South East Regional Public Health Group Fact Sheet

HEALTH AND WINTER WARMTH
Reducing Health Inequalities

(Comments to simon.church@eaga.com and Jo.Nurse@dh.gsi.gov.uk, copies of the factsheet are available to download from the resources/research section of the www.warmerhealthyhomes.org.uk website)

Audience:

This factsheet is designed to provide information to people concerned with health and fuel poverty issues; Regional and Local Partnerships within Public Health, Environmental Health and Local Authorities, Community and other front line Health Staff who can refer vulnerable households for help, as well as Housing and Energy Officers. The factsheet brings together the latest information and best practice, to enable health professionals to take a much more active role.

Vision:

To help reduce health inequalities within vulnerable households, reduce excess winter deaths, and increase energy efficiency, in order to enhance health and sustainability.

Why it is important:

- **Fuel Poverty in England increased from 1.2M households in 2004 to 2.9M in 2007;**
  - this change to the downward trend is due mostly to fuel price rises, and increases the risks to health.
- **Excess winter deaths contribute to 1 in 20 of all deaths per year;**
  - there were an estimated 36,700 excess winter deaths in England and Wales in 2008/9 – a much higher level than in most of Europe, including countries with much colder winters such as Norway and Russia.
- **Cold weather increases hospital admissions;**
  - after a 'cold snap', there is a 2 day lag before there is an increase in deaths from heart disease, a 5 day lag for deaths from stroke and a 12 day lag for both deaths and admissions for COPD. For each excess winter death, there is an estimated 8 emergency admissions each winter and over 100 households living in fuel poverty. Peaks in admissions could be reduced by better long term planning.
- **Promoting winter warmth brings multiple health gains**;
  - Improves self rated health by approximately 50%, results in fewer visits to a general practitioner by 27% and fewer days off work by 38%
  - improves householders' mental health - residents with warm bedrooms are 50% less likely to suffer depression and anxiety than those with cold bedrooms
  - reduces stress – people in fuel poverty were 2.5 times more likely to report high or moderate stress than people who could afford their fuel bills. For every 10,000 properties improved by Warm Front over 3,000 people will be relieved of stress or depression
  - improves children's educational achievements, school attendance (50% reduction in self reported days off school following insulation measures), and reduces the incidence of childhood asthma
- **Insulating homes also protects against excess heat in summer and reduces CO_2 emissions**
  - Last year, health referrals to grant schemes resulted in work that will reduce CO_2 produced from the assisted households by an estimated 16,500 tonnes per year
- **Reducing poverty and debt;**
  - the average increase in household income identified by Warm Front benefit checks is £31.07 per week (£1,615.64pa). Between £6b and £10b of entitled benefits and credits go unclaimed each year.
- **The vulnerable are most at risk – the elderly, people with disabilities and families with young children;**
  - a 1% increase in fuel costs increases fuel poverty by 40,000 households.
- **The health sector can make a difference;**
  - by referring to available grants worth over £350M annually, referral levels from health projects have already increased from 5,300 in 06/07 to 24,600 in 08/09 (8% of total Warm Front targets).
- **There is significant local and regional variation in levels of health related referrals to fuel poverty schemes;**
  - this factsheet brings together evidence and best practice to increase referrals and benefit the health of vulnerable households.

This factsheet supersedes the previous version (Jan 09); it has been updated with the latest facts and figures relating to health and winter warmth and fuel poverty. Significant additions have been made to the sections on the evidence related to the physical and mental health effects of fuel poverty, as well as the wider financial costs of fuel poverty, and the savings to the NHS from taking action to address it.

Fact Sheet Contents:

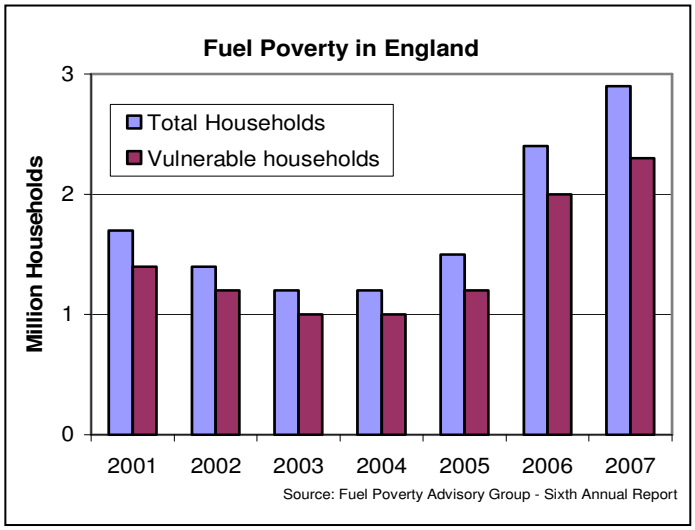
Fuel Poverty Facts and Causes

Definition of fuel poverty

A household that needs to spend more than 10% of its income to provide an adequate standard of warmth defined by the World Health Organisation to be 21°C in the living rooms and 18°C in other occupied rooms.

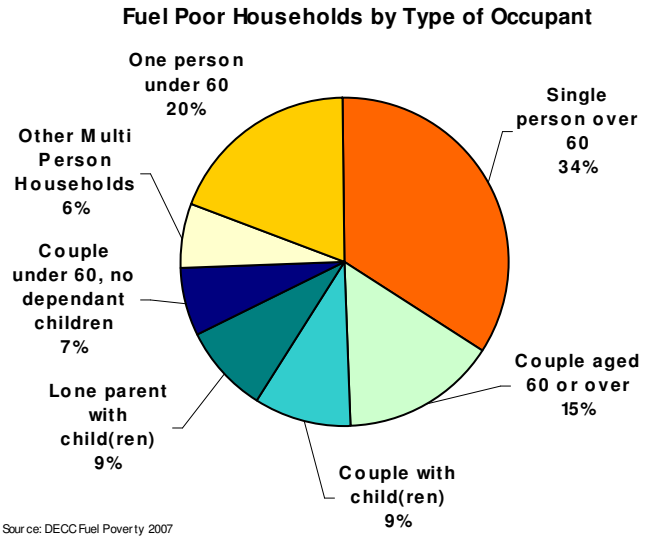
The Rise of Fuel Poverty

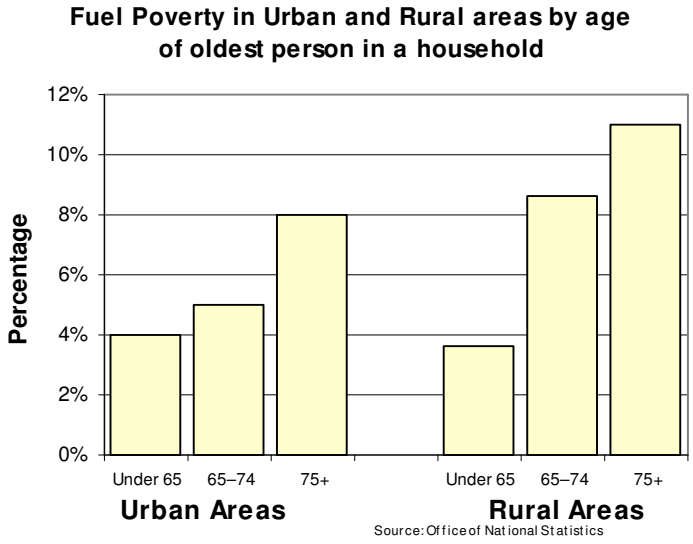
A steady decline in the numbers of households in Fuel Poverty, has been reversed over the last few years, mostly due to the significant increases in fuel prices. As the graph to the right shows, the most recent estimates (from the Fuel Poverty Action Group 6th report) shows there were nearly 3 million households in England who were unable to afford to adequately heat their own homes in 2007. The significant gas and electricity price rises in 2007 will have increased this figure. The Department for Business, Enterprise & Regulatory Reform estimates that a 1% real change in both gas and electricity prices would imply an increase of 40,000 households in fuel poverty, and Energywatch estimates are that average fuel prices have risen by 38% in 2008.

