

## 6.4.2 Excess winter deaths and fuel poverty

### Why is this issue important?

There is a strong evidence base on the risk to health from cold weather and the effects are predictable and largely preventable. Direct health effects of cold weather include an increase in incidence of heart attack, stroke, respiratory disease, influenza, falls and injuries, and hypothermia. Indirect effects include mental health illnesses such as depression, and risk of carbon monoxide poisoning.<sup>1</sup>

People living in cold homes during the winter months are at increased risk of negative health outcomes, including winter deaths.<sup>2</sup> The NHS is estimated to spend £1.36bn every year treating illnesses caused by cold homes.<sup>3</sup>

Excess winter deaths (EWD) are defined as the difference between the number of deaths from December to March and the average number during non-winter months. In winter 2013-14, there were about 16,470 EWD, or 953 more deaths per week in the winter months in England. However, EWD in 2013-14 were much lower than average, with the five year moving average in 2012-13 being 28,584 EWD and the provisional figure for 2014/15 winter is 41,400 deaths.<sup>4</sup>

Negative health effects start at relatively moderate outdoor temperatures of around 4-8°C. Although the risk of death increases as temperatures fall, the higher frequency of days at moderate temperatures mean that the greatest health burden in absolute numbers of deaths occurs at these moderate temperatures.<sup>1</sup> Although mortality does increase as it gets colder, temperature only explains a small amount of the annual variance in winter mortality and high levels can occur during relatively mild winters.<sup>5</sup> Both temperature and levels of influenza are important predictors of excess winter mortality and the relationship

between temperature, influenza and winter mortality is complex.<sup>6</sup>

Circulatory diseases, such as heart attack and stroke, account for 40% of excess winter deaths. Indoor temperatures of 12°C or less can cause constriction in the blood vessels, resulting in a rise in blood pressure and thickening of the blood. Around a third of excess winter deaths are due to respiratory illnesses. Exposure to cold temperatures suppresses the immune system and increases constriction of the airways, which stimulates mucus production. These factors are associated with an increased risk of bronchitis and pneumonia. When a house is damp as well as cold, mould is likely to occur. This increases the risk of respiratory illness, particularly asthma.<sup>1</sup>

Excess winter deaths are almost three times higher in the coldest quarter of housing than in the warmest quarter, with an estimated 40% of all these deaths being attributable to inadequate housing.<sup>7</sup> Countries with the poorest housing in terms of thermal efficiency demonstrate the highest level of excess winter mortality.<sup>8</sup> In the recent past, the rate of excess winter deaths in England was twice the rate observed in some colder northern European countries, such as Finland.<sup>1</sup> Indirect impacts of cold housing and fuel poverty include a negative effect on children's educational attainment, emotional wellbeing and resilience, and adult and children's dietary choices and life opportunities.<sup>2</sup>

The 'Low Income High Cost' (LIHC) indicator is the current method of measuring fuel poverty in England. Under this definition, a household is fuel poor if it has an income below the poverty line (including if meeting its required energy bill would push it below the poverty line); and it has higher than average energy costs.

In addition to measuring the extent of the problem (how many fuel poor households there are), the LIHC indicator measures the depth of the problem (how badly affected each fuel poor household is). It

<sup>1</sup> Public Health England. Cold Weather Plan for England 2015: Protecting health and reducing harm from cold weather; 2015.

<sup>2</sup> Marmot Review Team. The Health Impacts of Cold Homes and Fuel Poverty; 2011.

<sup>3</sup> Age UK. The Cost of Cold; 2012.

<sup>4</sup> Office for National Statistics. Excess Winter Mortality in England and Wales, 2014/15 (Provisional) and 2013/14 (Final); 2015.

<sup>5</sup> Office for National Statistics, Health Statistics Quarterly 48, Winter 2010: Exploratory analysis of seasonal mortality in England and Wales, 1998 to 2007; 2010.

<sup>6</sup> Curwen M & Devis T (1988) 'Winter mortality, temperature and influenza: has the relationship changed in recent years?' Population Trends 54, 17-20.

<sup>7</sup> World Health Organisation. Housing, energy and thermal comfort: A review of 10 countries within the WHO European Region; 2007.

<sup>8</sup> World Health Organisation. Environment and health risks: a review of the influence and effects of social inequalities; 2010.

