Excess Winter Deaths and Fuel Poverty
Last updated: May 2019

Summary

Across the EU:28, the UK has the second largest proportion of people living in fuel poverty (next to Estonia);

Just over 1 in 10 households both locally (around 7,300) and nationally (2.55 million) were in fuel poverty in 2016, an increase from 2015

Areas where fuel poverty is over 15% include Pan B, Cowes, Medina B and Ryde South East B;

It is estimated that 30% of Excess Winter Deaths (EWDs) are attributable to cold housing, equating to over 30 deaths locally

Locally, there were 130 EWDs 2016/2017 period. This was an increase of 225% on last year’s figures and 23.8% higher than the non-winter period;

There were more EWDs in females than males in 2016/17;

The majority of deaths occurred in those aged 75+

Lower wages, an aging population and a greater reliance on electricity for heating means that increases in fuel prices have a disproportionate effect locally

Annual electricity bills have increased by around 50% over the last 10 years;

Annual gas bills have increased by a third over the last 10 years;

Annual household income on the Island is growing at a slower rate than nationally and therefore increasing energy costs will have a greater impact locally

11.8% of households are reliant on electricity for heating (higher than national average)

5.1% of households have no central heating (almost double the national average)

Excess Winter deaths data in 2016 to 2017 shows there were 34,530 EWDs in England and Wales - a 40.5% increase compared to the previous winter and a 20.9% increase on the non-winter period (EWD Index);

National provisional data for England and Wales for 2017/18 shows that EWDs continue to rise;

Foreword

The causes of Excess Winter Deaths (EWDs) are many and complex. Fuel poverty, resulting in cold homes, is one contributory factor. Fuel Poverty is an important public health topic worth understanding in detail. It disproportionately affects individuals from households with lower incomes and therefore widens social and health inequalities. Cold weather affects our vital organs including the heart and lungs, mental health, and gives rise to accidental injury. From a population perspective, it also increases the need for local health and social care services.
The UK and the Isle of Wight Council have a Cold Weather Plan which aim to curtail the harms cold weather can have on health. These are updated and implemented annually.

Emily Macdonald – Public Health Principal, Isle of Wight Council

Poverty itself has obvious and proven impacts on the health and wellbeing of the people suffering the effects with the subsequent greater cost to society, and fuel poverty is one important aspect this. The occurrence of fuel poverty anywhere in the area of a local authority is an indicator of the level of households with low income, as well as substandard houses which are more expensive to heat.

The results of fuel poverty can only offer negative outcomes for those households being affected, and it is therefore imperative that housing providers, utility companies, local authority services and other interested agencies do all they can to identify and action instances of fuel poverty, which will ultimately improve people’s wellbeing and life chances, as well as reduce the longer-term costs to society.

Alan Barnes - Commissioner for Housing Renewal, Isle of Wight Council

Fuel poverty is still a big issue for the Isle of Wight. The Footprint Trust continues to get calls from people in crisis, who are facing the harsh decision between heating and eating. It is often the case that they are spending more than 10% of their low income on heating their homes, in many cases over 20%.

Ray Harrington-Vail – The Footprint Trust

Fuel Poverty

Why the concern?

It is known that under-heating of a property can contribute to poor health outcomes, both in terms of mortality (including EWDs) and morbidity (particularly in terms of cardiovascular and respiratory conditions).

Approximately 2.55 million households are in fuel poverty in England and EWDs claimed an estimated 34,500 lives in England in 2016 to 2017 and, although the reasons behind these figures are multifactorial, it is known that some of them are caused by people living in cold homes.


Using the World Health Organisation’s (WHO) estimation (that 30% of EWDs are attributable to cold housing) over 10,000 EWDs in England were caused by cold houses.

Pedro Guertler, Energy Efficiency Programme Leader at E3G – an independent climate change think tank stated for Fuel Poverty Awareness Day (15th February 2019) along with the National Energy Action (NEA) – a UK fuel poverty charity, that:

- UK homes are amongst the least energy efficient in Western Europe;
- the rate at which homes are being insulated has collapsed by 95% since 2012;
- energy price rises will make it harder for many people, especially those on fixed incomes, to keep their homes adequately warm.


Recent Government statistics on energy efficiency measures also indicate that the number of insulation measures delivered in the last months of 2018 was the lowest since 2008 and the number of boilers installed was the lowest since the Government’s flagship energy efficiency scheme, the Energy Company Obligation (ECO), began in 2013.


Definition

Fuel poverty in England is measured using the Low Income High Costs (LIHC) indicator. Under the LIHC indicator, a household is considered to be fuel poor if:

- they have required fuel costs that are above average (the national median level)
- were they to spend that amount they would be left with a residual income below the official poverty line.

