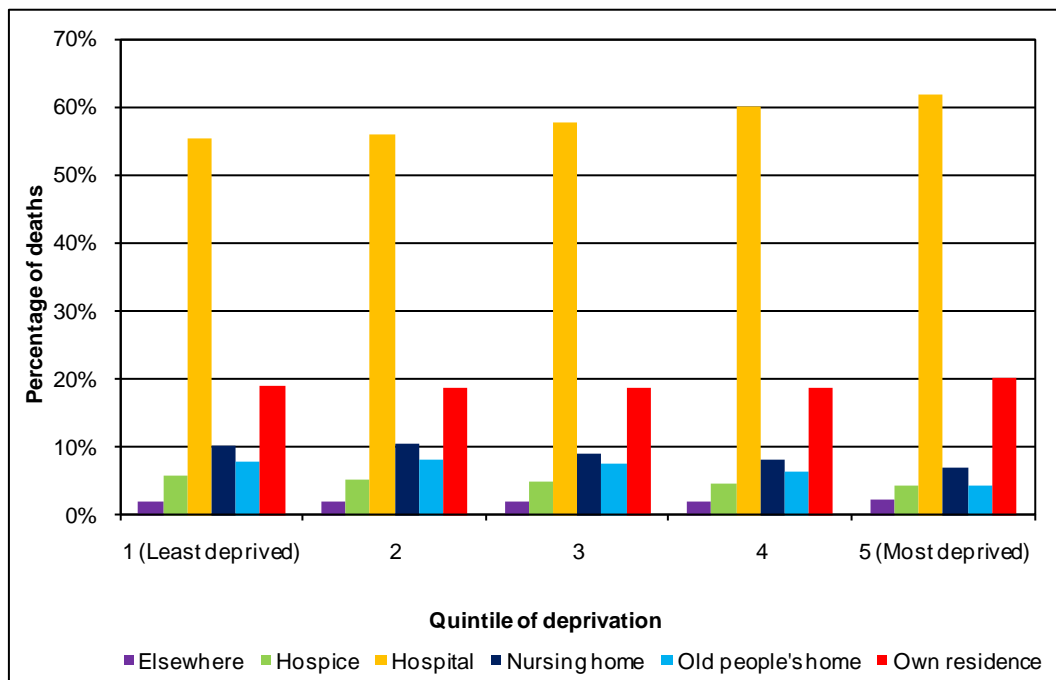
Source: South West Public Health Observatory from Office for National Statistics data

5.2 Place of death by deprivation quintile

- There are differences in the place of death depending on deprivation (Figure 31).
- 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).
- The proportion of deaths in hospices, old people's homes and nursing homes is lower in more deprived quintiles than less deprived quintiles ($p < 0.05$ for z-test of quintile 1 compared with quintile 5).
- The socioeconomic gradient in deaths in nursing and old people homes is interesting and complex to interpret especially as deprivation quintiles have been allocated using postcodes of residence, which for people dying in nursing and old people's homes will be the same as their place of death. The analyses shown in Appendix A indicate that, perhaps contrary to expectations, care home places are more prevalent per 100,000 population over the age of 65 in more deprived areas.
- Points to consider are:
 - Does postcode of care home reflect the socioeconomic status of older adults prior to their move to the care home?

- Females over 85 years old are not evenly distributed across the five quintiles of deprivation. Their proportion is higher in quintiles 2 and 3 and they are underrepresented in quintile 5 (most deprived). A similar pattern is seen in males. (See Appendix D.)
- 'Underlying' cause of death as an important influence of the likelihood of death in hospital. 'Underlying' cause of death has a strong socioeconomic gradient and age effect.
- Possibly older adults with 'other' underlying causes of death, e.g. dementia, are more likely to die in care homes and be older and more affluent.
- As these are proportions per deprivation quintile, the relatively high proportion of deaths in nursing and old people's homes may simply reflect lower hospital admissions in this group because of the nature of the 'underlying' cause of death.
- It will be important to examine whether people are more likely to be transferred to hospital to die from a care home if the care home is located in a more deprived area. This may not be an inequality issue but a reflection of need based on the nature of terminal disease.

Figure 31: Place of death by deprivation quintile (Index of Multiple Deprivation 2007), England, 2005–07

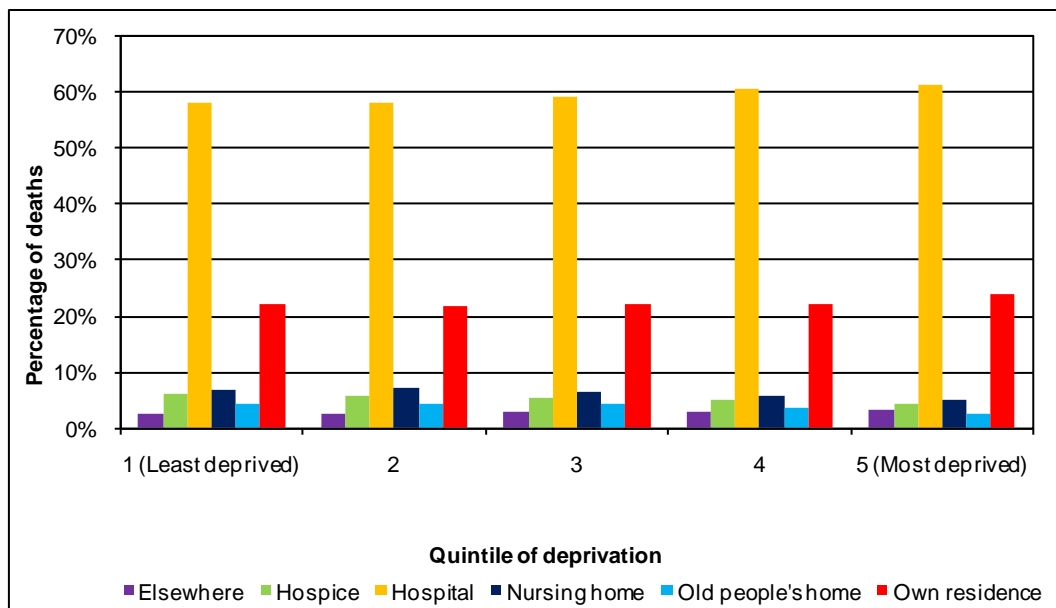


Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

5.3 Place of death by deprivation and gender

- In males, the proportion of deaths in hospital, in the person's own residence or elsewhere were higher in the most deprived quintile compared with the least deprived quintile ($p < 0.05$ for z-test of quintile 1 compared with quintile 5) (Figure 32).
- In males, the proportion of deaths in hospices, nursing homes and old people's homes were lower in the most deprived quintile compared with the least deprived quintile ($p < 0.05$ for z-test of quintile 1 compared with quintile 5).

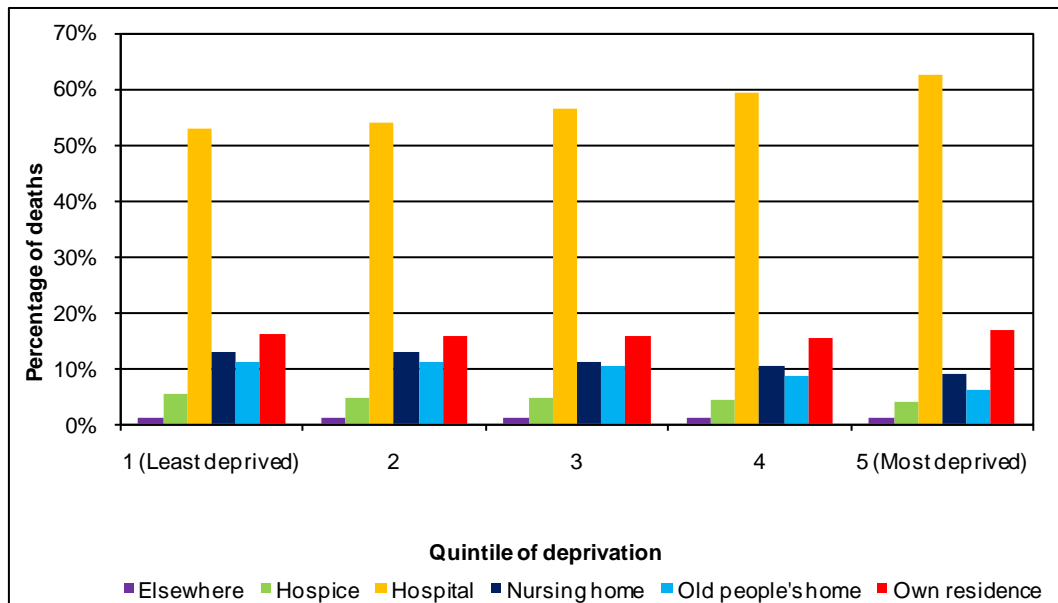
Figure 32: Place of death by deprivation quintile (Index of Multiple Deprivation 2007) in males, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

- In females, the proportion of deaths in hospital, the person's own residence or elsewhere were higher in the most deprived quintile compared with the least deprived quintile ($p < 0.05$ for z-test of quintile 1 compared with quintile 5) (Figure 33).
- In females, the proportion of deaths in hospices, nursing homes and old people's homes were lower in the most deprived quintile compared with the least deprived quintile ($p < 0.05$ for z-test of quintile 1 compared with quintile 5).

Figure 33: Place of death by deprivation quintile (Index of Multiple Deprivation 2007) in females, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

5.4 Place of death by deprivation, gender and age group

Appendix G contains six figures (Figures G1–G6) which show place of death by deprivation quintile for each of the three age groups for males and females separately. They show very different patterns of place of death.

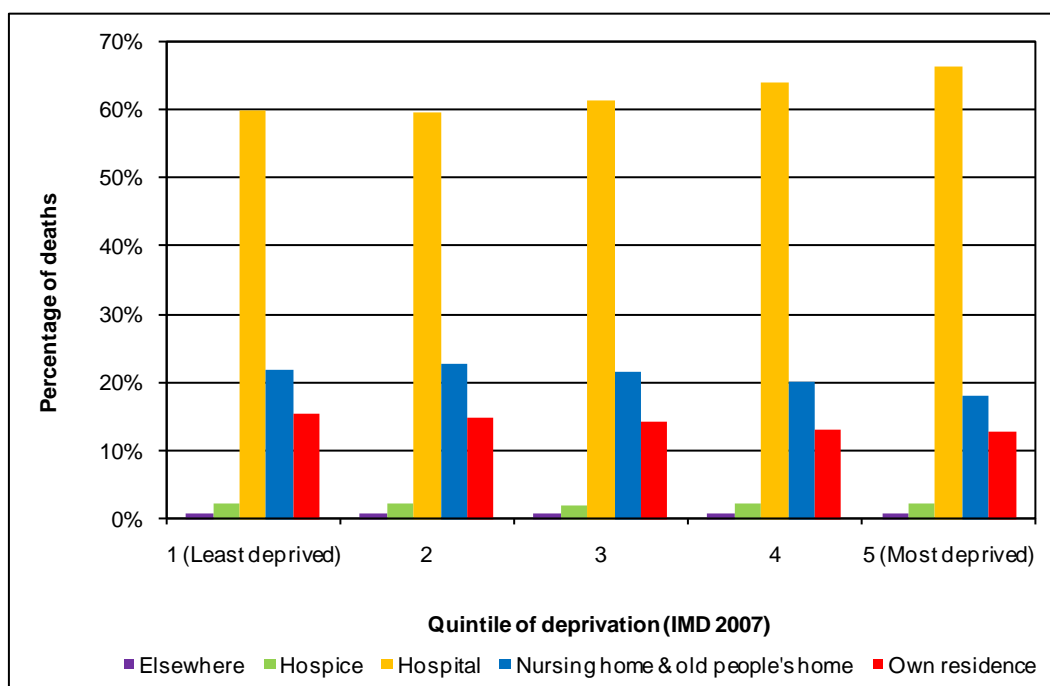
- In males aged under 65 years the proportion of deaths in hospital or in their own residence was higher in the most deprived quintile compared with the least deprived quintile, while the proportion of deaths in a hospice was lower ($p < 0.05$ for z-test of quintile 1 compared with quintile 5) (Figure G1). For all quintiles around 50% of males die in hospital and, whilst statistically significant, the gradient is not very steep.
- In females aged under 65 years, the proportion of deaths in hospital was higher in the most deprived quintile compared with the least deprived ($p < 0.05$ for z-test of quintile 1 compared with quintile 5) but in comparison with males, the gradient is very much steeper from just over 50% of deaths in hospitals for the least deprived quintile to just over 60% for the most deprived quintile (Figure G2).
- The proportion of deaths in a hospice was higher in the least deprived quintile than the most deprived ($p < 0.05$ for z-test of quintile 1 compared with quintile 5) and deaths in a hospice for females under 65 are very much higher than for males (but comparatively deaths at home are higher for males).
- In males aged 65–84 years, the proportion of deaths in hospital was higher in the most deprived quintile compared with the least deprived while the proportion of deaths in a hospice was lower ($p < 0.05$ for z-test of quintile 1 compared with quintile 5) (Figure G3).
- The proportion of deaths at home for males in the 65 to 84 age group was consistently higher than for females ($p < 0.05$ for z-test of difference in proportions in each quintile).
- In females aged 65–84 years, the proportion of deaths in hospital was higher in the most deprived quintile compared with the least deprived ($p < 0.05$ for z-test of quintile 1 compared with quintile 5) (Figure G4).
- In females aged 65–84 years the proportion of deaths in hospices, nursing homes or old people's home were lower in the most deprived quintile than the least deprived quintile ($p < 0.05$ for z-test of quintile 1 compared with quintile 5).
- In males aged 85 years and over, the proportion of deaths in hospital was uniformly higher across the deprivation quintiles than for females. The proportion of deaths in a hospital was higher in the most deprived quintile compared with the least deprived, while the proportions in old people's homes or in their own residence were lower ($p < 0.05$ for z-test of quintile 1 compared with quintile 5) (Figure G5).
- In females aged 85 years and over, the proportion of deaths in a hospital was higher in the most deprived quintile compared with the least deprived quintile ($p < 0.05$ for z-test of quintile 1 compared with quintile 5) (Figure G6).
- In males aged 85 and over, for each deprivation quintile the deaths at home are higher than for either nursing or old people's homes.
- In females aged 85 years and over, in contrast to males, deaths in either nursing or old people's homes were higher than deaths at home. The proportion of deaths in a nursing home, old people's home or in their own residence were lower in the most deprived quintile compared with the least deprived quintile ($p < 0.05$ for z-test of quintile 1 compared with quintile 5).

5.5 Place of death by deprivation, gender and age with nursing and old people's homes combined

In this section, nursing and old people's homes have been combined for the older age groups as they are an important place of residence and death.

- When nursing and old people's homes are combined, we see that they collectively are a more common place of death for both males and females over the age of 85 than own residence (Figure 34 and 35). However, this effect is much more prominent for females than males. Moreover, for both males and females there is an inverse relationship between deaths in care homes and own residence versus hospital.
- When the proportion of people dying in a nursing home and old people's home was considered as a single group, in males in the 85 and over age group the proportion was higher in the least deprived quintile (22%) than the most (18%) (Figure 34) ($p < 0.05$ for z-test of difference in proportions).

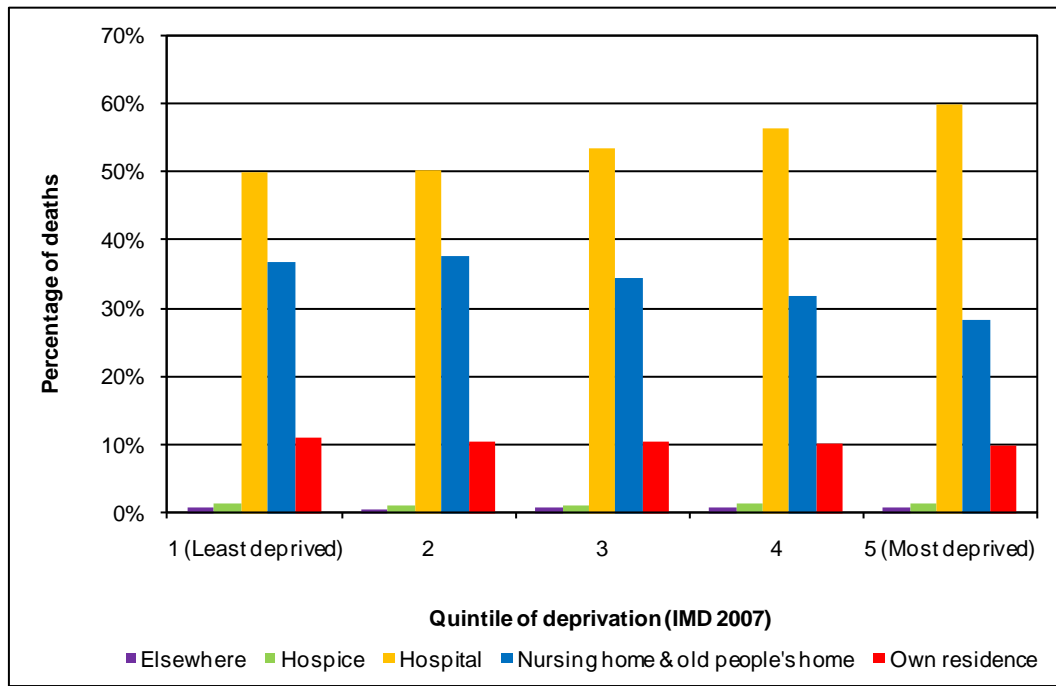
Figure 34: Place of death by deprivation quintile (Index of Multiple Deprivation 2007) in males aged 85 years and over, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

- When people dying in a nursing home and old people's home were considered as a single group, in females aged 85 years and over the proportion was higher in the less deprived quintile than the most deprived quintile: 37% compared with 28% (Figure 35) ($p < 0.05$ for z-test of difference in proportions).

Figure 35: Place of death by deprivation quintile (Index of Multiple Deprivation 2007) in females aged 85 years and over, England, 2005–07



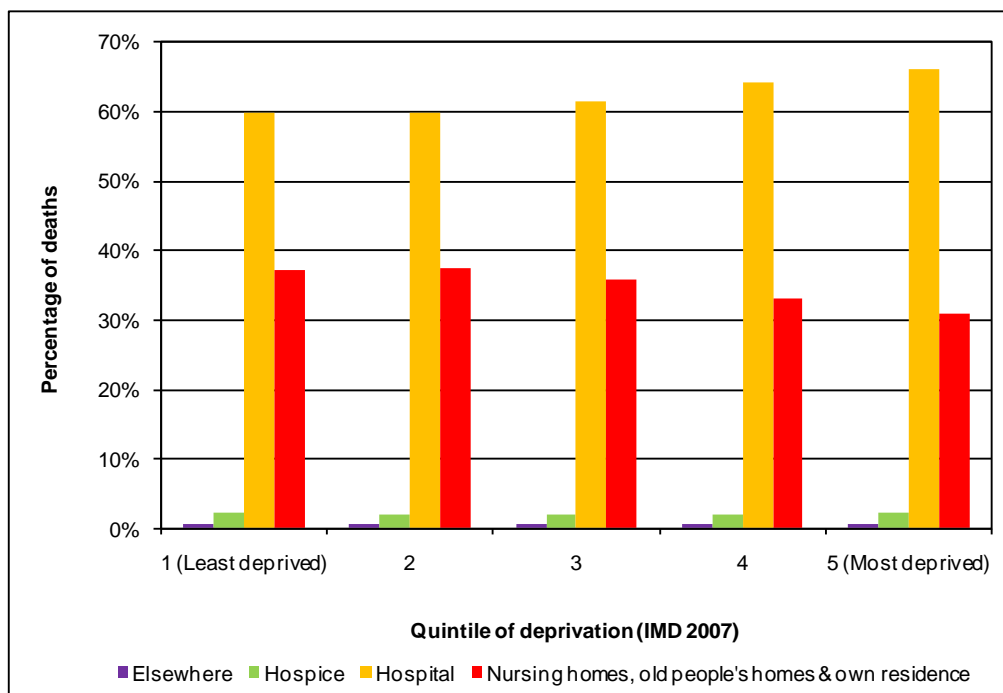
Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

5.6 Place of death by deprivation, gender and age with care homes and own residence combined ('home')

The results of combining care homes and own residence has a very striking effect on the analysis of place of death, particularly for males and females aged 85 and over.

- For males, there is a clear inverse relationship between deaths in hospital and deaths at 'home' (Figure 36).

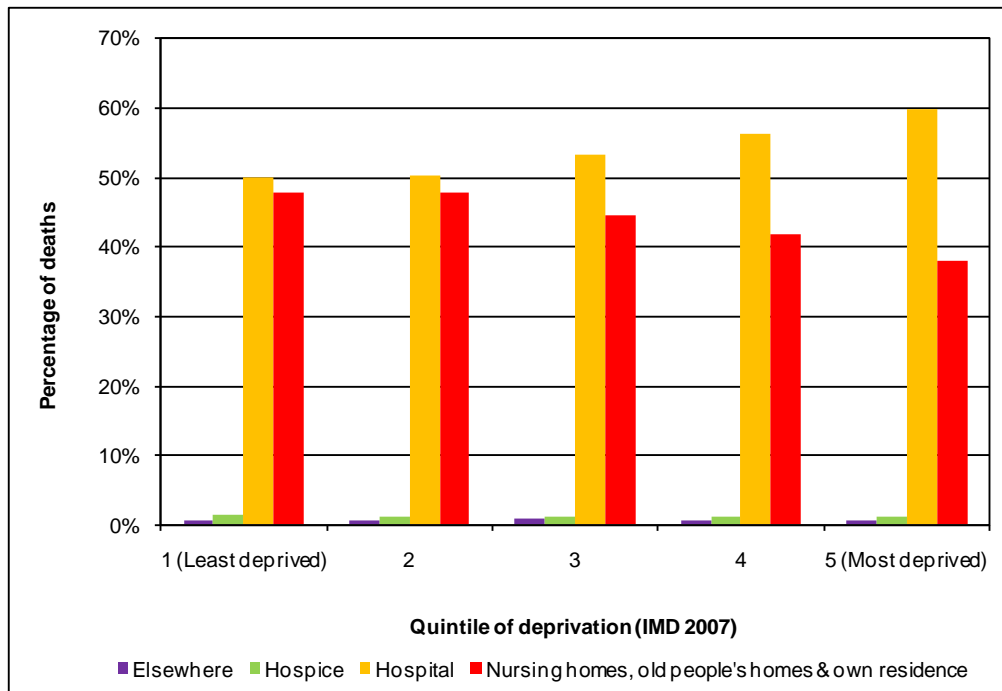
Figure 36: Place of death by deprivation quintile (Index of Multiple Deprivation 2007) in males aged 85 years and over, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

- In the 85 years and over group, in females the proportion of people dying in the combined group (own residence, in a nursing home or an old people's home), was similar to the proportion of people dying in hospital for the least deprived quintile and then the proportion dying in hospital and 'home' diverge (Figure 37).