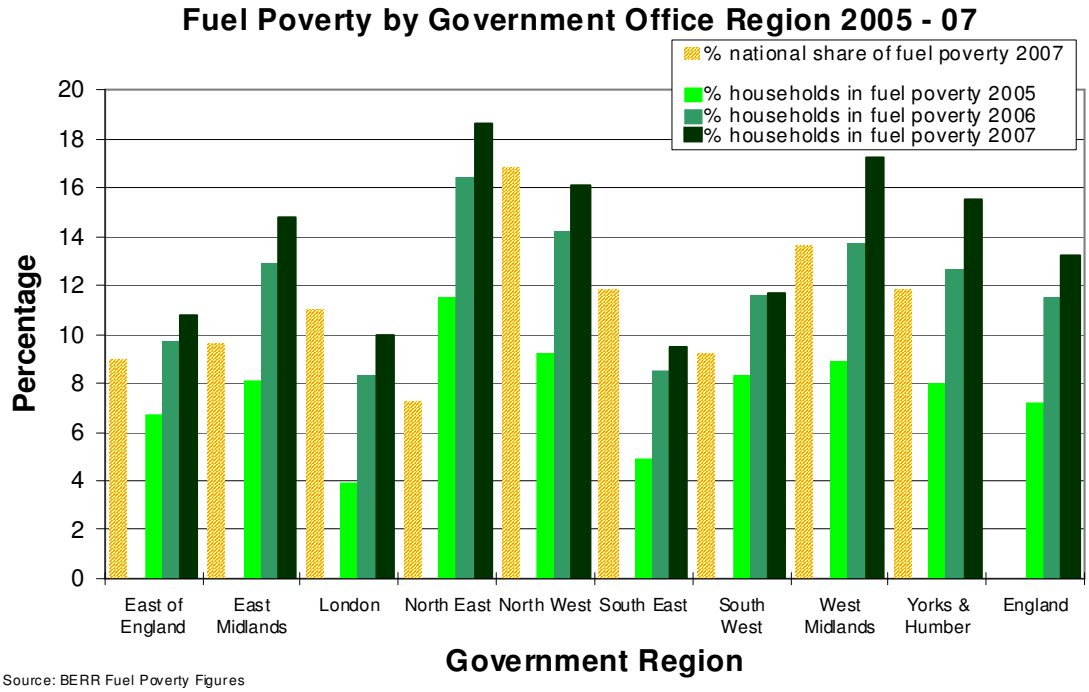


Patterns of Fuel Poverty

- Over 50% of people living in fuel poverty in the UK are over 60 years old, the majority of whom live on their own.
- Over two thirds of households in fuel poverty either live in private rented accommodation or own their home.
- Fuel Poverty is more likely in rural areas, mostly due to being off the gas network.
- Damp and cold houses are also a risk for fuel poverty.





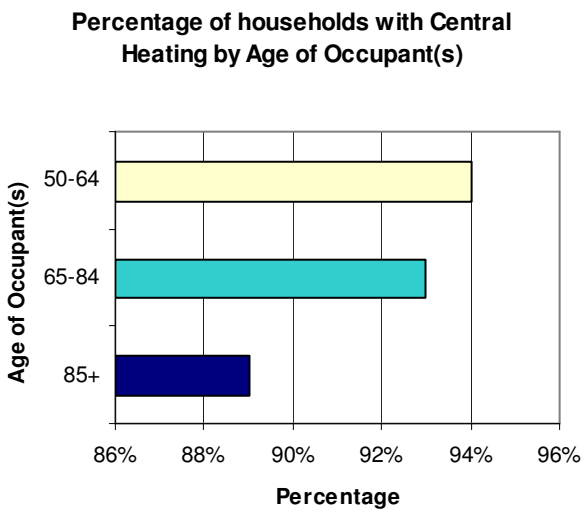


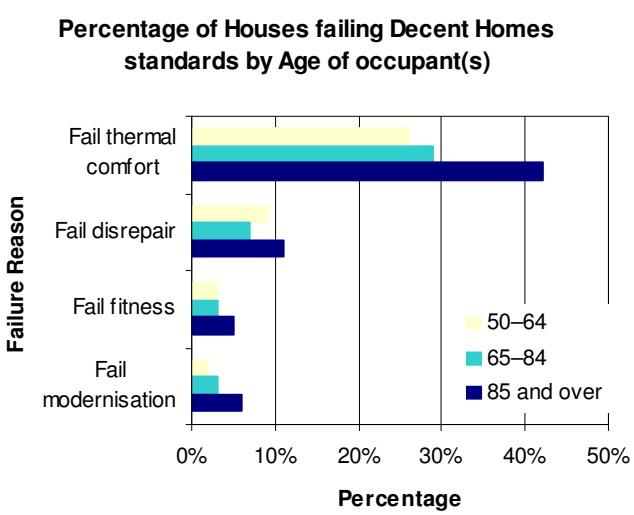
Source: BERR Fuel Poverty Figures

For the most recent available figures (2007), in all regions Fuel Poverty again rose over the previous year. The regional share has varied less, and has increased or decreased depending on regional factors including house types.

Central heating, especially gas central heating, is the most efficient form of space and water heating for households. Modern, fully controllable systems, are the cheapest method, and allow for much more control over achieving appropriate and affordable warmth. The percentage of households in England without central heating is 3.8%, this increases to 12.1% of people in Fuel Poverty.