The key drivers behind fuel poverty are:
• The energy efficiency of the property (and therefore, the energy required to heat and power the home)
• The cost of energy
• Household income

Low Income High Costs is a dual indicator: taking into consideration both the extent of the problem (how many fuel poor households there are), but also the depth of the problem (how badly affected each fuel poor household is). The depth of fuel poverty is calculated by taking account of the fuel poverty gap. This is a measure of the additional fuel costs (in pounds) faced by fuel poor households to meet the threshold that would make them non-fuel poor.

A household is considered to be fuel poor if it has higher than typical energy costs and would be left with a disposable income below the poverty line if it spent the required money to meet those costs. It captures the fact that fuel poverty is distinct from general poverty: not all poor households are fuel poor, and some households would not normally be considered poor but could be pushed into fuel poverty if they have high energy costs.

Fuel poverty is based on required energy bills rather than actual spending. This ensures that those households who have low energy bills simply because they actively limit their use of energy at home by not heating their home are not overlooked.

**Government fuel poverty target**

The fuel poverty target is to ensure that as many fuel poor homes as is reasonably practicable achieve a minimum energy efficiency rating of Band C, by 2030.

**Who are the fuel poor?**

Analysis suggests that the size and age of a property and the use of a fuel other than gas to heat the home are strongly associated with fuel poverty. This means that many of the most severely fuel poor households are living in larger dwellings with solid walls.

Many vulnerable households are also fuel poor, in particular: households containing older people, children and long-term sick and disabled people. Vulnerable fuel poor households face the problem of low income and high energy costs. These types of households often spend more time in the home and therefore have higher energy requirements.

Characteristics of households most at risk of fuel poverty include:

• uninsulated solid walls (average fuel poverty gap of £433);
• dwellings built between 1900-1918 (average gap of £379), however, insulation regulations did not come into force until 1975 so a much larger housing stock is potentially inadequately insulated;
• private rented sector (average fuel poverty gap of £383);
• Heating by fuel other than gas - households in dwellings not connected to the gas grid have an average fuel poverty gap almost twice as large (£543) as those households connected to the gas grid (£275);
• ‘multi-person’ (average gap of £413);
• Lone parents with dependent children;
• Older people;
• Those with an existing health condition


**National data:**

The proportion of households in England in fuel poverty was estimated to have increased by 0.1 percentage points from 2015 to 11.1 per cent in 2016 (approximately 2.55 million households).

The average fuel poverty gap (the amount needed to meet the fuel poverty threshold) in England was estimated at £326, which was a decrease of 4.4 per cent from 2015 and continues the steady downward trend since 2012.

**Local data:**

For the most recent data period (2016) 11.3% of households (7,308) on the Isle of Wight are in fuel poverty. This is a worsening trend, increasing from 10.6% in 2015. The Isle of Wight is statistically significantly higher (worse) than six of the comparator group but lower (better) than seven:
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Although the most recent data (2016) is not comparable to previous years due to a minor modification to the energy modelling methodology we can still see that areas where fuel poverty affects less than 10% of households includes parts of central Wight including Carisbrooke East A and B and Fairlee A and B; parts of east Wight including Lake South A and B, Newchurch B and Sandown South B; parts of north Wight including Binstead B, Wootton B and Osbourne South and parts of West Wight including Freshwater Yar and Totland A.

Areas where fuel poverty is over 13% include parts of central Wight including Pan A and B, Newport South B and Carisbrooke West A; parts of north Wight including Cowes Medina B, Cowes Central B, East Cowes South B and Ryde South East A and B and Ryde South West A and B; and parts of south Wight including Central Rural B, Wroxall and Godshill A and Lake North B.

As the three main drivers of fuel poverty are income, energy efficiency and energy prices – it is the interaction between these that impact on whether fuel poverty increases (worsens) or decreases (improves) in an area.

The map below shows that central rural areas are most at risk of fuel poverty where housing stock and residents may be older, as well as less affluent urban areas in Ryde and Newport.


*Graph uses Chartered Institute of Public Finance and Accountancy (CIPFA) comparator groups and 95% confidence levels
The effects of changes in the drivers of fuel poverty may disproportionately affect the households on the Isle of Wight. For instance:

- Areas where fuel poverty is highest one are likely to be linked to income stagnation locally;
- The effects of increases in energy prices, especially in relation to electricity have a big impact locally as not all areas have access to mains gas and therefore a higher proportion of households are reliant on electricity for their heating (11.8%) compared to 8.1% nationally.
- Locally, a higher proportion of households have no central heating (5.1% compared to 2.7%) nationally which will have a large impact on fuel poverty;
- Higher proportion of privately rented accommodation;

 Higher proportion of households with only one resident aged 65 or over (16.5% compared with 12.4% nationally) and households with multiple residents all 65 or over (11.4% compared to 8.2% nationally).

