National end of life care
INTELLIGENCE NETWORK

NHS
National End of Life
Care Programme
Improving end of life care

Deaths from Respiratory Diseases: Implications for end of life care in England

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SOUTH WEST PUBLIC HEALTH OBSERVATORY

Contents

1.0 Introduction

1.1 Background

Fourteen per cent of all deaths in England in the three-year period 2007–09 were from respiratory diseases, i.e. a respiratory disease was recorded as the underlying cause on the death certificate. This proportion increased to 20% when lung cancer deaths were included.

The proportion of all deaths in England with a mention of respiratory disease on the death certificate, in the same time period, was 34% (39% when lung cancer was included).

It is already known (National End of Life Care Intelligence Network, 2010) that, of the main causes of death in England (cancer, cardiovascular disease, respiratory diseases, and 'other'), respiratory diseases (excluding lung cancer) are the underlying cause of death category for which the highest proportion of patients die in hospital (69%) and the lowest proportion die in their own residence (13%). Also:

- there are relatively few respiratory (excluding lung cancer) deaths in hospices;
- there is a higher proportion of respiratory (excluding lung cancer) deaths in the most deprived quintile; and
- the proportion of deaths due to respiratory diseases increases with age.

1.2 Aims

The aim of this report is to analyse the latest data on place of death for those with respiratory disease and how this varies with gender, age, socioeconomic deprivation and place. It presents high level analysis of mortality data from the Office for National Statistics (ONS).

The report was commissioned by the National End of Life Care Intelligence Network to support national end of life care service planning and development.

National strategy and policy supporting this work includes:

- the National End of Life Care Strategy (Department of Health, 2008);
- Chronic Obstructive Pulmonary Disease (COPD) Guidelines (National Institute for Health and Clinical Excellence, 2010);
- Pulmonary Rehabilitation Guidelines (National Institute for Health and Clinical Excellence, 2006);
- Public Health Outcomes Framework (Department of Health, 2010a); and
- the NHS Transparency in Outcomes Impact Assessment (Department of Health, 2010b).

In addition, a National Strategy for COPD is currently being produced by the Department of Health.

2.0 Respiratory disease categories

The following respiratory disease categories have been used in this report:

- Pneumonia and acute respiratory infection
- Asthma
- Chronic lung disease – also broken down to the level of Interstitial Lung Disease (ILD), Bronchiectasis and COPD
- Lung cancer
- All others.

These categories were approved by clinical leads from the NHS Lung Improvement Programme.

3.0 Methodological notes

3.1 Source of data

All data presented in this report are from the Office for National Statistics (ONS) mortality files. The mortality files contain extracts from death certificates. Key data items used for this analysis include place of death, postcode of 'normal' place of residence, date of birth, gender and cause of death.

3.2 Analysis

Data in this report are presented as absolute numbers and proportions, rather than age-specific or age-standardised rates, to support service planning.

3.3 Place of death

The ONS describes place of death as one of 84 communal establishment types or 'own residence' or 'elsewhere'. These are categorised further by ONS in their *DH1 General Mortality Statistics* publication:

- **Hospital**: NHS or non-NHS, acute, community or psychiatric hospitals/units;
- **Own residence**: the death occurred in the place of usual residence where this is not a communal establishment;
- **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. At present ONS classifies the place of death as hospice only when the event occurred in a free standing hospice premises. These data will therefore under-report deaths in hospices as some will be recorded as a death in hospital.
- **Elsewhere**: other communal establishment or a private address other than normal place of residence or outdoor location or nil recorded.

3.4 Analysis by deprivation quintile

Lower Super Output Areas (LSOAs) are small geographical areas specifically devised to improve the reporting and comparison of local statistics. In 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 an equal resident population.

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

3.5 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 coding system is used to categorise cause of death in this report as follows:

- Pneumonia and acute respiratory infection J06–18 and J20–22
- Asthma J45 and J46
- Chronic lung disease J40–44 and J47
- All Others (Remaining codes J00–99)
- Lung cancer C33–C34

Following clinical input, 'chronic lung disease' has been further broken down to include the categories:

- Interstitial Lung Disease (ILD) J84
- Bronchiectasis J47
- COPD J40–J44

The 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"* and is the cause of death data recorded on a death certificate.

Death certificates also record 'contributory cause' of death where a disease or condition has contributed to the death but is not part of the causal sequence; and also up to 15 diseases or conditions which were part of the causal sequence of events leading to death. For the purpose of this report 'mentions' refer to those deaths where respiratory disease is recorded as either the underlying or contributory cause of death.

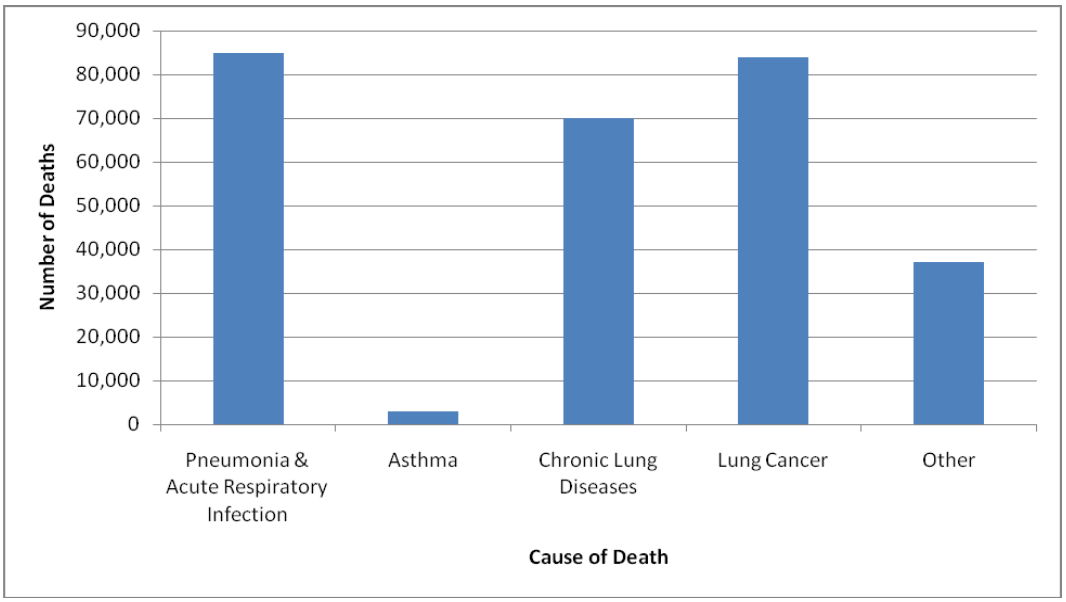
4.0 Results

As stated in the introduction 14% (20% if lung cancer included) of all deaths in England for the period 2007–09 were from respiratory diseases.

4.1 Underlying cause of death

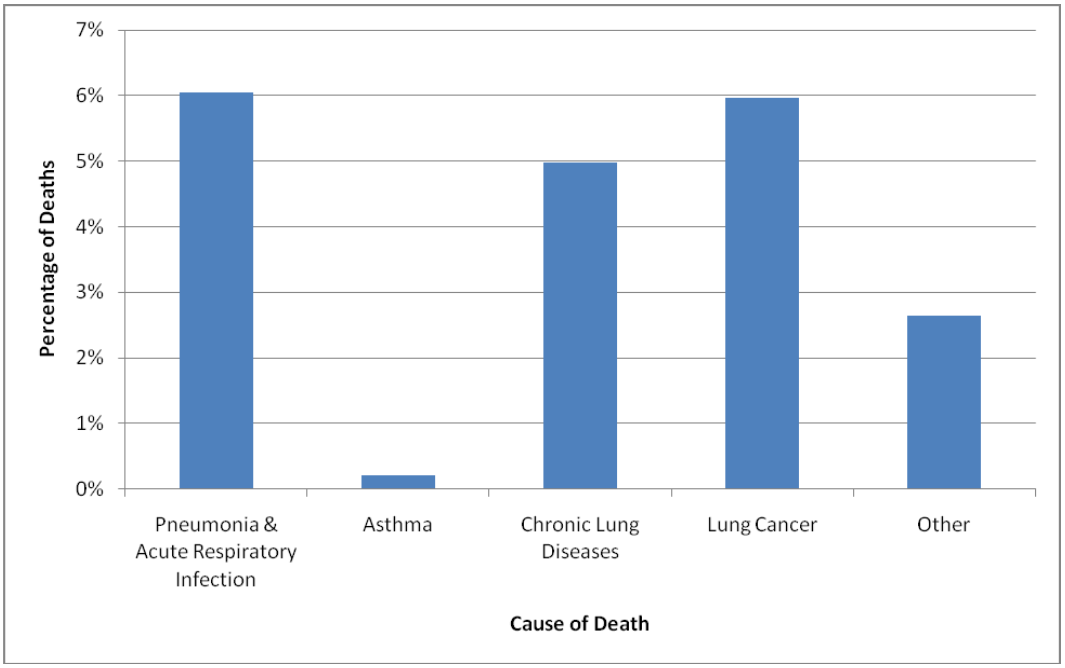
- Figures 1 and 2 show the cause of death by the main respiratory disease categories of 'pneumonia and acute respiratory infection', asthma, chronic lung disease, lung cancer, 'other' (not captured by previous categories) in absolute numbers and proportions respectively.
- As shown in Figures 1 and 2, the proportion of respiratory deaths is highest for 'pneumonia and acute respiratory infection' (6% of all deaths in England; 85,024 deaths over the three-year period) and lung cancer (6% of all deaths in England; 83,962 deaths over the three-year period). There is further discussion on this point, in relation to clinical practice at the end of life and the possible 'over-diagnosis' of pneumonia, in Section 7.2.
- Chronic lung diseases account for 5% of all deaths in England (69,972 deaths over the three-year period), while asthma accounts for only 0.2% of all deaths in England (2,927 deaths over the three-year period).

Figure 1: Cause of death ('underlying' cause): number of deaths in England, 2007–09



Source: ONS mortality data

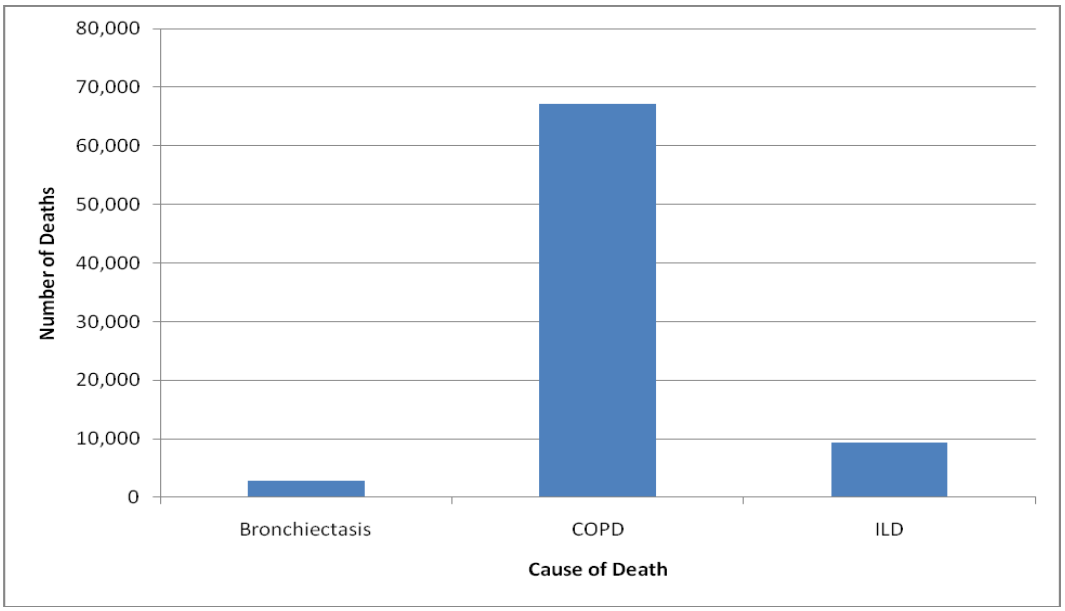
Figure 2: Cause of death ('underlying' cause): proportion of all deaths in England, 2007–09



Source: ONS mortality data

- COPD accounts for the majority of chronic lung disease deaths (85%; 67,253 deaths over the three-year period). Figures 3 and 4 present data for chronic lung disease in more detail and indicate that COPD accounted for 4.8% of all deaths in England between 2007 and 2009. This relatively high proportion is important when considering end of life care for patients with chronic lung disease, as it highlights the need to focus particular attention on the requirements of patients with COPD and the need to raise awareness of COPD as a life limiting condition.