Figure 37: Place of death by deprivation quintile (Index of Multiple Deprivation 2007) in females aged 85 years and over, England, 2005–07

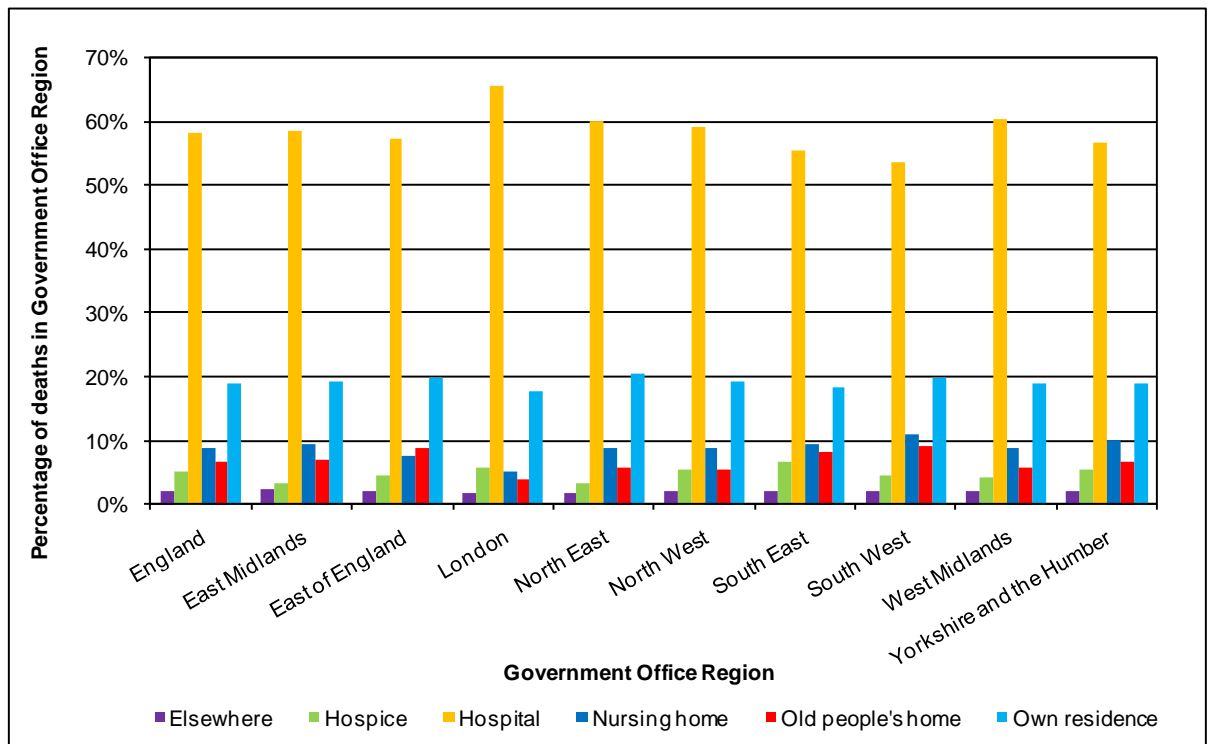


Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

5.7 Regional differences in place of death

- London Government Office Region (GOR) has the highest proportion of deaths in hospital at 66%. The South West GOR has the lowest proportion of deaths in hospital at 54% (Figure 38). This is seen for all age groups in Appendix H.
- The South West GOR (11%) has the highest proportion of people dying in nursing homes compared with other regions (Figure 38) – this is lowest in London GOR (5%).
- The East of England GOR is the only region where more people die in old people's homes (9%) than nursing homes (8%) (Figure 38).
- The South East GOR has the highest proportion of people dying in a hospice (7%), while the North East has the lowest proportion (3%) (Figure 38).

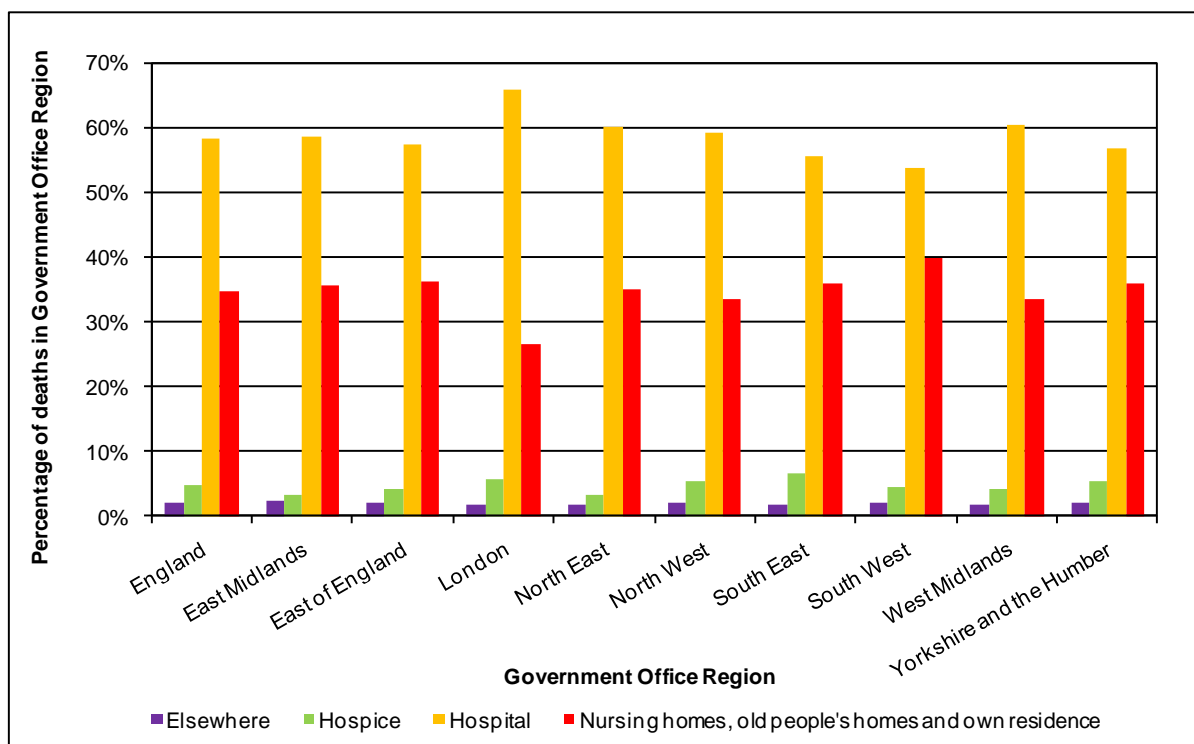
Figure 38: Place of death by Government Office Region, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

- Figure 39 below shows the effect of combining nursing, old people's home and own residence as 'home'.

Figure 39: Place of death by Government Office Region, England, 2005–07, combining nursing, old people's home and own residence as 'home'



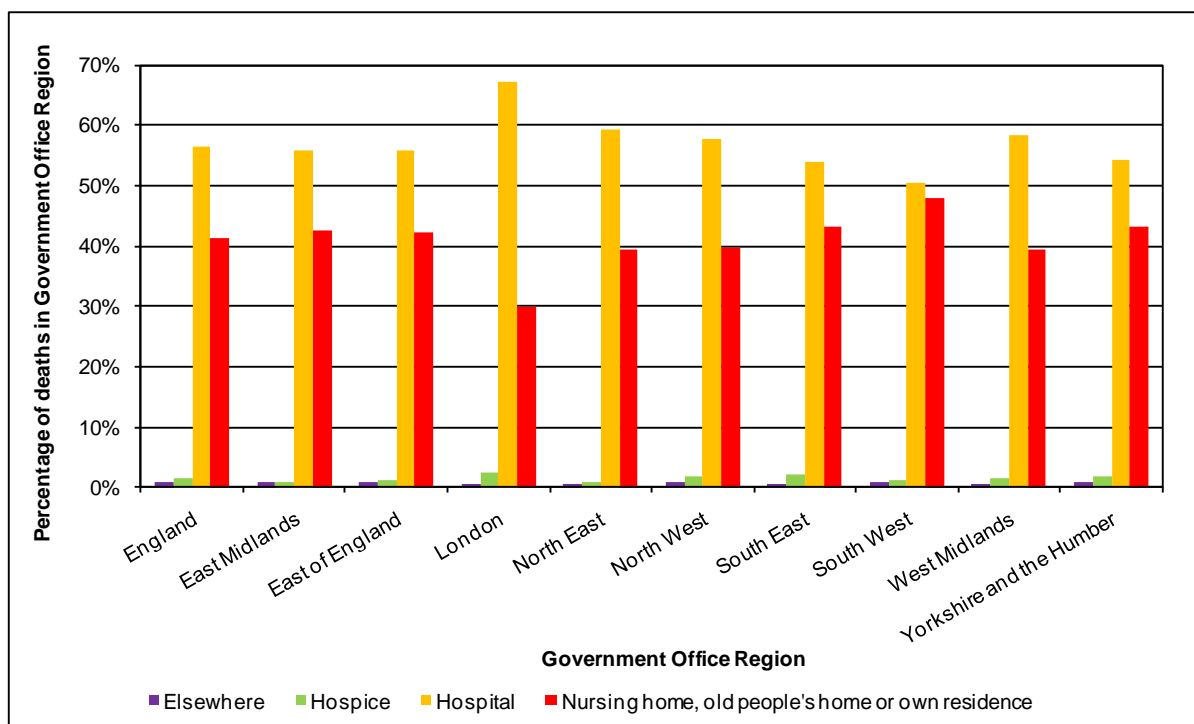
Source: South West Public Health Observatory from Office for National Statistics data

Appendix H shows the difference in place of death by region for males and females and for people in the three age groups. For each Figure there are two versions: the first showing each grouping of place of death; and the second with nursing home, old people's home and own residence combined to represent 'home'.

- The differences in the place of death of males and females are apparent across all GORs (Figures H1a and b and H2a and b).
- In people aged under 65, the proportion of deaths at home is lowest in London GOR (25%) and highest in the North East (33%). In other age groups the proportion of deaths in own residence is more constant across the regions (Figures H3a, H4a, H5a and b)
- In the under 65s and 65–84 year-olds, the South East has the highest proportion of deaths in a hospice compared with the other GORs (13% for under 65s; 8% for 65–84 year-olds) (Figures H4a and b).

- In the South West, a higher proportion of deaths in the over 85s are in nursing homes and old people's homes (18% and 17%) compared with other GORs (Figures H5a and b) and when combined with deaths in own residence almost equal the proportion of deaths in hospital (Figure 40).

Figure 40: Place of death by Government Office Region in people aged 85 and over: proportion of deaths in people aged 85 and over in England, 2005–07 with nursing home, old people's home and own residence combined as 'home'

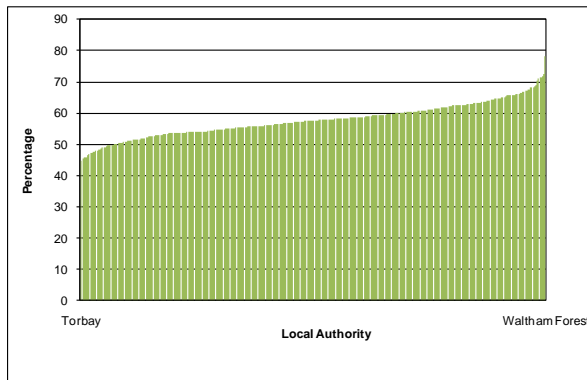
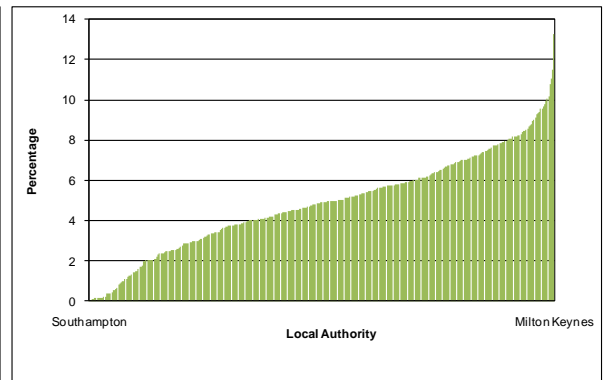
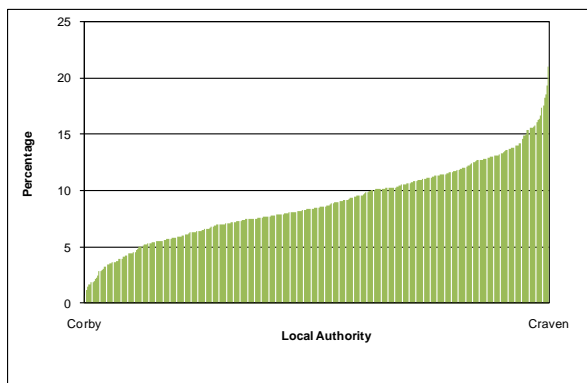
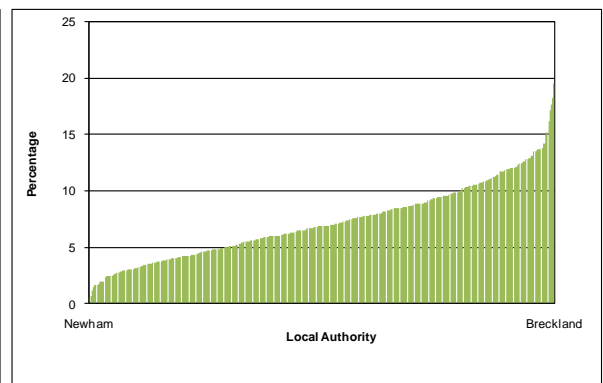
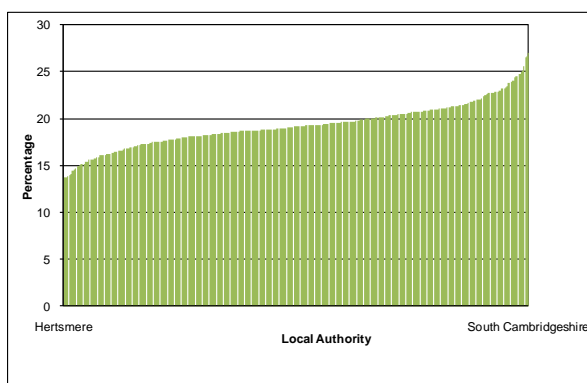
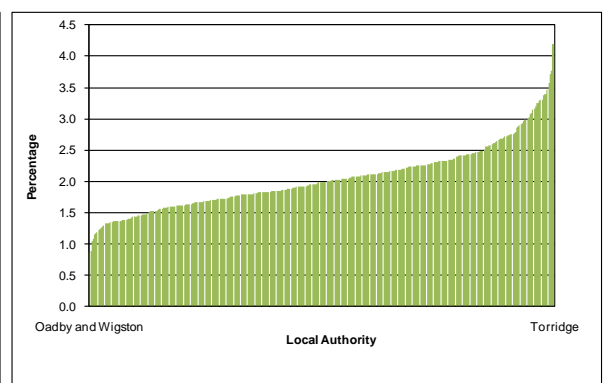


Source: South West Public Health Observatory from Office for National Statistics data

5.8 Differences in place of death between Local Authorities

The charts below show the variation in specific places of death by Local Authorities in England.

- Torbay Local Authority had the lowest proportion of deaths occurring in hospital (44.6%), while Waltham Forest had the highest (78.1%).
- Southampton Local Authority had the lowest proportion of deaths in a hospice (0.1%), while Milton Keynes had the highest (13.3%).
- The proportion of deaths in a nursing home ranged from 0.7% in Corby Local Authority to 21.0% in Craven Local Authority.
- The lowest proportion of deaths occurring in old people's homes was 0.6% in Newham, while the highest was 19.5% in Breckland.
- The proportion of deaths in a person's own residence ranged from 13.7% in Hertsmere to 27.0% in South Cambridgeshire.
- The proportion of deaths in the 'elsewhere' category ranged from 0.9% in Oadby and Wigston Local Authority to 4.2% in Torridge.

Figure 41: Proportion of deaths in hospital by Local Authority, England, 2005–07**Figure 42: Proportion of deaths in hospices by Local Authority, England, 2005–07****Figure 43: Proportion of deaths in nursing homes by Local Authority, England, 2005–07****Figure 44: Proportion of deaths in old people's homes by Local Authority, England, 2005–07****Figure 45: Proportion of deaths in own residence by Local Authority, England, 2005–07****Figure 46: Proportion of deaths elsewhere by Local Authority, England, 2005–07**

Source: South West Public Health Observatory from Office for National Statistics data

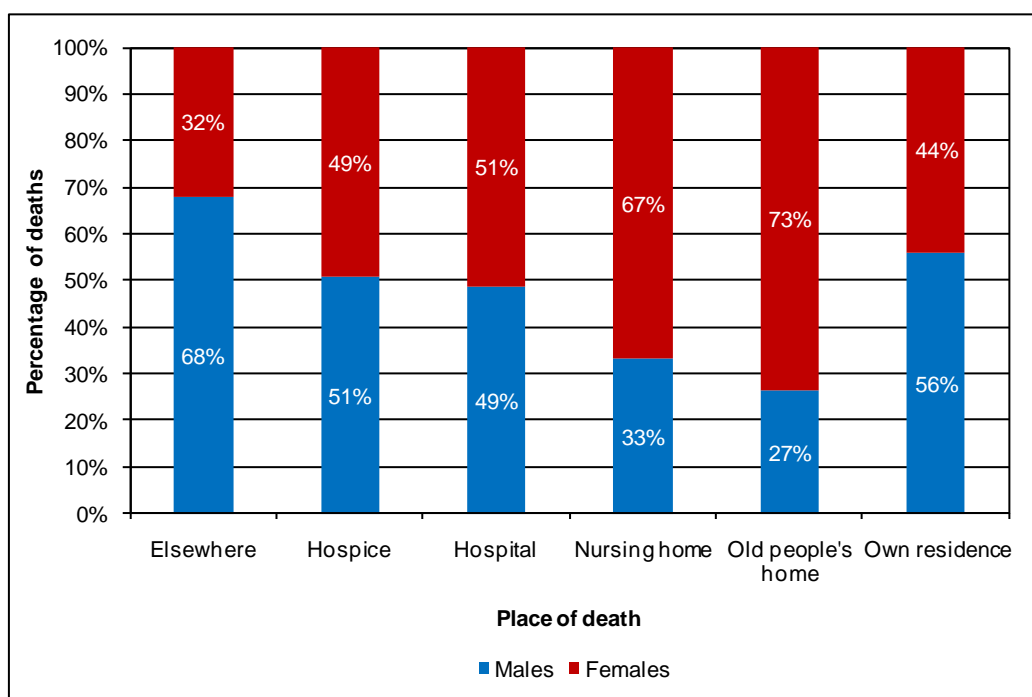
6.0 Comparison of demographic and underlying composition of deaths in each place

This section provides a graphical summary of the proportionate breakdown by population demographics and 'underlying' cause of death in the summary categories of place of death. This enables, at a glance, the population make-up of each category of place of death to be understood and compared with others. Thus, for example, it can be seen that only 10% of those dying in hospices are aged 85 or over and less than 3% of those dying in nursing or old people's homes are aged under 65. It also provides numerical data for each chart which helps to contextualise the situation.

6.1 Proportion of deaths at each place of death by sex, England, 2005–07

- Almost equal proportions of males and females died in hospitals and hospices between 2005 and 2007.
- A higher proportion of females died in nursing homes and old people's homes than males. This is largely due to their longer life expectancy and higher chance of living in a nursing or old people's home (prior to death) than males.
- A higher proportion of males died in their own residence than females. This is in part because many still have their wife to help care for them because of the longer life expectancy in women.
- A higher proportion of males died elsewhere than females.

