

**SPREAD
THE
WARMTH**

The cost of cold

Why we need to protect the
health of older people in winter



**Age UK is the UK's largest charity
working with and for older people.**

Age UK's mission is to improve the lives of people in later life. We help people enjoy a better later life – here and in more than 40 other countries – by providing life-enhancing services and vital support. We develop products that are specifically designed for people in later life, and fund pioneering research into aspects of getting older.

Spread the Warmth is Age UK's annual winter campaign. Launched in 2010 in response to the needless deaths of more than 200 older people per day in the cold weather, Spread the Warmth aims to help stop unnecessary suffering and preventable winter deaths. Last winter we helped thousands of older people who were struggling, providing them with emergency food packages, warm and nutritious meals, blankets and heaters, energy-efficiency advice, heating grants, phone calls and home visits to those who were isolated, and free information and advice about keeping warm.

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Executive summary

Every winter, tens of thousands of older people die or become seriously ill in the UK because of the cold. The personal cost to families affected is incalculable – an unexpected hospital admission, facing the need for additional care services or even the premature death of a loved one.

In addition, Age UK has calculated that the annual cost to the NHS in England of cold homes is £1.36 billion, not to mention the associated cost to social care services, which is likely to be substantial.

This situation can be prevented: other, much colder, countries have significantly lower death rates, largely due to better insulated homes and greater awareness of the need to keep warm. Age UK is campaigning for action nationally and locally to tackle this costly and preventable tragedy.

Helping older people keep themselves and their homes warm is key. Age UK is promoting simple things we can all do to keep warm and well in winter. But action from local and national government is also essential.

Local authorities have an important role to play in reducing excess winter death rates. Some are already making good progress, but others have yet to treat the issue with the urgency it deserves. As local authorities take up responsibility for public health, the issue must be prioritised and funding directed to preventive services and interventions that will enable older people to keep warm.

At the root of many winter deaths are cold, badly insulated homes. With rising fuel prices, more and more older people cannot afford to heat their homes adequately. Investment in home energy efficiency measures for older people is vital.

While the new Green Deal and ECO schemes may fund home insulation in some properties, these programmes will not be sufficient to address the sheer numbers of cold, energy inefficient homes in this country. To make cold-related deaths and ill health a thing of the past, the Government must provide substantial new investment to make the UK's housing stock energy efficient and warm. This could be funded by carbon-tax revenues, and would bring warm homes, reduce fuel bills and help stem the growing cost of cold.

‘When I was young, being cold wasn’t an issue, it never occurred to me it could be a problem. But as I’ve got older staying warm has become my priority. Being older, and less active, it’s so hard to ward off the cold.’

Dreda, 94

Age UK's calls for action

Excess winter deaths must be a health priority in England

Funding services and other interventions that enable older people to keep warm during the winter months will protect their health and save costs in both the NHS and adult social care.

The energy efficiency of older people's homes must be improved

Warm, well-insulated homes would enable older people to stay healthier during the winter. To have an impact on excess winter death rates, the Government needs to provide substantial new investment in home energy efficiency, possibly funded from carbon revenues coming on-stream next year.



Excess winter deaths: a costly and preventable tragedy

No one likes getting cold, but for millions of people in later life, cold brings real risks to health and even survival. Every winter in this country, tens of thousands of older people become seriously ill or even die as a result of the cold. Over the past ten winters, an average of 26,700 excess winter deaths have been recorded in England and Wales each year.¹ This figure is calculated by comparing deaths during the winter months (December to March) with deaths occurring at other times of year. Last year there were 15 times more excess deaths in winter than from road traffic accidents all year.² The vast majority of these deaths are of older people.

Figures for excess winter deaths are published each year, but actual deaths are just the tip of the iceberg. Cold weather also causes a massive spike in associated health problems, particularly heart attacks, strokes and respiratory problems.³ It has been shown that this leads to an increase in winter hospital admissions,⁴ while GP consultations for respiratory infections can increase by as much as 19 per cent for every 1°C drop in mean temperature below 5°C.⁵

Age UK has calculated that the estimated cost to the NHS in England arising just from cold homes is around £1.36 billion per year.