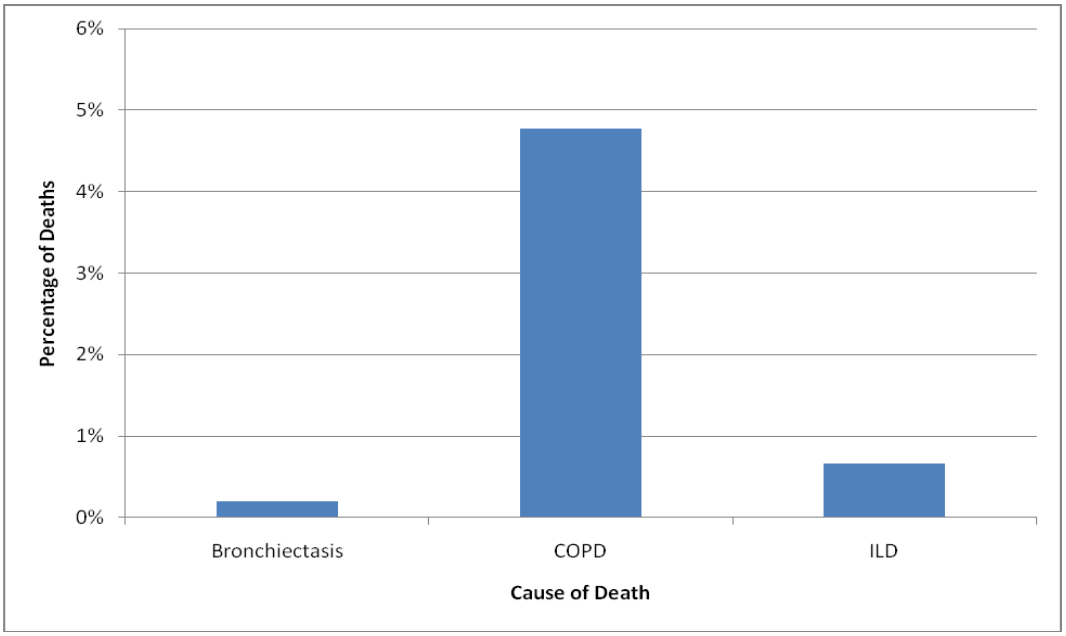
Figure 3: Cause of death: chronic lung diseases (underlying cause): number of deaths in England, 2007–09



Note: ILD (Interstitial Lung Disease) is included in Figures 3 and 4 as a chronic lung disease but is included in the category 'other' throughout the rest of the report.

Source: ONS mortality data

Figure 4: Cause of death: chronic lung disease (underlying cause): proportion of all deaths in England, 2007–09

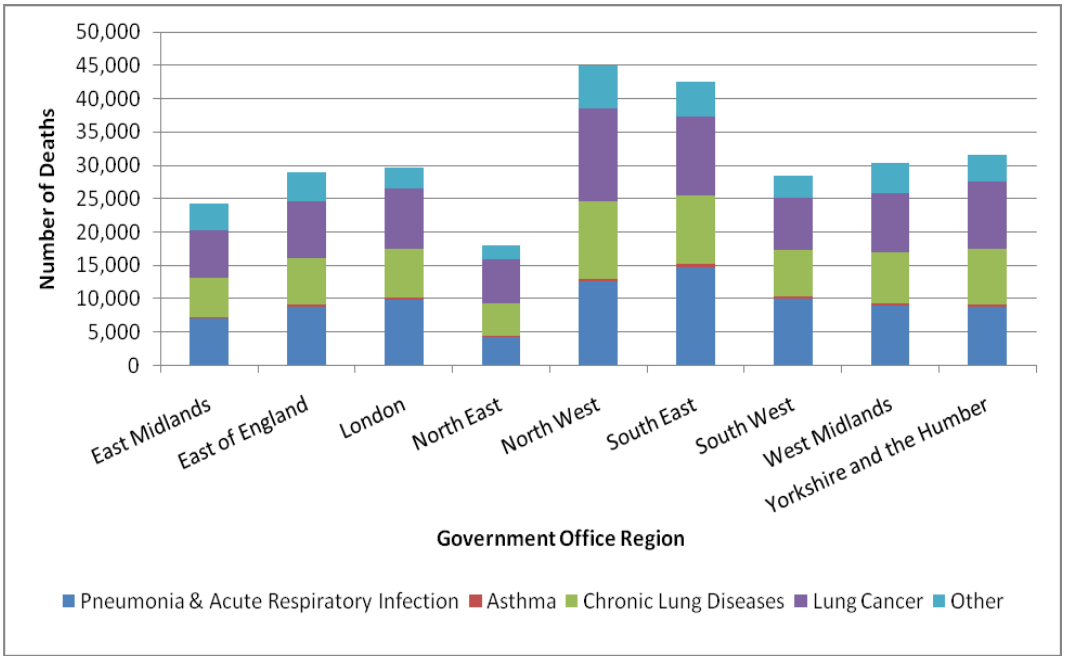


Note: ILD (Interstitial Lung Disease) is included in Figures 3 and 4 as a chronic lung disease but is included in the category 'other' throughout the rest of the report.

Source: ONS mortality data

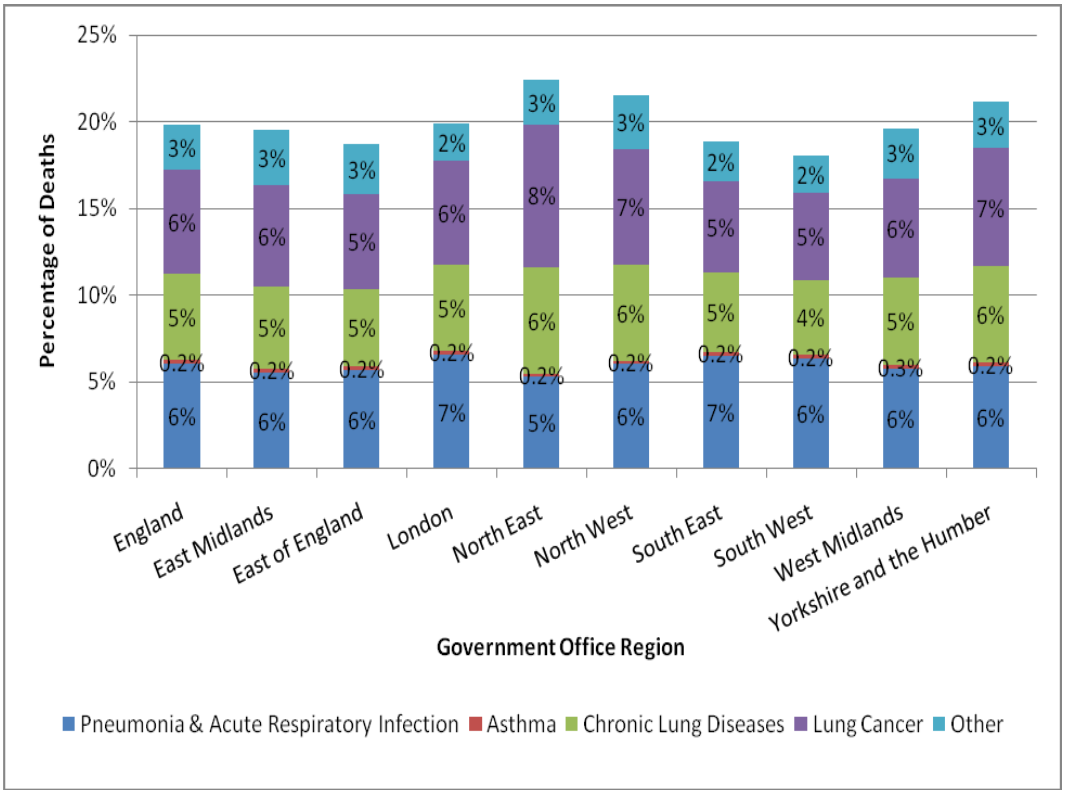
- Figures 5 and 6 show a similar pattern of deaths by respiratory disease categories across England at Government Office Region level. However, it is interesting to note that the proportion of deaths from chronic lung disease varies significantly from region to region (from 22% in the North East to 18% in the South West), mirroring the pattern of death from smoking related diseases.

Figure 5: Cause of death by Government Office Region: number of deaths by Government Office Region in England, 2007–09



Source: ONS mortality data

Figure 6: Cause of death by Government Office Region: proportion of all deaths by Government Office Region in England, 2007–09

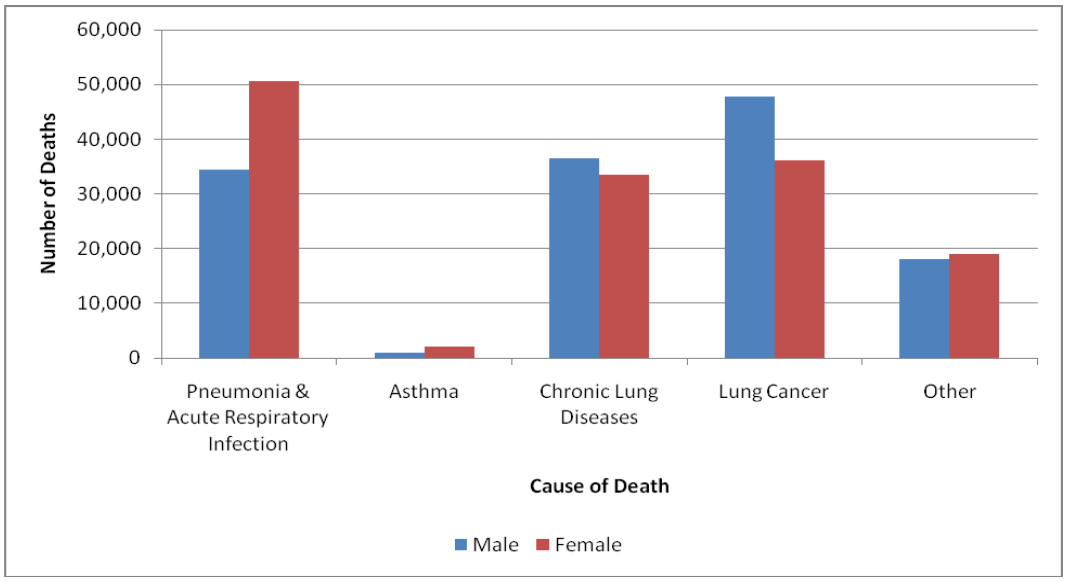


Source: ONS mortality data

4.2 Underlying cause of death by gender

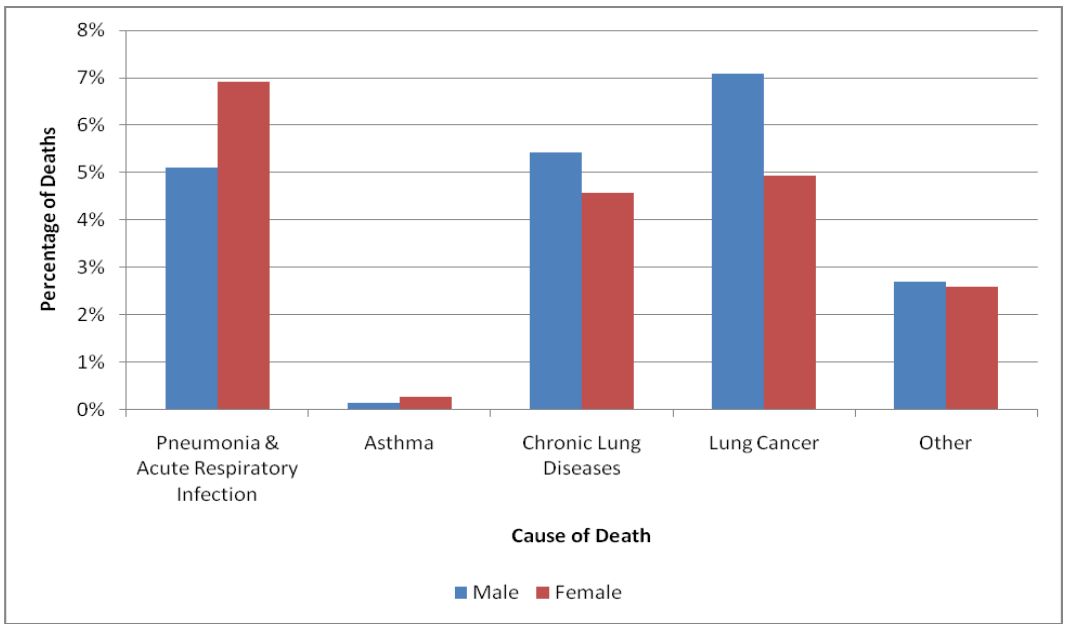
- Figures 7 and 8 indicate that a higher proportion of deaths from 'pneumonia and acute respiratory infection' occurred amongst females in the three-year period 2007-09 (5% of all male deaths in England; 34,400 deaths and 7% of all female deaths in England; 50,624 deaths). Deaths from asthma are also shown to be marginally higher amongst females compared to males.
- The proportion of deaths for the other categories of respiratory disease (chronic lung disease, lung cancer and 'other') are shown in Figures 7 and 8 to be highest amongst males.