Figure 47: Proportion of deaths at each place of death by sex, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

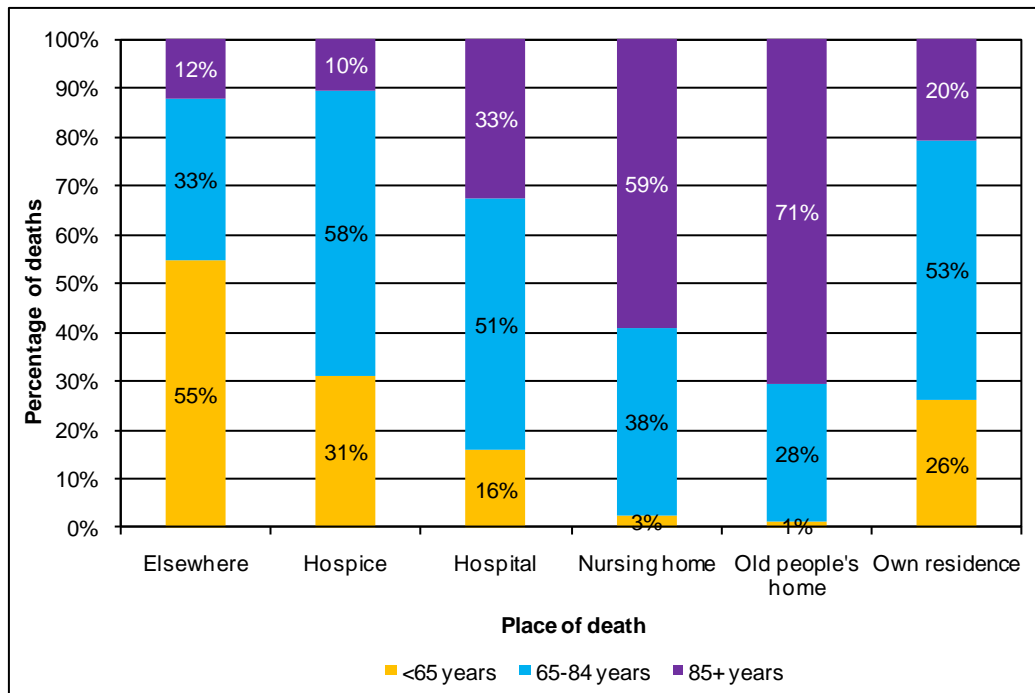
Table 1: Average number of deaths per year at each place of death by sex, England, 2005–07

Place of death	Average number of deaths per year		
	Males	Females	Total
Elsewhere	6,401	3,032	9,432
Hospice	11,955	11,653	23,608
Hospital	134,997	142,058	277,055
Nursing home	13,872	28,097	41,969
Old people's home	8,521	23,617	32,138
Own residence	50,742	39,775	90,517
Total	226,488	248,231	474,719

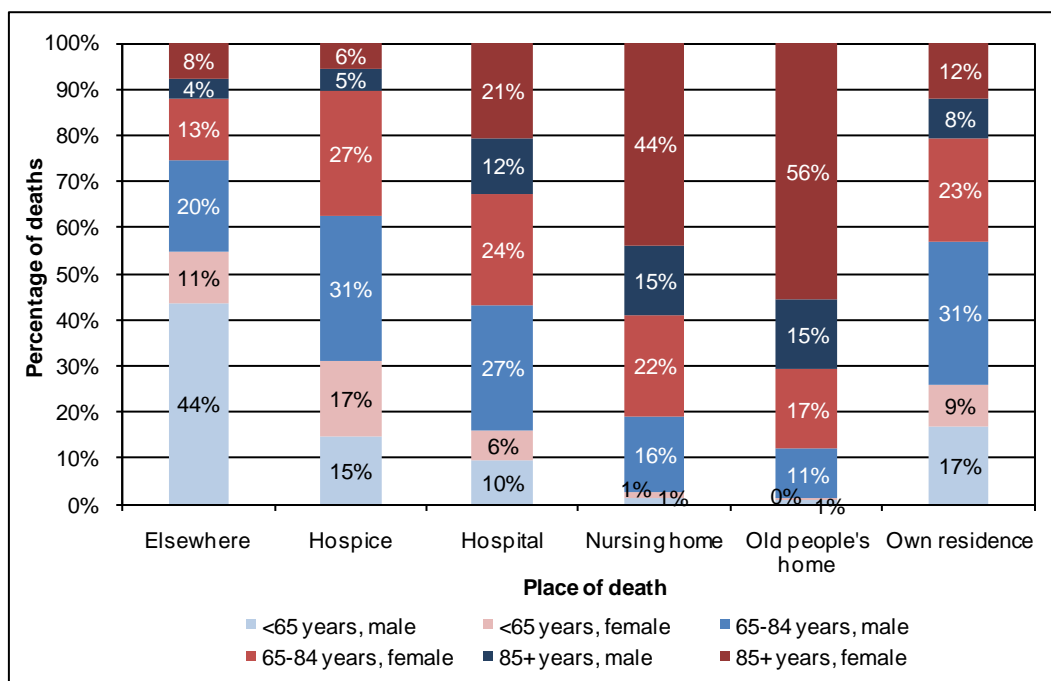
Source: South West Public Health Observatory from Office for National Statistics data

6.2 Proportion of deaths at each place of death by age, England, 2005–07

- Age has a very strong influence on place of death. There are a number of factors which contribute to this which are also heavily linked to age: nature of final illness (cancer is a more common 'underlying' cause of death in under 65 year-olds and therefore contributes to the higher proportion of under 65 year-olds dying in hospices); influence of family and social circumstances on type of care needed; where the patient normally lives (older adults, especially females are more likely to live in nursing or old people's homes than younger adults, they are more likely also to be frailer and have a number of chronic conditions).
- There is a significant difference in life expectancy between males and females, with females in general living longer, more likely to be widowed and living alone in their own residence or in nursing or old people's homes. A correlate of the longer life expectancy is a different pattern of terminal illness; Figure 49 shows the proportionate breakdown by age group and sex for each place of death and this reveals some very marked contrasts between males and females by age and their contribution to the group of patients dying in any specific location.
- Notably 44% and 56% of those dying in nursing or old people's home respectively are females aged 85 or older.

Figure 48: Proportion of deaths at each place of death by age, England, 2005–07

Source: South West Public Health Observatory from Office for National Statistics data

Figure 49: Proportion of deaths at each place of death by age and sex, England, 2005–07

Source: South West Public Health Observatory from Office for National Statistics data

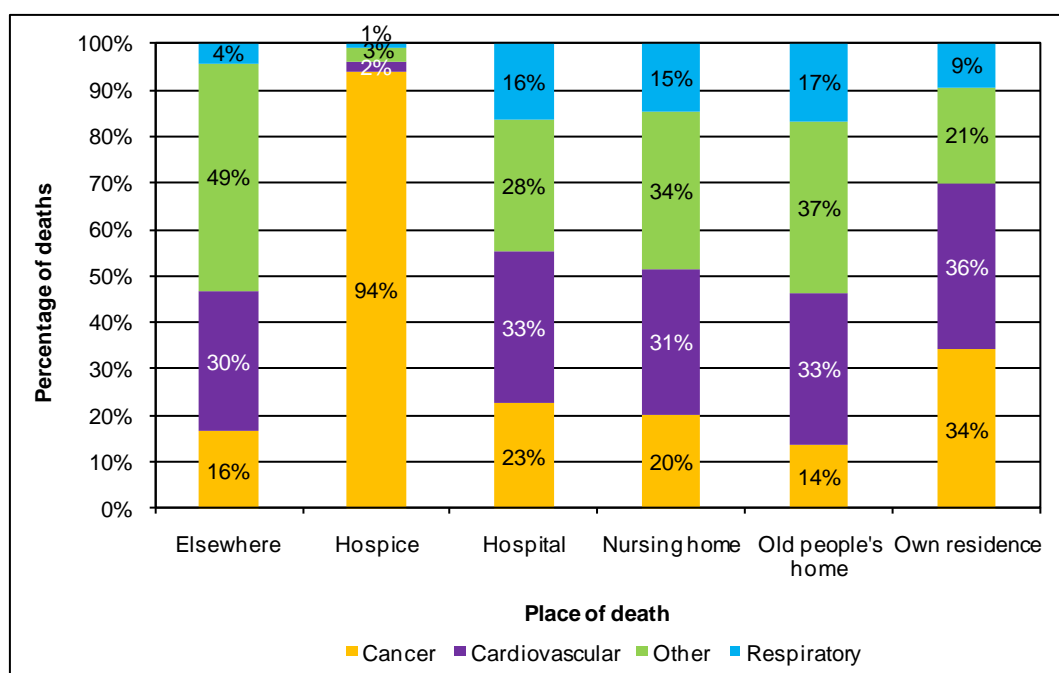
Table 2: Average number of deaths per year at each place of death by sex and age group, England, 2005–07

Place of death	Under 65 years		65–84 years		85 years and over		Total
	Males	Females	Males	Females	Males	Females	
Elsewhere	4,120	1,031	1,892	1,258	388	743	9,432
Hospice	3,459	3,899	7,366	6,422	1,130	1,332	23,608
Hospital	26,351	17,997	75,587	66,590	33,059	57,471	277,055
Nursing home	605	499	6,908	9,196	6,359	18,402	41,969
Old people's home	223	151	3,465	5,575	4,833	17,891	32,138
Own residence	15,299	8,299	27,911	20,456	7,532	11,021	90,517
Total	50,058	31,876	123,129	109,496	53,301	106,859	474,719

Source: South West Public Health Observatory from Office for National Statistics data

6.3 Proportion of deaths at each place of death by cause, England, 2005–07

This section examines the contribution of ‘underlying’ cause of death to place of death. It is important to note, as described above, that there is a strong interaction between age and ‘underlying’ cause of death and likely place of residence prior to death. These data are particularly important in planning specialist disease-related end of life care. Thus, for example, cancer is the commonest ‘underlying’ cause of death amongst patients dying in hospices (94%) (Figure 50) but accounts for less than a quarter of ‘underlying’ cause of death in hospital, nursing or old people’s homes. ‘Other’ causes of death are the largest category of mixed conditions recorded as ‘underlying’ cause of death in nursing and old people’s homes. This ‘other’ underlying cause of death category is as numerically as large as cancer. In Appendix B there are tables which show the top five contributions to the ‘other’ category by sex and age group. This is important in the interpretation of the differences in the make-up of the ‘other’ as ‘underlying’ cause of death in the different settings. Thus psychiatric conditions, for example dementia, are important in older adults and therefore will be a factor for many of those dying in nursing and old people’s homes. Accidental and non-accidental death is important in males under the age of 65 and contributes strongly to the 49% of those who die ‘elsewhere’ (see Section 2 on methodology).

Figure 50: Proportion of deaths at each place of death by underlying cause, England, 2005–07

Source: South West Public Health Observatory from Office for National Statistics data

Table 3: Average number of deaths per year at each place of death by underlying cause, England, 2005–07

Place of death	Average number of deaths per year 2005–07			
	Cancer	Cardiovascular	Other	Respiratory
Elsewhere	1,554	2,863	4,623	392
Hospice	22,228	421	710	249
Hospital	62,577	90,618	78,667	45,193
Nursing home	8,472	13,151	14,186	6,160
Old people's home	4,430	10,451	11,893	5,365
Own residence	30,920	32,531	18,571	8,495
Total	130,181	150,034	128,649	65,854

Source: South West Public Health Observatory from Office for National Statistics data

6.4 Proportion of deaths at each place of death by deprivation quintile, England, 2005–07

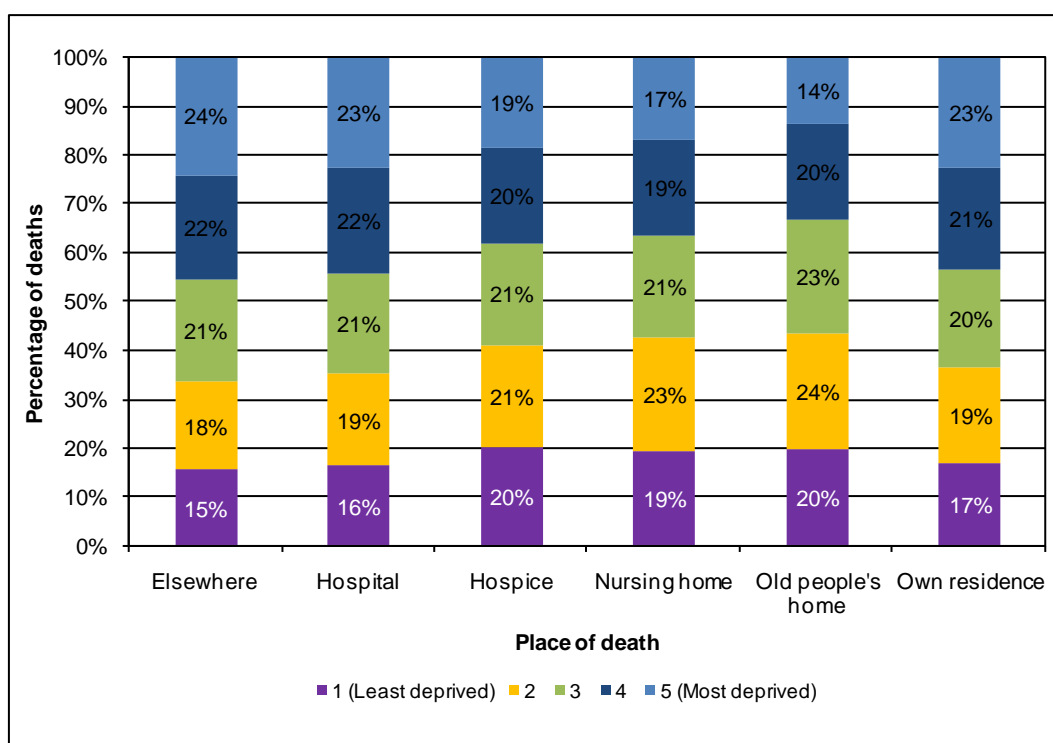
In a just society, the chances of access to good quality health and social care should not be dependent on wealth or socioeconomic status. Throughout this report the effect of socioeconomic status is examined, using as a measure the Index of Multiple Deprivation at Lower Super Output Area, allocated to place of usual residence prior to death. The report shows variations in place of death by quintile of deprivation. However, the interpretation is very complex. Age distribution across the quintiles of deprivation is not even because life expectancy has a strong correlation with deprivation. In England, the gap in life expectancy in males between the least and most deprived quintile is 7.8 years (80.5 years and 72.7 years respectively). In females, the gap in life expectancy between the least and most deprived quintile is 5.4 years (83.7 years and 78.3 years respectively). Cause of death varies across socioeconomic groups (see Section 4, Cause of Death). Moreover, in older adults there may be a confounding problem resulting from the method of allocating patients to quintiles of deprivation if they live in residential and nursing homes before death. These are more likely to be located in more deprived areas (see Appendix A). In these data it is not possible to

distinguish to what extent more affluent older adults are likely to be living in nursing or old people's homes or their data has been allocated to a more deprived quintile of deprivation because of the location of their care homes.

Earlier in this section there were a series of charts which showed that for some combinations of age group plus sex, there is a significant difference between the proportions of patients from the least and most deprived quintiles of deprivation dying in hospices. The chart below shows that when the hospice population is examined, the distribution across population quintiles is more even. Earlier in the report it was shown how complex the interaction is between age, gender and 'underlying' cause of death for hospices.

Figure 51 clearly shows the proportion of deaths is higher in individuals from more deprived quintiles of residence for deaths in hospital, in own residence and the 'elsewhere' category and a slightly different pattern is seen for nursing and old people's homes.

Figure 51: Proportion of deaths at each place of death by deprivation quintile, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

7.0 A focus on deaths in hospital and at home

At present much of the focus on improving care at the end of life is directed at putting in place support to prevent unnecessary admissions to hospital at the end of life and to enabling people to die at home should they choose to. This section provides an overview of some of the headline statistics for deaths in hospital and in people's own residence. It also shows data on people dying in their 'home' where this may be own residence, nursing or old people's home. The data presented in this section show large variations by geographical area, age, sex and deprivation quintile. These data illustrate how important it is for commissioners and providers to understand the demographics of the populations they serve and how this impacts on the need for end of life care in different settings.

7.1 Deaths in hospital

- In England, 58% of the population die in hospital. In 2005–07, an average of 277,055 people per year died in hospital (134,997 males per year and 142,058 females per year).
- This varies by Government Office Region and by Local Authority: from 65.7% in London Government Office Region to 53.7% in the South West Government Office Region; and from 78.1% in Waltham Forest Local Authority to 44.6% in Torbay Local Authority (Tables 4 and 5). These data for Local Authorities are available on the website in the national End of Life Care Profiles (www.endoflifecare-intelligence.org.uk).
- Age, gender, socioeconomic status and cause of death have an important and complex effect on likelihood of dying in hospital and many of these factors also interact (Tables 6 and 7).

Table 4: Proportion of deaths in hospital in each Government Office Region, England, 2005–07

Government Office Region	%
London	65.7
West Midlands	60.4
North East	60.0
North West	59.1
East Midlands	58.6
East of England	57.5
Yorkshire and the Humber	56.8
South East	55.5
South West	53.7

Source: Office for National Statistics

Table 5: Proportion of deaths in hospital by Local Authority, England, 2005–07 – five highest and lowest Local Authorities

Highest five Local Authorities		Lowest five Local Authorities	
(Highest first)	%	(Lowest first)	%
Waltham Forest	78.1	Torbay	44.6
Redbridge	72.5	Penwith	45.5
Ealing	71.7	Plymouth	45.7
Barking and Dagenham	71.3	South Norfolk	45.7
Newham	71.3	Chichester	45.9

Source: Office for National Statistics

Table 6: Proportion of people dying in hospital in each age group and sex, England, 2005–07

Age group (years)	Deaths in hospital (%)		
	Males	Females	Persons
Under 65	52.6	56.5	54.1
65–84	61.4	60.8	61.1
85 and over	62.0	53.8	56.5
All ages	59.6	57.2	58.4

Source: Office for National Statistics

Table 7: Proportion of people dying in hospital by age, sex and quintile of deprivation (Index of Multiple Deprivation 2007), England, 2005–07

Age group (years)	Deaths in quintile of deprivation (%)									
	Males					Females				
	1 (Least deprived)	2	3	4	5 (Most deprived)	1 (Least deprived)	2	3	4	5 (Most deprived)
Under 65	51.1	51.4	51.8	53.3	54.0	51.3	53.1	55.0	58.3	61.2
65–84	59.3	59.7	60.9	62.4	63.9	56.9	58.0	60.1	62.8	64.9
85 and over	59.9	59.7	61.4	64.1	66.2	50.1	50.3	53.3	56.4	59.9

Source: Office for National Statistics and Communities and Local Government

7.2 Deaths at home

- In England, 19% of the population die at home. In 2005–07, an average of 90,517 people per year died at home (Table 1).
- The proportion of deaths at home ranges from 17.6% in London Government Office Region to 20.5% in the North East Government Office Region, while the proportion of deaths at home by Local Authority ranges from 13.7% in Hertsmere to 27.0% in South Cambridgeshire (Tables 8 and 9).

Table 8: Proportion of deaths at home in each Government Office Region, England, 2005–07

Government Office Region	%
London	17.6
South East	18.3
Yorkshire and the Humber	19.0
West Midlands	19.1
East Midlands	19.2
North West	19.3
East of England	19.8
South West	19.8
North East	20.5

Source: Office for National Statistics

Table 9: Proportion of deaths at home by Local Authority, England, 2005–07 – five highest and lowest Local Authorities

Highest five Local Authorities		Lowest five Local Authorities	
(Highest first)	%	(Lowest first)	%
South Cambridgeshire	27.0	Hertsmere	13.7
Copeland	26.7	Kingston upon Thames	13.7
East Cambridgeshire	26.6	Watford	13.8
Teesdale	25.6	Surrey Heath	13.8
Norwich	25.1	Rushmoor	14.0

Source: Office for National Statistics

Table 10: Number of deaths at home, in a nursing home or in an old people's home, average number per year, England, 2005–07 (percentage of deaths given in brackets)

	Average number of deaths per year in 2005–07 (Percentage of deaths)		
	Males	Females	Persons
Home	50,742 (22.4%)	39,775 (16.0%)	90,517 (19.1%)
Nursing home	13,872 (6.1%)	28,097 (11.3%)	41,969 (8.8%)
Old people's home	8,521 (3.8%)	23,617 (9.5%)	32,138 (6.8%)
Total deaths at home, in a nursing home or in an old people's home	73,135 (32.3%)	91,489 (36.9%)	164,624 (34.7%)

Source: Office for National Statistics

- 15.6% of people die in a nursing home or an old people's home (total deaths: 474,719) (Table 10).
- In 2005–07, an average of 11,021 females aged 85 (Table 11) and over per year died at home, while an average of 47,314 females aged 85 and over per year either died at home, in a nursing home or in an old people's home (Table 12).