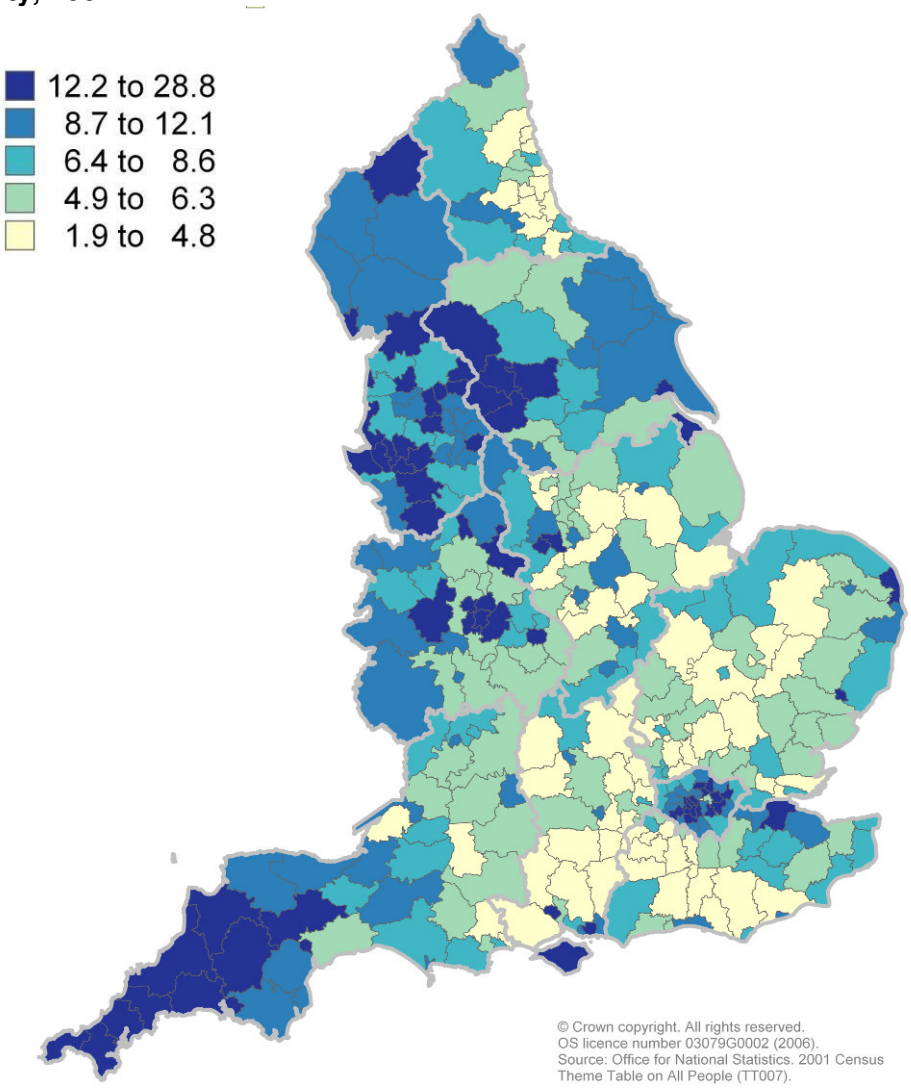
As these graphs below demonstrate, the older the occupant, the less likely they are to have central heating. Additionally, as the age of the occupant increases, the more likely the home will not meet current standards with regard to insulation levels. Typically 1 in 5 homes would currently fail the decent homes thermal comfort criteria. This increases to over 4 in 10 for people over 85.





Source: English House Condition Survey, 2001

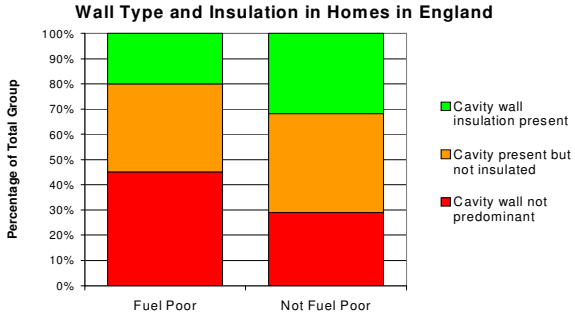
Percentage of persons aged 65 and over living in accommodation with no central heating by Local Authority, 2001



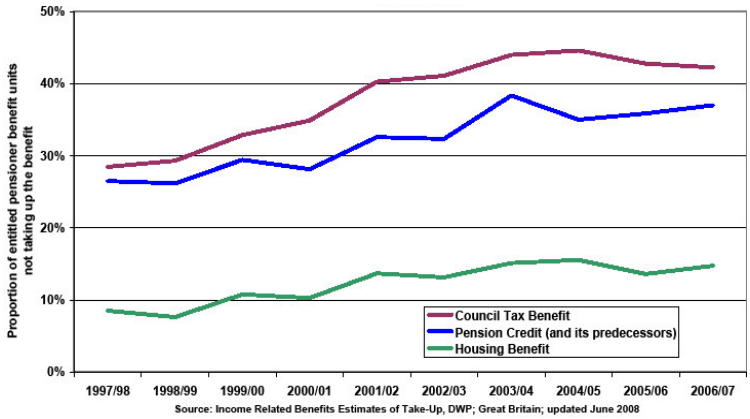
Causes of Fuel Poverty

Although the whole issue of fuel poverty is a complex one, four of the most significant factors involved in causing fuel poverty are:

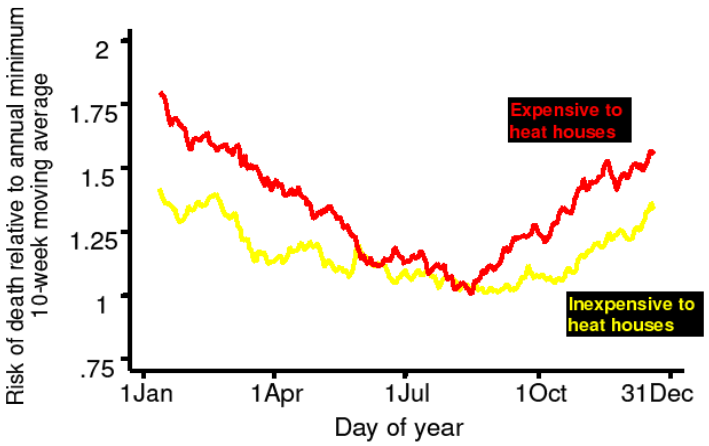
- ***Energy efficiency*** - The energy efficiency of the home is a major factor that can result in fuel poverty. In England, 30% of lofts (5.9 million) have less than 100mm of loft insulation (current regulations call for 270mm), and 56% of houses with cavity walls (8.5 million) have not had them filled with insulation. This situation is more prevalent in homes occupied by people in Fuel Poverty than for the non Fuel Poor. There is also a particular problem in solid wall houses off the mains gas network (so called 'hard to treat'), as it is much more expensive to adequately insulate and heat these properties.



- ***Income*** - The costs of heating a property form a greater proportion of total income for those on low incomes. Figures from the Department for Work and Pensions for 2006-7 show that an estimated £6b to £10b of income goes unclaimed among the five main income-related benefits. This includes an estimated 40% of elderly people, eligible for Pension Credit, who do not claim it. The proportion of benefits that are unclaimed has increased over the last few years. There are many individual reasons why people are not claiming income they are entitled to, but they include a lack of knowledge, pride, and the complexity of the application process. The average increase in income identified in successful Benefit Maximisation Checks provided as part of the Warm Front Scheme is £1,615 (2008-9), which is more than enough to pay for the average annual fuel bill.