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does this by taking account of the ‘fuel poverty gap’, which is a measure of how much more fuel poor households need to spend to keep warm compared to typical households.<sup>9</sup>

In 2013, the number of fuel poor households in England was estimated at 2.35million, representing 10.4% of all households. This is broadly unchanged from 2.36million households in 2012.<sup>10</sup> The average fuel poverty gap reduced in real terms from £385 in 2012 to £374 in 2013.

### Key outcomes

- **Fuel Poverty (Public Health Outcomes Framework)**
- **Excess Winter Deaths Index (Public Health Outcomes Framework)**

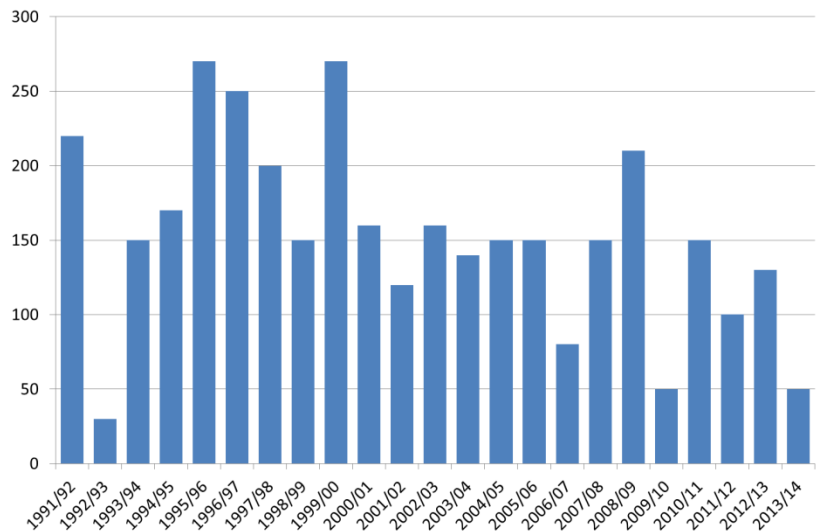
### Impact in Brighton & Hove

The EWD Index expresses excess winter deaths as a percentage increase of the expected deaths based on non-winter deaths. For 2013-14 the EWD Index in Brighton & Hove was 8.3, or 50 excess deaths. This is lower than both the South East (10.4) and England (11.3).<sup>4</sup> However, EWD in 2013-14 were much lower than average both nationally and locally. Local excess winter mortality is highly variable year on year and shows no clear trend (Figure 1). There is no data for Brighton & Hove before 1991, but since 1950, the national trend is a gradual reduction.

According to 2013 estimates, 11.9% of households (14,863 households) in Brighton & Hove are fuel poor; a rise of 1.2% from 2012. This is higher than both England (10.4%) and the South East (8.1%).<sup>11</sup> In the same year, the average fuel poverty gap in the South East was £395, higher than the average in England (£374). There is no data on the fuel poverty gap for Brighton & Hove. Under the previous 10% definition of fuel poverty, there was no clear trend in the percentage of fuel poor households in Brighton & Hove between 2008 and

2012. There is also no clear trend under the new LIHC measure between 2011 and 2013.

**Figure 1: Number of excess winter deaths, Brighton & Hove 1991/92 to 2013/14**



**Source:** Office for National Statistics. Excess Winter Mortality in England and Wales.

The depth and likelihood of being fuel poor increases markedly with lower SAP scores (how energy efficient a building is). People living in dwellings built before 1964 are more likely to be fuel poor than those in more modern dwellings. A similar pattern is seen in the fuel poverty gap which decreases from approximately £500 in pre-1919 homes to £250 in homes built after 1945.<sup>10</sup>

Brighton & Hove has an old housing stock with 66% of houses built before 1945 (compared with 43% across England)<sup>12</sup> and many private sector properties labelled ‘hard to treat’ (for example those with solid walls) in relation to energy efficiency measures.<sup>13</sup> In the Brighton & Hove Health Counts Survey 2012, 16% of respondents said they could not keep their home warm enough in the winter ‘quite often’ or ‘most of the time’.

<sup>9</sup> HM Government. Cutting the cost of keeping warm: A fuel poverty strategy for England; 2015.

<sup>10</sup> Department of Energy & Climate Change. Annual Fuel Poverty Statistics Report; 2015.

<sup>11</sup> Department of Energy & Climate Change. Sub-regional Fuel Poverty England, 2013; 2015.

<sup>12</sup> Brighton & Hove City Council. Private Sector House Condition Survey; 2008.