Excess Winter Deaths

Excess Winter Deaths (EWD) is the term used to describe the number of additional deaths that occur in the winter months, compared with deaths in the non-winter months. This can be expressed as a ratio/percentage and does not refer to deaths of specific individuals.

For calculation purposes:
- The year runs from August to July
- Winter months are December to March.
- Non-winter months are August to November and April to July.

‘Expected winter deaths’ are non-winter deaths divided by two (non-winter being eight months and winter being four months).

‘Observed EWD’ are winter deaths minus expected winter deaths.

The number of EWDs depends on the temperature and the level of disease in the population, as well as other factors such as how well-equipped people are to cope with a fall in temperature. Most EWDs are due to circulatory and respiratory diseases, and the majority occur amongst older people. Research (Curwen M (1990/91)) found that mortality during winter increases more in England and Wales compared to other European countries with colder climates, suggesting that many more deaths could be preventable in England and Wales.

Excess Winter Deaths 2001/2002 to 2016/2017 - England, South East and Isle of Wight

For calculation purposes:
- The year runs from August to July.
- Winter months are December to March.
- Non-winter months are August to November and April to July.

The following data is shown using the EWD Index figure so a comparison can be made between areas. For example, an EWD index of 20 shows that there were 20% more deaths in winter compared with the non-winter period.

Looking at the graph below, the general pattern of EWDs for the Isle of Wight broadly follows the England and South East trend but with slightly more pronounced peaks and troughs. For instance, 2008/2009, 2010/2011 and 2012/2013 saw greater peaks than the English and South East average. This may well be due to harsher winters having a greater impact locally due to the older population on the Island and the more isolating impact of snow in rural areas.

More pronounced troughs can also be seen in 2011/2012, 2013/2014 and 2015/2016 possibly due to milder winters with even milder temperatures enjoyed locally as compared to national average.

Despite the more pronounced troughs, the overall trendline for the Isle of Wight shows a slight increase in EWD since 2001/2002:

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Produced by Isle of Wight Council Information Team
National data:

2016/17 (final):

Data from 2016 to 2017 shows there were 34,530 EWDs in England and Wales - a 40.5% increase compared to the previous winter and a 20.9% increase on the non-winter period (EWD Index).

As in previous years, there were more EWDs in females than males in 2016/17. Between 2015/16 and 2016/17 male EWDs increased from 11,200 to 14,390 and female EWDs increased from 13,380 to 20,140.

The majority of deaths occurred among those aged 75 and over. There were 28,660 EWDs in this age group in 2016/17 compared with 5,880 in people under the age of 75.

The cause for this increase in EWDs is likely to be multifactorial and complex, however, it is thought likely that the increase could be the result of particularly cold, wintry weather and flu. Flu strains can be difficult to predict and there was a particularly virulent strain prevalent during this period. The increase in EWDs in 2016 to 2017 can also partially be explained nationally by the levels of excess all-cause mortality (meaning total number of deaths due to all causes during the winter months), which were elevated compared with 2015 to 2016, particularly in the elderly. In addition, the increase appears large as a lower than average number of EWDs occurred in the 2015 to 2016 period meaning any increase above the five-year average would appear large in comparison with the winter of 2015 to 2016.

Source:

2017/18 (provisional):

National provisional data for England and Wales has been published for the most recent period of 2017/18. This data shows that EWDs continue to increase to an estimated 50,100. This is a 45.1% increase on the previous year and a 30.3% increase on the non-winter period (EWD Index).

The number of EWDs in 2017 to 2018 was the highest recorded since winter 1975 to 1976. Excess winter mortality continued to be highest in females and people aged 85 and over. Excess winter mortality doubled among males aged 0 to 64 years between 2016 to 2017 and 2017 to 2018 and over one-third (34.7%) of all excess winter deaths were caused by respiratory diseases.

For the South East region (the smallest area size currently published for 2017/18) the number of EWDs has increased from 5,520 in 2016/17 to 7,700 (an EWD index of 21.9 to 30.3).

Source:
https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/excesswintermortalityinenglandandwales/2017to2018provisionaland2016to2017final

Local data:

2016/17:

Locally, there were 130 EWDs in the 2016/2017 period. This was an increase of 225% on last year’s figures and 23.8% higher than the non-winter period.

Again, as with the national data, the cause for this increase in EWDs is likely to be multifactorial and complex – related to particularly cold, wintry weather and flu. In addition, the increase appears large as a lower than average number of EWDs occurred in the 2015 to 2016 period meaning any increase above the five-year average would appear large in comparison with the winter of 2015 to 2016. As we have seen, the Isle of Wight broadly follows the England and South East trends but where increases are greater this may be attributable to harsher winters having a greater impact locally due to the older population on the Island and the more isolating impact of snow in rural areas.