- ***Fuel costs*** - Higher fuel prices reduce the affordability of fuel. Prices of different types of fuels can vary considerably, and the availability of different fuels in different areas, and of different types of heating systems, can affect the ability of consumers to exercise choice. After years of falling and relatively low energy prices, the cost of fuel is rising steadily, prices are predicted to remain higher than previously, and potentially continue increasing. This is pushing more households into fuel poverty, with the average cost of gas and electricity for a household now at around £1,300 a year. For every 1% rise in fuel costs, it is estimated by the Department for Business, Enterprise & Regulatory Reform, that 40,000 extra houses are pushed into fuel poverty.
Additionally, there are considerable variations in the tariffs offered to householders, especially relating to the methods of payment. Often, those most at risk of fuel poverty are paying a higher



Seasonal variation in deaths from cardiovascular disease by cost of home heating. England, 1986-1996.

Source: Wilkinson, P. 'The Impact of Housing on Health and Social Care: Overview of Evidence'

price for their gas and electricity. It is estimated that the extra costs of paying for gas and electricity by cheque or cash is up to £100 more than by direct debit. For those paying by prepayment meter, the additional costs have traditionally been even higher. New supply licence conditions banning unjustified price differences came into force on September 1 2009, although this will still allow firms to charge up to around £88 extra to pre-payment meter customers. Proportionally, you are more than twice as likely to be in Fuel Poverty if you do not pay by direct debit. Recent pressure to address this situation for the most vulnerable householders have led to the creation of what is termed "social tariffs", whereby eligible households would be charged the equivalent of the cheapest tariff, irrespective of payment method. The government is considering mandating such social tariffs. A pilot study within the Warm Front Scheme (2008/9) found that 43% of people were able to get a cheaper tariff from their own utility, even without looking to change supplier.

Payment form: Gas 2008	
Monthly direct debit	52%
Standard credit	37%
Pre-payment meter	11%

- ***Under occupation*** – This is where a person or people are living in a home that is too large for their needs, and too large for them to be able to afford to heat adequately. This situation is commonly found where a couple or a single elderly person is still living in the old family home, and the size of the property means it will not be affordable to heat in their circumstances, even if all the available insulation and efficient heating measures were installed. The most recent figures (2007) showed the percentage of under-occupancy fuel poor households was 20.1%, while it was 9.9% for non under-occupancy.

In addition, many of the most vulnerable members of society spend longer in the home than most, and therefore require the heating on all day, and not just in the morning and evening. The difficulty is that the most vulnerable people often live in the least energy efficient households, and have to make a tough choice between adequate warmth and other essentials. This has been described as the choice between heating and eating, and usually leads to the home being left too cold and damp through the winter months.

There are straightforward and simple things that are available to every household that can improve their situation, and reduce inequalities. The aim is to find an effective and robust way to signpost those in need and encourage them to take up the help available.

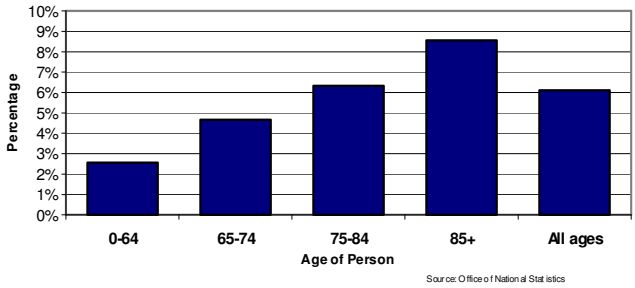
Excess Winter Deaths:

In the UK, there are around 25–30,000 excess winter deaths each year, which are related to the colder weather between December and March. Around 40% of these excess deaths are from cardiovascular disease and around a third from respiratory disease.

- There is a 1.4% increase in mortality for each 1^0 C fall from 18^0 C
- Deaths are lagged on temperature by 2 days for Heart Disease, 5 days for Cardiovascular Disease and 12 days for Respiratory Disease.
- When temperatures are less than 11°C, a 1°C drop in daytime mean temperature leads to an increase in respiratory mortality of 4.8% over the following month.

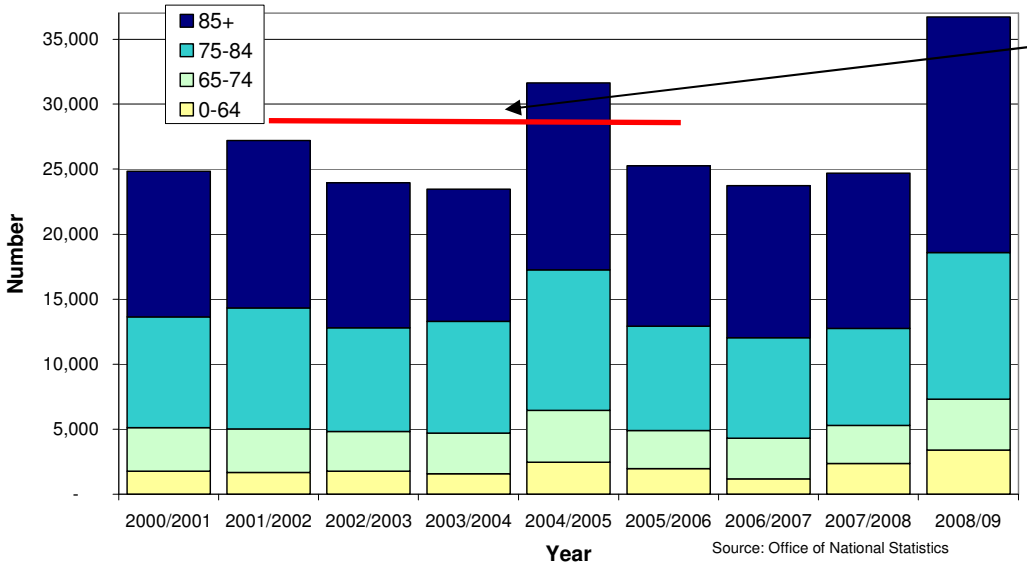
As can be seen from the graph to the right, excess winter mortality becomes a more significant factor as a cause of death as you get older, due to the nature of the seasonal causes of death. These figures are averages over the last few years. In the colder winters of 1999/2000 and 2000/1, excess winter mortality accounted for over 12% of all deaths for the over 85s in those years.

% of Deaths in England and Wales attributed to Excess Winter Mortality (avg for 1999 - 2005)



Source: Office of National Statistics

Excess Winter Mortality in England and Wales



Source: Office of National Statistics

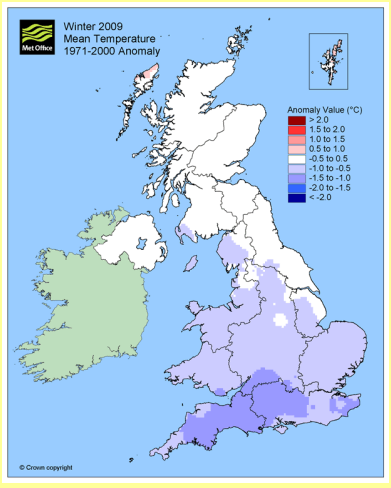
The graph shows the total numbers of excess winter deaths (between December and March) for the last few years. There is annual variation, which is related to a number of factors, including the average winter temperature.