Table 11: Number of people dying at home by age and sex, England, 2005–07 (percentage of deaths in each age group for males, females and persons given in brackets)

Age group (years)	Average number of deaths at home per year 2005–07 (Percentage of deaths in age group)		
	Males	Females	Persons
Under 65	15,299 (30.6%)	8,299 (26.0%)	23,598 (28.8%)
65–84	27,911 (22.7%)	20,456 (18.7%)	48,367 (20.8%)
85 and over	7,532 (14.1%)	11,021 (10.3%)	18,552 (11.6%)
All ages	50,742 (22.4%)	39,775 (16.0%)	90,517 (19.1%)

Source: Office for National Statistics

Table 12: Number of people dying at home, in old people's homes or nursing homes by age and sex, England, 2005–07 (percentage of deaths in each age group for males, females and persons given in brackets)

	Average number of deaths at home, in old people's homes or nursing homes per year 2005–07 (Percentage of deaths in age group)					
Age group (years)	Males		Females		Persons	
Under 65	16,127	(32.2%)	8,949	(28.1%)	25,076	(30.6%)
65–84	38,284	(31.1%)	35,226	(32.2%)	73,510	(31.6%)
85 and over	18,724	(35.1%)	47,314	(44.3%)	66,037	(41.2%)
All ages	73,135	(32.3%)	91,489	(36.9%)	164,624	(34.7%)

Source: Office for National Statistics

Table 13: Proportion of people dying in a care home (nursing home or old people's home) by age and sex, England, 2005–07

	Deaths in an old people's home or in a nursing home (%)			
Sex	Age group (years)	Nursing home	Old people's home	Total - care homes
Males	Under 65	1.2	0.5	1.7
	65–84	5.6	2.8	8.4
	85 and over	11.9	9.1	21.0
	All ages	6.1	3.8	9.9
Females	Under 65	1.6	0.5	2.0
	65–84	8.4	5.1	13.5
	85 and over	17.2	16.7	34.0
	All ages	11.3	9.5	20.8
Persons	Under 65	1.4	0.5	1.8
	65–84	6.9	3.9	10.8
	85 and over	15.5	14.2	29.7
	All ages	8.8	6.8	15.6

Source: Office for National Statistics

Table 14: Proportion of people dying at home by age, sex and quintile of deprivation (Index of Multiple Deprivation 2007), England, 2005–07

	Deaths in quintile of deprivation (%)									
Age group (years)	Males					Females				
	1 (Least deprived)	2	3	4	5 (Most deprived)	1 (Least deprived)	2	3	4	5 (Most deprived)
Under 65	29.1	29.3	30.1	30.4	32.2	27.0	26.5	26.7	25.0	25.5
65–84	23.1	23.1	22.6	22.2	22.5	19.3	18.8	18.6	18.1	18.8
85 and over	15.3	14.7	14.3	13.2	12.9	11.0	10.4	10.4	10.0	9.9

Source: Office for National Statistics and Communities and Local Government

Table 15: Proportion of people dying at home, in a nursing home or in an old people's home by age, sex and quintile of deprivation (Index of Multiple Deprivation 2007), England, 2005–07

	Deaths in quintile of deprivation (%)									
Age group (years)	Males					Females				
	1 (Least deprived)	2	3	4	5 (Most deprived)	1 (Least deprived)	2	3	4	5 (Most deprived)
Under 65	30.8	31.3	31.9	32.1	33.6	29.1	28.8	29.0	27.1	27.2
65–84	32.0	32.2	31.4	30.5	29.7	34.7	34.5	32.7	30.8	29.2
85 and over	37.2	37.4	35.8	33.1	30.9	47.9	47.9	44.7	41.8	38.1

Source: Office for National Statistics and Communities and Local Government

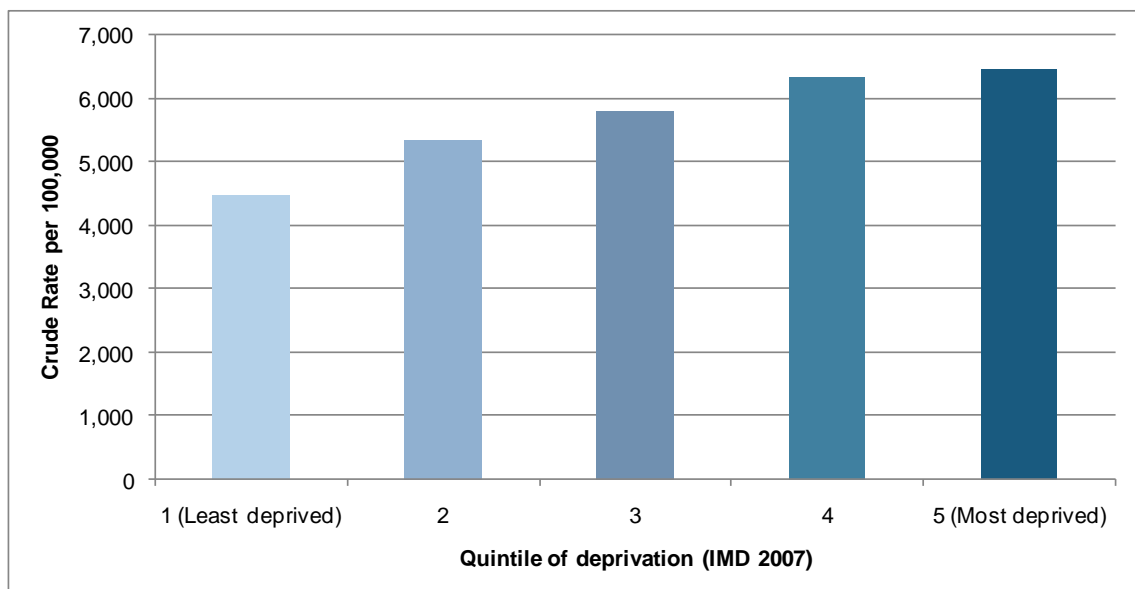
Appendices

A Examination of the relationship between Lower Super Output Areas where care home beds are located and national area deprivation scores

The analyses presented in this section are for all registered services within each region in England. Rates presented are for persons aged 65 years and over. Data were from the following sources:

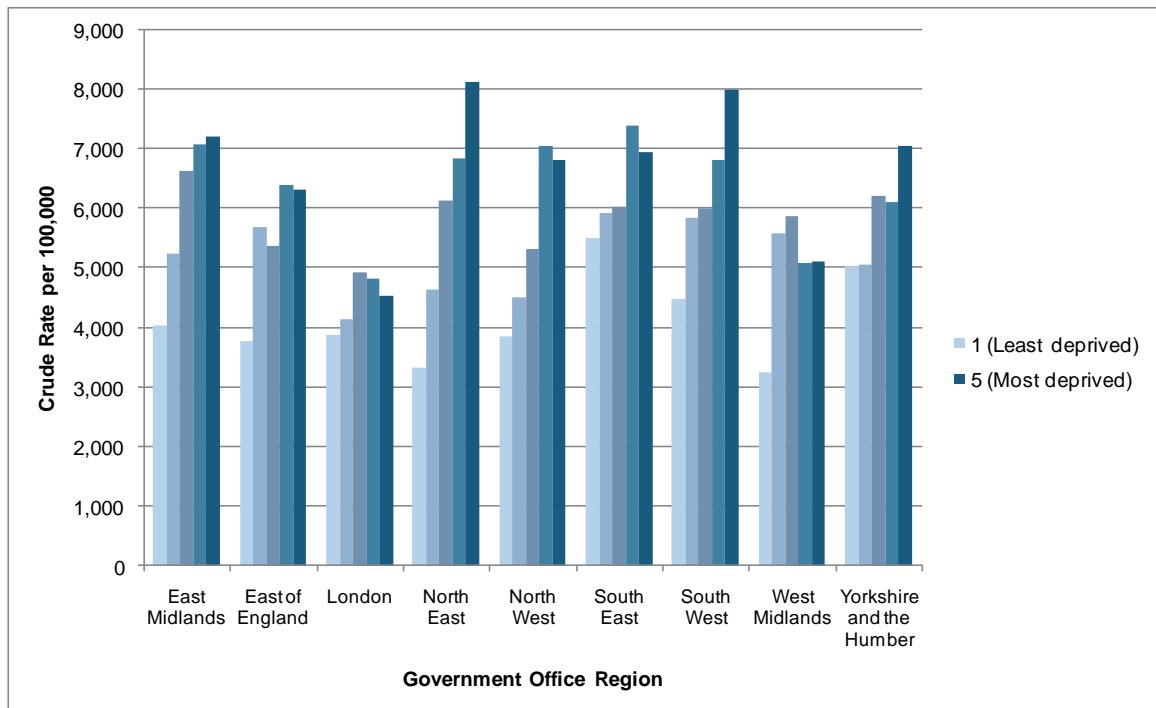
- Registered services within each region in England.**
 Source: Care Quality Commission website. Data published on this website were obtained from the CQC database as at April 2010.
<http://www.cqc.org.uk/guidanceforprofessionals/adultsocialcare/statisticsonregisteredproviders.cfm>
- National Indices of Multiple Deprivation 2007**
 Source: Communities and Local Government
- Populations based on Lower Super Output Areas**
 Source: Office for National Statistics

Figure A1: Crude rate of care home beds available per 100,000 persons aged 65 years and over by national Indices of Multiple Deprivation 2007, England



Source: South West Public Health Observatory from Office for National Statistics, Communities and Local Government and Care Quality Commission data

Figure A2: Crude rate of care home beds available per 100,000 persons over 65 years by national Indices of Multiple Deprivation 2007 and by Government Office Region in England



Source: South West Public Health Observatory from Office for National Statistics, Communities and Local Government and Care Quality Commission data

B Main 'underlying' causes of death within the 'other' category

This section gives a breakdown of the main 'underlying' causes of death by ICD-10 Chapter Code which have been grouped together in the 'other' category. As can be seen, the 'underlying' causes of death by ICD grouping vary by age group and within age group by gender.

Key to causes of death

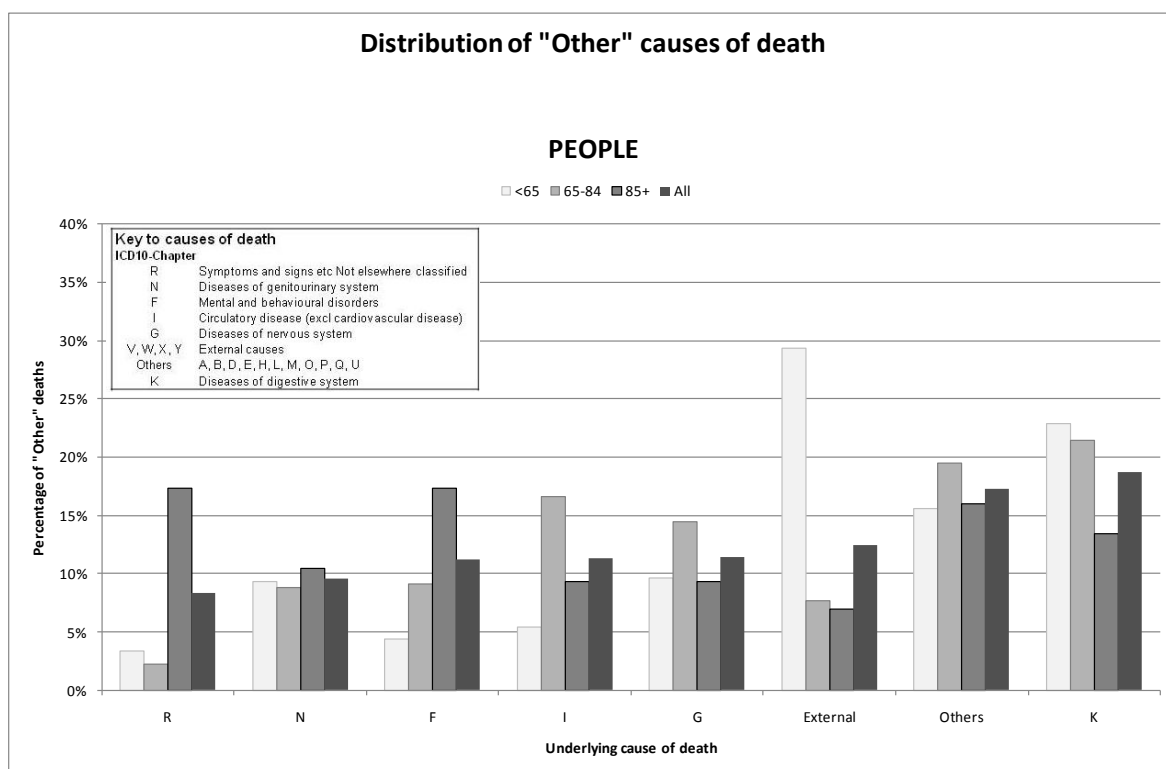
The box below contains the key to the ICD-10 Chapters which have been grouped together to form the 'other' category. As can be seen below, some Chapter Codes for example K, which is digestive system disorders, account for a high proportion (19%) of the 'underlying' causes of death in the 'other' category. For the purposes of the analyses below, some of the ICD-10 Chapters have been grouped together, for example V, W, X, Y as external causes (e.g. accidents, suicides, homicides).

Key to causes of death	
ICD-10-Chapter	
R	Symptoms and signs etc not elsewhere classified
N	Diseases of genitourinary system
F	Mental and behavioural disorders
I	Circulatory disease (excl cardiovascular disease)
G	Diseases of nervous system
V, W, X, Y	External causes
Others	A, B, D, E, H, L, M, O, P, Q, U
K	Diseases of digestive system

All persons

- The chart and table below show the proportions of people dying with an 'underlying' cause in the ICD-10 Chapter grouped as shown in the key.
- External causes account for almost 30% of the 'underlying' causes of death for under 65s in this 'other' category.
- Diseases of the digestive system are the next most important group of 'underlying' causes accounting for just over 20% of the under 65s and 65–84 year-old deaths.

Figure B1: Main 'underlying' causes of death within the 'other' category: percentage of people with 'other' deaths by age, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

Table B1: Main 'underlying' causes of death within the 'other' category: percentage of people with 'other' deaths by age, England, 2005–07

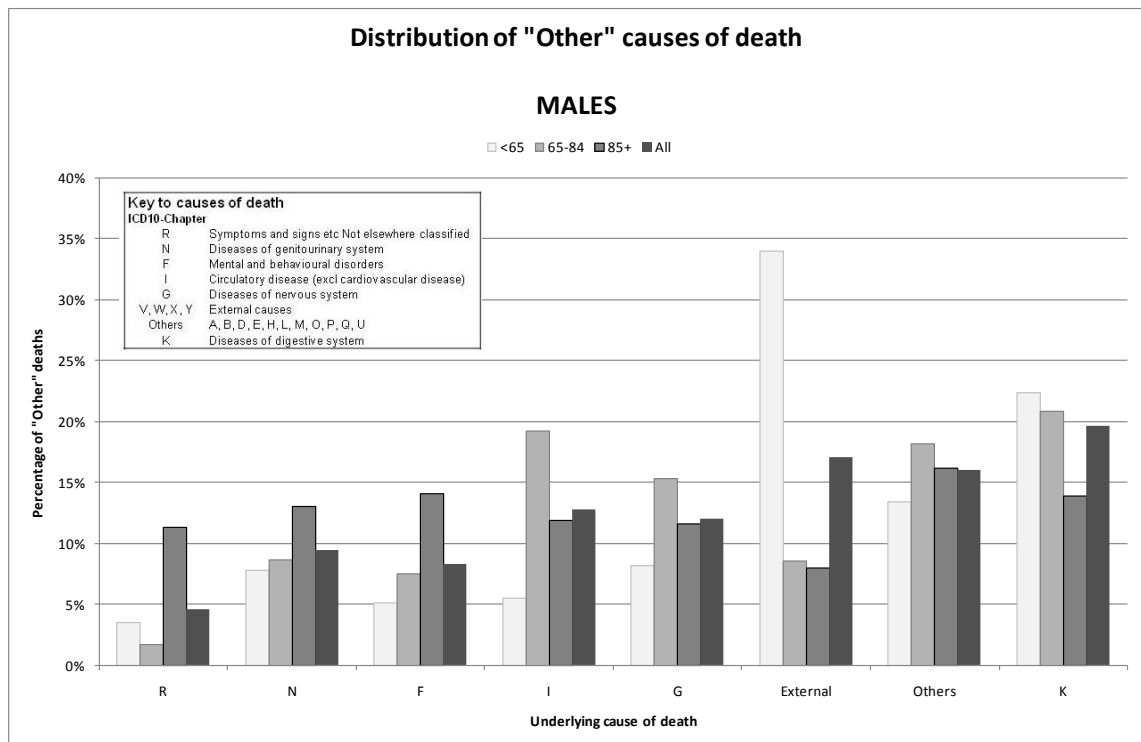
	<65	65-84	85+	All
R	3.3%	2.3%	17.3%	8.3%
N	9.4%	8.8%	10.4%	9.6%
F	4.4%	9.2%	17.4%	11.2%
I	5.4%	16.6%	9.3%	11.2%
G	9.6%	14.4%	9.3%	11.4%
External	29.3%	7.7%	6.9%	12.4%
Others	15.6%	19.5%	16.0%	17.3%
K	22.9%	21.4%	13.4%	18.7%

Source: South West Public Health Observatory from Office for National Statistics data

Males

- For males, external 'underlying' causes of death account for 34% of 'other' causes of death in males under the age of 65.

Figure B2: Main 'underlying' causes of death within the 'other' category in males: percentage of males with 'other' deaths by age, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

Table B2: Main 'underlying' causes of death within the 'other' category in males: percentage of males with 'other' deaths by age, England, 2005–07

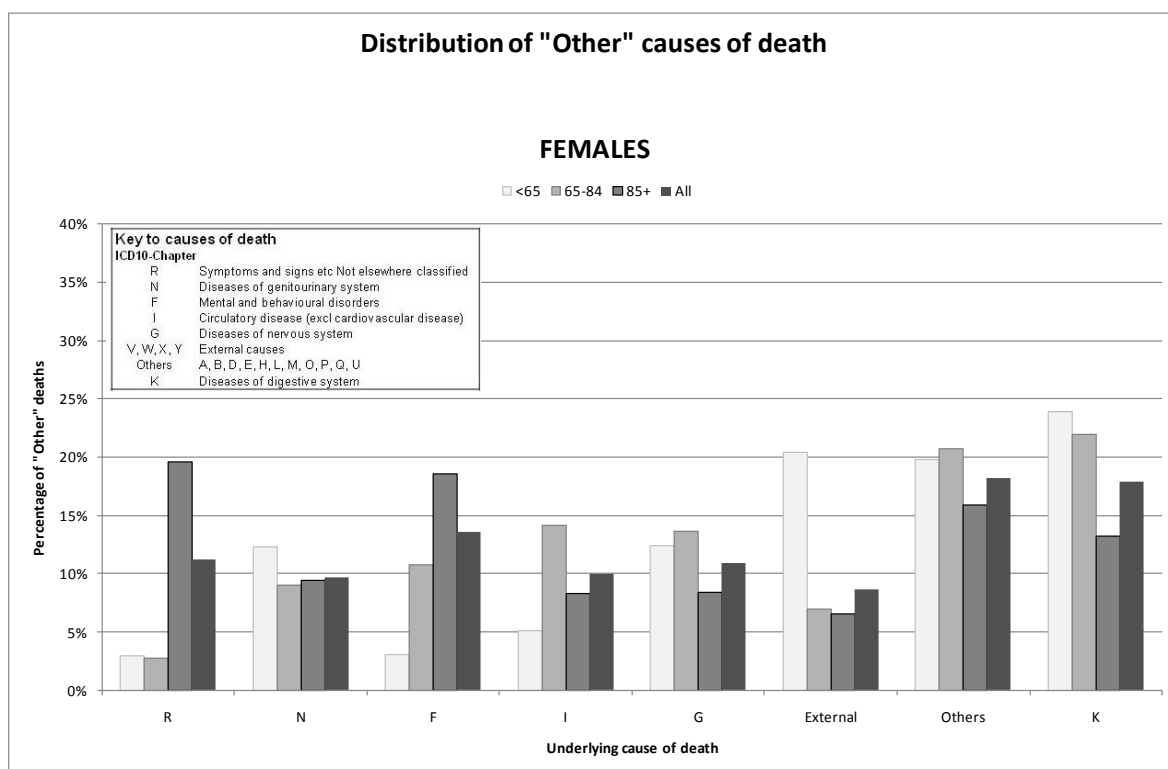
	<65	65-84	85+	All
R	3.5%	1.7%	11.3%	4.6%
N	7.8%	8.6%	13.1%	9.4%
F	5.2%	7.5%	14.1%	8.3%
I	5.6%	19.3%	11.9%	12.8%
G	8.1%	15.4%	11.6%	12.0%
External	34.0%	8.5%	8.0%	17.1%
Others	13.4%	18.2%	16.2%	16.1%
K	22.3%	20.9%	13.9%	19.7%

Source: South West Public Health Observatory from Office for National Statistics data

Females

- The commonest 'underlying' causes of death in under 65 females are diseases of the digestive system (24%) followed by external causes (20%).
- 'Symptoms and signs etc not elsewhere classified' account for 20% of the recorded 'underlying' causes of death in the 'other' category for females aged 85 and over.
- The next commonest category for females aged 85 and over is mental and behavioural disorders and this group could contain diagnoses of Alzheimer's.

Figure B3: Main 'underlying' causes of death within the 'other' category in females: percentage of females with 'other' deaths by age, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

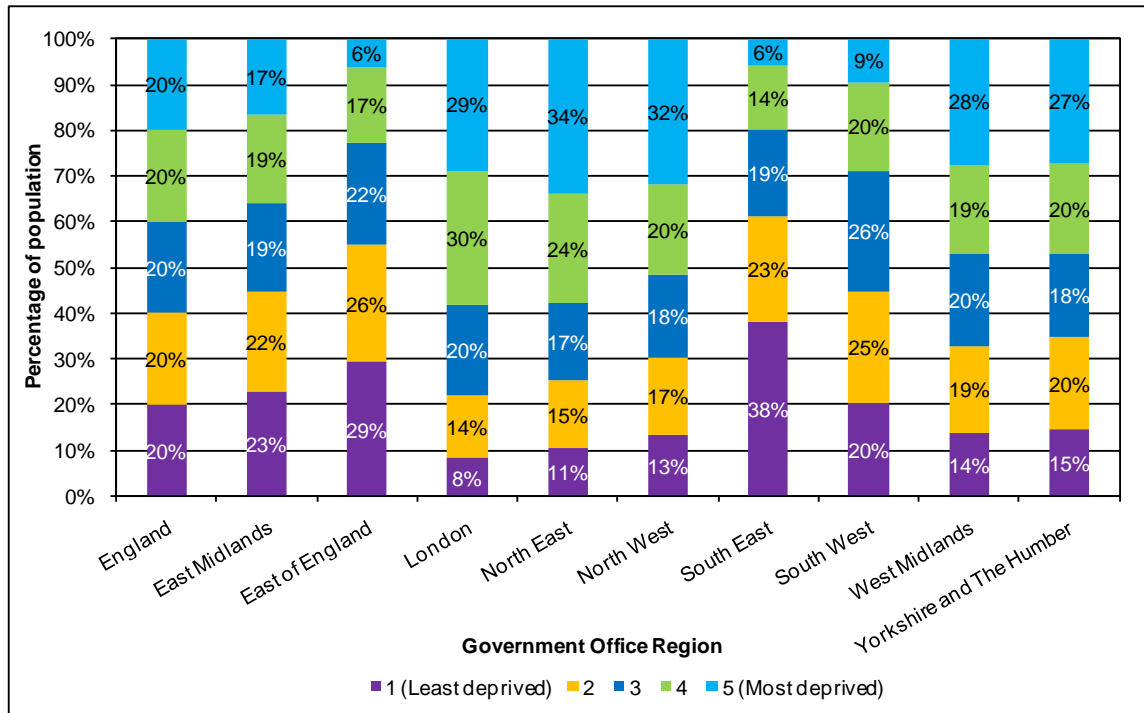
Table B3: Main 'underlying' causes of death within the 'other' category in females: percentage of females with 'other' deaths by age, England, 2005–07

	<65	65-84	85+	All
R	3.0%	2.8%	19.6%	11.2%
N	12.3%	9.0%	9.4%	9.7%
F	3.0%	10.7%	18.6%	13.5%
I	5.2%	14.2%	8.3%	10.0%
G	12.4%	13.6%	8.5%	10.9%
External	20.4%	7.0%	6.5%	8.7%
Others	19.8%	20.7%	15.9%	18.2%
K	23.9%	22.0%	13.2%	17.9%

Source: South West Public Health Observatory from Office for National Statistics data