It is estimated (WHO) that 30% of EWDs are attributable to cold housing equating to 39 deaths on the Isle of Wight in 2016/17.

The Department of Health in 2009 estimated that for every cold-related death there are eight non-fatal hospital admissions equating to 321 hospital admissions on the Isle of Wight.

Energy Efficiency

How efficient a home is in using and storing energy has a huge impact on vulnerability to fuel poverty.
There are a number of things which can be done to improve the energy efficiency of a home ranging from simple things like draught proofing, spending less time in the shower, loft and cavity insulation and having A rated appliances.

The Cost of Energy

The Consumer Price Index (CPI) shows that prices paid for all domestic fuels rose by 8.5 per cent in current terms between Q4 2017 and Q4 2018.

Electricity

The CPI reports that nationally, electricity prices have increased by 51.0% between 2008 and 2018 and that domestic electricity prices, including VAT, rose by 9.1 per cent in current terms between Q4 2017 and Q4 2018. (Source: Quarterly Energy Prices)

Annual average electricity bills across all payment types rose by £57 to £676 compared to 2017. The average Direct Debit bill increased by £60 to £661 compared to 2017. Standard Credit increased by £65 to £735. Prepayment bills increased by £40 to £659:

Gas

The Consumer Prices Index reports that gas prices have increased by 36.4% between 2008 and 2018 and that domestic gas prices, including VAT, rose by 7.6 per cent in current terms between Q4 2017 and Q4 2018.

The average 2018 gas bill across all payment types rose by £16 compared to 2017, to £646. Average Direct Debit bills in 2018 rose by £21 compared to average 2017 bills. There were increases for average Standard Credit and Prepayment bills of £26 and £3 respectively:

Household Income

Household income can come from various sources including earnings, savings and benefits. Changes in the levels of these can render a household fuel poor.

The annual survey of earnings provides data that shows us how the median gross annual pay of full-time workers compares between the Island, the South East and England:
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As fuel poverty is a relative measure, impacts of changes in income, benefits and energy prices can have a disproportionate effect on those in/on the cusp of fuel poverty. For instance, those households within the lowest three income deciles have experienced a lower than median increase in median equivalised After Housing Costs (AHC) income as compared to those in the higher income deciles. Conversely, between 2016 and 2017, benefits rose quicker than earnings. As the proportion of households in fuel poverty receiving benefits is greater than households not in fuel poverty the total income is increasing at a faster rate for those households in fuel poverty against those not in fuel poverty. However, the full extent of changes to the above components of income is unknown due to lack of official data.


Energy Grants and Efficiency Measures

There are many national and local schemes aimed at alleviating the impacts of fuel poverty – some of these are listed below.

National Schemes:
See: https://www.gov.uk/energy-grants-calculator

For energy saving tips, please visit the Energy Saving Trust at: www.energysavingtrust.org.uk/Take-action/Energy-saving-top-tips

Local Schemes:

For energy saving guidance and information see:
The Footprint Trust: http://footprint-trust.co.uk/ http://footprint-trust.co.uk/ email: info@footprint-trust.co.uk / Tel 01983 822282

Acknowledgements

With thanks to Alan Barnes, Commissioner for Housing Renewal (IWC), Emily Macdonald, Public Health Principal (IWC), Jim Fawcett, Principal Offer Environment (IWC) and Ray Harrington-Vail of The Footprint Trust

We can see that median gross annual earnings on the Island are below that of England and the South East and have actually decreased between 2017 and 2018 unlike England and the South East which continue to gradually rise.

The table below shows energy bills as a percentage of earnings nationally. This shows that when the increase in household income for England and Wales and the rise in energy costs are compared you can see that electricity and gas is taking up a higher percentage of income, peaking in 2014. As the Isle of Wight has lower than average pay the effect of increasing energy costs will be heightened:

<table>
<thead>
<tr>
<th>Year</th>
<th>Median Gross Annual Pay</th>
<th>Average Domestic Standard Electricity and Gas Bills</th>
<th>Energy Bills as a Percentage of Annual Pay</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>25,397</td>
<td>1,015</td>
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</tr>
<tr>
<td>2009</td>
<td>26,000</td>
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</tr>
<tr>
<td>2010</td>
<td>26,113</td>
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<tr>
<td>2018</td>
<td>29,706</td>
<td>1,346</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Source: NOMIS – Official Labour Market Statistics

median gross annual pay for full-time workers in England and Wales (£) Average annual domestic standard electricity and gas bills (£) Energy bills as a percentage of annual pay (%)