Excess Winter Deaths 2008-9

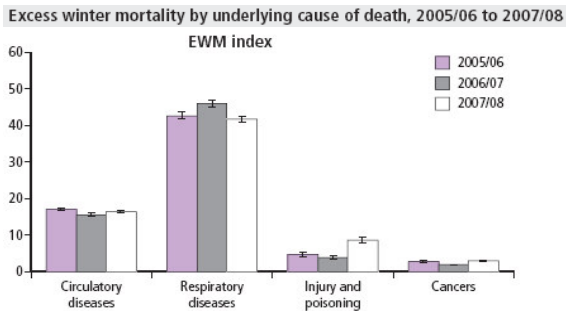
The provisional EWM figures for 2008-9 (see graph above) were 36,700, an increase of 49% over the previous year. Although the average temperature for the winter period (Dec-Mar) was around the same as in 2005-6, the average temperature for the period (Dec-Feb) was lower than any time since 1995-6.

The map to the right shows the variation in temperature for Dec 2008 to Feb 2009 for the United Kingdom, compared to the 1971-2000 average, showing that proportionally, it was the south of the country, which experienced the colder than average temperatures.

The EWM index (the % increase over non-winter deaths) for the year overall was 23.8%, while for people over 85 it was 32.8% (see below for a comparison to other European countries). The increase in the index for the South East region, compared to 2007-8, was 70%.



The graph to the right, looking at more detailed reported causes of death for the previous three winter periods, shows the increase in the EWM index is especially significant, and consistent, for circulatory and respiratory diseases.
It would be expected, looking at the provisional estimates, that the rates for 2008/9 (due to be published next year) would be significantly higher than those shown.



Although cold weather is clearly a factor in excess deaths, Scandinavian countries for example do not have the same pattern of excess winter deaths, giving a strong indication that this is a preventable situation. Below is the average EWM for 1988-97 for a variety of European countries.

Excess winter mortality as % increase over non-winter deaths

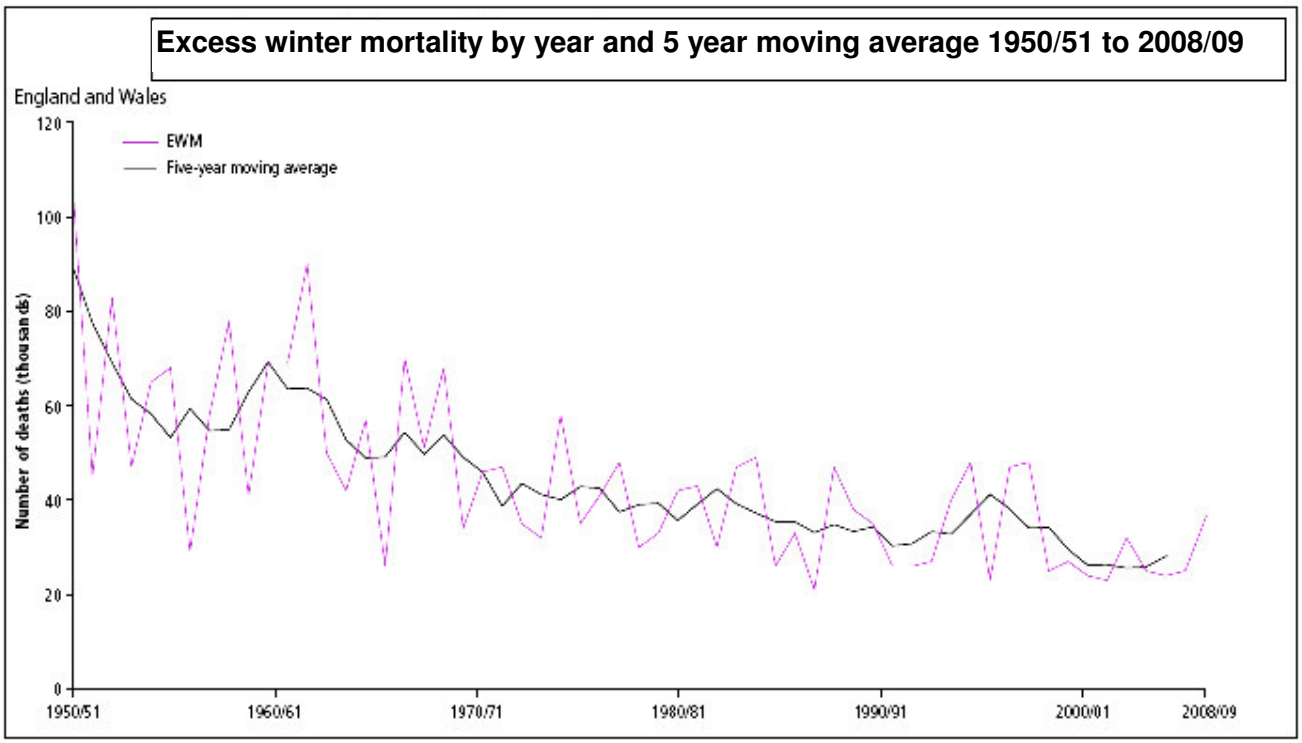
Ireland	21%
England	**19%**
Wales	**17%**
Scotland	16%
Austria	14%
Belgium	13%

France	13%
Denmark	12%
Germany	11%
Netherlands	11%
Finland	10%

Source: Healy, JD, Excess winter mortality in Europe: a cross country analysis identifying key risk factors, Journal of Epidemiology and Community Health, 2003; Volume 57, Number 10

A good proportion of the excess winter deaths in the UK are related to factors which affect how warm a house is, for example, energy efficiency and insulation, central heating and household income. Homes predicted to be in the lowest quarter of indoor temperatures ('cold homes') had around 20 per cent greater risk of excess winter death than homes in the top quarter of indoor temperatures ('warm homes') – see graph on previous section under fuel costs.

The general trend for excess winter mortality, has continued to improve generally in the last 50 years or so (see below), which is probably related to improvements in housing conditions, central heating and rising incomes. There is still, however, a comparable number of people who die in this manner, as die each year from lung cancer. The average numbers of excess winter deaths since 2000/01 is 26,840 in England and Wales, and the average numbers of annual lung cancer deaths for 2001-4 was 28,600.



Source: Office of National Statistics

How the cold affects health

In older people, a 1°C lowering of living room temperature is associated with a rise of 1.3 mmHg blood pressure, due to cold extremities and lowered core body temperature[†]. Increases in blood pressure, along with increased blood viscosity, (caused by mild skin surface cooling), increases the risk of strokes and heart attacks.

Cold air affects the normal protective function of the respiratory tract, with increased broncho-constriction, mucus production and reduced mucus clearance. Cold, damp houses also promote mould growth, which increases the risk of respiratory infections.

The following table illustrates the health effects experienced by those living in temperatures below the recommended 16-21°C (18°C and over in living areas):

Table 1: Effect of temperature on health

Indoor Temperature	Effect
21° C	Recommended living room temperature
18° C	Minimum temperature with no health risk, though may feel cold
Under 16° C	Resistance to respiratory diseases may be diminished
9-12° C	Increases blood pressure and risk of cardiovascular disease
5°C	High risk of hypothermia

Table 2: The health effects of cold, damp homes

Mild Hypothermia

- A study showed incidence peaks of hypothermia in A&E patients over 65 from relatively deprived postcodes, coinciding with periods of cold weather; of the 5% showing core temperature below 35ºC, 34% subsequently died[*].