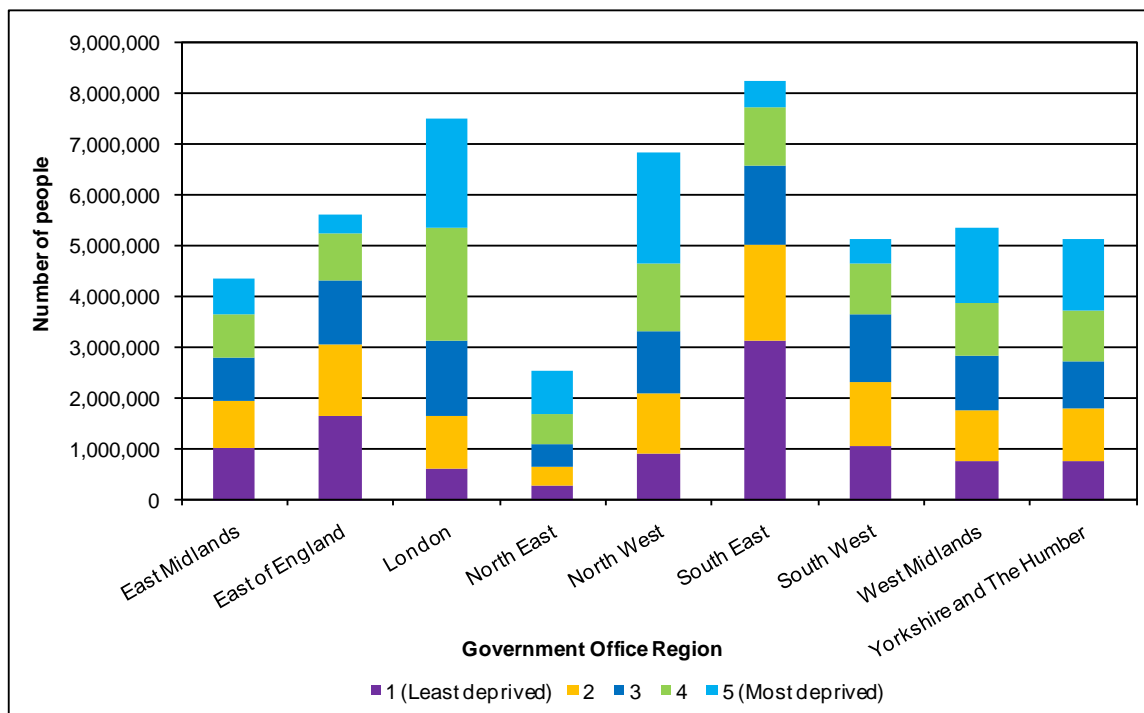
C Regional distribution of population by deprivation quintiles and age groups

Figure C1: Proportion of population by deprivation quintile and Government Office Region in England, 2005–07

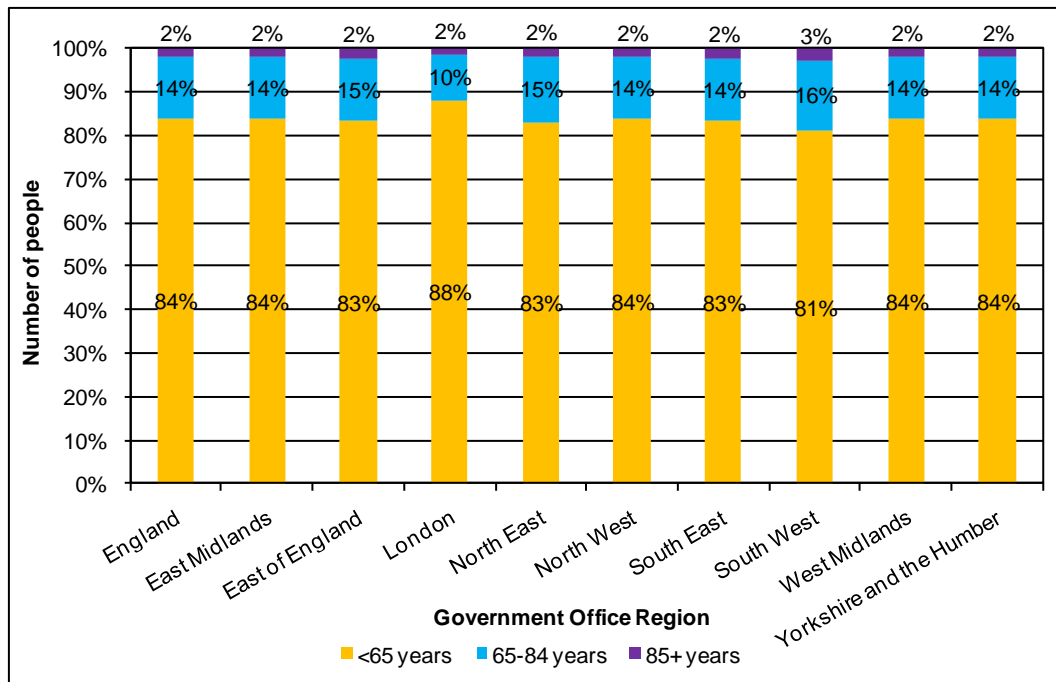


Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

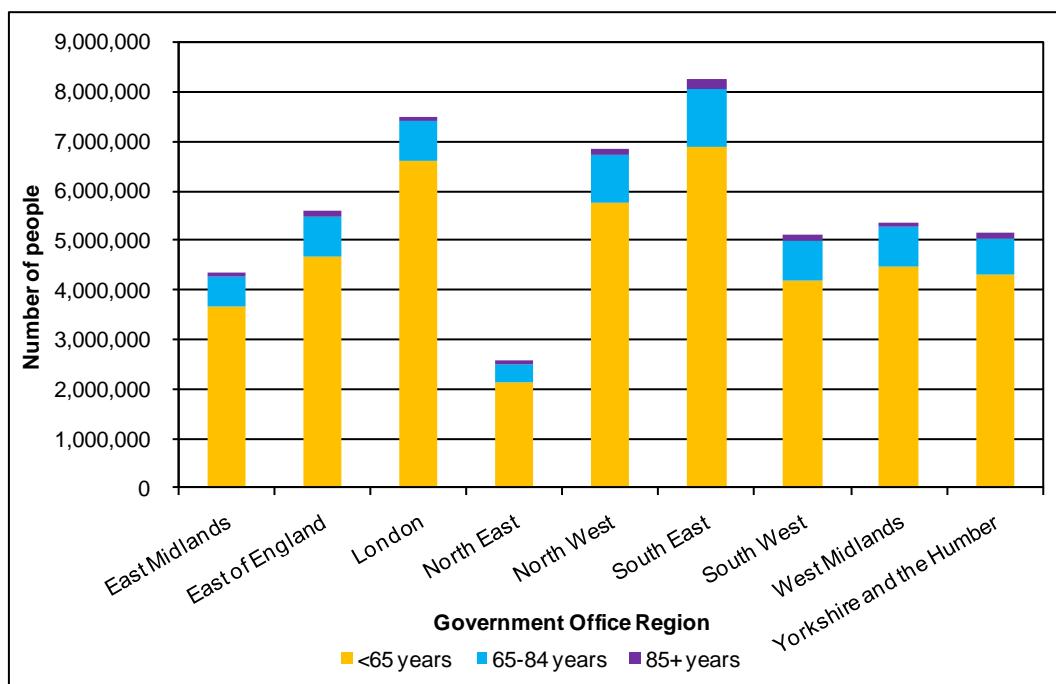
Figure C2: Population by deprivation quintile and Government Office Region in England, average number of people per year, 2005–07



Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

Figure C3: Proportion of population by age group and Government Office Region in England, 2005–07

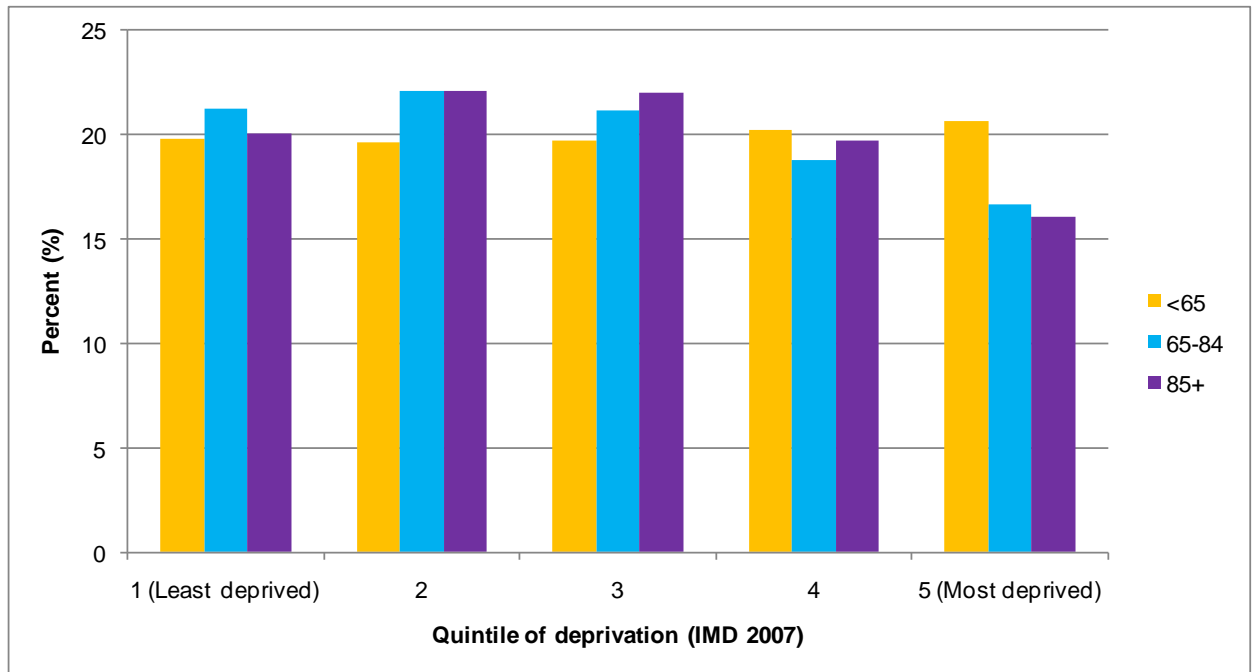
Source: South West Public Health Observatory from Office for National Statistics data

Figure C4: Population by age group and Government Office Region in England, average number of people per year, 2005–07

Source: South West Public Health Observatory from Office for National Statistics data

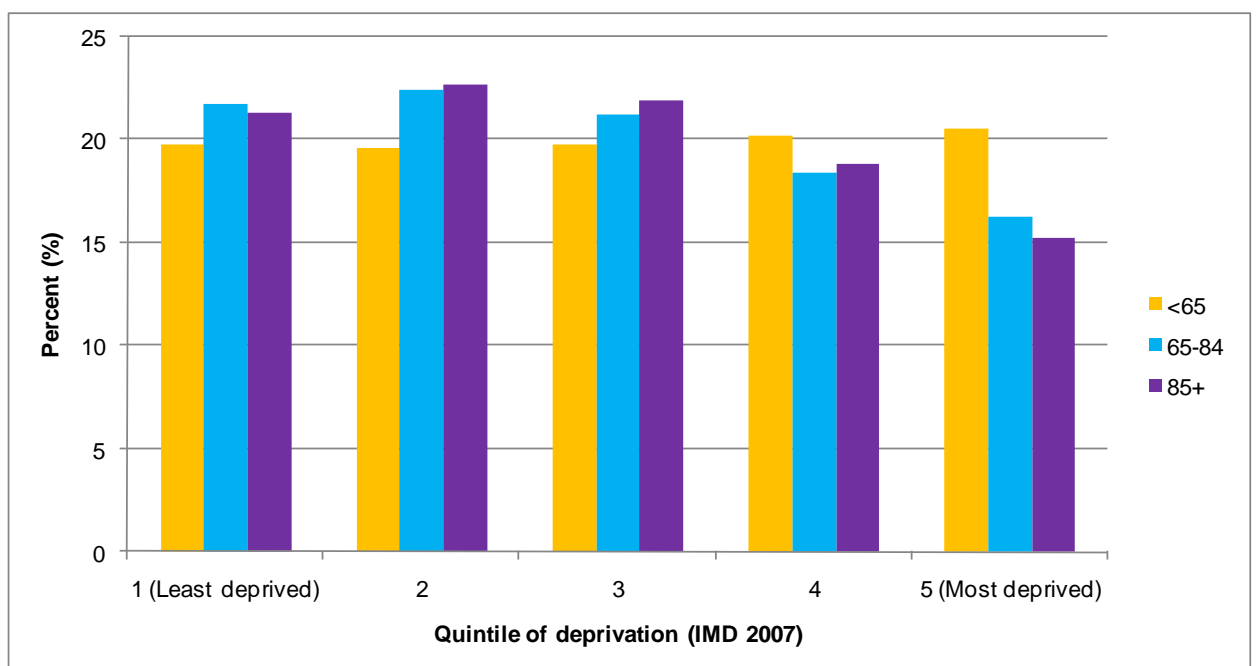
D National distribution of age groups by quintile of deprivation

Figure D1: The proportion of persons in each quintile of the national Indices of Multiple Deprivation 2007 by age group, England



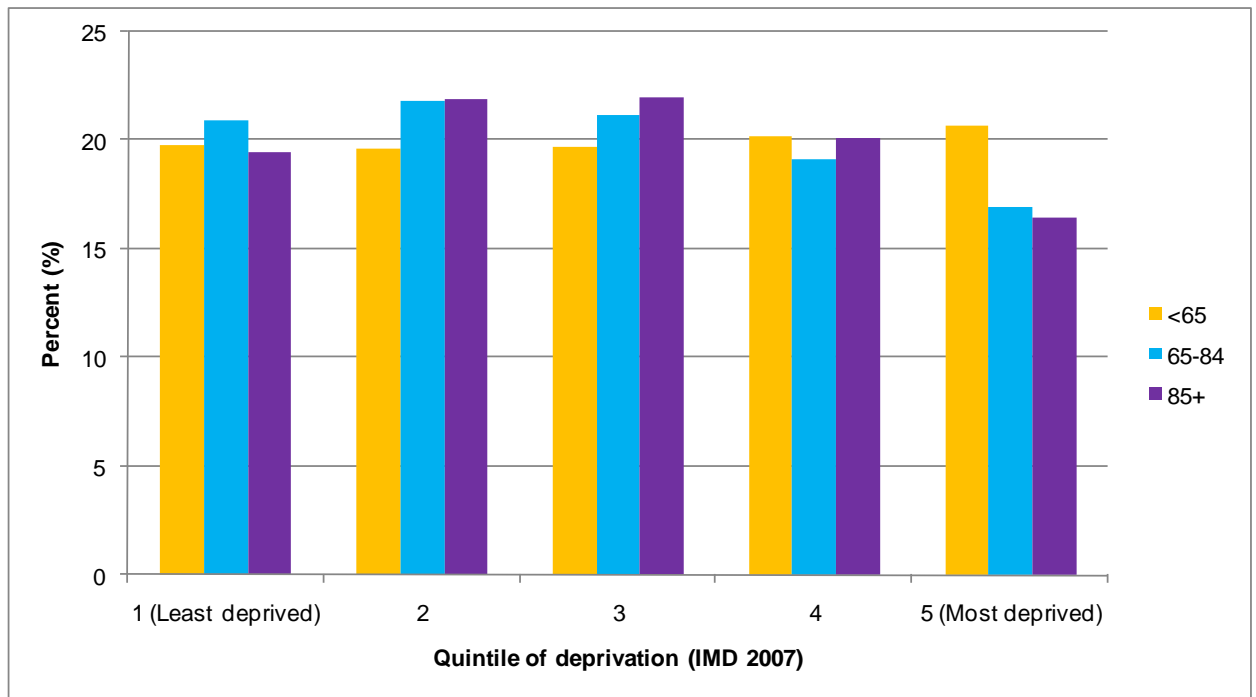
Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

Figure D2: The proportion of males in each quintile of the national Indices of Multiple Deprivation 2007 by age group, England



Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

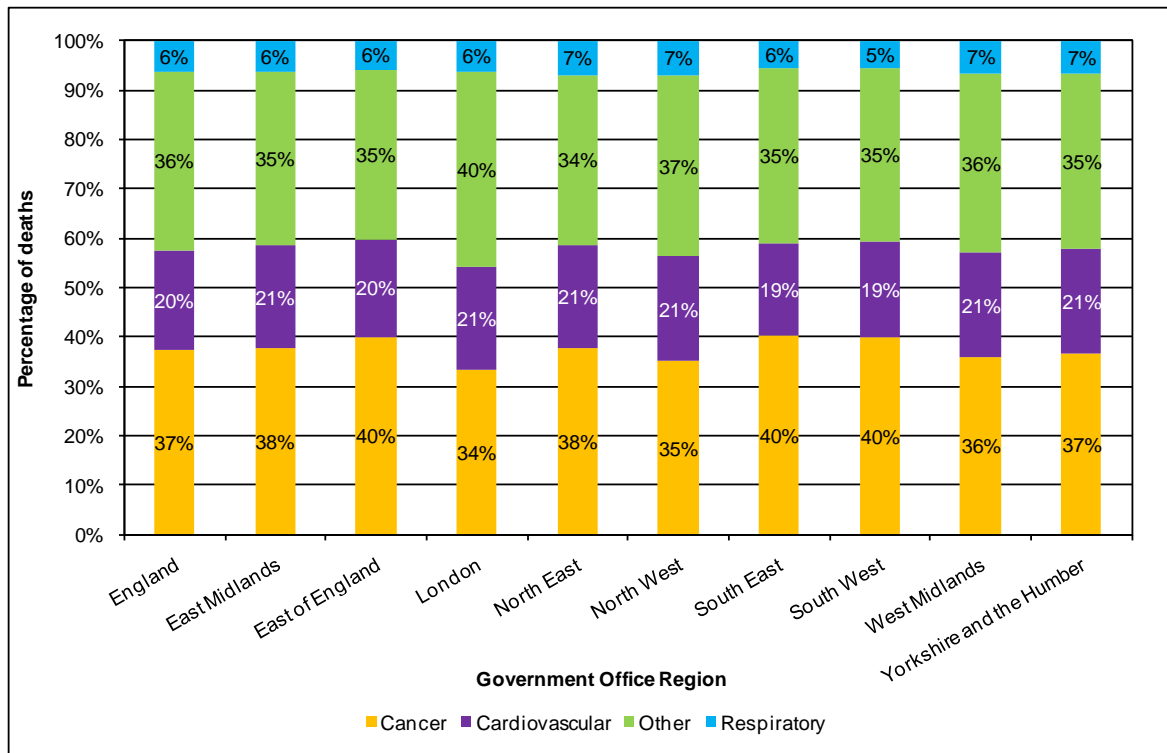
Figure D3: The proportion of females in each quintile of the national Indices of Multiple Deprivation 2007 by age group, England



Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

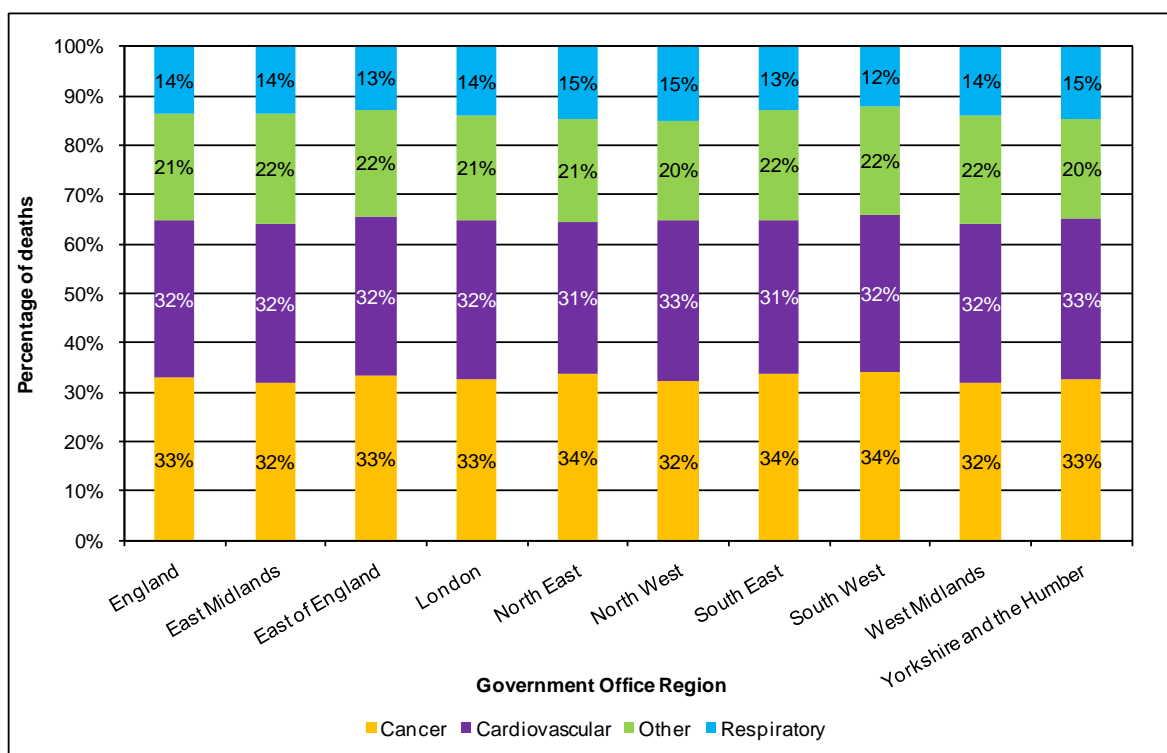
E Age-group specific regional differences in 'underlying' cause of death

Figure E1: Cause of death in people under 65 years, by Government Office Region, England 2005–07