The personal and financial cost

For those affected and their families, the personal cost is incalculable – the premature death of a loved one, or a hospital admission resulting from heart attack, stroke or breathing difficulties. Each and every excess winter death or serious illness is a potential personal tragedy for the people concerned, resulting in distress or even bereavement.

There are also massive financial costs associated with additional winter deaths and illness. For each death, there are many more people who become seriously ill, needing hospitalisation in the short term and possibly social care in the longer term.

Older people who suffer from heart attacks or strokes as a result of winter cold can face permanent disability. They may find themselves needing care at home or even full-time residential care as a result, so there are likely to be substantially increased demands and costs on care services.

Age UK has calculated that the estimated cost to the NHS in England arising just from cold homes is around £1.36 billion per year.⁶ This incorporates costs of both primary care and hospital treatment. Tackling excess winter deaths would support older people to protect their health and maintain their independence, while having a significant impact on the health budget.

It doesn't have to be like this

The majority of additional deaths in winter are among older people with a pre-existing health condition. But this does not mean that they cannot be prevented. Many countries much colder than ours have significantly lower winter death rates – Finland, for example, has additional winter death rates of around 10 per cent (above the rest of the year), compared to about 18 per cent in the UK.⁷

Some winters are worse than others. Progress has been made – death rates have fallen since the 1950s, largely due to warmer homes. But with tens of thousands of excess winter deaths still being recorded each year, and many older people still living in cold homes, much more needs to be done.

Age UK is campaigning for change to end this costly and preventable tragedy. Action must be taken at all levels. This report sets out why older people are particularly vulnerable in winter, and what can and should be done.

Case study

'Even though you dress up, you're still cold'

Wendy Higgs is in her early 60s and lives with her daughter in a three-bedroomed terrace house in Buckinghamshire. Until this year, the house had neither insulation nor central heating. During winter Wendy and her daughter spent most of their day in the lounge where there was a gas fire.

Wendy remembers: 'It used to get very cold in the winters. You could see the frost on the inside of the bedroom window.'

She continues: 'I don't like winter at all, because it's so cold. You put on layers and layers to keep yourself warm, but even though you dress up you're still cold.'

Wendy has suffered from Chronic Obstructive Pulmonary Disease (COPD) for many years and was aware that the cold was damaging her health. 'You can tell it's not good for you because if you don't keep yourself warm, you feel worse.' Last winter, she was rushed into hospital after falling out of her chair. The hospital found she had severe pneumonia and kept her in intensive care. Wendy cannot remember much about what happened, but her daughter recalls, 'We were so worried about Mum. At one point they didn't think she would make it.'

Thankfully, Wendy made a good recovery and later in the year there was more good news. Through a programme to help improve the energy efficiency of older people's homes, run by Age UK Milton Keynes and funded in part by a Warm Homes, Healthy People grant from the Department of Health, Wendy was able get help to make her home warmer. The house was fitted with draught excluders, new double-glazed windows, and a new central heating system.

Even before the central heating was installed, Wendy noticed a difference. Now, she is facing winter with less trepidation than normal. 'It's marvellous. I still don't like winter – but this will make a big difference.'



Cold and health in older people

Research shows that it is exposure to cold, rather than (for example) damp or lack of daylight, that has such a devastating effect on the health of older people in winter. The scientific evidence is well established that even in relatively mild winters every 1°C drop in average temperatures results in an average of 8,000 extra deaths⁸ – and older people are particularly vulnerable.

Heart attacks, strokes and breathing problems are the main causes

While cases of hypothermia – excessive cooling of the body due to direct and extreme cold – are rightly highlighted in the media, hypothermia as a recorded cause of death is actually relatively rare. Only one in 100 excess winter deaths result from hypothermia. Perhaps more surprisingly for many people, only a small number of deaths are attributable to influenza (flu). The exception to this is in years when there is a flu epidemic, and numbers rise sharply.⁹ Flu vaccinations are still extremely worthwhile, both for the individuals concerned and as a public health measure.

In reality, around 30 per cent of excess winter deaths are attributable to respiratory problems.¹⁰ This is a particular risk to people who already have a problem such as Chronic Obstructive Pulmonary Disease (COPD), chronic bronchitis or asthma.