Cardio-vascular disease

- Circulatory diseases are responsible for around 40% of excess winter deaths (therefore approximately 13,000 individuals in 2005-6)
- The cold increases blood pressure – one study showed a 1°C lowering of living room temperature is associated with a rise of 1.3mmHg blood pressure[†].
- A rise in blood pressure during the cold increases the risk of heart attacks and strokes.

Respiratory Illness:

- Cause of around ⅓ of excess winter deaths (approximately 10,500 individuals in 2005-6)
- The cold lowers resistance to respiratory infections.
- Coldness impairs lung function and can trigger broncho-constriction in asthma and COPD.
- Dampness is associated with cold houses; damp increases mould growths, which can cause asthma and respiratory infections.
- Home energy improvements have decreased school sickness by 80% in children with asthma or recurrent respiratory infections.[‡]

Cold houses affect mobility and increase falls and non-intentional injuries:

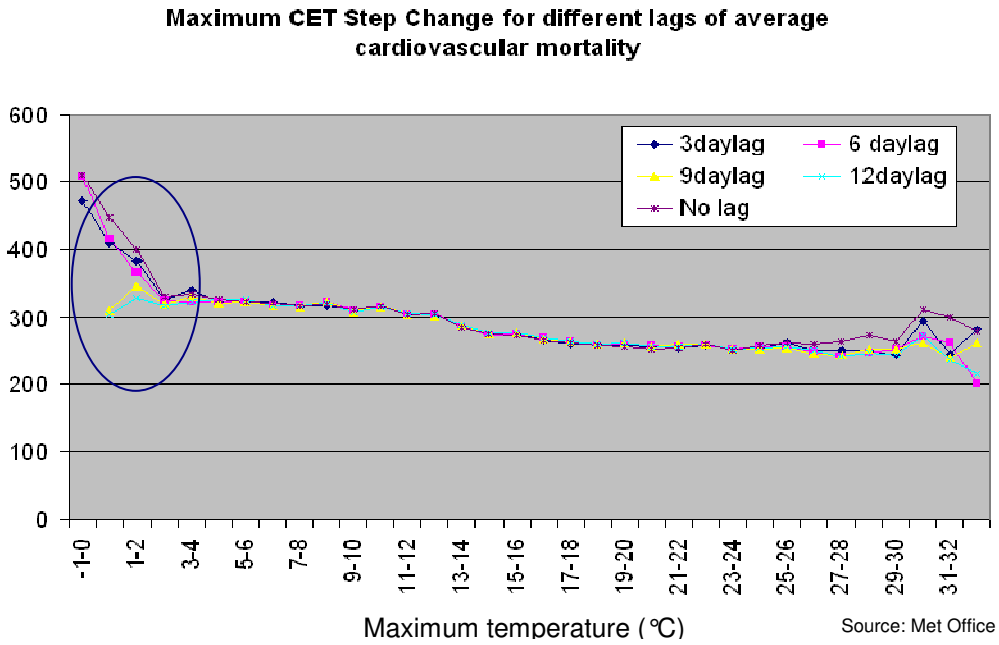
- Symptoms of arthritis become worse in cold damp houses.
- Strength and dexterity decrease as temperatures drop, increasing the risk of non-intentional injuries.
- A cold house increases the risk of falls in the elderly.

Mental and social health

- Damp, cold housing is associated with an increase in mental health problems.
- Some people become socially isolated as they are reluctant to invite friends round to a cold house.
- In cold homes where only one room is heated, it is difficult for children to do homework, affecting educational and long-term work and health opportunities.

* Pedlev [†] Woodhouse et al. [‡] Somerville et al.

Although evidence implies that there is a continual increase in admissions to hospital from cold-related illnesses as the temperature falls, this can become especially acute at certain lower temperatures. As shown in the graph below, from the Met Office, there is a significant step change of rates of admissions, within a 6 day lag, of maximum temperatures of 3°C or below.

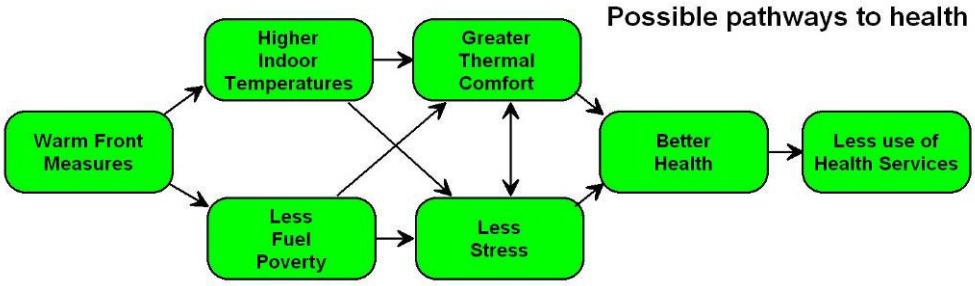


Fuel Poverty and Physical Health

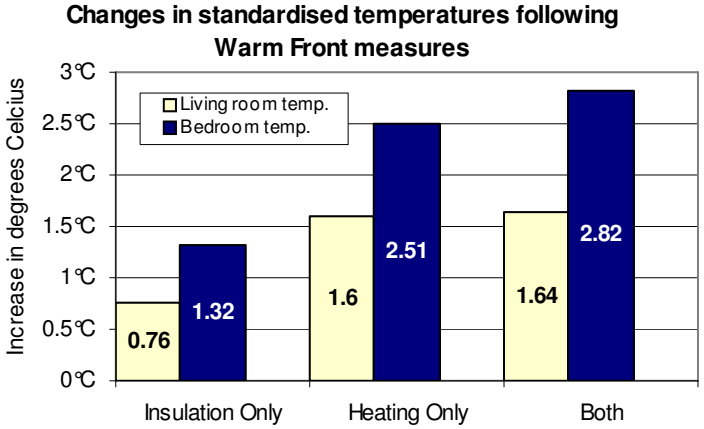
Warm Front Health Impact Evaluation (physical health)

A study of the health of people, before and after receiving insulation and heating measures under the Government's Warm Front scheme, showed some important relationships between improving the affordable warmth of households and individual householder's health:

- Links between poor quality housing, fuel poverty and health are widely recognised, as shown below:



- Warm Front insulation and heating improvements are associated with a significant increase in both living room and bedroom temperatures. These increases often lift temperatures above the level that poses a risk to health.
- Warm Front improvements are associated with reductions in relative humidity and risk of mould, reducing the risks of asthma and respiratory disease.



- Predicted significant reductions in heart and respiratory disease, with significantly fewer people dying from cold related living conditions.

Reductions in physical illness and GP visits

There have been plenty of studies looking at the causal links between housing conditions and health. A recent (March 2007) and comprehensive study of the health benefits of insulation improvements was carried out in New Zealand by Howden-Chapman and colleagues. The large randomised controlled trial, assessed whether insulating older houses increased indoor temperatures and improved occupants' health and wellbeing. 1,350 single family homes in low income communities were randomized to receive new insulation or not, and changes in environmental and health outcomes over one year were measured.