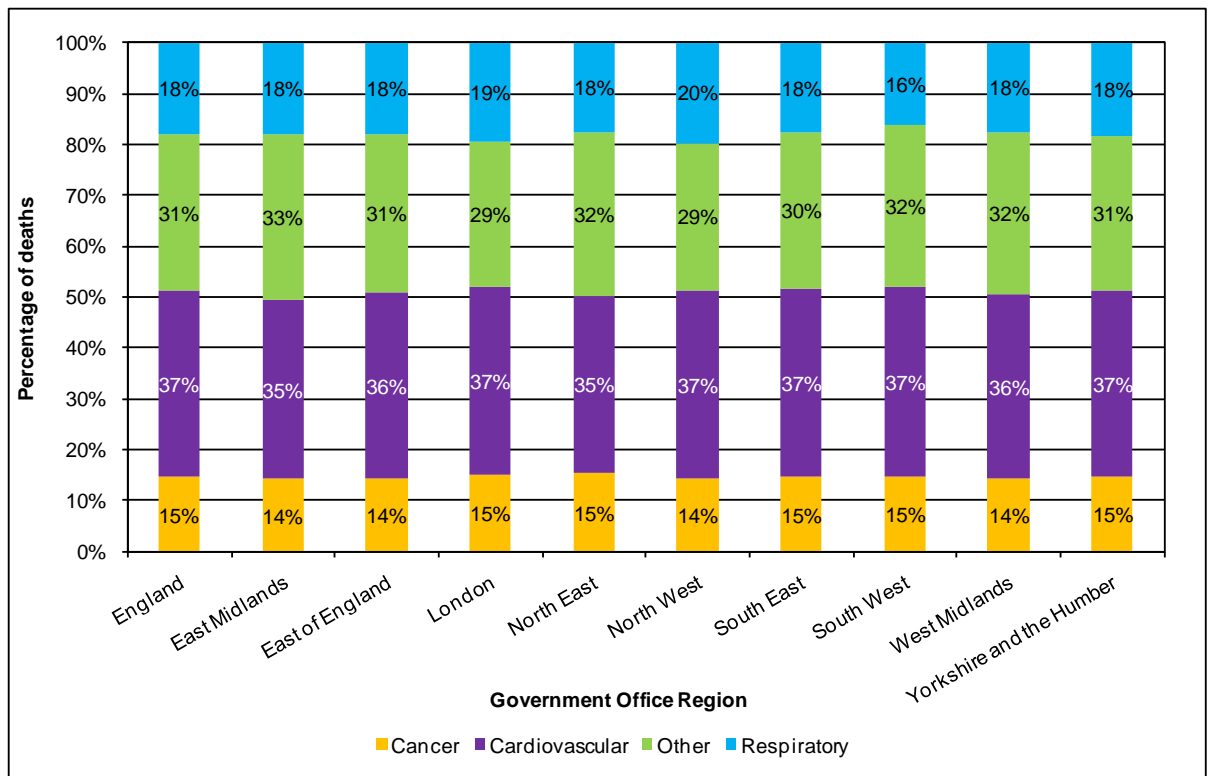
Source: South West Public Health Observatory from Office for National Statistics data

Figure E2: Cause of death in people aged 65–84 years, by Government Office Region, England 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

Figure E3: Cause of death in people aged 85 years and over, by Government Office Region, England 2005–07

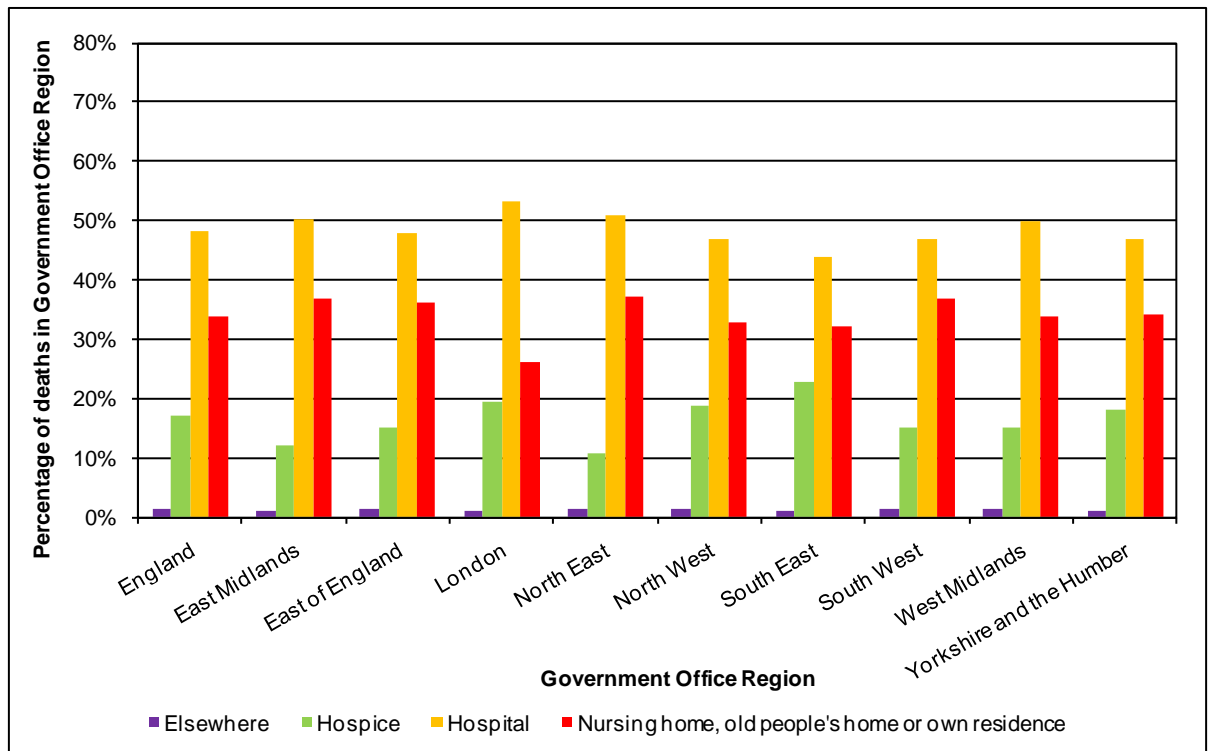


Source: South West Public Health Observatory from Office for National Statistics data

F Regional differences in place of death by 'underlying' cause

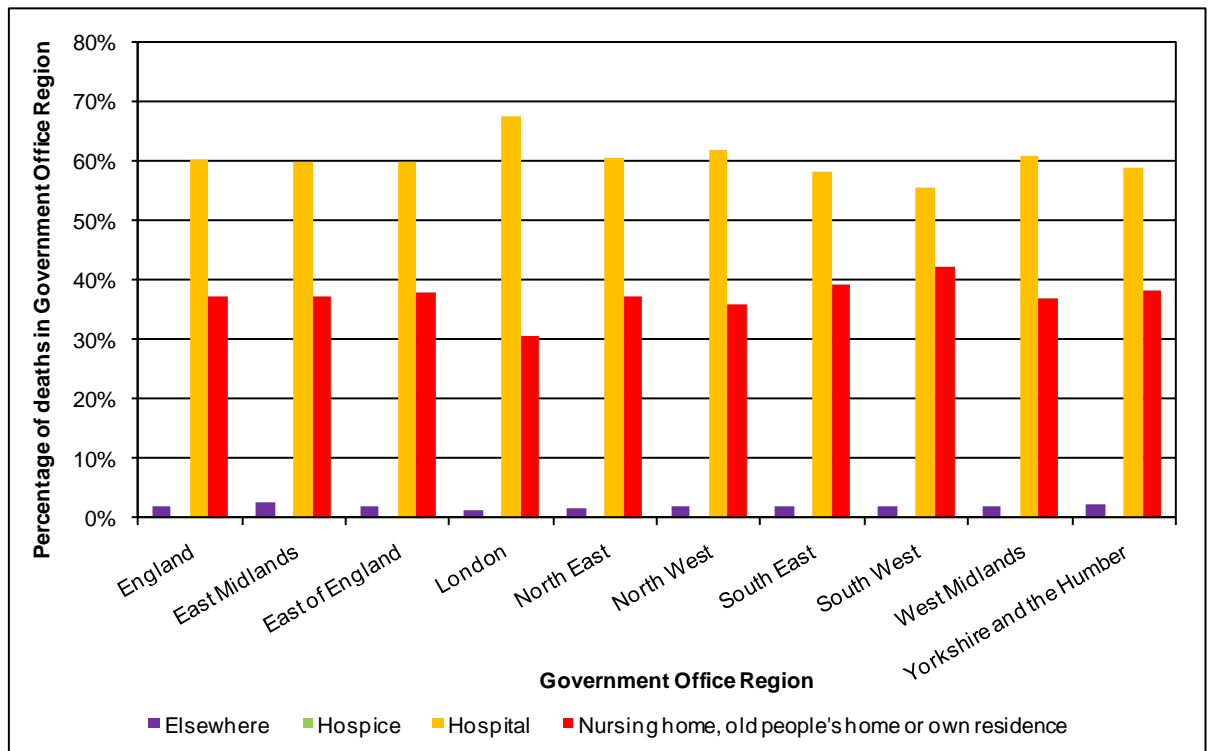
Appendix F shows replicate versions of Figures 22, 23, 24 and 25 as F1, F2, F3 and F4 in which nursing home, old people's home and own residence have been combined. This represents a group which are individuals' 'home' and shows some interesting results across the main causes of death.

Figure F1: Place of death from cancer: proportion of cancer deaths by Government Office Region in England, 2005–07



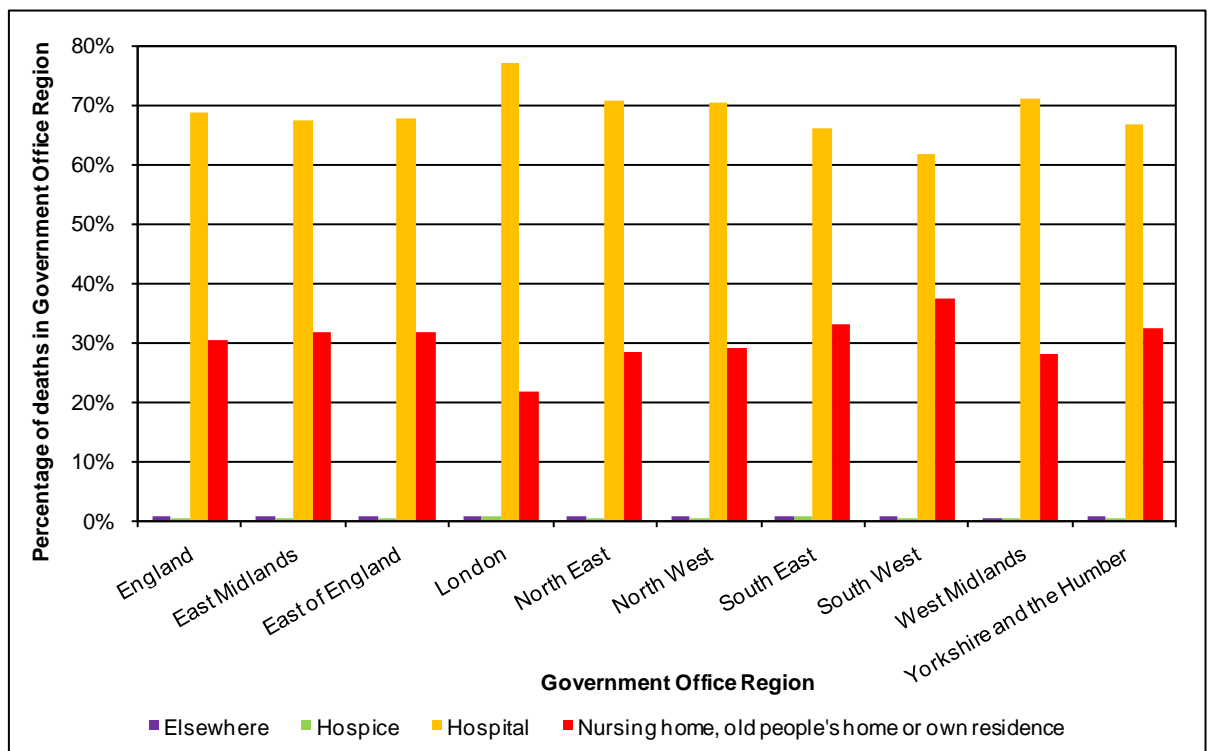
Source: South West Public Health Observatory from Office for National Statistics data

Figure F2: Place of death from cardiovascular disease: proportion of deaths from cardiovascular disease by Government Office Region in England, 2005–07



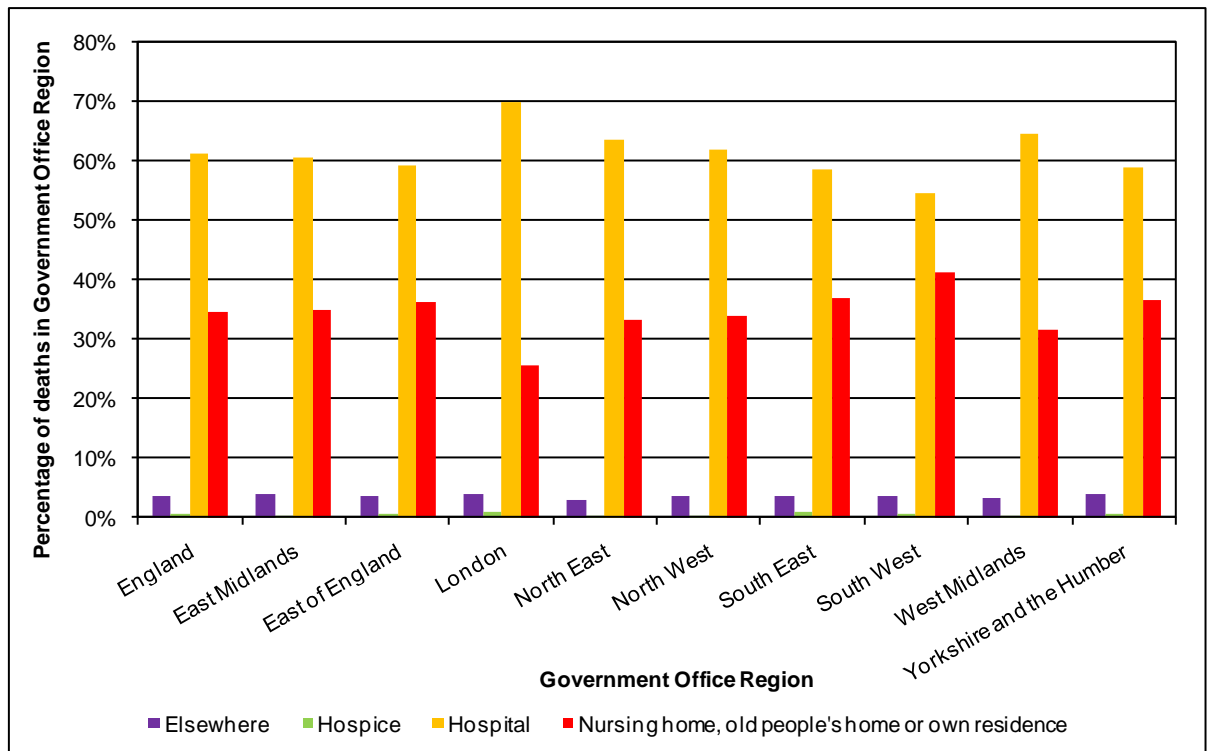
Source: South West Public Health Observatory from Office for National Statistics data

Figure F3: Place of death from respiratory disease: proportion of deaths from respiratory disease by Government Office Region in England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

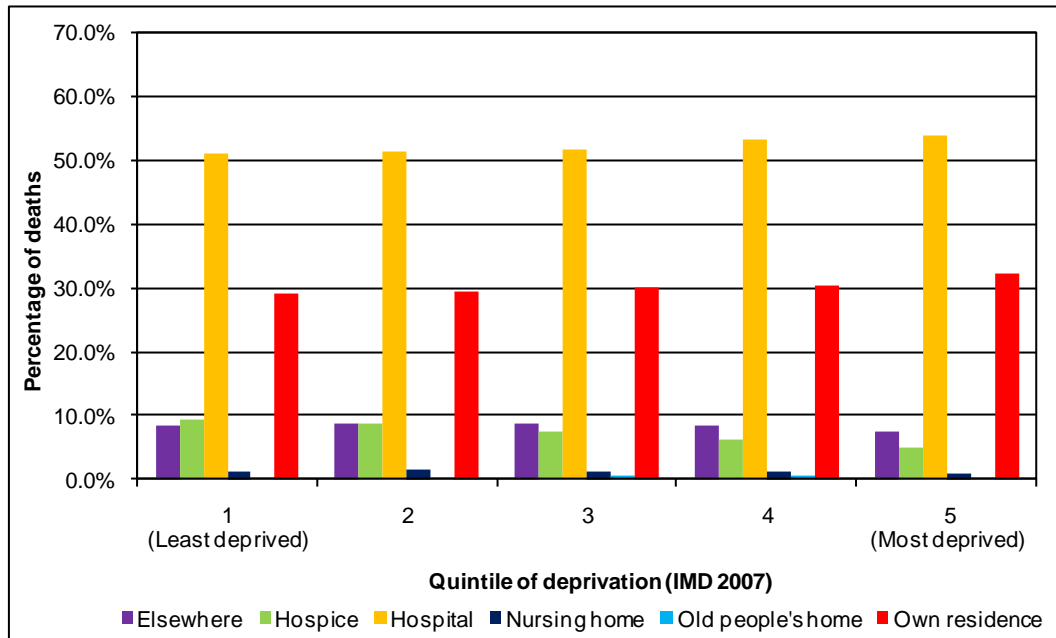
Figure F4: Place of death from other causes: proportion of deaths from other causes by Government Office Region in England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

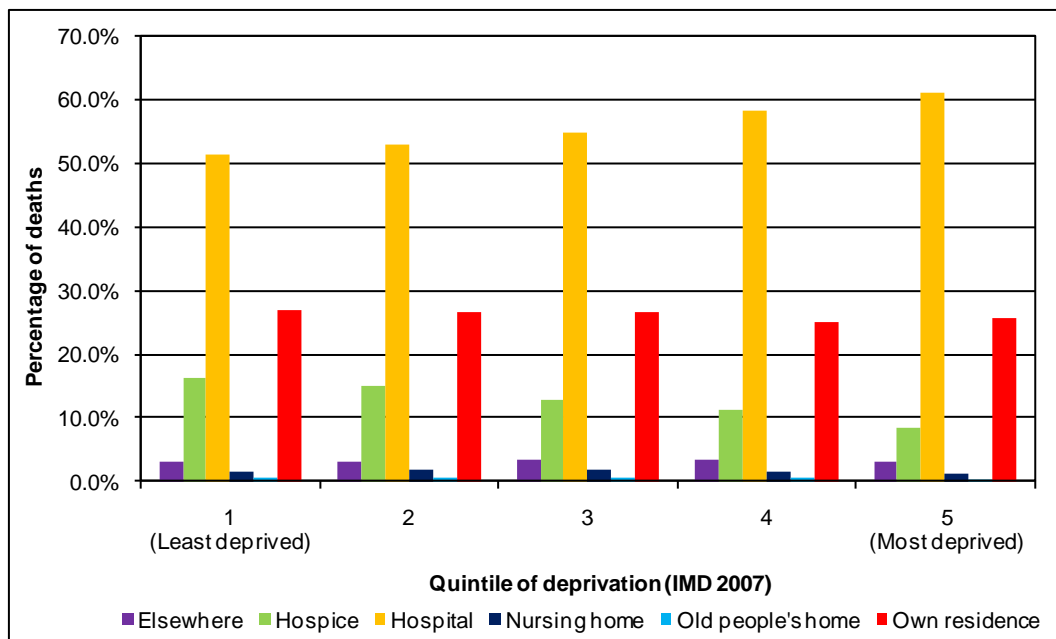
G Place of death by deprivation quintile for each of the three age groups, for males and females separately

Figure G1: Place of death by deprivation quintile (Index of Multiple Deprivation 2007) in males aged under 65 years, England, 2005–07



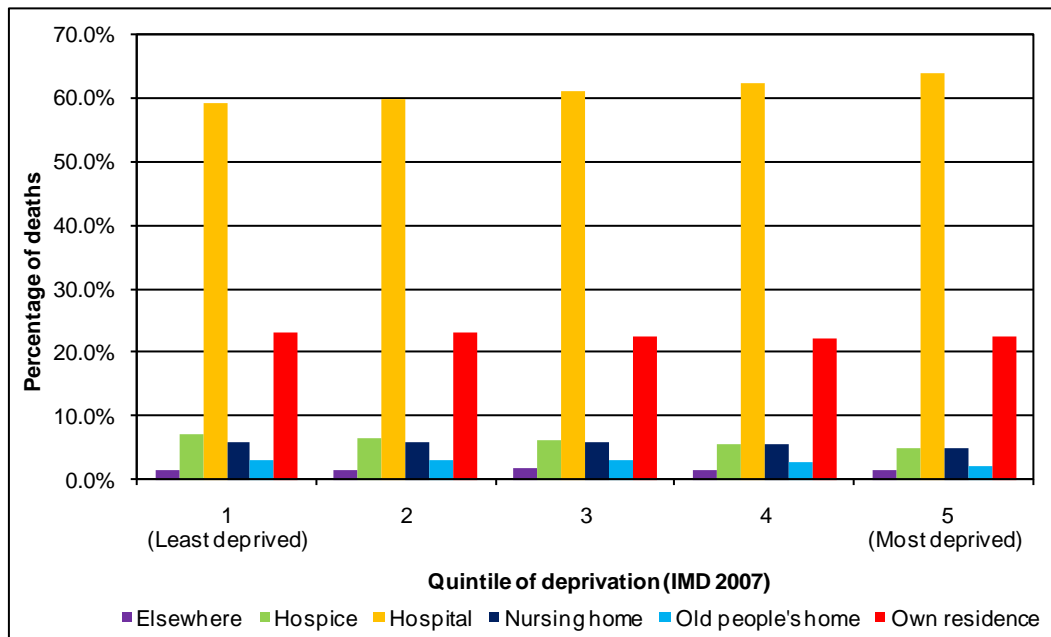
Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

Figure G2: Place of death by deprivation quintile (Index of Multiple Deprivation 2007) in females aged under 65 years, England, 2005–07