<sup>13</sup> Internal Brighton & Hove City Council reporting (2009). Cited in Brighton & Hove State of the City Report; 2011.

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Poorly insulated housing also contributes to carbon emissions and improving the energy efficiency of local homes and buildings is a priority in the Brighton & Hove Sustainability Action Plan.<sup>14</sup>

### Where we are doing well

In Brighton & Hove, the Warm Homes Healthy People Programme has run each winter since 2011. The programme provides a range of support to local people, focussing on those at highest risk of fuel poverty and winter death and illness. Funded by the Public Health Directorate, the programme represents successful collaboration between the Council Public Health and Housing Departments, local NHS organisations and the community and voluntary sector.

Together, the WHHP programmes have delivered: 33 fuel poverty awareness training sessions to 235 front line workers; 150 winter home checks to make homes safer and warmer; 198 home energy advice and assessment visits; 25 emergency home visits to check welfare and deliver 59 emergency warmth packs; 215 warm packs to rough sleepers; 33,500 awareness raising leaflets and 17,500 room thermometers to residents; 15 community outreach workshops; two affordable warmth information events; 186 emergency winter grants totalling £32,225 and 434 financial inclusion checks.

The financial inclusion checks resulted in a total of £734,415 in confirmed and likely annual income increases for residents – an average of around £1,700 per household. The Journal of Public Health reported that almost half of the reduction in excess winter mortality since 1999/2000 is attributable to Winter Fuel Payments, highlighting the critical impact that additional income can have.<sup>15</sup>

Following the success of the financial inclusion checks, 'Warmth for Wellbeing' was commissioned in two local GP practices by the Public Health Directorate. Provided by the Citizen's Advice Bureau, the service focussed on those at greatest risk of winter death and illness, by offering support

to patients aged 65 or over with long term health conditions. Eligible patients struggling to keep their homes warm were offered comprehensive, personalised advice and support to improve their finances and wellbeing and warm up their homes. In the first five months, the total ongoing annual benefit gain for 30 clients was £54,028 (£33,290 confirmed and £20,738 likely); three grants were obtained totalling £450; assistance to switch fuel supplier/tariff resulted in clients being £225 better off and a total of £5,499 debt was written off. Non-financial gains included advocacy to resolve damp issues and signposting to the Energy Savings Trust to assess ventilation problems.

In response to the release of NICE 2015 guidelines,<sup>16</sup> Brighton & Hove City Council Public Health and Housing Departments have produced a draft action plan addressing each of the recommendations. In conjunction with this, an Affordable Warmth & Fuel Poverty Strategy for the city is currently being produced.

Brighton & Hove City Council also continues to work with local authorities across Sussex to develop the Your Energy Sussex (YES) partnership. YES aims to address the energy efficiency of domestic properties through a number of routes including the development of an offer to Sussex residents based on the principles of the 'Green Deal' and by increasing the uptake of ECO (Energy Company Obligation) funded solutions for more vulnerable residents. Brighton & Hove City Council continues to explore national and EU funding streams to improve the energy efficiency of the city's homes and buildings.

### Local inequalities

Poor home energy efficiency affects people with low incomes more severely because it affects life chances and how they spend disposable income on other essential items such as food and clothing. Low income households face the choice to "heat or eat": either less money can be spent on basics such as a sufficient, healthy diet, or less can be spent on heating their home to an adequate temperature to maintain good health.<sup>3</sup>

<sup>14</sup> Brighton & Hove City Council. Sustainability Action Plan. Available at: [www.brighton-hove.gov.uk/content/environment/sustainability-city/city-sustainability-partnership](http://www.brighton-hove.gov.uk/content/environment/sustainability-city/city-sustainability-partnership) [Accessed 11/08/2013]

<sup>15</sup> Have winter fuel payments reduced excess winter mortality in England and Wales? Journal of Public Health (2015) 37 (1): 26-33.

<sup>16</sup> National Institute for Health and Care Excellence. Excess winter deaths and morbidity and the health risks associated with cold homes; 2015.