Figure 7: Cause of death ('underlying' cause) by sex: number of deaths in males and females in England, 2007–09



Source: ONS mortality data

Figure 8: Cause of death ('underlying' cause) by sex: proportion of all deaths in males and females in England, 2007–09

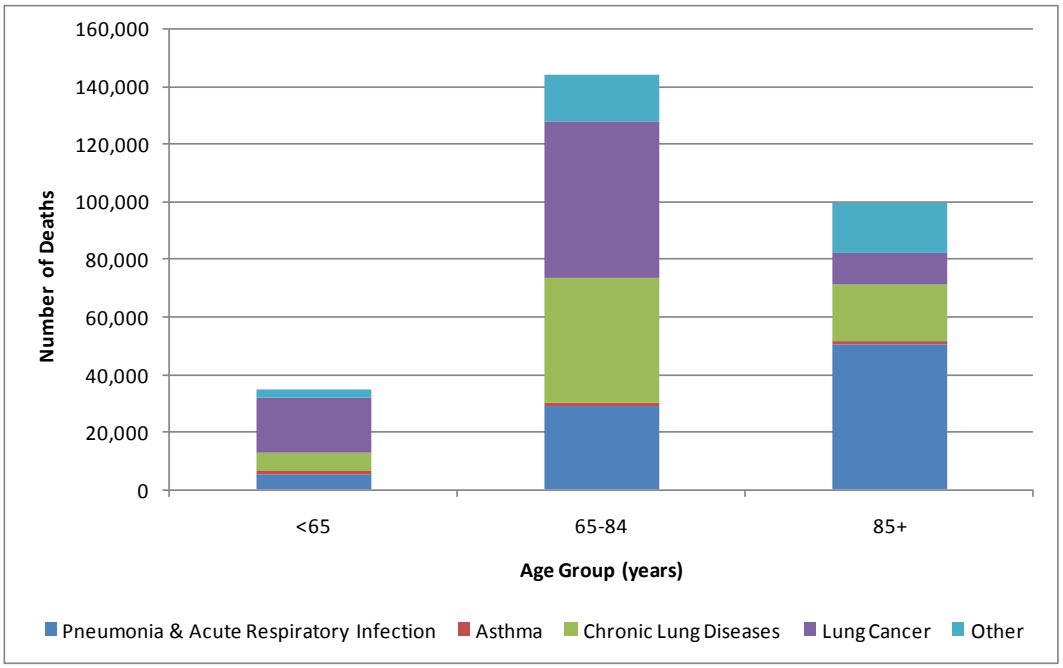


Source: ONS mortality data

4.3 Underlying cause of death by age

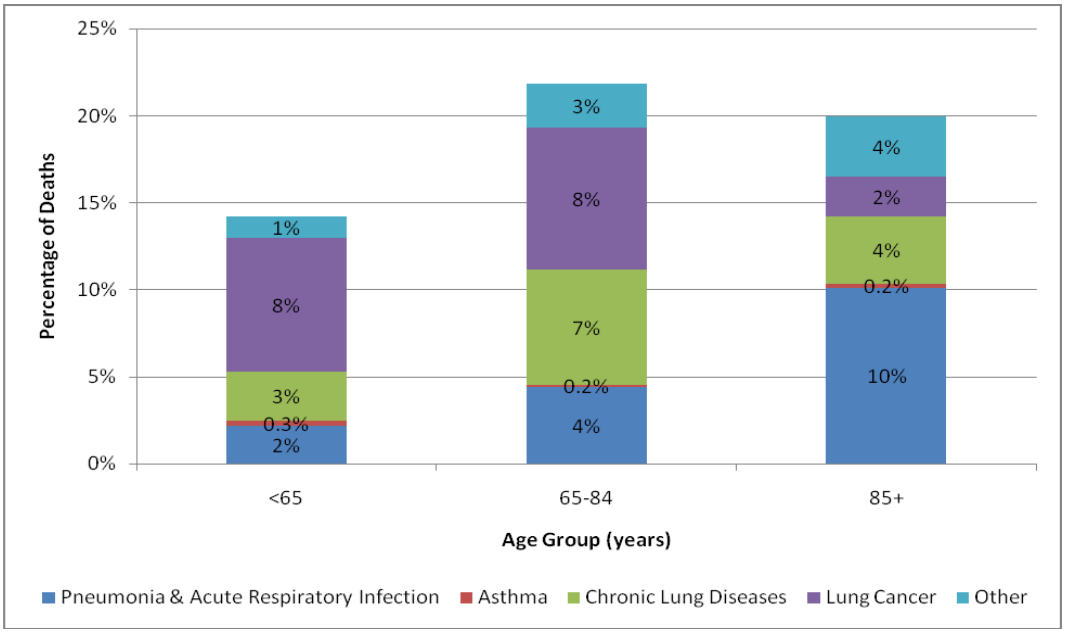
- Figures 9 and 10 show that, for the under 65 year age band, the highest proportion of respiratory disease deaths are from lung cancer (18,697 deaths over the three-year period 2007–09).
- For the 65–84 year age band, the highest proportion of respiratory disease deaths are from lung cancer and chronic lung diseases (54,002 deaths and 43,740 deaths respectively over the three-year period 2007–09).
- For the 85+ year age band, the highest proportion of respiratory disease deaths are from 'pneumonia and acute respiratory infection' (50,571 deaths over the three-year period 2007–09).

Figure 9: Cause of death ('underlying' cause) by age: number of deaths in each age group in England, 2007–09



Source: ONS mortality data

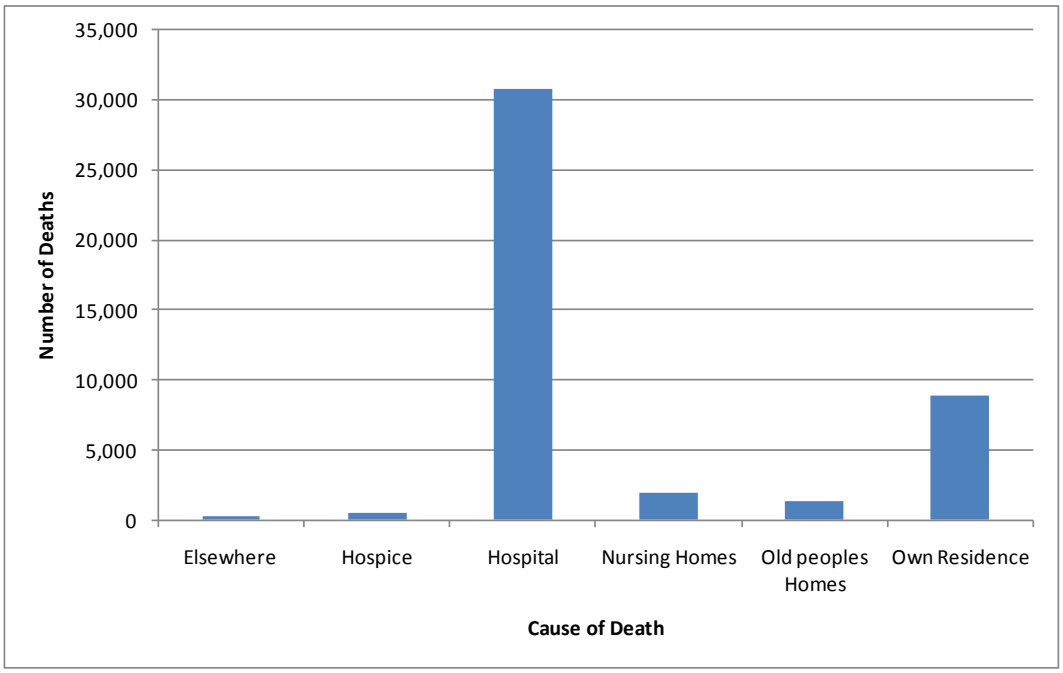
Figure 10: Cause of death ('underlying' cause) by age: proportion of all deaths in each age group in England, 2007–09



Source: ONS mortality data

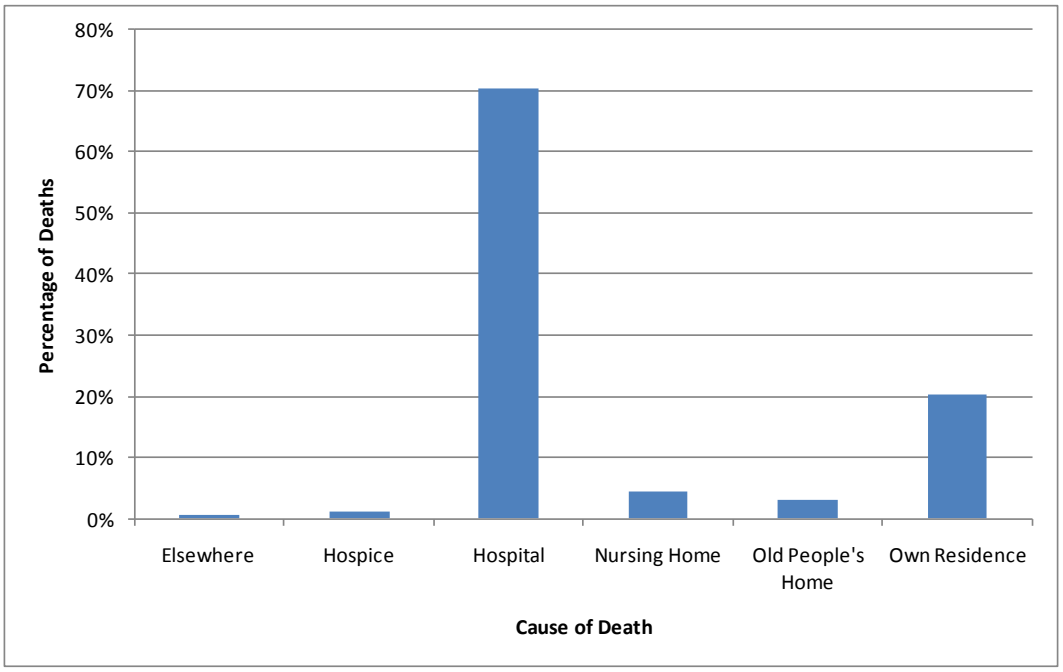
- Figures 11 and 12 show that the majority of chronic lung disease deaths in 65–84 year olds occur in hospital (70%), with most other deaths in this age group occurring in 'own residence' (20%).

Figure 11: Place of death (number of deaths) from chronic lung disease ('underlying cause', 65–84 year age band) England, 2007-09



Source: ONS mortality data

Figure 12: Place of death (proportion of all deaths) from chronic lung disease ('underlying cause') (65–84 year age band) England, 2007–09