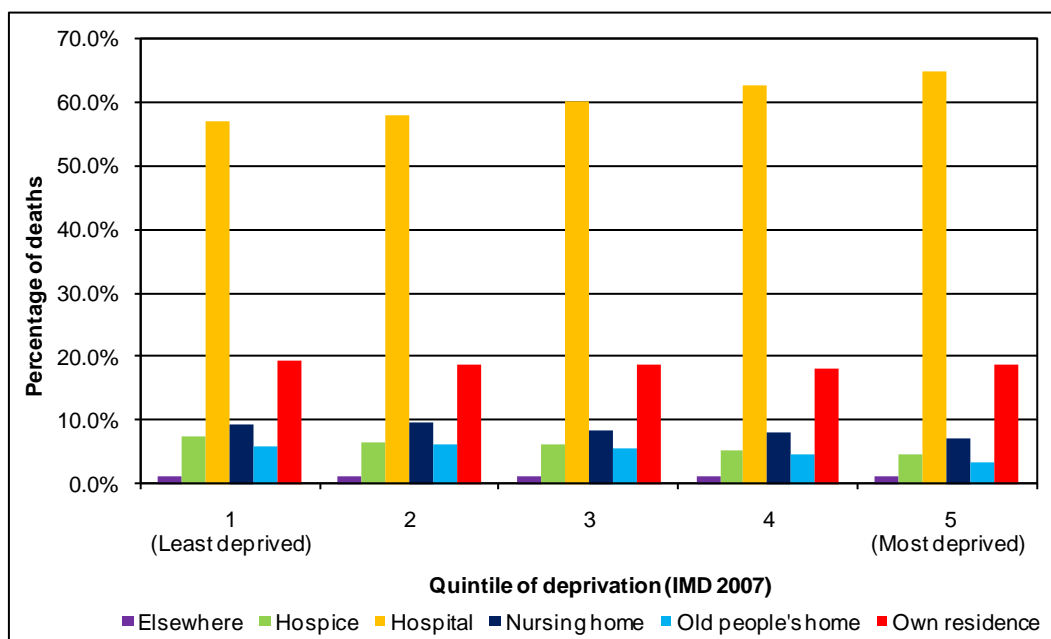
Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

Figure G3: Place of death by deprivation quintile (Index of Multiple Deprivation 2007) in males aged 65–84 years, England, 2005–07



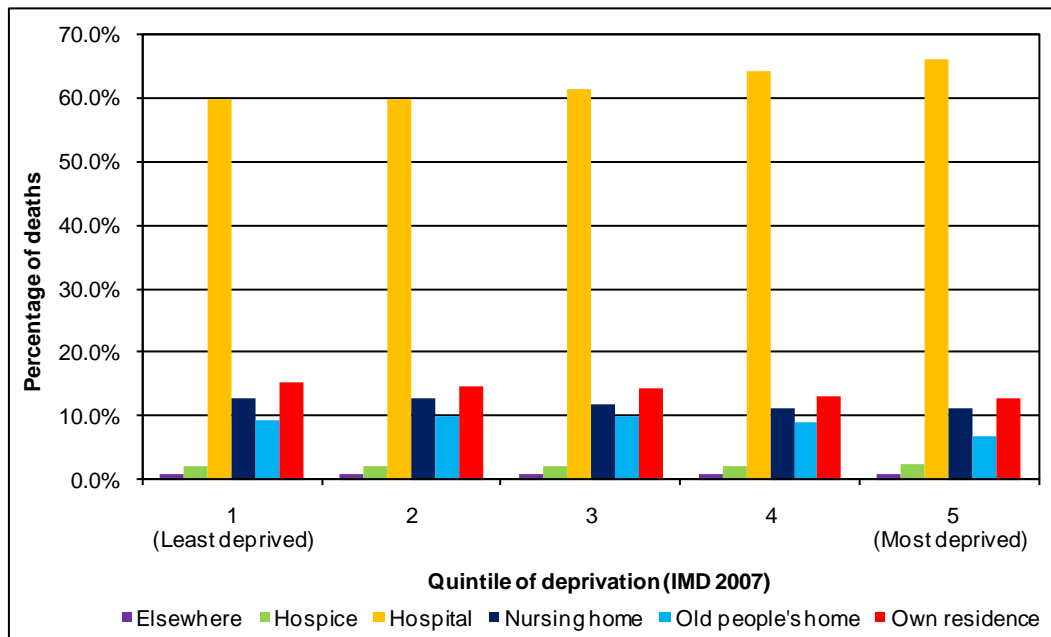
Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

Figure G4: Place of death by deprivation quintile (Index of Multiple Deprivation 2007) in females aged 65–84 years, England, 2005–07



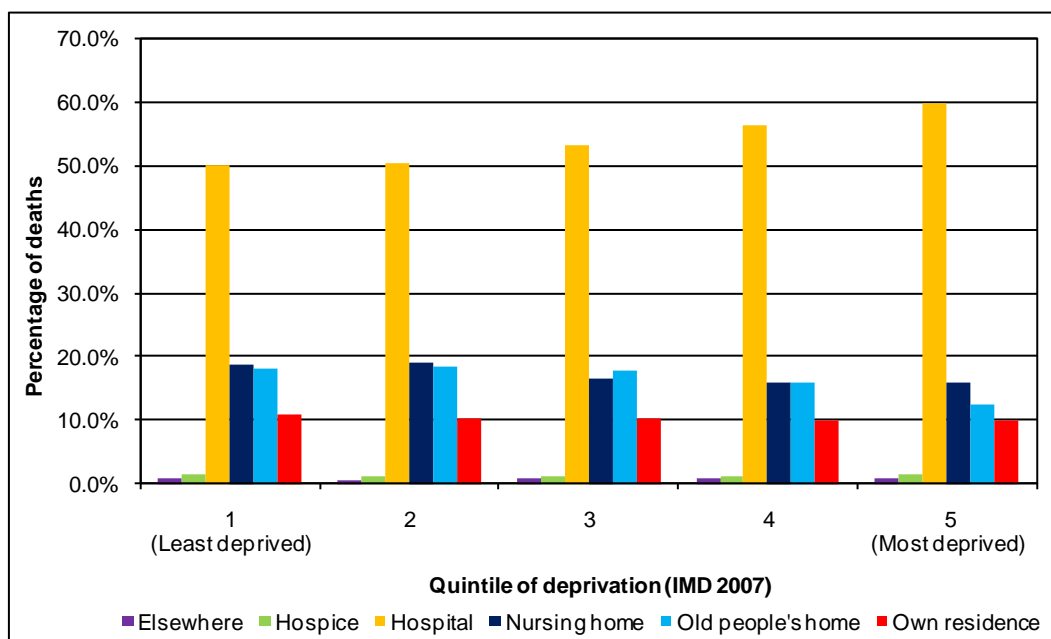
Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

Figure G5: Place of death by deprivation quintile (Index of Multiple Deprivation 2007) in males aged 85 years and over, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

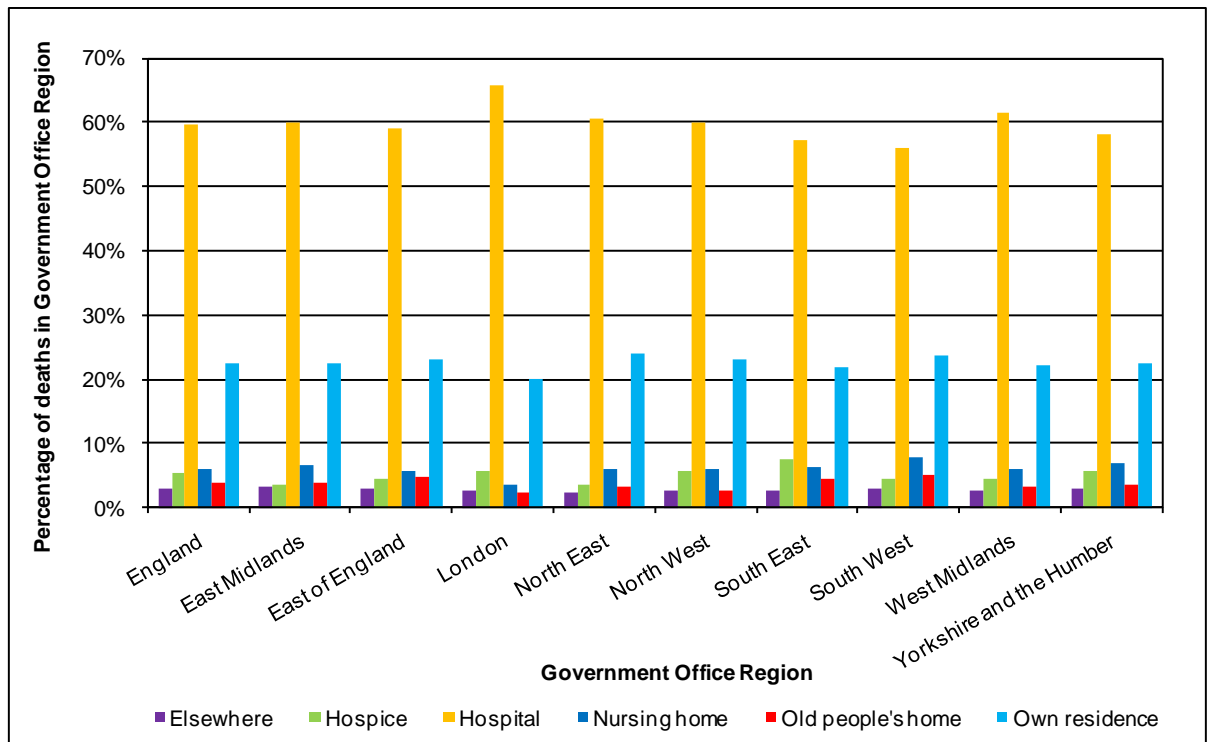
Figure G6: Place of death by deprivation quintile (Index of Multiple Deprivation 2007) in females aged 85 years and over, England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics and Communities and Local Government data

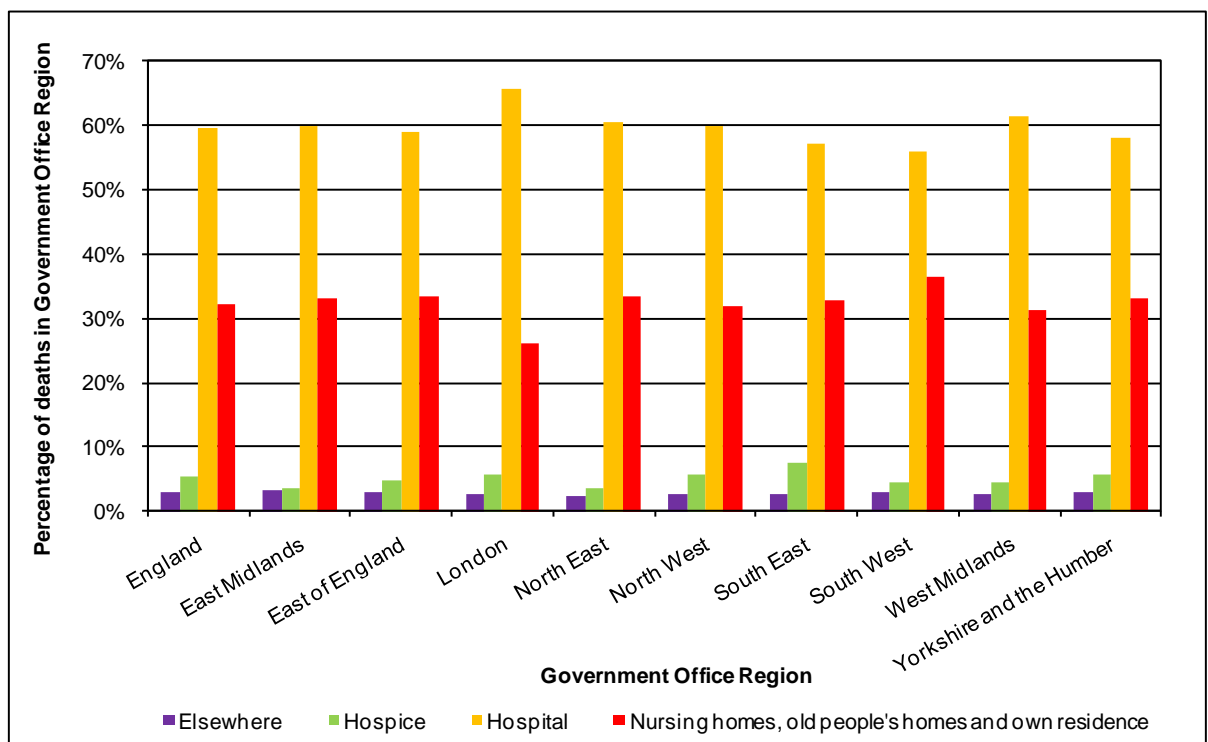
H Regional differences in place of death

Figure H1a: Place of death: proportion of deaths in males by Government Office Region in England 2005–07



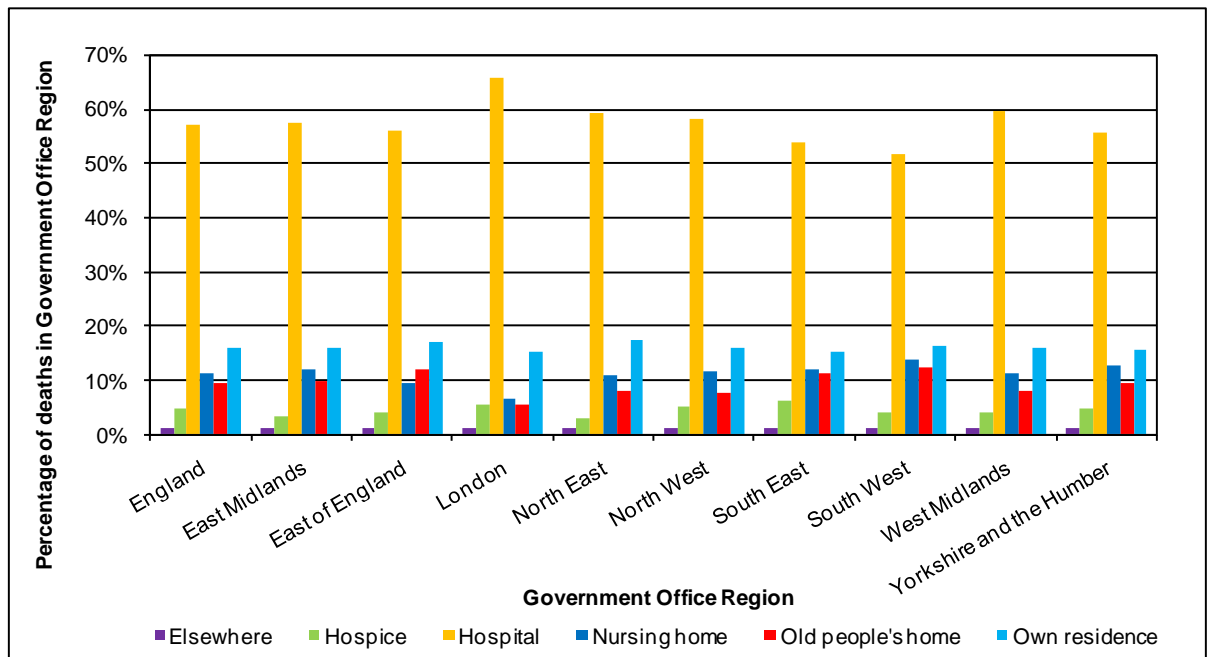
Source: South West Public Health Observatory from Office for National Statistics data

Figure H1b: Place of death: proportion of deaths in males by Government Office Region in England 2005–07 (nursing homes, old people's homes and own residence combined)



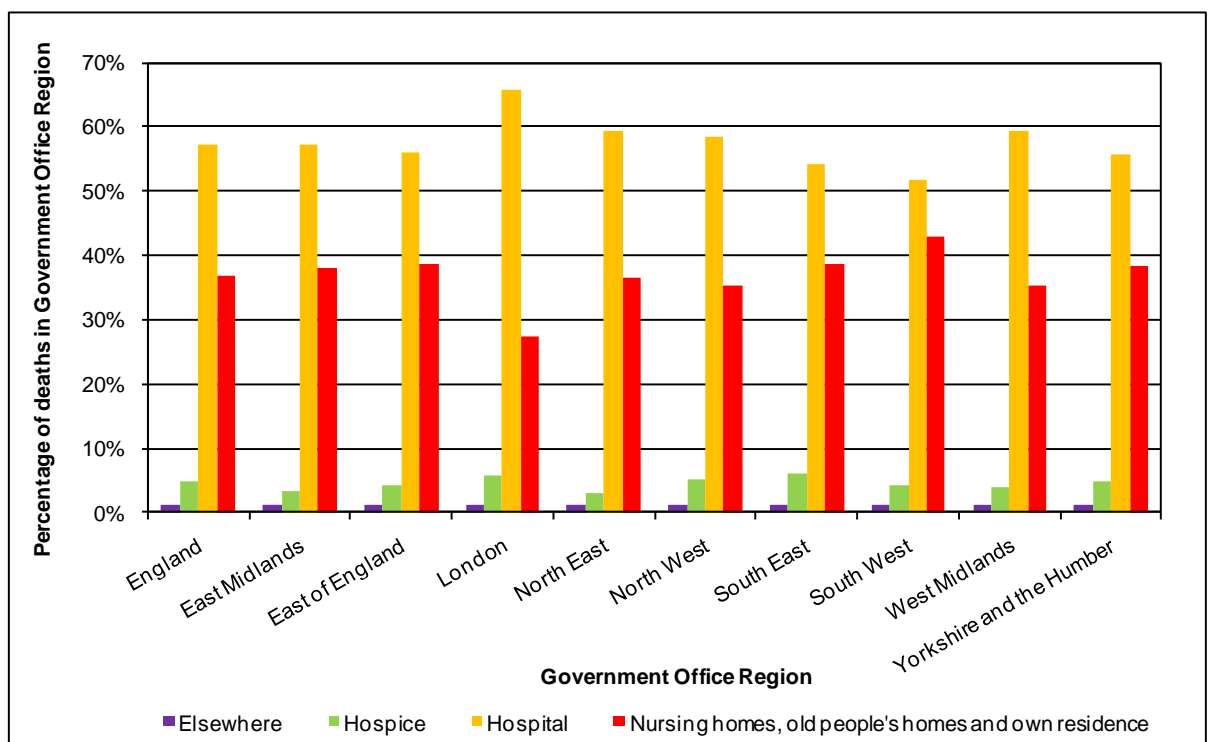
Source: South West Public Health Observatory from Office for National Statistics data

Figure H2a: Place of death: proportion of deaths in females by Government Office Region in England, 2005–07



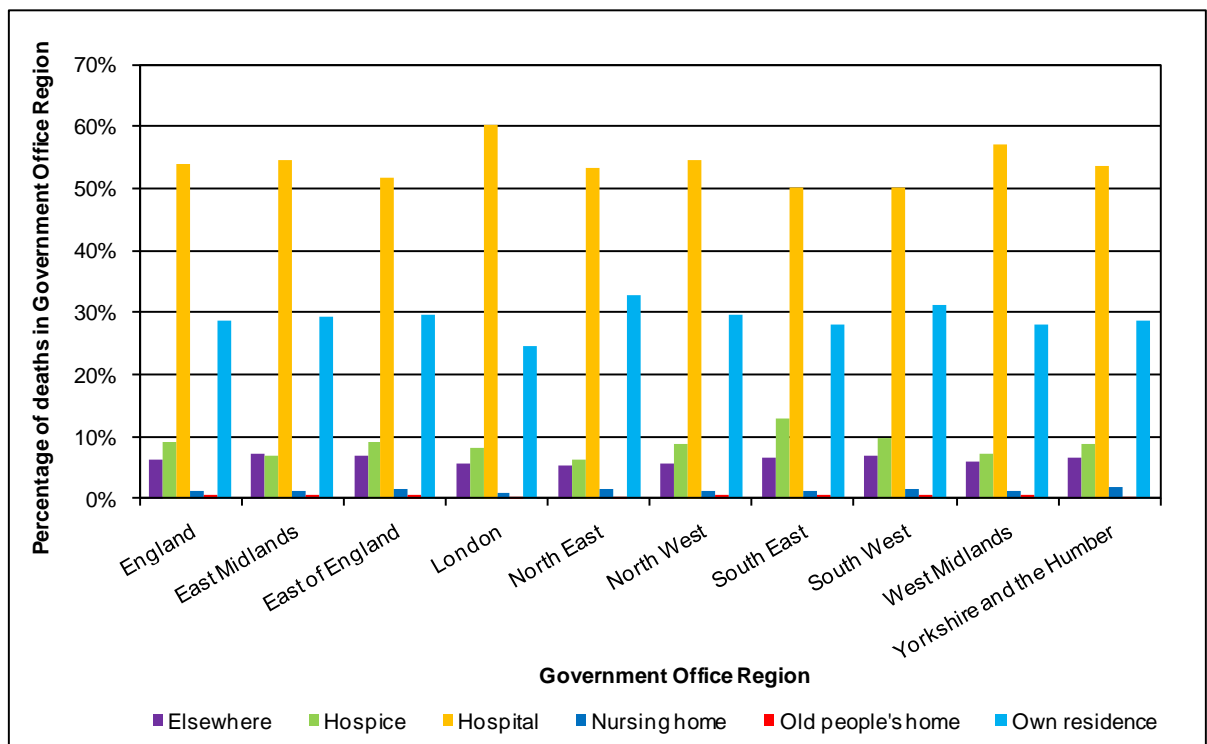
Source: South West Public Health Observatory from Office for National Statistics data

Figure H2b: Place of death: proportion of deaths in females by Government Office Region in England, 2005–07 (nursing homes, old people's homes and own residence combined)