Even more significantly, cardiovascular diseases – strokes caused by blood-clotting and heart attacks – account for a further 40 per cent of excess winter deaths.¹¹ Following a cold snap, a peak of deaths due to heart attack has been observed two to three days later, and a peak due to strokes five days later.¹²

Older people with an existing heart problem are particularly at risk in winter. Cold tends to increase blood pressure at all ages, but in older people this increase can last for many hours after being in the cold.¹³ This means that a short exposure to cold – by getting up in the middle of the night, for example, or getting cold in bed in the small hours of the morning – can have a lasting impact on blood pressure levels for the rest of the day. Raised blood pressure is a risk factor for stroke and heart attack.

Perception of cold also becomes less sensitive as we age, meaning that some older people may find it hard to judge just how cold it is.

Knowing the risks is important

How people behave during cold weather is also important. Older people tend to be less active, which means their bodies generate less heat. When going out of the home in cold weather, older people tend to walk more slowly, which both generates less heat and means that they are exposed to cold weather for longer. Whenever we go out into the cold, maintaining activity and wearing many layers of clothing significantly reduces the risk of ill health.

Several studies have shown that excess winter deaths are linked to cold homes.¹⁴ Many older people simply cannot afford to keep their homes warm. This is explored in more detail later in this report.

For other people, cold homes result from lack of knowledge about the health risks of cold or beliefs about the value of fresh air.¹⁵ Engrained behavioural patterns, such as sleeping with the windows open at night, exacerbate the problem.

Surprisingly, despite the link with cold homes, there is no link between excess winter deaths and socio-economic deprivation.¹⁶ This may be because some better-off older people are living in cold homes, while unaware of the risks this poses to their health.

This is why Age UK is working to raise awareness among older people of the risks posed by being cold and to highlight simple steps people can take.

How cold affects the health of older people

- Exposure to cold through the hands, feet, face or head can rapidly lead to a drop in core body temperature.
- Cold air can narrow airways, making it harder to breathe.
- Cold air increases the risk of respiratory infection.
- Cold lowers heart rate but raises blood pressure much more.
- In older people raised blood pressure may last many hours.
- Cold increases the risk of blood-clotting.
- Blood-clotting and raised blood pressure both increase the risk of heart attack or stroke.
- The longer someone is exposed to cold, the more at risk they are of all these effects.

Steps older people can take to protect their health

What older people believe about the cold, and the way they behave in winter, is an important factor in addressing excess winter deaths.¹⁷ Along with better insulated homes, living in a society that knows how to deal with the cold explains why excess winter death rates are so much lower in Scandinavia and northern European countries.

Working nationally and through local partners, Age UK is promoting simple steps to help older people understand why and how to protect their health by keeping warm in winter.

Age UK is distributing posters, recipe books and room thermometers to older people with these key messages:

- keep your bedroom windows closed at night
- wrap up well when you go outside
- keep your living room at 21°C (70°F)
- keep your bedroom at 18°C (65°F).

Age UK is also working in partnership with the Met Office to disseminate Cold Weather alerts throughout the winter period. An alert is issued when the temperature is likely to fall below 2°C for a period of 48 hours or more, and enables older people who are at risk to be targeted with support to reduce the health impact of cold.

Case study

Using the Cold Weather alerts

Throughout last winter, Age UK Herefordshire & Worcestershire used the Met Office Cold Weather alerts in conjunction with their Help at Home service to ensure that older people kept warm and well during cold weather. As soon as an alert was issued, staff contacted clients directly to remind them to keep their homes warm and to make sure that they had enough food and any medication they needed. Any problems – such as a broken-down heating system – could be dealt with immediately. The alerts also helped Age UK Herefordshire & Worcestershire plan ahead for cold weather – for example, making sure that enough staff and volunteers were available for the telephone advice line during particularly cold weather.

Cold homes and fuel poverty

Excess winter death rates are highest among those living in the coldest homes.¹⁸ For many older people, the problem is that they simply cannot afford to heat their home properly, increasing their risk of serious illness or death.

UK housing stock is particularly energy inefficient: 10 per cent of all dwellings in England fail the 'decent homes' criteria because they do not provide adequate thermal comfort (this figure rises to 16 per cent in the private rented sector).¹⁹ Over half a million older households live in properties that are 'hard to heat', for example, having non-cavity walls, or no access to mains gas.²⁰

In recent years, the term 'fuel poverty' has been used to describe the situation in which people cannot afford to heat their home properly. The Warm Homes and Energy Conservation Act (2000) and the 2001 Fuel Poverty Strategy define fuel poverty as needing to spend more than 10 per cent of disposable income to keep the home adequately warm, and place a statutory duty on the Government to end fuel poverty by 2016. Not enough progress has been made towards achieving this target and Age UK is calling for this to have a higher priority within government.