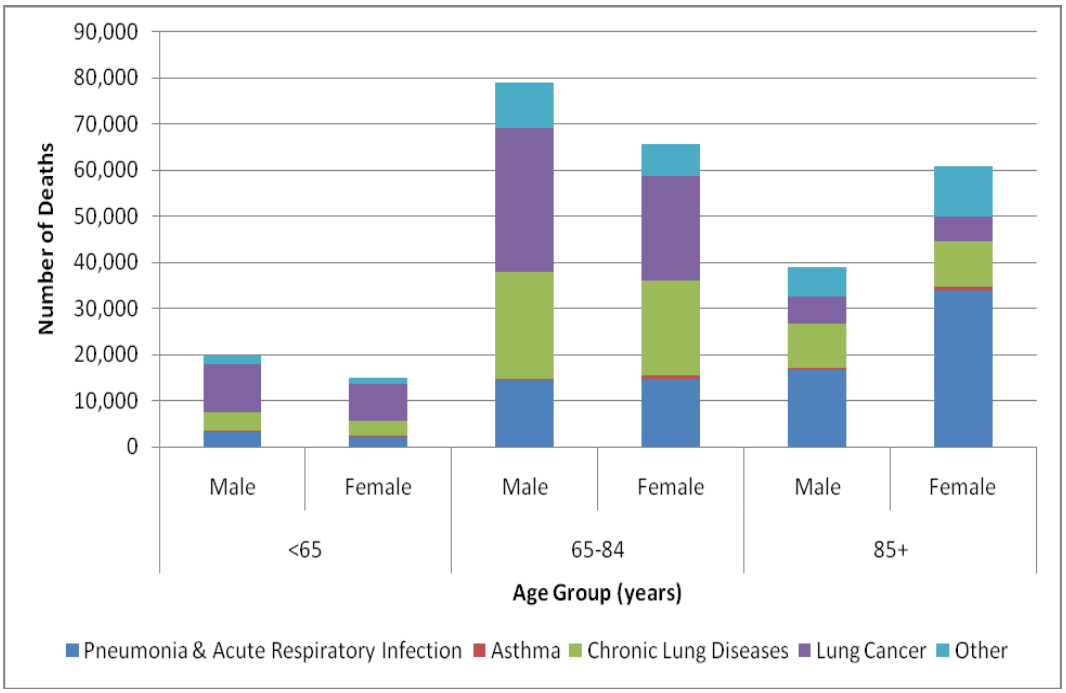


Source: ONS mortality data

4.4 Underlying cause of death by age and gender

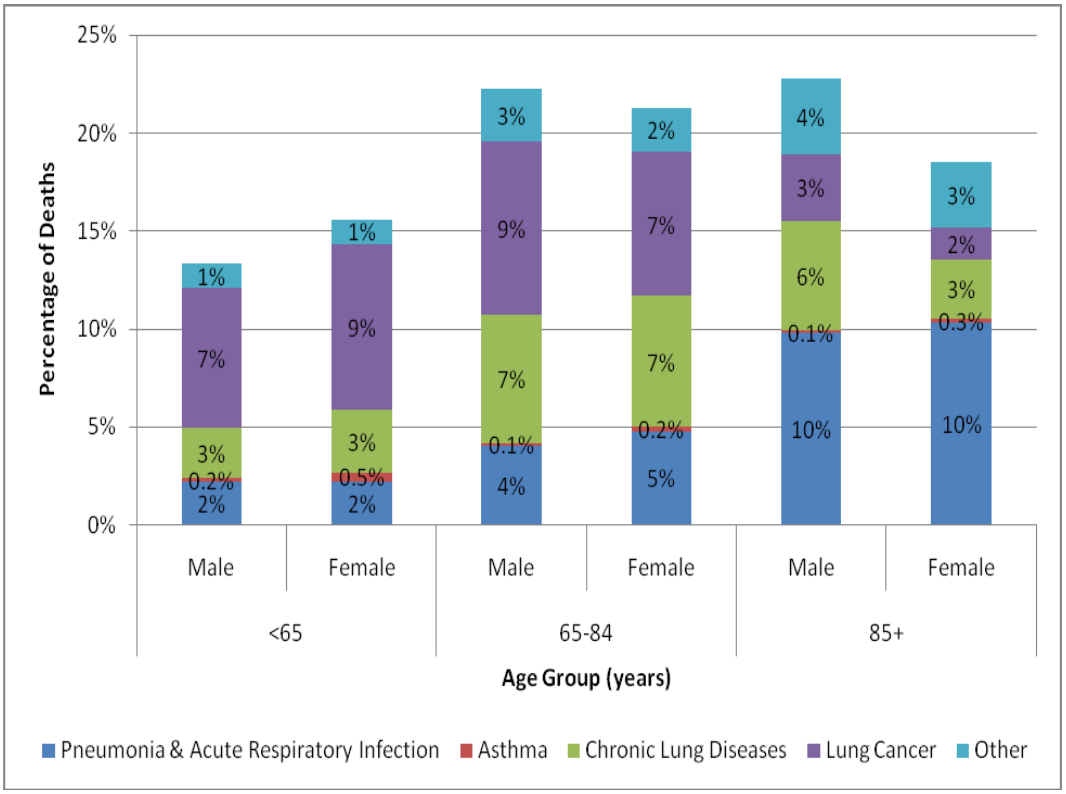
- Figure 14 shows a higher proportion of females dying from lung cancer in the under 65 age band than males (9% of all female deaths and 7% of all male deaths in England for the three-year period 2007–09) – although the absolute number is fewer for females than for males. This is partly because there are relatively fewer deaths from other causes in younger females. Further information on lung cancer deaths is shown in a recent South West Public Health Observatory publication *Lung Cancer Inequalities in the South West Region* (South West Public Health Observatory, 2009).
- A higher proportion of males in the 85+ age band die from chronic lung disease than females (6% of all male deaths and 3% of all female deaths in England for the three-year period 2007–09). Absolute numbers were similar for males and females, as shown in Figure 13. These similar absolute numbers reflect the larger number of females living longer than 85 years.
- The proportion of deaths from the other respiratory disease categories is similar for both males and females over the same time period.

Figure 13: Cause of death ('underlying' cause) by age and sex: number of deaths in males and females in each age group in England, 2007–09



Source: ONS mortality data

Figure 14: Cause of death ('underlying' cause) by age and sex: proportion of all deaths in males and females in each age group in England, 2007–09

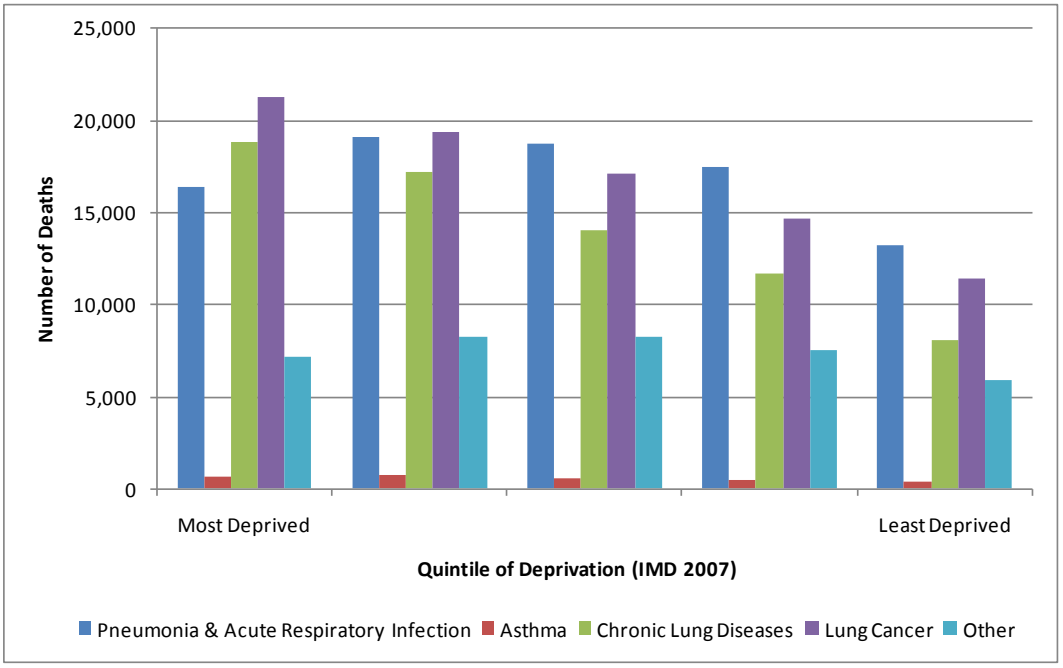


Source: ONS mortality data

4.5 Underlying cause of death by deprivation

- Figures 15 and 16 show that the number and proportion of patients dying from chronic lung diseases and lung cancer was greater in the most deprived quintiles, with a clear gradient from most to least deprived. For chronic lung diseases, 18,862 deaths occurred in people who had lived in the most deprived quintile in England compared to 8,112 who had lived in the least deprived quintile.
- In contrast, there is no clear gradient for 'pneumonia and acute respiratory infection' or asthma.
- This predominance of patients from more deprived quintiles dying from chronic lung diseases and lung cancer should be taken into account in designing communication and assessing psychosocial needs.

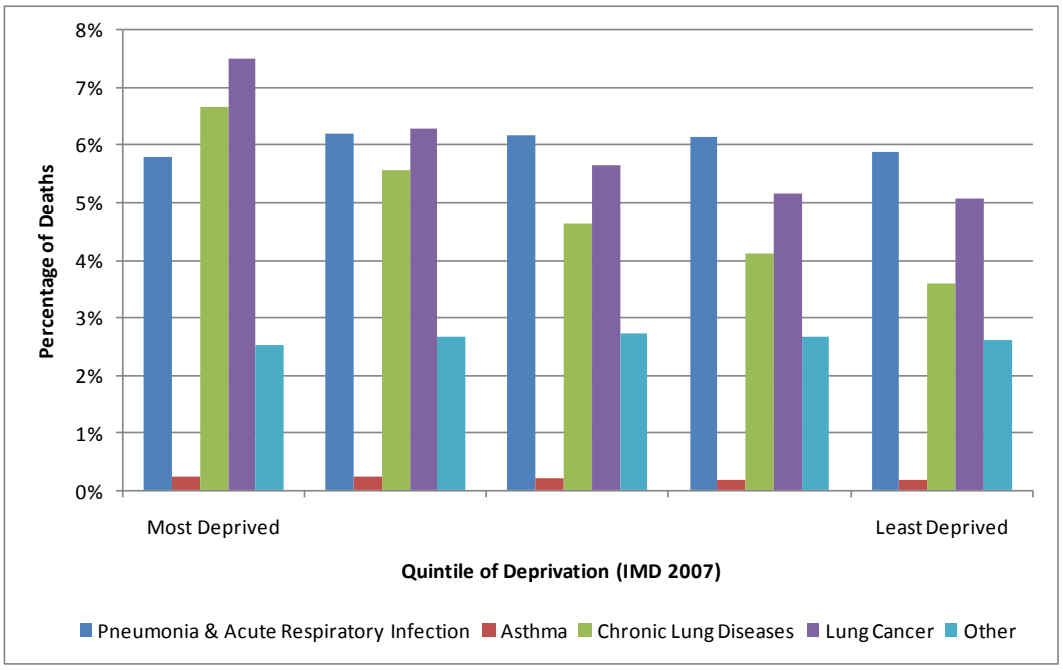
Figure 15: Cause of death ('underlying' cause) by deprivation quintile: number of deaths, England, 2007–09



Note: IMD=Index of Multiple Deprivation

Source: ONS mortality data

Figure 16: Cause of death ('underlying' cause) by deprivation quintile: proportion of all deaths in each deprivation quintile, England, 2007–09

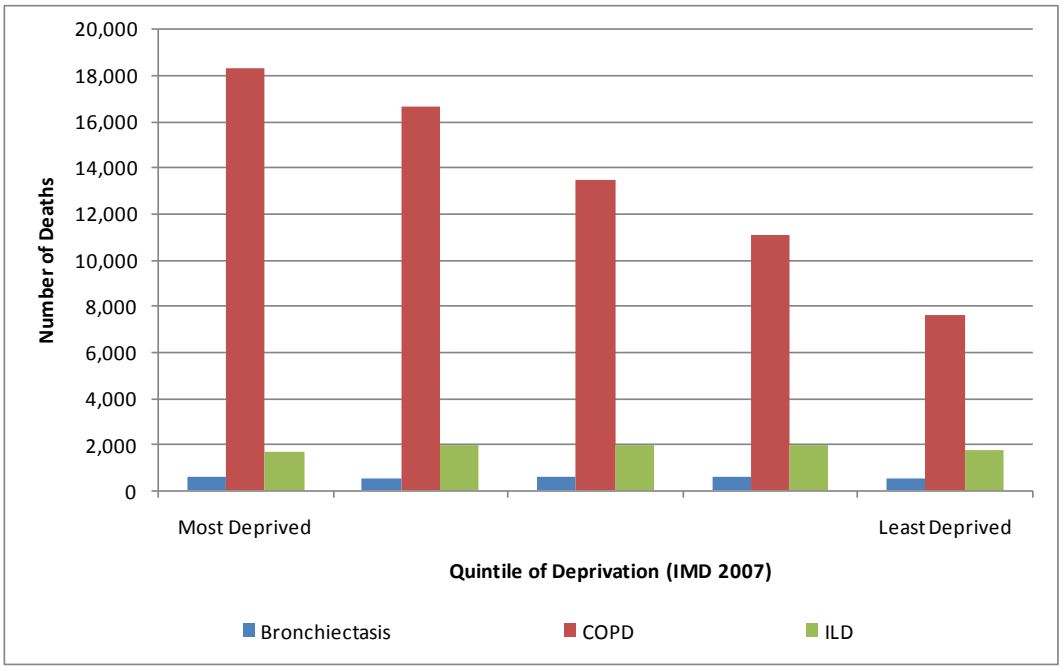


Note: IMD=Index of Multiple Deprivation

Source: ONS mortality data

- Figures 17 and 18 show there is a marked trend of more deaths and a greater proportion of deaths in the most compared to the least deprived quintile for COPD (18,293 deaths in the most deprived quintile and 7,618 deaths in the least deprived quintile), i.e. more than twice as many.

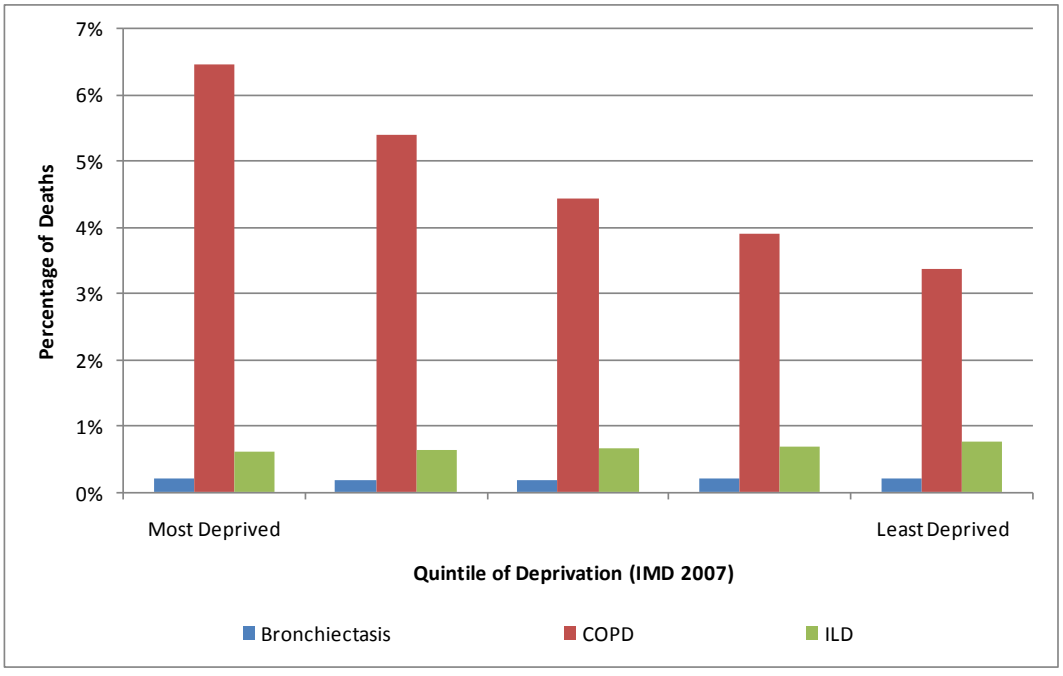
Figure 17: Cause of death: number of deaths by main chronic lung disease type, by deprivation quintile, 2007–09