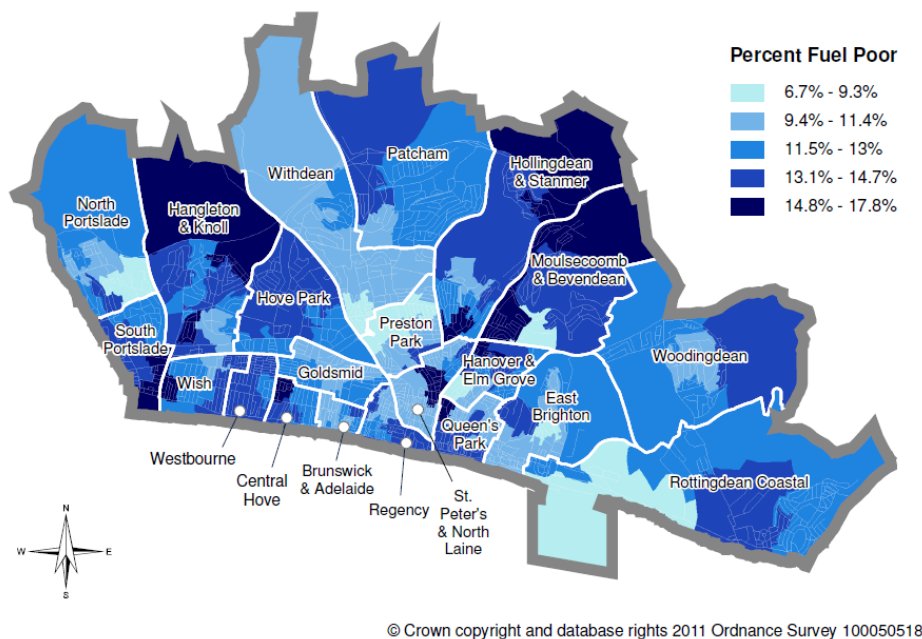
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The Brighton & Hove Warm Homes Healthy People (WHHP) Programme 2013-14 found that 84% of programme recipients who completed the equalities questionnaire got into debt or cut down on buying essential items in order to heat their home. Around half (51%) stated that they or other people in the household had reduced the size of meals or skipped meals in the last six months because there wasn't enough money for food.<sup>17</sup>

Nationally we know that people aged 75 or over, children under five, people with chronic and severe illness and rough sleepers are most at risk of ill-health from cold weather.<sup>1</sup> As in previous years in England and Wales, there were more excess winter deaths in females (10,250) than in males (7,210) in 2013-14. The vast majority of EWD in England occur among those aged 65 or over (Table 1).<sup>4</sup>

In Brighton & Hove (for the three years of 2010/11 to 2012/13) there were 373 EWD. Of these 58% were female. Half of the EWD were in people aged 85 years or over, compared with 52% for England and 56% for the South East over the same period. Of EWD in Brighton & Hove of people aged 85 years or over, 79% were female.<sup>18</sup>

**Figure 2: Estimated fuel poverty distribution, 2013**



Source: Department of Energy and Climate Change, 2015

<sup>17</sup> Brighton & Hove City Council. Brighton and Hove Warm Homes Healthy People Programme 2013-14: Summary & Evaluation Report; 2014.  
<sup>18</sup> Public Health England. Public Health Outcomes Framework Data Tool. Available at <http://www.phoutcomes.info/> [Accessed 03/12/2015]

**Note:** Estimates of fuel poverty are not robust at very low level geographies. Estimates should only be used to describe general trends and identify areas of particularly high or low fuel poverty. They should not be used to identify trends over time within an LSOA, or to compare LSOA's with similar fuel poverty levels.<sup>10</sup>

**Table 1: Excess winter mortality by age in the South East and England, 2013-14**

Age	South East	England
0-64	190	1,330
65-74	250	1,720
75-84	680	4,660
85+	1,390	8,760
All ages	2,520	16,470

Source: Office for National Statistics, 2015

In 2013, households in England where the oldest person in the household was aged 16-24 were more likely to be fuel poor.<sup>19</sup> In line with this, local Health Counts 2012 data suggested that the youngest age groups in Brighton & Hove are most likely to be unable to keep their homes warm enough in the winter most of the time or quite often.<sup>20</sup> However, as the age of the oldest person in a household increases, so does the average fuel poverty gap. In 2013, people in England aged 75 or over had the largest average fuel poverty gap at £461, meaning they experience the deepest levels of fuel poverty.<sup>19</sup>

In England (2013), almost 19% of all private rented households are in fuel poverty, compared to 8% of owner occupiers and 10% of social renters.<sup>19</sup> Brighton & Hove has the 9th largest private rented sector in England & Wales, with over 34,000 privately rented homes. Fuel poor households in England living in the least energy efficient privately-rented homes need to spend on average £1,000 more per year to keep warm