Recent rises in fuel prices and stagnation of household incomes mean that there are 3.5 million households in fuel poverty in England, of which 2.6 million include someone over the age of 60 (2010 figures). It is estimated that this adds up to 4.5 million older people living in fuel poverty.

The Government is currently reviewing the Fuel Poverty Strategy and has proposed changes to the way fuel poverty is calculated. The new measure would take account of variations in household size and distinguish separate indicators of the numbers of people in fuel poverty and the depth of fuel poverty.

'Cold, damp, thermally inefficient houses which people cannot afford to heat sufficiently to protect their health are a peculiarly British public health scandal.'

Dr Noel D. L. Olsen (2003) *Fuel Poverty & Health*, National Heart Forum

It is important to have a robust measure of fuel poverty. The new measure would bring some additional households into fuel poverty, but would exclude others. However, the reality on the ground will not have changed for those householders who are struggling to keep themselves adequately warm, and (as Professor Hills argued in his review of the definition²¹), the incidence of fuel poverty is extensive and the solution ultimately lies in a major energy-efficiency improvement in our housing stock. Hills points out in his review: ‘Improving the thermal efficiency of a dwelling can result in a large and sustained reduction in household energy costs.’

Age UK believes that a vigorous programme of investment to raise the energy efficiency of the UK’s housing stock, starting with the areas of poorest quality and thermal efficiency, would reduce fuel poverty for the many older people who live in these properties. It would also leave a lasting legacy for future generations.

Over half a million older households live in properties which are ‘hard to heat’.



How local authorities and their partners can make a difference

Many local authorities are already actively addressing the issue of excess winter deaths through innovative local programmes. For example, in Solihull, local voluntary and older people's organisations work closely with the council and data on vulnerable individuals is shared between partners to ensure people receive the services they need. In Islington, older people can be referred to a Seasonal Health Interventions Network, which acts as a 'one stop shop' for services including old heating system replacements, falls assessments, and assistance with gas or electricity debts.

Age UK has highlighted five areas in which local authorities can take action, and is inviting all councils to review their current activity in the light of these.

- 1** Map the extent of the problem and identify those at risk (all authorities)
- 2** Plan for cold weather this winter (all authorities)
- 3** Prioritise excess winter deaths and associated ill health as a public health concern (unitary and county authorities)
- 4** Improve the energy efficiency of vulnerable older people's homes (unitary and district authorities)
- 5** Work in partnership with local older people's groups to protect the health of older people in winter (all authorities)

Excess winter deaths as a public health priority

As responsibility for public health is transferred to local authorities, there is an opportunity for winter health to be given greater priority than previously, directing funding into preventive measures to help older people keep warm.

For councils, the growing cost of social care is a big concern. Clearly helping older people to stay healthy and independent for as long as possible will be vital to help slow the inexorable rise in social care costs.

New Health and Wellbeing Boards will provide a forum for local authorities, the directorate of Public Health, Clinical Commissioning Groups (CCGs) and voluntary-sector groups to look together at how best to address this problem. They have a duty to prepare a Joint Strategic Needs Assessment (JSNA), which will identify key health issues for their local community and set the health priorities for the area. The JSNA informs the development of a Health and Wellbeing Strategy, which should influence commissioning plans for relevant local services.

Including 'excess winter deaths' in the JSNA and Health and Wellbeing Strategy will help direct funding to services and interventions to tackle the problem, as illustrated by the work that has already been carried out in Cheshire West & Chester.

Directors of Public Health – who will be appointed by local authorities – will have a statutory responsibility to commission services to tackle seasonal mortality, but other health professionals can also play a role. GPs, for example, could identify patients at risk of respiratory diseases and refer them for additional support from the local authority. Ensuring that CCGs understand the impact that they could have, for example, by making the case that tackling cold homes will reduce preventable hospital admissions, may help this to happen.