Note: ILD – Interstitial Lung Disease; IMD=Index of Multiple Deprivation

Source: ONS mortality data

Figure 18: Cause of death: proportion of all deaths in each deprivation quintile by main chronic lung disease type, 2007–09



Note: ILD=Interstitial Lung Disease; IMD=Index of Multiple Deprivation

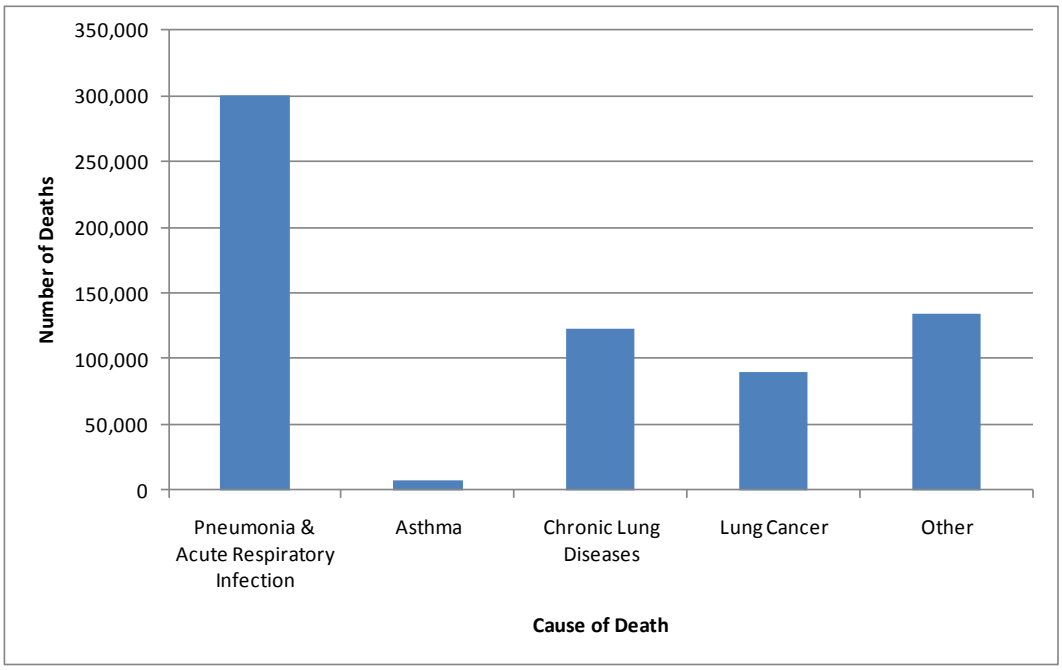
Source: ONS mortality data

4.6 Cause of death – any mention on the death certificate

In this section, we have examined the number and proportion of deaths for which respiratory disease is recorded as either the 'underlying' cause of death or as a contributory cause, defined here as 'mentions' (see Section 3.5).

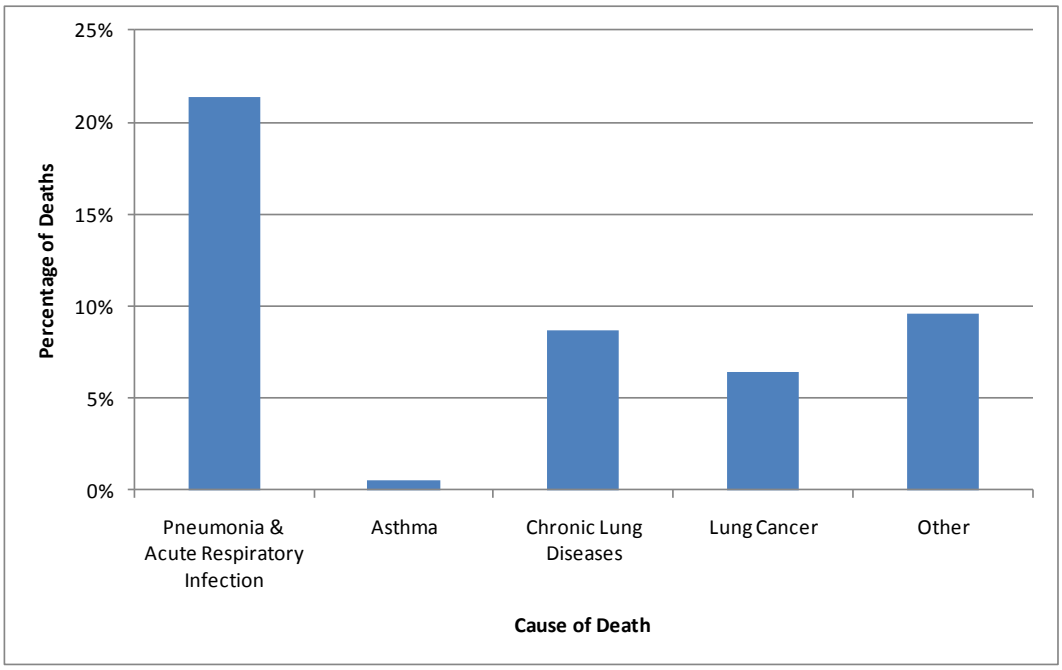
- Figures 19 and 20 show the number of deaths where respiratory disease is a 'mention' on death certificates. The value is high, notably for 'pneumonia and acute respiratory infection' (300,461 deaths; 21% of all deaths in England for the three-year period 2007–09).
- Figures 21 and 22 show that for 'pneumonia and acute respiratory infection' the number and proportion of deaths in the same three-year period are greater amongst females. For the other respiratory disease categories the number and proportion are greater amongst males.

Figure 19: Respiratory cause of death as 'mentioned' in any cause field (contributory and underlying): number of deaths in England, 2007–09



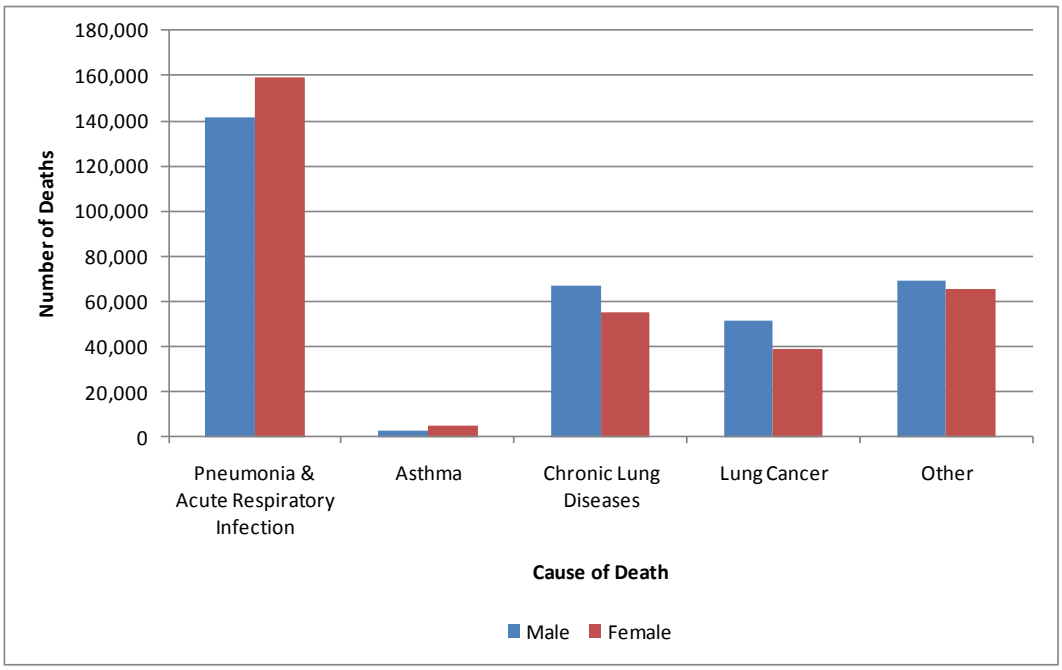
Source: ONS mortality data

Figure 20: Respiratory cause of death as 'mentioned' in any cause field (contributory and underlying): proportion of all deaths in England, 2007–09



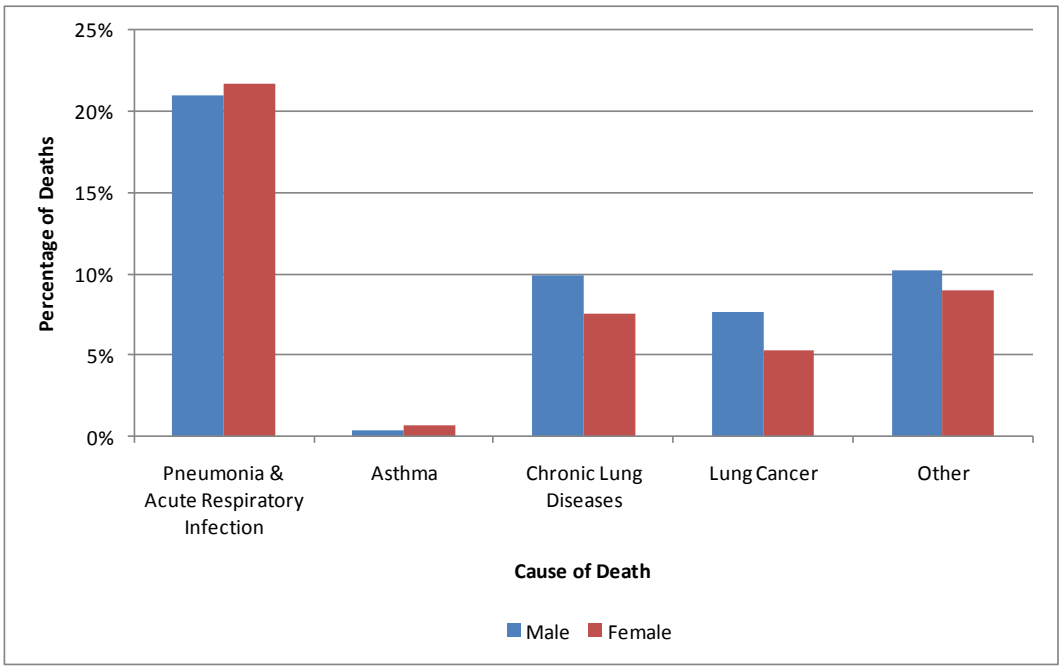
Source: ONS mortality data

Figure 21: Respiratory cause of death as 'mentioned' in any cause field (contributory and underlying): number of deaths in males and females in England, 2007–09



Source: ONS mortality data

Figure 22: Respiratory cause of death as 'mentioned' in any cause field (contributory and underlying): proportion of all deaths in males and females in England, 2007–09

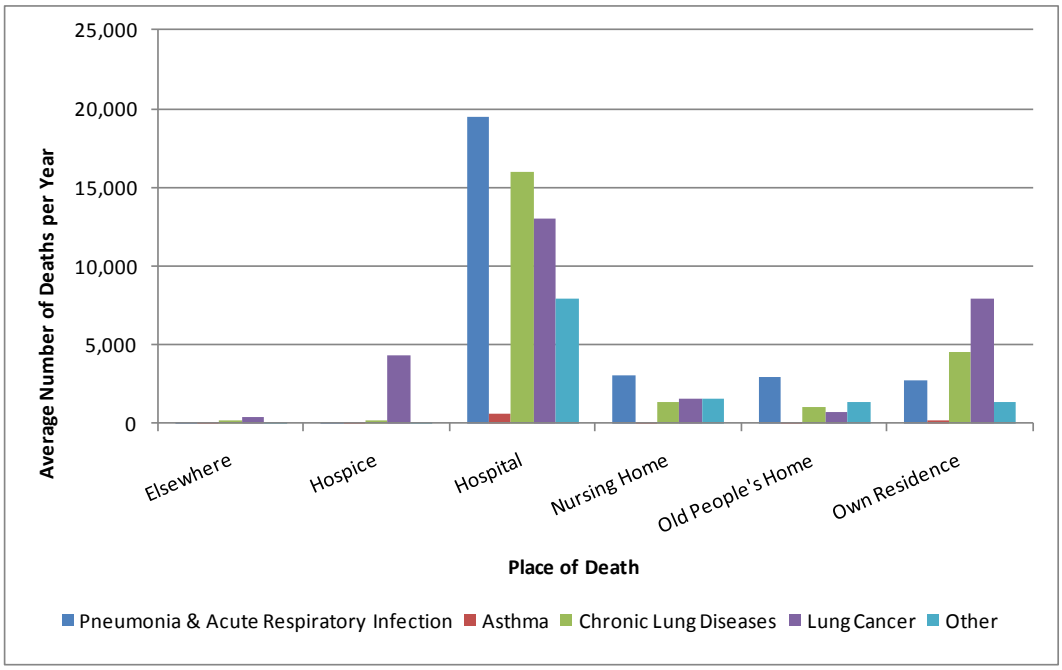


Source: ONS mortality data

4.7 Place of death

- Figure 23 shows that, of the respiratory disease categories, the highest number of deaths occurred as a result of 'pneumonia and acute respiratory infection', with the average number of deaths per year in this category as follows:
    - 19,430 in hospitals;
    - 3,025 in nursing homes; and
    - 2,966 in old people's homes.
- It is worth noting that there are virtually no deaths from 'pneumonia and acute respiratory infection' recorded as the 'underlying' cause of death in hospices. There may be real differences due to older age distributions of those who die in hospitals and care homes compared with hospices, and predominantly non-cancer co-morbidities and fragility. There may also be some differences in medical practices in the recording of pneumonia, in particular, as the 'underlying' cause of death.
- Figure 23 indicates that a high number of deaths from chronic lung disease occur in hospital (average number of deaths of 15,958 per year). These data suggest that further work to assess the potential to increase community-based end of life care for this group may be beneficial.