<sup>19</sup> Department of Energy and Climate Change. Detailed Tables, England 2013, LIHC definition; 2015.  
<sup>20</sup> NHS Brighton & Hove and Brighton & Hove City Council. Health Counts 1992-2012. 2013. Available at <http://www.bhconnected.org.uk/content/surveys> [Accessed August 2015]



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compared to the typical home.<sup>9</sup> Respondents of the Brighton & Hove Health Counts 2012 survey who rent from a private landlord (30%) or from a housing association or local authority (30%) are significantly more likely to be unable to keep their home warm in winter most of the time or quite often (16% of all respondents).

Fuel poverty is a contributor to social and health inequalities.<sup>9</sup> Correspondingly, 2012 Health Counts data showed that inability to keep homes warm increased with deprivation. However, by definition, fuel poor households are those with low incomes.

Unemployed households in England have the highest rates of fuel poverty across all economic activity groups. The poorest 10% of households have also seen their energy bills rise nearly twice as fast as others, with expenditure on electricity and gas rising by 40% and 53% respectively since 2010.<sup>21</sup> In Brighton & Hove, Health Counts 2012 respondents who were unemployed and looking for work, or unable to work due to caring for home and family, were significantly more likely to be unable to keep their home warm in winter.

Lone parent households have consistently been more likely to be in fuel poverty (in 2013, 25%). However, the depth of fuel poverty is lowest in lone parent households, with an average fuel poverty gap of £280.<sup>10</sup>

People in England (2012) who have a long term illness or disability are more likely to be fuel poor (12%) than those who do not (10%).<sup>22</sup> In Brighton & Hove, Health Counts respondents who had a limiting long-term illness or disability were also significantly more likely to be unable to keep their home warm in winter.

For Gypsies and Travellers living on site accommodation or travelling, trailers with little insulation combined with the expense of Calor gas can cause higher than average heating costs and fuel poverty. Housed Gypsies and Travellers frequently reside in areas of deprivation in housing with poor insulation. Data collected by London Gypsy Traveller Unit showed a high incidence of

health problems, especially respiratory illness, on site and that most households had difficulty keeping warm. Ability to claim winter fuel allowance requires a permanent address and transit site addresses are too short-term to be used for this purpose. Fuel poverty strategy and interventions may need to be tailored to reach Gypsy Traveller communities.<sup>23</sup>

### Predicted future need

Over the next 40 years, global temperatures are set to rise. Even with climate change, however, cold related deaths will continue to represent the biggest weather-related cause of mortality.<sup>1</sup>

The number of fuel poor households in England is projected to remain broadly flat, increasing to 2.36 million in 2015, before decreasing to 2.34 million in 2016. The average fuel poverty gap is projected to increase to £386 in 2015.<sup>10</sup>

The long-term trend in energy prices is likely to be one of continual increase and rising household costs represent a constant challenge to the reduction of fuel poverty. Addressing energy inefficient housing and bringing all homes up to a minimum standard of thermal efficiency would have the greatest impact on the most vulnerable households.<sup>2</sup>

The 2010 Spending Review and the end of previous energy company obligations meant the end of council grant funding for energy efficiency measures. Funding towards the cost of installing energy efficiency improvements is now provided through the replacement Energy Company Obligation (ECO). ECO requires energy suppliers to provide funding to eligible householders for measures that reduce heating costs or carbon emissions. There are concerns regarding the level of funding available through ECO, however.

Funding rates often result in householders needing to find alternative sources of finance to 'top up' the funding in order to meet the full cost of the installation. This means that ECO does not necessarily benefit the most vulnerable and financially disadvantaged households, who cannot

<sup>21</sup> Department of Energy and Climate Change. Fuel Poverty Advisory Group (for England) 12<sup>th</sup> Annual Report, 2013-14; 2015

<sup>22</sup> Department of Energy and Climate Change. Sub-regional Fuel Poverty data, England 2012, LHC definition; 2014.

<sup>23</sup> Friends, Families and Travellers. Inclusion of Gypsy Traveller Health Needs in Joint Strategic Needs Assessments: A review; 2015

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afford to do so. Brighton & Hove City Council continues to work with other local authorities, public bodies, local businesses and organisations in Sussex to address these issues.