Improving home energy efficiency

In recent years, many local authorities have made a huge difference to home energy efficiency in their areas by promoting national government and energy company-funded programmes, and funding their own. This needs to continue as the new Green Deal and ECO programmes come on stream.

The Green Deal is a market-based system that enables people to fund home energy-efficiency measures such as cavity wall and loft insulation from the future savings generated. Alongside this, the Energy Company Obligation (ECO) will provide grants for vulnerable customers and hard-to-insulate properties, for example, those with solid walls.

As trusted providers, councils can play a key role in promoting these programmes to people who would benefit from them. But while councils need to engage with these mechanisms, Age UK believes that these programmes will be insufficient to deliver warm and well-insulated homes on the scale that is needed to address excess winter deaths. This is explored in more detail later in this report.

Recent government guidance under the Home Energy Conservation Act requires all relevant local authorities to submit a report by April 2013 setting out what they plan to do to improve the energy efficiency of residential accommodation in the area. This is an opportunity to look at how best to use energy-efficiency improvements to tackle excess winter deaths and ill health.

Local authorities are ideally placed to take an area approach, by first mapping the problem and then prioritising particular streets, estates or villages. Gateshead Council, for example, developed a strategy to improve private-sector housing, including the 13 per cent of private rented properties that fail the mandatory housing standard due to excess cold.

Case study

Tackling excess winter deaths in Cheshire

Cheshire has one of the highest levels of excess winter deaths in the north-west of England. Cheshire West & Chester Council is addressing this by facilitating local partnership working. Age UK Cheshire is one of the partners involved.

Ward-level mapping has established that the majority of winter deaths occur in rural areas. Mapping from the Housing department also showed that these areas corresponded with the most energy-inefficient housing. Through a partnership with the Fire & Rescue service, Age UK Cheshire is contributing to roadshows across these rural areas of the county, providing information and advice and distributing cold weather packs.

NHS data is also being used to identify vulnerable individuals in the area. This is being piloted in one Clinical Commissioning group area, where people with COPD will receive a home visit to help them prepare for winter, offering benefits advice, a cold weather pack and information about flu vaccinations.

Much of this work has been driven by the Health and Wellbeing Board, of which Age UK Cheshire is a member. A Joint Strategic Integrated Assessment is being developed to identify both needs and opportunities to address the growth in older population. Excess winter deaths have been identified as a priority, and this in turn has led to funding for projects such as the Snow Angels.

Snow Angels is another example of partnership working involving Age UK Cheshire, Cheshire Fire & Rescue and other local public- and voluntary-sector partners. The project provided regular phone calls to vulnerable older people throughout last winter. When a particular need was highlighted – such as shopping during cold weather, path clearing, or a broken heating system – this was referred to local volunteers or relevant statutory bodies for action. The Met Office Cold Weather alerts sent out through Age UK were used to determine the frequency of phone contact, with daily calls made during cold periods.

How national government can make a difference

While the government has introduced a number of measures to tackle excess winter deaths, the scale of the remaining challenge is enormous. The impact of cold weather on older people's health is already imposing massive and avoidable costs on our health service. The population of the UK is ageing, meaning more and more people are exposed to the health risks that cold weather can bring.

'Our analysis shows that improving the housing of those at risk is the most cost-effective way of tackling the problem [of fuel poverty], cutting energy waste, with large long-term benefits to society as a whole. We need a renewed and ambitious strategy to do this.'

Professor John Hills (2012) in [Getting the Measure of Fuel Poverty: Final report of the Fuel Poverty review](#)

There has been progress

In winter 2011-12, the Department of Health produced the first Cold Weather plan for England, something that Age UK had called for in our Spread the Warmth campaign the previous winter.²² Age UK also welcomes the Warm Homes, Healthy People funding that accompanied the Cold Weather plan, and has enabled a range of practical services to be delivered to vulnerable older people throughout the winter.

Another significant development is that the new Public Health Outcomes Framework, published in January 2012, includes excess winter deaths as an indicator. As indicated above, this will give (from April 2013) Directors of Public Health a responsibility to commission local services to tackle the issue.

At the same time the National Institute for Health and Clinical Excellence (NICE) is looking at developing guidance to support the prevention of excess winter deaths and ill health associated with cold homes. This has the potential to enable GPs to commission services to keep people's homes warm as a preventive measure.