As one might expect, they found significant increases in winter indoor temperature and decreased dampness (humidity) in the insulated homes, despite decreased energy consumption. But they also found that residents of the insulated homes reported significantly improved quality of life, decreased wheezing, and fewer GP visits and sick days from school and work.

The findings suggest that improving the indoor environment may lead to improved self rated health (adjusted odds ratio 0.50, 95% confidence interval 0.38 to 0.68), fewer visits to a general practitioner (0.73, 0.62 to 0.87), fewer days off work (0.62, 0.46 to 0.83), and fewer days off school (0.49, 0.31 to 0.80). In other words, interventions resulted in self-reported health improvements including:

- 50 per cent improvement in health
- 27 per cent reduction in use of GP services

This study looked at the health benefits of improved insulation, and as was shown in the Warm Front health impact study, improvements to both the insulation and heating led to significantly higher indoor temperatures.

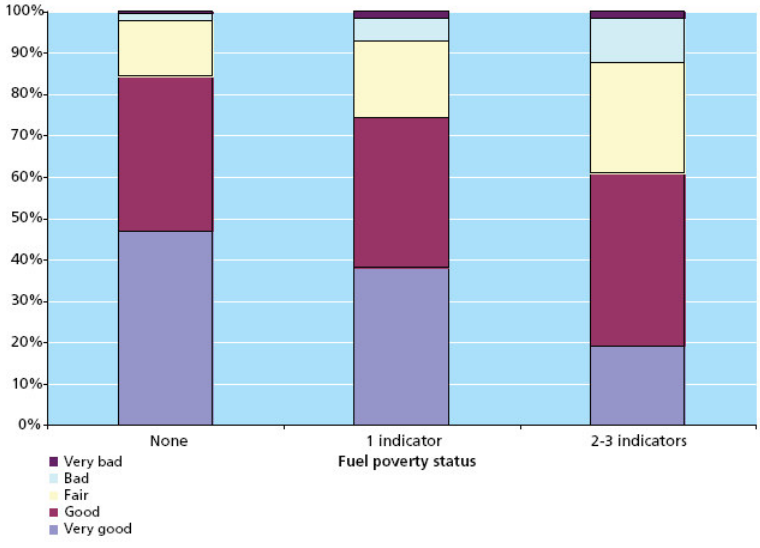
Improvements in Health and Well Being

A recent report (Dec 2009) by the institute of Public Health in Northern Ireland as part of it's annual report looked at results from 3 questions relating to fuel poverty included in the survey of 14,115 Irish households. The questions were:

- Has the household had to go without heating in the last 12 months?
- Has the household been unable to afford to keep the house adequately warm in the last 12 months?
- Has the household been in arrears with energy bills in the last 12 months?

"Respondents in the EU-SILC Survey were asked to assess their general health status on a scale from "very good" to "very bad". Health status is affected by many factors including: age, poverty, and smoking history. Preliminary analysis indicates that, after taking into account the contributions these made to people's assessments of their general health, fuel poverty had a significant and independent impact. Over and above the impacts of age, income poverty and smoking, fuel poverty seems to exert a detectable effect on people's assessment of their health status. People who had not experienced fuel poverty in the past 12 months were significantly more likely to rate their health as very good.

Self-reported general health status and fuel poverty.



Similarly, people who had experienced two or more indicators of fuel poverty in the past 12 months rated themselves as in significantly poorer health than people who experienced only one indicator."

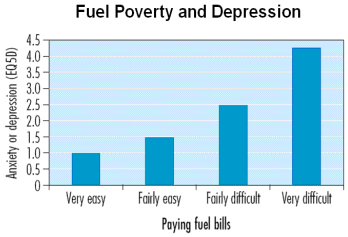
Northern Ireland Studies
Additional information on the health impacts of fuel poverty can be found in two papers by Christine Liddell, based in Northern Ireland. The first is a study of the estimated health benefits of the Northern Ireland Warm Homes Scheme, which estimated that for each £1 spent on preventing fuel poverty the NHS saves 42p - further details on this is within the financial costs of fuel poverty section. The second was a review of the recent evidence in five large scale studies of 'Tackling Fuel Poverty and impacts on human health'. The executive summary of which states:
"The health impacts of tackling fuel poverty are reviewed, drawing primarily on recently published studies from the UK, North America, and New Zealand. Although physical health effects on adults appear to be modest, caregivers perceive significant impacts on children's respiratory health. There also appear to be significant effects on the physical health of infants, particularly on weight gain and susceptibility to illness. Mental health effects on adults emerge as significant in most studies, as do mental health impacts on adolescents. Mental health effects on children have, as yet, never been systematically assessed. Whilst the recently published studies reviewed here are based on large samples and are of consistently high quality, the review concludes with a methodological critique and suggestions for future research."

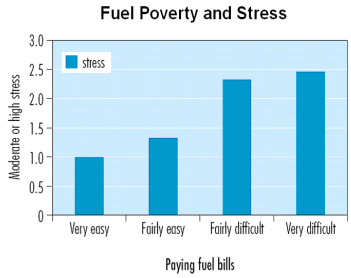
Fuel Poverty and Mental Health

- Fuel poverty leads to a four-fold increased risk of depression or anxiety for people
- Being unable to adequately heat the home in winter increased the odds of having any CMD by double
- Each £1 spent on preventing fuel poverty saves the NHS 42p, 24% of which is related to health and wellbeing.

Warm Front Health Impact Evaluation (mental health)
As well as the physical health benefits identified by the study, there were several significant associations found between fuel poverty and mental health:

- Residents with bedroom temperatures at 21°C are 50% less likely to suffer depression and anxiety than those with temperatures of 15°C.
- Higher stress levels were reported by residents with difficulty paying fuel bills, with those finding it 'very difficult' 2.5 times more likely to report high or moderate stress.
- Compared with householders who paid fuel bills easily (baseline value 1) those with great difficulty paying were over 4 times more likely to suffer anxiety or depression (on the EQ5D measure) or psychological distress (on the GHQ12 measure).
- Prevalence of anxiety or depressions (Common Mental Disorder) fell from 300 to about 150 per 1000 occupants after Warm Front Measures. For every 10,000 properties (with two adults) improved by Warm Front, about 3,000 occupants will be relieved of anxiety or depression.





The report summary states *"Better living conditions have a significant impact on health. Increased temperatures are linked to better health and fewer winter deaths. Less mould reduces respiratory problems. Psycho-social pathways to health are even more significant. The main route to health gain is via the alleviation of fuel poverty. Warm Front recipients were less stressed because it was easier to pay fuel bills. Less stress was strongly associated with better mental and physical health. We conclude that Warm Front has a significant impact on the health of recipient households."*

New Horizons
As shown above, the Warm Front Health Impact Evaluation, showed significant improvements to stress and depression, and the Howden Chapman study showed significant improvements to quality of life. This area of potential health benefits from affordable warmth is particularly important, as shown in the recent 'New Horizons: A shared vision for mental health' publication details that mental illness currently costs the nation £77 billion per year – around 5% of GDP. This is forecast to rise to 10% by 2026. Also that Mental Illness accounts for 20% of the total burden of disease (16.2% for CVD and 15.6% for cancer). Further details can be found at: http://www.dh.gov.uk/newhorizons

The New Horizons framework for developing well-being, to be published in January 2010 gives further details of the benefits to public mental health and well-being, with one section devoted to 'Build Resilience and a safe secure base', and looks at the negative mental health benefits of being in fuel poverty, where it refers to a four-fold increased risk of depression or anxiety for people.