The Green Deal, a finance model that allows householders to make energy efficiency improvements to buildings at no upfront cost, has also failed to have the impact the government anticipated. Recent announcements on funding to the Green Deal Finance Company have cast further doubt over the impact this scheme can have on the energy efficiency of the nation's homes. Through Your Energy Sussex, the City Council continues to explore how a scheme based on Green Deal principles can work across Sussex.

### What we don't know

We do not have information on current levels of fuel poverty or excess winter deaths (locally and nationally) due to a two year lag on data. There is also no data on the fuel poverty gap for Brighton & Hove and local levels of fuel poverty by equality and other population groups. Thirdly there is not local and national information on levels of EWD by equality and other population groups, other than age and gender, or currently any analysis of the geographical distribution of EWD within the city.

### Key evidence and policy

'Cutting the cost of keeping warm: a fuel poverty strategy for England', sets out the Government's statutory target to raise as many fuel poor homes in England as is reasonably practicable to Band C by 2030. The strategy also sets out interim milestones to lift as many fuel poor homes in England as is reasonably practicable to Band E by 2020 and Band D by 2025.

From April 2018, landlords will be required by law to ensure their properties meet an energy efficiency rating of at least Band E. From 1 April 2016, tenants living in F and G rated homes will have the right to request energy efficiency improvements which the landlord cannot unreasonably refuse.

- Department of Energy and Climate Change. Annual Fuel Poverty Statistics Report; 2015.

- HM Government. Cutting the cost of keeping warm: A fuel poverty strategy for England; 2015.
- National Institute for Health and Care Excellence Guidelines (NG6). Excess winter deaths and morbidity and the health risks associated with cold homes; 2015.
- Office for National Statistics. Excess Winter Mortality in England and Wales; 2015.
- Public Health England. Cold Weather Plan for England 2015: Protecting health and reducing harm from cold weather; 2015.
- Marmot Review Team. The Health Impacts of Cold Homes and Fuel Poverty; 2011.
- Brighton & Hove City Council. Private Sector House Condition Survey; 2008.

### Recommended future local priorities

1. Develop a Fuel Poverty & Affordable Warmth Strategy to address the consequences of cold homes, which includes relevant local interventions and providers from all sectors.
2. Establish a single-point-of-contact health and housing referral service for people living in cold homes and fuel poverty, which evaluates the impact of actions taken and gives feedback to the original referrer.
3. Provide tailored, holistic solutions via the single-point-of-contact health and housing referral service, to tackle cold homes, fuel poverty and increase health and wellbeing.
4. Identify people at risk of ill health from living in a cold home. Include this information in the person's records and use it (with consent) to assess their risk and take action if necessary.
5. Make every contact count by assessing the heating needs of people who use primary health and home care services on an annual basis. Record assessments and actions in the person's notes / care plan and make this information available to other practitioners (respecting confidentiality).
6. Non-health and social care workers who visit people at home should assess risk of cold

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homes and fuel poverty, give appropriate information and refer to the single-point-of-contact health and housing referral service.

7. Discharge vulnerable people from health or social care settings to a warm home. Those responsible for arranging discharge should assess whether the person is vulnerable to the cold and if the home is warm enough, at any time of the year and well in advance of discharge.
8. Train health and social care practitioners, housing professionals and faith and voluntary sector workers to provide advice and make referrals for people whose homes may be too cold.
9. Train heating engineers, meter installers and those providing building insulation to help vulnerable people at home. Ensure buildings meet ventilation and other building and trading standards.
10. Raise awareness among practitioners and the public about how to keep warm at home, addressing commonly held misconceptions.

### Key links to other sections

- Childhood poverty
- Climate change
- Housing
- Ageing well
- Long term conditions

### Further information

Department of Energy and Climate Change Fuel Poverty Statistics.

[www.gov.uk/government/collections/fuel-poverty-statistics](http://www.gov.uk/government/collections/fuel-poverty-statistics)

Office for National Statistics Excess Winter Mortality Statistics.

<http://www.ons.gov.uk/ons/rel/subnational-health2/excess-winter-mortality-in-england-and-wales/2014-15--provisional--and-2013-14--final-/index.html>

World Health Organisation. Housing, energy and thermal comfort: A review of 10 countries within the WHO European Region; 2007.

World Health Organisation. Environment and health risks: A review of the influence and effects of social inequalities; 2010.

Age UK. The Cost of Cold; 2012.

### Last updated

December 2015