Keeping older people warm in winter could result in savings

While these developments are welcome, at their current level they are insufficient to deal with the scale of excess winter deaths and illness.

Age UK's new estimate of the cost of cold homes to the NHS is £1.36 billion. There will also be further avoidable costs to social care services and to informal carers. At a time when the Government is looking to the NHS to make efficiency savings, taking further action to enable older people to protect their health in winter will also bring savings for the public purse.

In the short term, the government needs to make excess winter deaths a national health priority. This would help drive funding into preventive services and interventions that will enable older people to stay warm and well throughout the winter.

But to deal with the problem once and for all, the Government needs to tackle the problem of cold homes with an ambitious programme of home energy-efficiency improvements.

Home energy efficiency: the cost-effective solution

Living in a cold home increases the risk of illness or death in winter. The poor energy efficiency of the UK's housing stock means that many older people are put at risk every winter. This is preventable: simple home energy-efficiency measures such as double glazing or loft insulation would make a big difference. The average cost of making a property energy efficient is just £7,500,²³ whereas the cost of keeping an older person in hospital is estimated at £1,750–£2,100 per week.²⁴

A number of possible approaches could be taken to tackle cold homes, including maximising income or reducing fuel prices. But energy efficiency for older people's homes is by far the most cost-effective intervention. An evaluation of the Warm Homes scheme in Northern Ireland between 2001 and 2008 showed that for every £1 spent on the scheme, the NHS saved 42p.²⁵

A number of different government- and supplier-funded schemes have operated over the past decade, including Warm Front, the Carbon Emissions Reduction Target (CERT) and the Community Energy Savings Programme (CESP). Between them, these have had a significant impact on home energy efficiency.

These will shortly be replaced by the Green Deal, a market-based scheme that enables people to take out a loan to fund improvements, and ECO, which will provide supplier-funded grants for vulnerable customers and hard-to-insulate properties.

While the new Green Deal and ECO schemes may fund home insulation in some properties, Age UK believes that these programmes will not be sufficient to address the sheer numbers of cold, energy-inefficient homes in this country.

Many older people express serious concerns about taking on debt. While technically the Green Deal loan would be secured on the property, with interest rates expected to be around 6–8 per cent, it is unlikely to be attractive to many older people.

The total value of ECO is likely to be less than the previous Warm Front scheme, with only £350 million likely to be devoted to ‘affordable warmth’ and the rest focused on properties that are hard to insulate.

The Hills Review into fuel poverty made projections about future levels of fuel poverty and has showed that these policies would only reduce fuel poverty by one-tenth compared to what it would otherwise be in 2016.²⁶ Between 2.6 and 3 million households can still be expected to be in fuel poverty by then – meaning that millions of older people would still be at risk of serious illness or death in winter.

To make cold-related deaths and ill-health a thing of the past, the Government must provide substantial new investment to make the UK’s housing stock energy efficient and warm.

The average cost of making a home energy efficient is £7500, whereas the cost of keeping an older person in hospital is estimated at £1,750 – £2,100 per week.



Carbon revenues as a source of funding

From 2013 the Government will start to receive carbon revenues, generated from the auctioning of carbon allowances under the EU Emission Trading Scheme and the UK Carbon Price Floor mechanism. It is estimated that revenues from these two sources will total around £63 billion by the year 2027. This would be sufficient to fund energy-efficiency measures that would remove 87 per cent of households from fuel poverty over the next 15 years, and bring the remaining 13 per cent up to the current energy-efficiency standard for new homes (EPC band B).²⁷ Ultimately, these schemes will be paid for by customers through their energy bills and will only cost around £61 a year for the average household by 2027.

Age UK believes that households in fuel poverty should be prioritised, but that such a scheme could work alongside the Green Deal allowing wealthier households to pay for improvements themselves.

Age UK will be working with a wide group of private- and voluntary-sector organisations through the Energy Bill Revolution campaign to make the case for this investment. Dealing with the UK's energy-inefficient housing stock once and for all would bring multiple benefits for people of all ages. Contracts for UK companies to carry out the work would result in jobs for working age people and tax revenue for the Treasury; lower fuel bills would benefit older residents initially, but would be passed on to younger homeowners and tenants in the future; and a significant reduction in carbon emissions would contribute to tackling climate change and benefit us all.