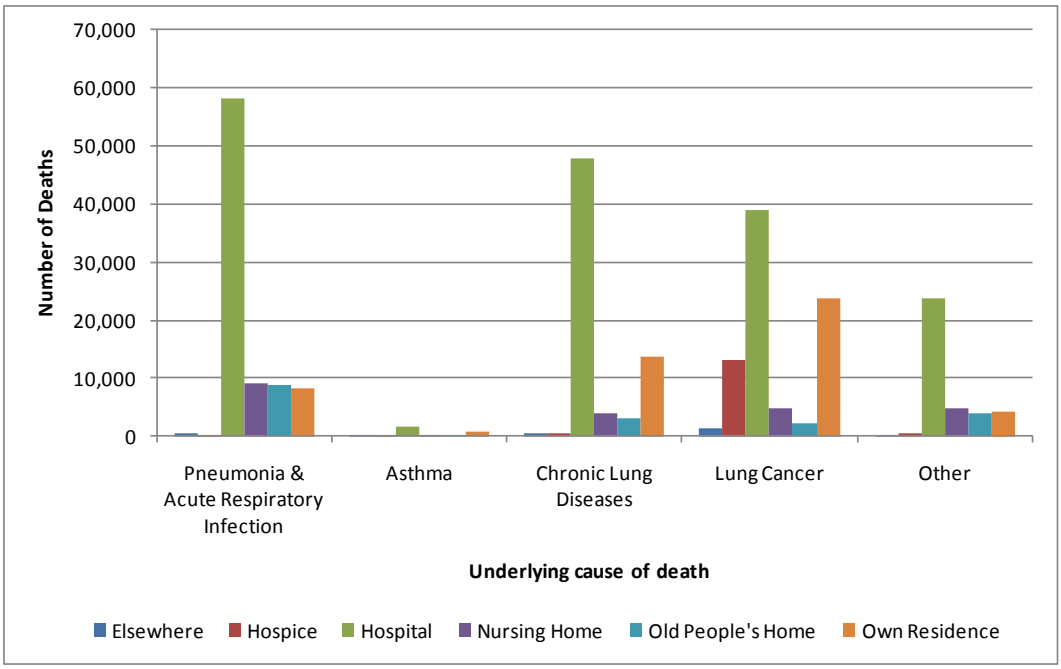
Figure 23: Place of death by underlying cause: average number deaths per year in England, 2007–09



Source: ONS mortality data

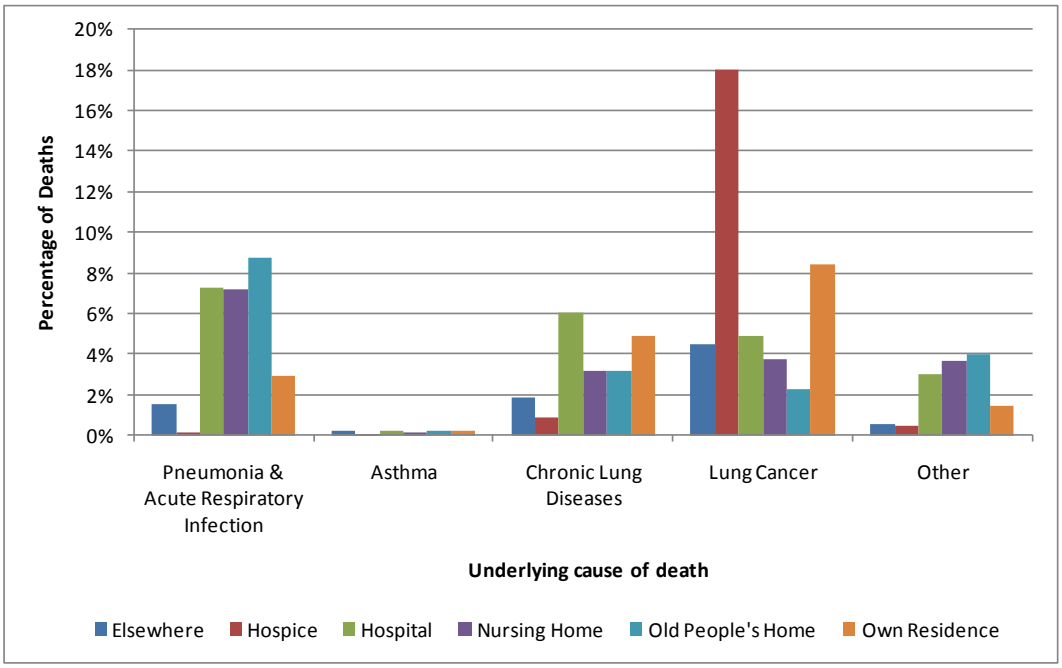
- Figures 24 and 25 display the above data in a format that enables a comparison of absolute numbers and proportions.
- Figure 25 shows that 'pneumonia and acute respiratory infection' accounted for 9% of all deaths in old people's homes in England over the three-year period 2007–09, and around 7% in nursing homes and hospitals. Chronic lung disease accounted for 6% of all deaths in hospital, while lung cancer accounted for 18% of all deaths in hospices and asthma for 0.2% of all deaths in hospital over the same time period.

Figure 24: 'Underlying' cause of death by place: number of deaths, England, 2007–09



Source: ONS mortality data

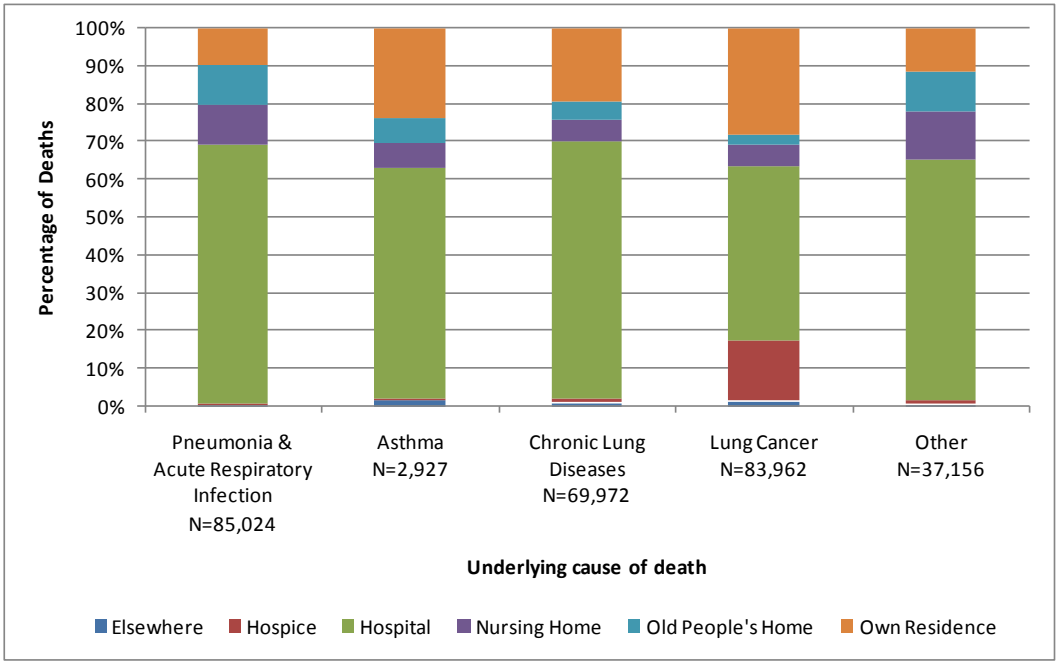
Figure 25: 'Underlying' cause of death by place: proportion of all deaths, England, 2007–09



Source: ONS mortality data

- Figure 26 shows that a higher proportion of deaths from lung cancer occur in hospices (16%) compared to deaths from other respiratory causes that occur in hospices (approximately 1%).
- The highest proportion of deaths at home are deaths from lung cancer and asthma, 28% and 24% respectively.

Figure 26: 'Underlying' cause of death by place: proportion of all deaths in respiratory disease type group in England, 2007–09

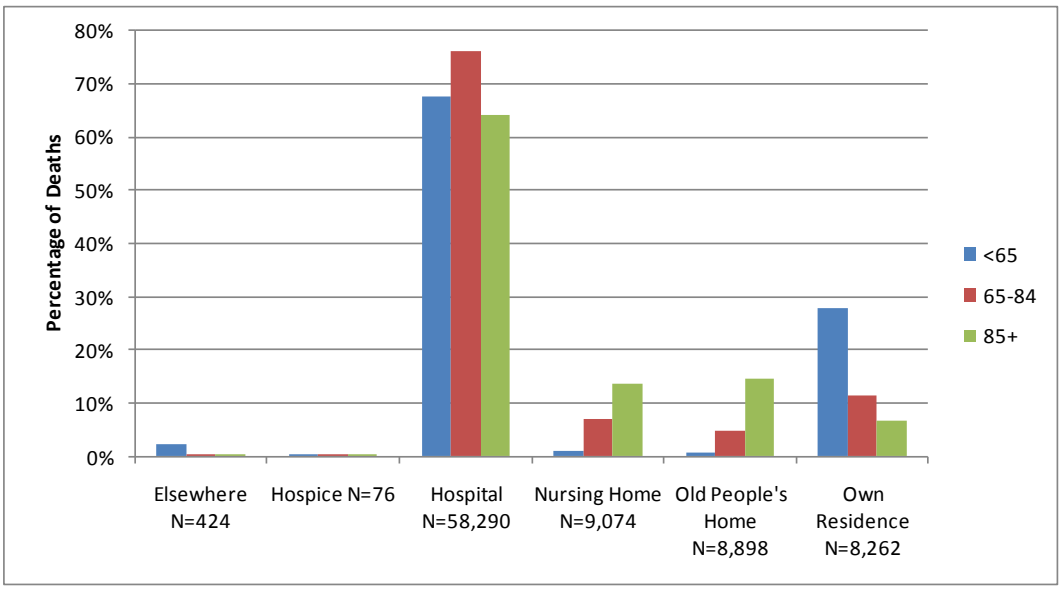


Source: ONS mortality data

- Figure 27 shows that a higher proportion of the people in the 65–84 age group who die from 'pneumonia and acute respiratory infection' die in hospital (76%) than those in the other age groups who die of the same underlying cause (64%–68%).
- Of those people who die from 'pneumonia and acute respiratory infection', a higher proportion of the under 65 age group die in their own residence (28%) than those in the other age groups (7%–12%).
- Figure 28 shows the proportion of deaths from asthma by age group in each place of death.
- Figure 29 shows that a higher proportion of people in the under 65 age group who die from chronic lung disease do so in their 'own residence' (30%) than in the other age groups (14%–20%).
- Figure 30 shows that a similar proportion of the people in all age groups who die from lung cancer die in hospital (46%–47%).
- Of those people who die of lung cancer, a higher proportion of the under 65 age group die in a hospice (20%) than those in the other age groups (10%–15%).

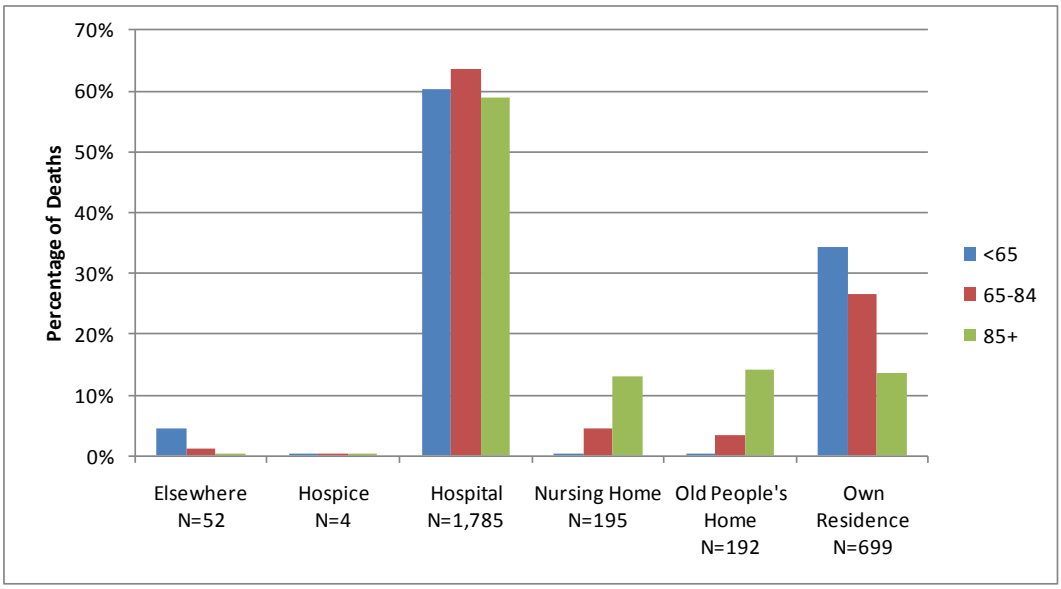
See the Appendix for an alternative presentation of these data – by place of death and age band.