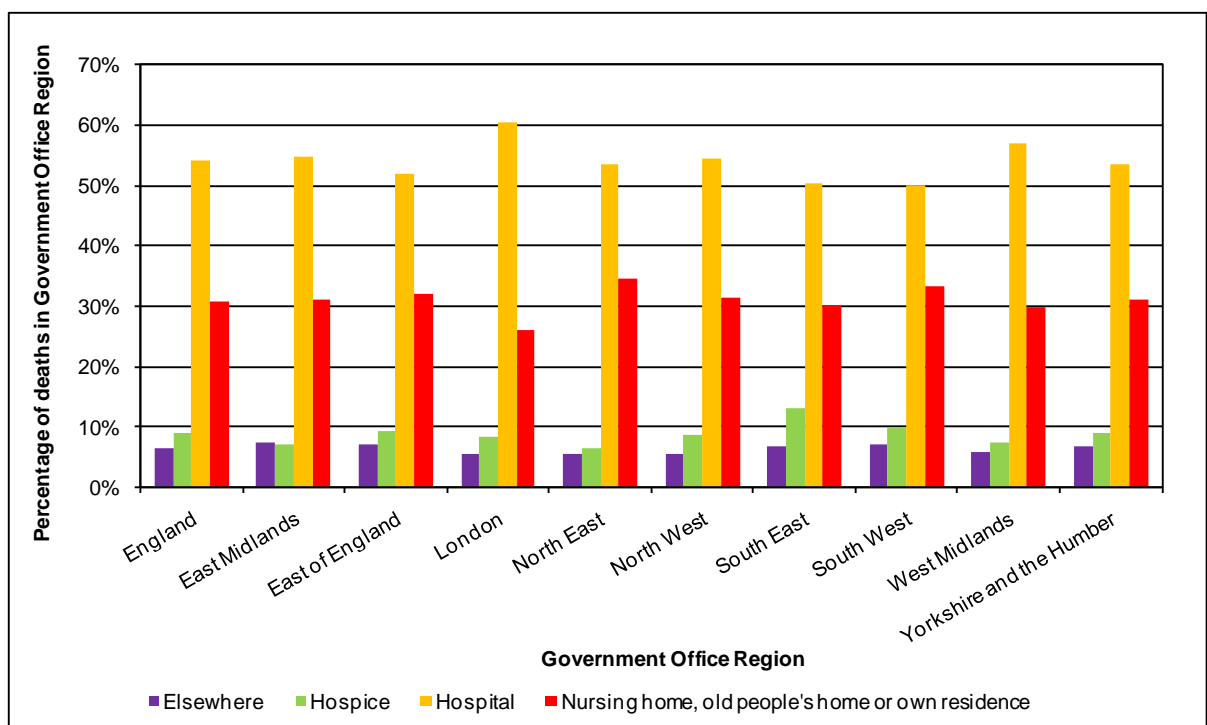
Source: South West Public Health Observatory from Office for National Statistics data

Figure H3a: Place of death: proportion of deaths in people aged under 65, by Government Office Region in England, 2005–07



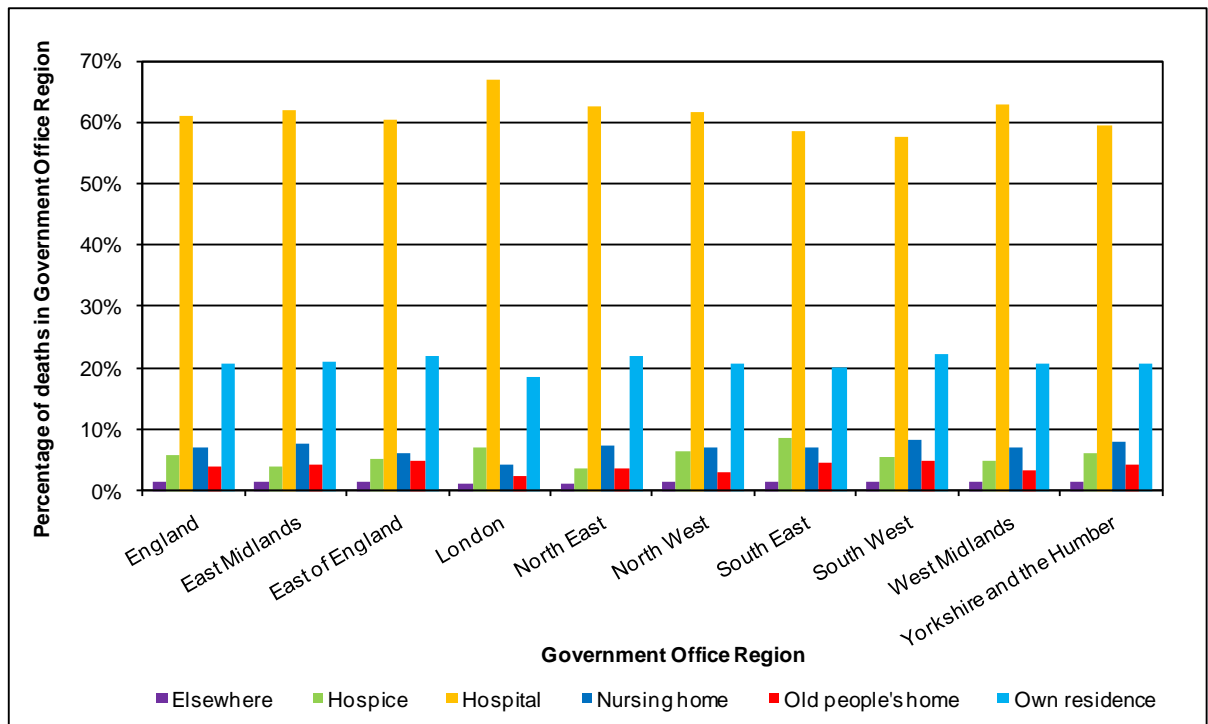
Source: South West Public Health Observatory from Office for National Statistics data

Figure H3b: Place of death: proportion of deaths in people aged under 65, by Government Office Region in England, 2005–07 (nursing homes, old people's homes and own residence combined)



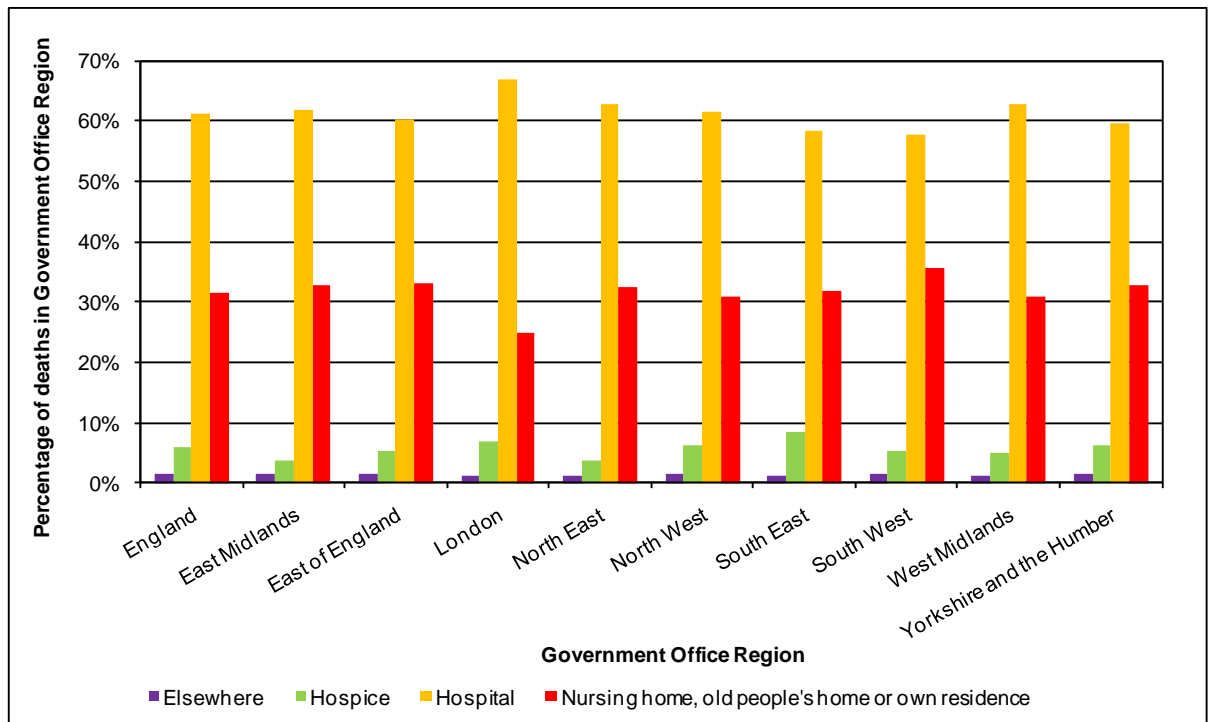
Source: South West Public Health Observatory from Office for National Statistics data

Figure H4a: Place of death: proportion of deaths in people aged 65–84, by Government Office Region in England, 2005–07



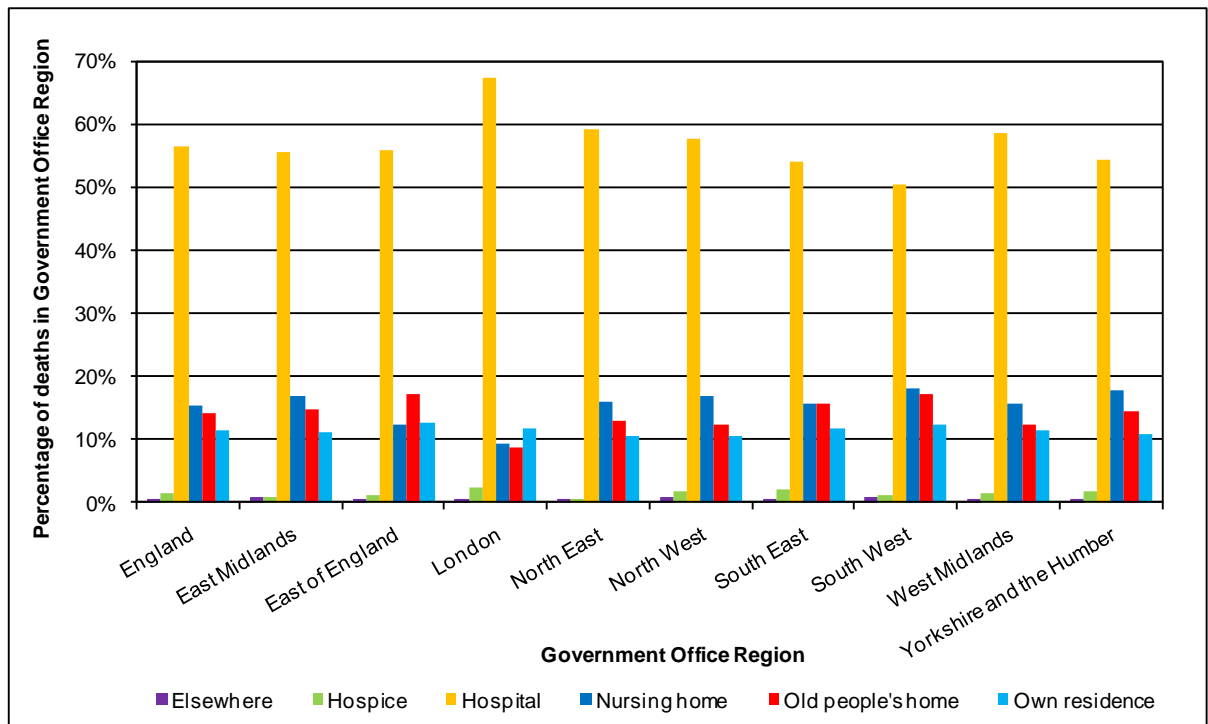
Source: South West Public Health Observatory from Office for National Statistics data

Figure H4b: Place of death: proportion of deaths in people aged 65–84, by Government Office Region in England, 2005–07 (nursing homes, old people's homes and own residence combined)



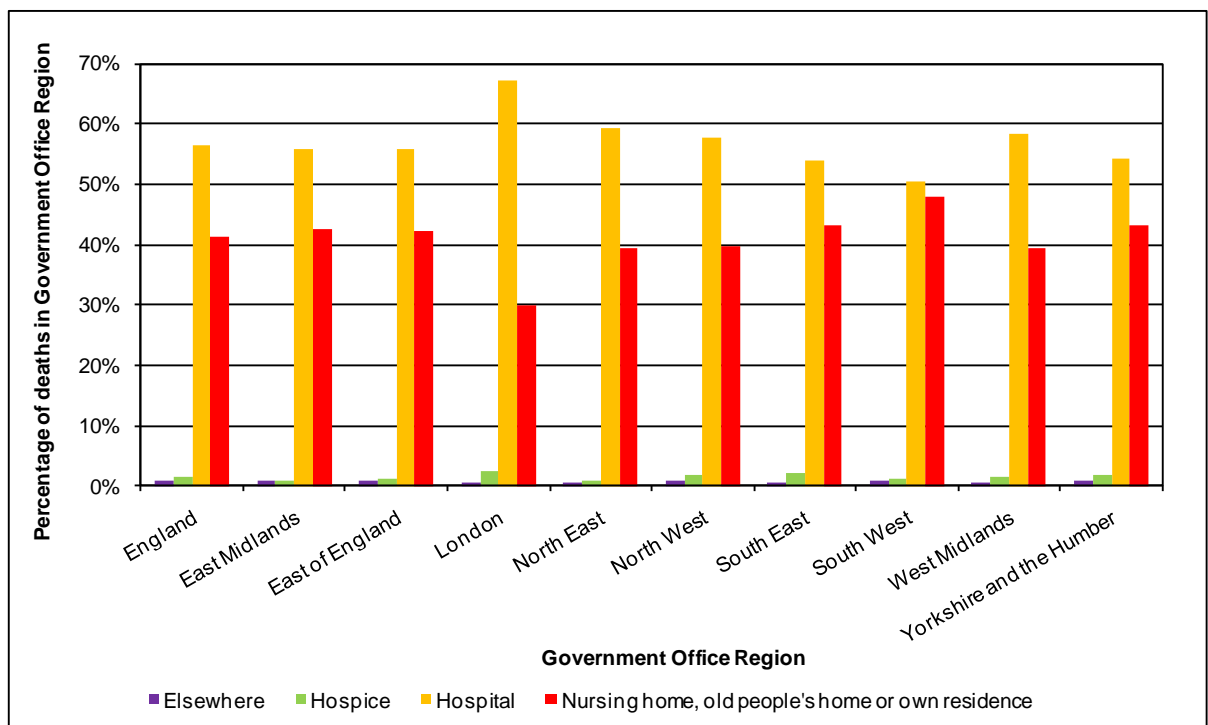
Source: South West Public Health Observatory from Office for National Statistics data

Figure H5a: Place of death: proportion of deaths in people aged 85 and over, by Government Office Region in England, 2005–07



Source: South West Public Health Observatory from Office for National Statistics data

Figure H5b: Place of death: proportion of deaths in people aged 85 and over, by Government Office Region in England, 2005–07 (nursing homes, old people's homes and own residence combined)



Source: South West Public Health Observatory from Office for National Statistics data

I Summary tables of highest and lowest Local Authorities by number of deaths, place of death and cause of death with age, sex breakdown

Table I1: Number of deaths by sex and age group (average number of deaths per year in 2005–07) – five highest and lowest Local Authorities

Sex and age	Average number of deaths per year in 2005–07			
	Highest five Local Authorities (Highest first)		Lowest five Local Authorities (Lowest first)	
Persons, all ages	Birmingham	8,935	Teesdale	276
	Leeds	6,533	Berwick-upon-Tweed	304
	Sheffield	5,086	Rutland	308
	Liverpool	4,604	Alnwick	365
	Bradford	4,527	Oswestry	403
Males, all ages	Birmingham	4,426	Teesdale	130
	Leeds	3,188	Berwick-upon-Tweed	141
	Sheffield	2,358	Rutland	153
	Liverpool	2,246	Alnwick	169
	Bradford	2,104	Oswestry	190
Females, all ages	Birmingham	4,509	Teesdale	145
	Leeds	3,345	Rutland	155
	Sheffield	2,728	Berwick-upon-Tweed	163
	Bradford	2,423	Alnwick	197
	Liverpool	2,359	Oswestry	213
Persons, under 65 years	Birmingham	1,772	Berwick-upon-Tweed	39
	Leeds	1,198	Teesdale	43
	Liverpool	984	Rutland	51
	Manchester	952	Alnwick	57
	Bradford	872	Oswestry	58
Persons, 65–84 years	Birmingham	4,464	Rutland	133
	Leeds	3,270	Teesdale	139
	Sheffield	2,468	Berwick-upon-Tweed	153
	Liverpool	2,441	Alnwick	178
	Bradford	2,261	Richmondshire	202
Persons, 85 years and over	Birmingham	2,699	Teesdale	94
	Leeds	2,065	Berwick-upon-Tweed	112
	Sheffield	1,775	Corby	118
	Bradford	1,394	Rutland	124
	Bristol, City of	1,218	Alnwick	131

Notes: Penwith includes the Isles of Scilly Local Authority and Hackney includes City of London Local Authority

Source: South West Public Health Observatory from Office for National Statistics data

Table I2: Place of death (proportion of deaths in 2005–07) – five highest and lowest Local Authorities

Place of death	Percentage of deaths 2005–07			
	Highest five Local Authorities (Highest first)		Lowest five Local Authorities (Lowest first)	
Own residence	South Cambridgeshire	27.0	Hertsmere	13.7
	Copeland	26.7	Kingston upon Thames	13.7
	East Cambridgeshire	26.6	Watford	13.8
	Teesdale	25.6	Surrey Heath	13.8
	Norwich	25.1	Rushmoor	14.0
Hospital	Waltham Forest	78.1	Torbay	44.6
	Redbridge	72.5	Penwith	45.5
	Ealing	71.7	Plymouth	45.7
	Barking and Dagenham	71.3	South Norfolk	45.7
	Newham	71.3	Chichester	45.9
Hospice	Milton Keynes	13.3	Southampton	0.1
	Hastings	11.5	Salisbury	0.1
	Isle of Wight	11.0	Nottingham	0.1
	Thanet	10.8	Great Yarmouth	0.1
	Camden	10.2	Eastleigh	0.1
Nursing homes	Craven	21.0	Corby	0.7
	Eastbourne	19.4	Waltham Forest	1.2
	Mendip	18.5	Tower Hamlets	1.5
	North Somerset	18.2	Hammersmith and Fulham	1.6
	Dartford	17.5	Harlow	1.7
Old people's home	Breckland	19.5	Newham	0.6
	Chichester	18.3	Tower Hamlets	0.7
	Bridgnorth	17.7	Westminster	1.2
	Oswestry	17.1	Southwark	1.5
	Broadland	16.2	Hackney	1.6
Elsewhere	Torridge	4.2	Oadby and Wigston	0.9
	Copeland	3.8	Waverley	0.9
	Derbyshire Dales	3.7	Adur	1.0
	Swale	3.6	Three Rivers	1.1
	Corby	3.5	Hinckley and Bosworth	1.2

Notes:

Penwith includes the Isles of Scilly Local Authority and Hackney includes City of London Local Authority.

The proportion of people dying in hospital includes those who die in community and cottage hospitals. The proportion of people receiving palliative care does not include people receiving palliative care outside of a hospice, such as people cared for in a palliative care unit within a hospital or receiving palliative care provided by a hospice at home.

Source: South West Public Health Observatory from Office for National Statistics data

Table I3: Cause of death (proportion of deaths in 2005–07) – five highest and lowest Local Authorities

Cause of death	Percentage of deaths 2005–07			
	Highest five Local Authorities (Highest first)		Lowest five Local Authorities (Lowest first)	
Cancer	Hart	32.9	Hyndburn	22.1
	Ellesmere Port & Neston	32.6	Worthing	22.6
	South Norfolk	31.5	Leicester	23.2
	Sedgefield	31.3	Charnwood	24.4
	Mid Devon	31.2	Burnley	24.5
Cardiovascular disease	Eden	39.4	Redditch	27.1
	Wealden	38.7	Cherwell	27.1
	Oswestry	38.6	Corby	27.2
	Eastbourne	38.3	Southwark	27.8
	Craven	37.0	Hertsmere	27.8
Other	Bournemouth	32.1	Tameside	21.6
	Worthing	31.9	Eastbourne	21.9
	Rushcliffe	31.7	Ryedale	22.1
	Lambeth	31.5	Wealden	22.2
	Taunton Deane	31.4	Eden	22.4
Respiratory disease	Hertsmere	18.1	Richmondshire	10.1
	Burnley	17.8	Cambridge	10.2
	Barking and Dagenham	17.1	South Norfolk	10.3
	Pendle	16.8	West Devon	10.5
	Epsom and Ewell	16.8	North Norfolk	10.6

Notes: Penwith includes the Isles of Scilly Local Authority and Hackney includes City of London Local Authority.

Source: South West Public Health Observatory from Office for National Statistics data

Table I4: Proportion of deaths by age group and Local Authority, 2005–07

Sex and age	Percentage of deaths 2005–07			
	Highest five Local Authorities (Highest first)		Lowest five Local Authorities (Lowest first)	
Persons, under 65 years	Hackney	29.6	East Dorset	9.5
	Haringey	28.8	Christchurch	10.0
	Newham	28.7	Rother	10.3
	Lambeth	28.4	East Devon	10.3
	Southwark	27.8	West Dorset	10.9
Persons, 65–84 years	Knowsley	57.4	Worthing	41.5
	Harlow	57.3	Waverley	42.0
	Sedgefield	56.8	Barnet	42.2
	Hartlepool	55.8	Eastbourne	42.6
	South Tyneside	55.7	Bournemouth	42.6
Persons, 85 years and over	Worthing	47.3	Tower Hamlets	21.4
	Rother	45.8	Knowsley	21.9
	East Devon	45.4	Hackney	22.2
	Waverley	45.3	Corby	23.1
	Eastbourne	45.0	Newham	23.8

Notes: Hackney includes City of London Local Authority.

Source: South West Public Health Observatory from Office for National Statistics data

Further information

This report is available online at:

www.endoflifecare-intelligence.org.uk

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About the National End of Life Care Intelligence Network

The Department of Health's National End of Life Care Strategy, published in 2008, pledged to commission a National End of Life Care Intelligence Network (NEoLCIN). The Network was launched in May 2010. It is tasked with collating existing data and information on end of life care for adults in England. This is with the aim of helping the NHS and its partners commission and deliver high quality end of life care, in a way that makes the most efficient use of resources and responds to the wishes of dying people and their families.

Key partners include the National Cancer Intelligence Network (NCIN), which will work closely with the Network to improve end of life care intelligence; and the South West Public Health Observatory, lead public health observatory for end of life care, which hosts the NEoLCIN website. The SWPHO has been commissioned to produce key outputs and analyses for the Network, including the national End of Life Care Profiles.

See www.endoflifecare-intelligence.org.uk for more information about the Network and its partners.

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