But above all, a legacy of warm and well-insulated homes would make a significant contribution to enabling older people to keep warm, well and healthy and to reducing the cost of cold.

'We used to have to keep the heating on all evening. Now we just put it on for an hour or so and the house stays warm. You can sit on the settee now and there's no draught. I was worried about winter – you used to worry about the bills, but we're not dreading it this time.'

74-year-old resident, after having double-glazing installed in her home

Notes

- 1 Office of National Statistics
- 2 Excess winter deaths in England and Wales, winter 2010/11: 25,700. Road accident fatalities in England and Wales, 2011: 1,715 (source: Department of Transport)
- 3 Chief Medical Officer (2009) *Annual Report*
- 4 K. J. Fullerton and V. L. S. Crawford (1999) The Winter Bed Crisis – Quantifying seasonal effects on bed usage, *Quarterly Journal of Medicine*, 92: 199–206
- 5 C. Gascoigne et al. (2010) Reducing the Health Risks of Severe Winter Weather among Older People in the United Kingdom: An evidence-based intervention’, *Ageing and Society*, 30(2): 275–297 (published online 22 October 2009)
- 6 Calculated by José Iparraguirre, Chief Economist, Age UK, using the method described in South East Regional Public Health Group Factsheet (2009) *Health and Winter Warmth*. This made use of a calculator produced by the Chartered Institute of Environmental Health to estimate the total cost to the NHS in England arising from cold homes. Age UK updated their figure (£859 million) using 2011 household numbers estimates for England (Office for National Statistics) and the GDP deflator (from HM Treasury’s website) to inflate the estimates to 2011/12 prices. Age UK’s new figure does not take into account recent improvements in home insulation, which might be expected to lead to a slightly lower estimate.
- 7 As note 3
- 8 As note 3
- 9 M. Curwen (1997) ‘Excess Winter Mortality in England and Wales with Special Reference to the Effects of Temperature and Influenza’, in *The Health of Adult Britain 1841–1994*, Volume 1, The Stationery Office, pp. 205–216
- 10 As note 6
- 11 G. C. Donaldson and W. R. Keatinge (1997) ‘Early Increases in Ischaemic Heart Disease Mortality Dissociated from and Later Changes Associated with Respiratory Mortality after Cold Weather in South East England’, *Journal of Epidemiology and Community Health*, December 51(6): 643–648

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- 12 As note 3
- 13 Professor James Goodwin (2011) *Expert Briefing: Winter warmth*, Age UK., Available at: www.ageuk.org.uk/documents/en-gb/professionals/research/goodwin_ageuk_metoffice_11oct11.pdf
- 14 Marmot Review Team (2011) *The Health Impacts of Cold Homes and Fuel Poverty*, Friends of the Earth and the Marmot Review Team
- 15 As note 5
- 16 D. A. Lawlor, D. Harvey and H. G. Dews (2000) 'Investigation of the Association between Excess Winter Mortality and Socio-economic Deprivation', *Journal of Public Health Medicine*, 22(2): 176–181
- 17 As note 5
- 18 As note 14
- 19 English Housing Survey 2012
- 20 J. Pett (2002) *Affordable Warmth in 'Hard to Heat' Homes: Finding a way forward*, Association for the Conservation of Energy
- 21 J. Hills (2012) *Getting the Measure of Fuel Poverty: Final report of the Fuel Poverty review*, Crown Copyright
- 22 Age UK (2010) *Excess Winter Deaths: Preventing an avoidable tragedy*
- 23 B. Boardman (2012) *Achieving Zero: Delivering future-friendly buildings*, Environmental Change Institute
- 24 NHS Institute Return on Investment calculator: [www.institute.nhs.uk/quality_and_service_improvement_tools/quality_and_service_improvement_tools/Return_on_Investment_\(ROI\)_calculator.html](http://www.institute.nhs.uk/quality_and_service_improvement_tools/quality_and_service_improvement_tools/Return_on_Investment_(ROI)_calculator.html)
- 25 C. Liddell (2008) *Estimating the Impacts of Northern Ireland's Warm Homes Scheme 2000–2008*. University of Ulster and Marmot Review Team
- 26 As note 21
- 27 P. Washan (2012) *Energy Bill Revolution Campaign Report*, Camco

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