Figure 27: Proportion of all pneumonia and acute respiratory infection deaths ('underlying' cause) by age band and place of death, England, 2007–09



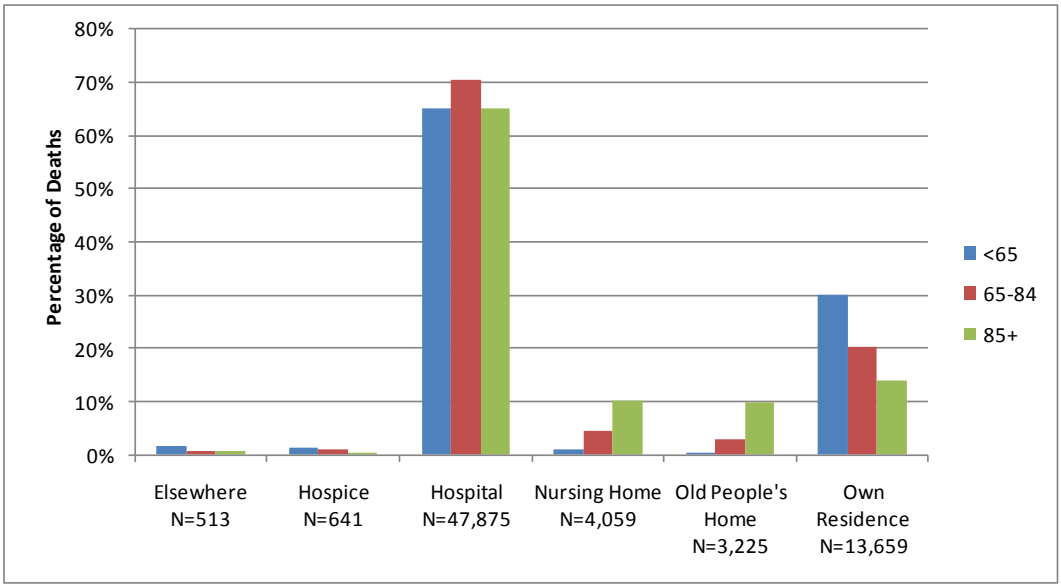
Source: ONS mortality data

Figure 28: Proportion of all asthma deaths ('underlying' cause) by age band and place of death, England, 2007–09



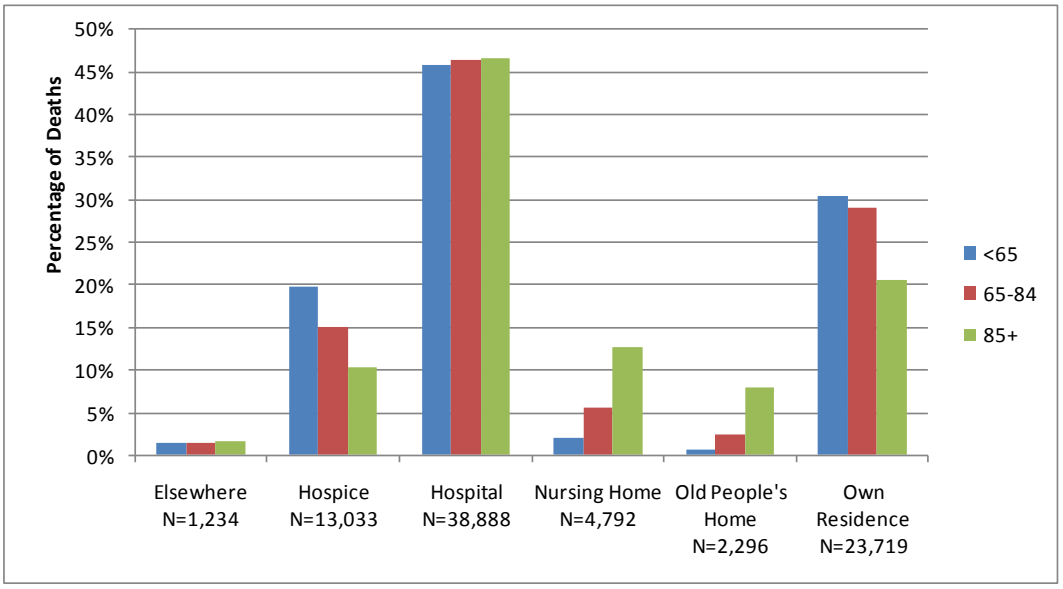
Source: ONS mortality data

Figure 29: Proportion of all chronic lung disease deaths ('underlying' cause) by age band and place of death, England, 2007–09



Source: ONS mortality data

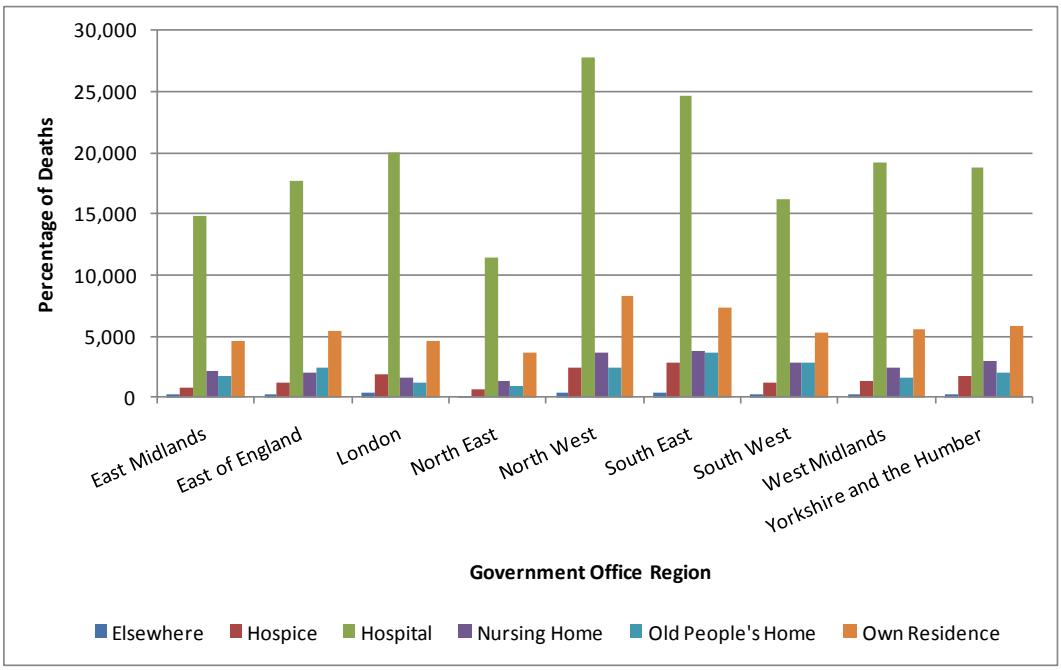
Figure 30: Proportion of all lung cancer deaths ('underlying' cause) by age band and place of death, England, 2007–09



Source: ONS mortality data

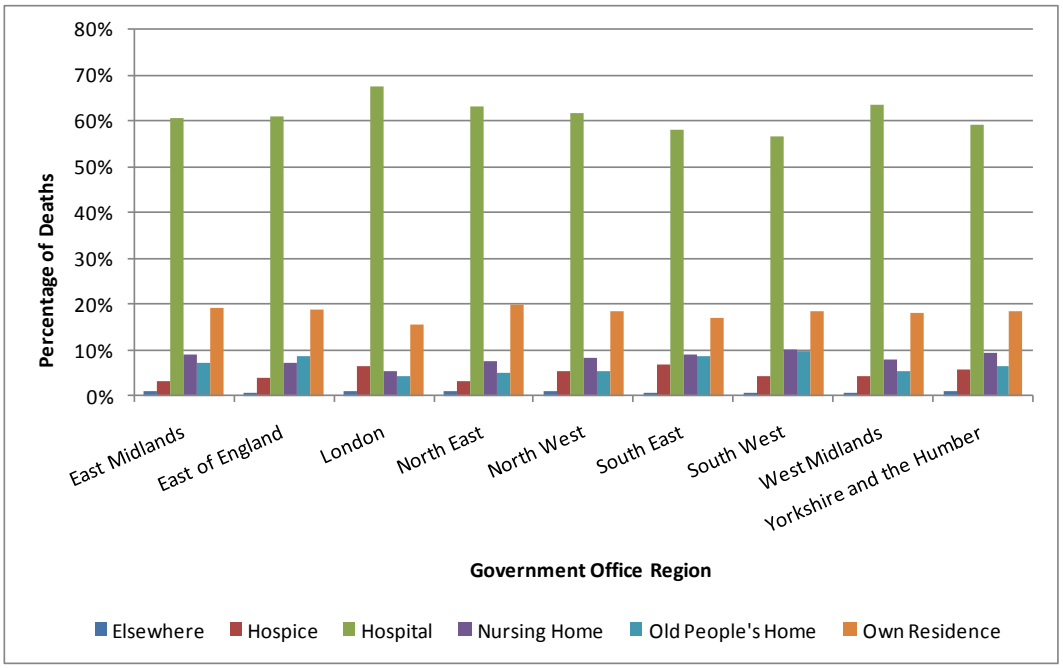
- Figures 31 and 32 show similar place of death patterns for those dying from respiratory diseases across Government Office Regions. However, the absolute numbers vary strikingly, not reflecting differences in size of the population. For example, there are relatively few deaths from respiratory diseases in London but London is the region with the highest proportion of deaths from respiratory diseases in hospital.

Figure 31: Place of death for respiratory diseases as the 'underlying' cause: number of deaths by Government Office Region in England, 2007–09



Source: ONS mortality data

Figure 32: Place of death for respiratory diseases as the 'underlying' cause: proportion of deaths by Government Office Region in England, 2007–09



Source: ONS mortality data

5.0 Respiratory disease, patient choice and end of life care

There are a number of key factors pertaining to end of life care for patients with respiratory diseases which point to the need for enhanced training for health and social care professionals and improved generic and specific service provision:

- The disease trajectories for respiratory diseases are varied but have important implications for advance care planning. For example, for COPD the disease trajectory is unpredictable in that, despite there being a slow decline, this decline is punctuated by acute exacerbations of symptoms (Spathis & Booth, 2008). For patients with a chronic decline, it is important to enable them to express and record their wishes with respect to their care at the end of life, including those both positively and negatively expressed (I would like; I would not like). It is also important to ensure that professionals are aware of the legal status of a statement of wishes and preferences or an advance decision to refuse treatment. For respiratory disease patients, because of their fluctuating course, it must also be clear that they have the right to change their mind about earlier decisions in the light of changing circumstances.
- There is evidence to suggest that patients with COPD in particular are generally unaware that COPD is life threatening and have "*unmet communication and information needs*" in terms of end of life care (Spathis & Booth, 2008).
- There is evidence to suggest that more patients with COPD wish to discuss end of life care and prognosis with a health professional than currently occurs (Dean, 2007).
- It has been suggested that fear of uncontrolled symptoms, for example breathlessness, which can be accompanied by considerable distress and anxiety for patients and carers, are a significant factor in the high levels of deaths in hospital.
- Evidence suggests that the physical and psychosocial needs of patients with chronic lung diseases at the end of life are at least as intensive as for patients with lung cancer (Edmonds et al, 2001), but end of life care service provision is generally not as holistic.

- In terms of preferred service provision, evidence suggests that patients (and carers) require "*early phased support*" and ongoing assessment of need throughout the *"lifetime journey with COPD"* (Pinnock et al, 2011).

6.0 Examples of good practice

Evidence suggests that models of good practice in relation to end of life care service provision for respiratory disease, in particular COPD, should involve multi-disciplinary teams at an early stage with services provided by both primary and secondary care, and an increased involvement of hospices (Seamark et al, 2007).

The NHS Improvement Programme identifies good end of life care practice for patients with respiratory disease, with particular focus on COPD. Projects include:

- a multi-disciplinary community-based COPD rehabilitation programme, 'Breathing Space', in Rotherham (NHS Improvement, 2011) to enable early assessment and access, pulmonary rehabilitation and inpatient care for acute exacerbations in the community; and
- an integrated care pathway in COPD involving palliative care medicine at Aintree University Hospitals NHS Trust (NHS Improvement, 2011) to trial an inter-disciplinary model integrating respiratory and palliative medicine specialties focusing on end of life care in COPD patients.

Key learning points to assist in future end of life care service planning for patients with respiratory diseases include:

- communication and training in end of life care for staff is key. End of life care e-learning modules for health and social care professionals have been developed and are available for free from the National End of Life Care Programme website (www.endoflifecareforadults.nhs.uk/education-and-training/eelca);
- prognostic indicators for COPD, which have been developed by the Gold Standard Framework team (see www.goldstandardsframework.nhs.uk), should be tested to a greater extent in order to determine the point at which they trigger a discussion with patients on end of life care information. Please also see the National End of Life Care Programme's guidance on advance care planning at http://www.endoflifecareforadults.nhs.uk/publications/pubacpguide);
- end of life care needs and support for patients with COPD and their carers require a sensitive approach. Information, both local and national, should be tailored for respiratory patients and should be consistent, accessible and available in a variety of formats; and
- close working with primary care to further develop and ensure consistent management of end of life care registers for COPD patients is vital in terms of managing the condition at home, in the community and ensuring rapid referral to acute services when exacerbations occur, along with improved monitoring of data on care coordination and communication across boundaries. See the National End of Life Care Programme's evaluation of end of life locality registers at www.endoflifecareforadults.nhs.uk/publications/end-of-life-locality-registers-evaluation.

7.0 Conclusions

7.1 End of life care service planning

Key points raised in this report that should be taken into consideration in relation to end of life care service planning for patients with respiratory disease are as follows:

- Patient choice and needs for those with COPD should be prioritised as COPD accounts for the majority of chronic lung diseases. Commissioners should review the prevalence of COPD and numbers of deaths in their population for service planning.
- The proportion of deaths from chronic lung diseases and lung cancer are highest in the more deprived quintiles. In the long term, prevention strategies, especially smoking cessation, should aim to reduce these inequalities. Now, consideration should be given to whether patients from more deprived areas have different needs, for example, in terms of information and social support alongside mainstream end of life care, such as community nursing and general practice.
- Death from respiratory diseases varies across the age bands by disease type, with lung cancer having the highest proportion of deaths in the younger age band (<65 years). Lung cancer and chronic lung diseases have the highest proportion of deaths in the 65–84 year age band, and 'pneumonia and acute respiratory infection' have the highest proportion of deaths in the 85+ year age band.
- The above point has implications for discussions regarding future service provision of end of life care and advance care planning, if services are to be appropriately tailored to those age groups requiring care.
- End of life care needs to be considered within the broader spectrum of 'overall care' for individuals living with respiratory diseases. This could be achieved through raising awareness and enhancing skills for clinical staff working in respiratory medicine.
- Hospice service provision for non-malignant respiratory disease, such as chronic lung diseases, should be considered further.
- Examples of good practice provided by the NHS Improvement Programme, including pulmonary rehabilitation service provision to reduce A&E attendances and impact on place of death, the development of multi-disciplinary community based teams, home oxygen services, and improved information for patients and carers to enable advance care planning, should be monitored and implemented consistently if shown to be effective. There are also resources available to inform good practice on the National End of Life Care Programme website (www.endoflifecareforadults.nhs.uk), which includes: holistic needs assessment; planning your future care workforce development; capacity, care planning and advance care planning in life limiting illness; and a volunteer educator pack on advance are planning.

7.2 Diagnosis of 'pneumonia'

- The data in this report show that 'pneumonia and acute respiratory infection' accounts for the highest proportion of respiratory disease deaths and that there is a higher proportion of deaths from 'pneumonia and acute respiratory disease' in females compared to males.
- The data in this report also show that approximately one fifth of all deaths in England during the 2007–09 period had a 'mention' of 'pneumonia and acute respiratory infection'.

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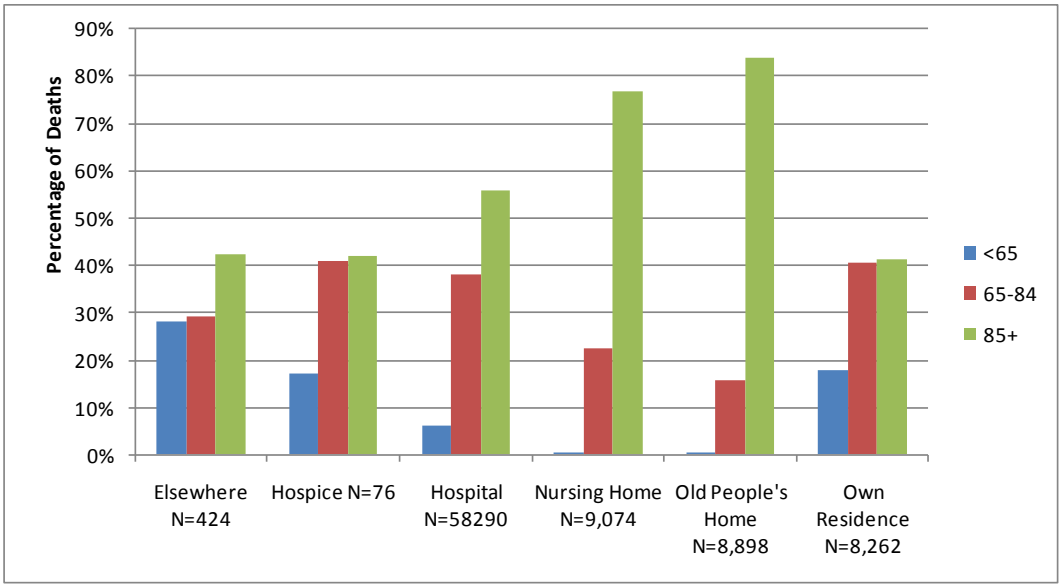
Appendix: Additional place of death charts

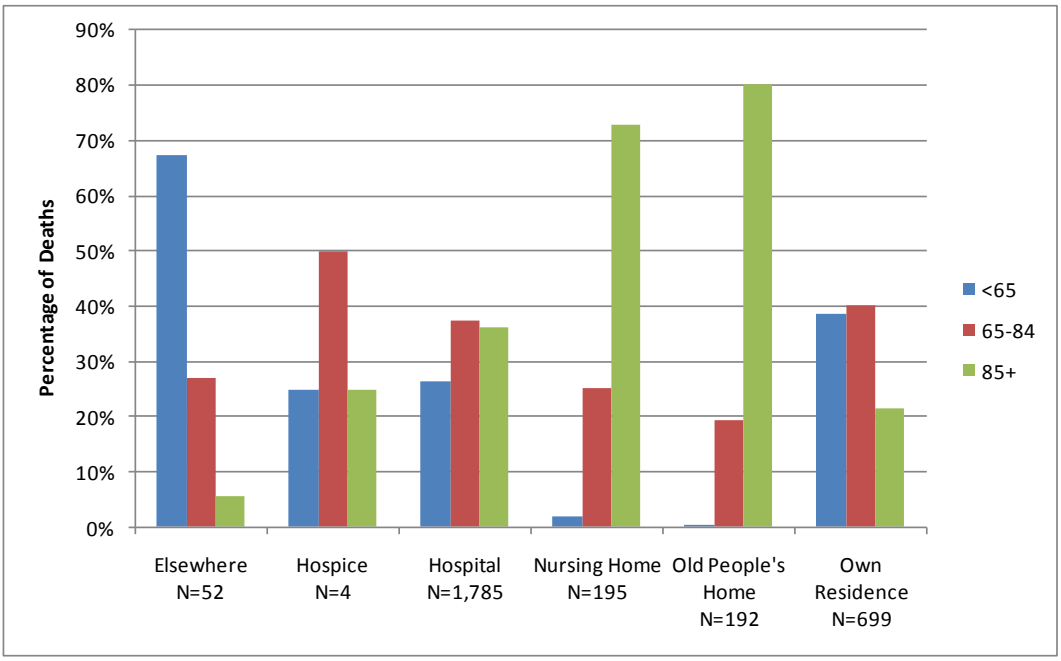
- Figure A1 shows that in nursing homes and old people's homes, 77% and 84% of the deaths from 'pneumonia and acute respiratory infection' occur in people aged 85 and over. Of those who die of the same underlying cause in a hospice, the proportions, at around 40%, for people aged 65–84 and 85+ are similar. It is important to note that the absolute number ('N') for each place of death is vastly different.
- Figure A2 shows the proportion of deaths from asthma by place of death across the three age groups.
- Figure A3 shows that for all places of death, except nursing homes and old people's homes, the largest proportion of deaths from chronic lung disease is in the 65-84 age group.
- Figure A4 shows the largest proportion of deaths from lung cancer in all locations is in the 65–84 age group.

Figure A1: Proportion of all pneumonia and acute respiratory infection deaths ('underlying' cause) by place of death and age band, England, 2007–09



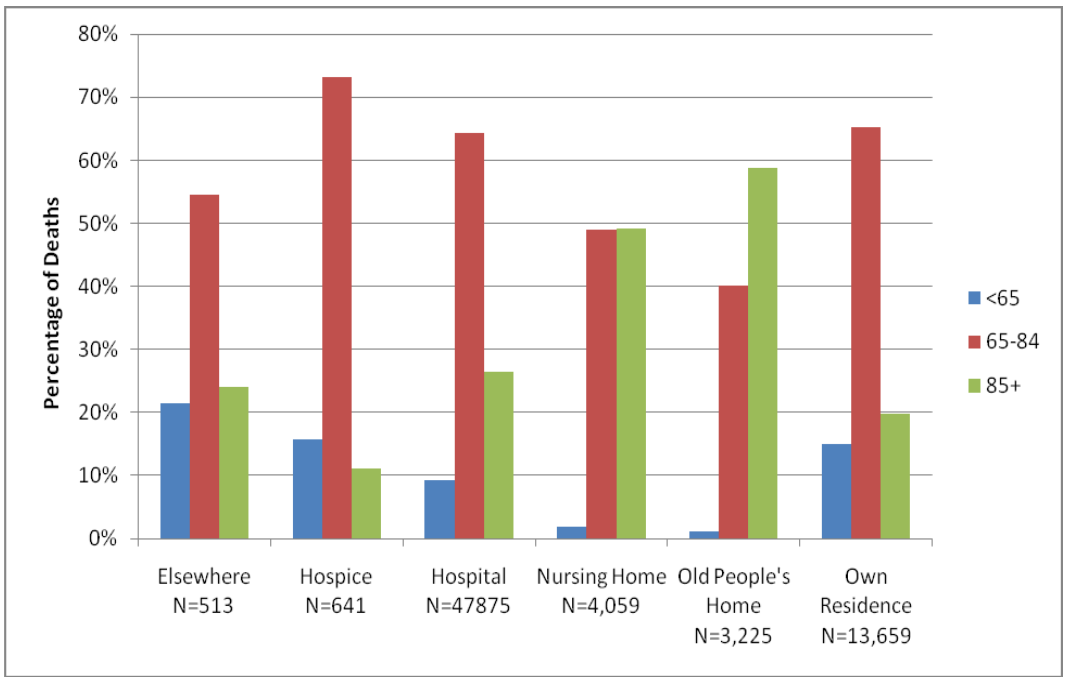
Source: ONS mortality data

Figure A2: Proportion of all asthma deaths ('underlying' cause) by place of death and age band, England, 2007–09



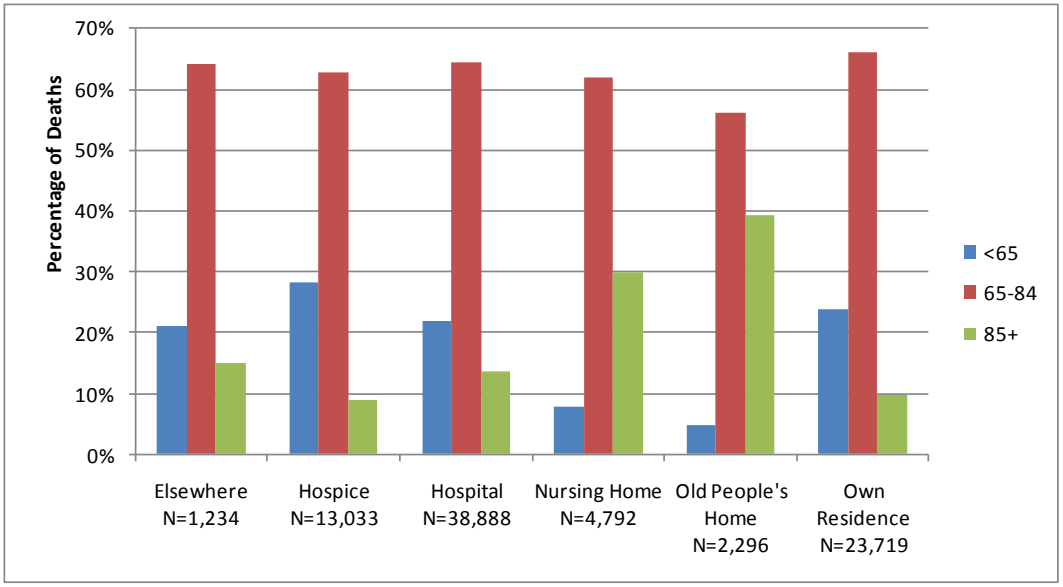
Source: ONS mortality data

Figure A3: Proportion of all chronic lung disease deaths ('underlying' cause) by place of death and age band, England, 2007–09



Source: ONS mortality data

Figure A4: Proportion of all lung cancer deaths ('underlying' cause) by place of death and age band, England, 2007–09



Source: ONS mortality 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.