Cold Homes and Common Mental Disorders
A report soon to be published, 'Health, mental health and housing conditions in England' by Harris et al, looks at the links between Common Mental Disorders (CMD) and aspects of fuel related poverty. It studied the responses to additional questions included in the Adult Psychiatric Morbidity Survey 2007 (APMS). The APMS is part of a series of surveys that provides the key national statistics on community mental health rates, by using specific psychiatric assessments rather than general mental health indicators.
Included in the survey for the first time were 4 questions that could be used as a proxy for fuel poverty, and it was responses to these questions that were related to the link between Fuel Poverty and CMD. The four questions related to:

1. Felt cold at home in winter.
2. Presence of mould in the home in the past 12 months
3. Disconnected fuel supply or seriously behind in paying fuel bills in the past 12 months.
4. Used less fuel than needed due to cost to in the past 12 months due to cost.

Provisional results indicated a strong link between CMD and the positive responses to the questions used as a proxy for Fuel Poverty.

- 10% of those with CMD reported not being able to keep their home warm enough in winter, compared with just 3% without CMD.
- 15% of those with CMD said they had mould in their home, this compares with 8% with no CMD.
- 27% of those with CMD said they had used less electricity, gas or other fuel due to worry about cost, compared with 12% with no CMD.
- Being unable to adequately heat the home in winter (cold home) increased the odds of having any CMD by double (OR 1.85). A modest but significant association was also evident for mould (OR 1.52) and using less fuel due to worry about costs (OR 1.77).

The Financial Costs of Fuel Poverty:

Recent work on the financial costs of Fuel Poverty to the health sector in the past year have been giving a much clearer insight into the scale of the issue, not just on a personal level, but on direct costs to the NHS. Conversely, they also show that reducing Fuel Poverty and promotion of Fuel Poverty grant schemes can save the NHS money, as well as improve people's physical and mental health and well being.

Cost effectiveness to the health sector of addressing fuel poverty
Christine Liddell, a Professor of Psychology at the University of Ulster, produced a policy briefing commissioned for Save The Children, on the Impact of Fuel Poverty on Children, focussing on fuel poverty and its effects on children, young people, and their families. The report looked at the costs and benefits of tackling fuel poverty:
"Very little research weighs the costs of tackling Fuel Poverty against the benefits, and almost none examines the costs and benefits amongst children and families. Warm Homes – Northern Ireland's Fuel Poverty Strategy – is the only regional strategy to have undertaken a cost-benefit analysis. Of the £109M invested in Warm Homes between 2001 and 2008, savings to the NHS (as a consequence of fewer children needing treatment for respiratory ailments, allergies, and mental health problems) were estimated at £13M. Hence, 12% of the Warm Homes investment could be recovered from improvements to children's health and mental wellbeing. When health effects for adults and seniors are added, almost half (42%) of the Warm Homes investment could be recovered."

In other words, for each £1 spent on the Fuel Poverty Grant Scheme, the health service saved 42p as a by product, of which 41% related to excess cold and 24% to Mental Health and Well Being. The report also concluded that additional savings in carbon offsetting are estimated to return another 100% of the initial investment in energy efficiency over the lifetime of the efficiency measures. As shown in the section on climate change below, this would be expected to deliver even more health benefits in the long term. Further detail on the calculations and how they break down can be found in the paper 'Estimating the health impacts of Northern Ireland's Warm Homes Scheme 2000-2008'

The Real Cost of Poor Housing
This publication, available from the IHS BRE (Buildings Research Establishment) press was published in December 2009. The description of the study, written by Davidson et al, states:
"The relationship between poor housing and poor health has been recognised for a long time, but until recently it has not been possible to estimate the cost to society of poor housing. Although the problems of disease associated with slum living have largely been eradicated in England, a significant number of health and safety hazards in the home remain. 'Poor housing' is defined as housing which fails to meet the statutory minimum standard for housing in England, as assessed by the Housing Health and Safety Rating System.
This report highlights weaknesses in existing models of the housing stock and proposes a new model which overcomes them. The model uses data from the English House Condition Survey to illustrate the effects of various scenarios and repair options. It allows all the hazards measured in the Survey to be compared, and identifies repair solutions which provide direct benefit to the NHS through reduced injury rates and treatment costs. This model allows the total health cost of poor housing in England to be estimated as over £600 million per year. The total cost to society each year may be greater than £1.5 billion."

The HHSRS Cost Calculator
The Housing Act 2004 introduced a new way in which local authorities assess housing conditions in England and Wales. It uses a risk assessment approach called the Housing Health and Safety Rating System (HHSRS); the aim is to provide a system (not a standard) to enable risks from hazards to health and safety in dwellings to be removed or minimised. It replaced the fitness standard and is a risk assessment procedure for homes covering 29 hazards. See the section on HHSRS later for more information.

The Chartered Institute for Environmental Health (CIEH) have recently developed a calculator based on average costs of the cost to health of these hazards. It looks at the 6 of the 29 hazards that would be expected to have a specific link to Fuel Poverty:

The calculator is designed for Environmental Health professionals and is accompanied with a booklet "Good Housing Leads to Good Health. A Toolkit for Environmental Health Practitioners". The calculator is intended to help demonstrate the value of an intervention by producing a baseline of likely numbers of incidences within local authority areas, together with the health costs and costs of mitigating the hazard. The actual excel calculator can be downloadable from: www.cieh.org/library/Knowledge/Housing/HHSRS_cost_calculator.xls

See below for some estimated figures of costs to the NHS by SHA using the calculator.

Potential savings in costs to the NHS of improving private sector homes

	Annual Cost to NHS					
	Excess cold	Stair falls	Level falls	Damp	Entry by Intruders	Crowding and Spacing
Per 100,000 Households	£ 5,343,700	£ 752,900	£ 1,466,300	£ 82,900	£ 1,367,600	£ 199,700
Strategic Health Authority						
East Midlands	£ 73,908,000	£ 10,435,300	£ 20,224,200	£ 1,090,600	£ 19,001,700	£ 2,877,000
East of England	£ 97,163,500	£ 13,730,700	£ 26,599,300	£ 1,416,700	£ 24,969,400	£ 3,707,600
London	£ 115,965,600	£ 16,365,100	£ 31,761,700	£ 1,707,200	£ 29,800,800	£ 4,480,200
North East	£ 40,341,900	£ 5,711,300	£ 11,033,200	£ 582,600	£ 10,362,400	£ 1,529,900
North West	£ 117,376,200	£ 16,578,200	£ 32,141,000	£ 1,719,000	£ 30,162,000	£ 4,531,900
South Central	£ 69,197,900	£ 9,767,000	£ 18,933,200	£ 1,012,500	£ 17,782,000	£ 2,678,900
South East Coast	£ 78,343,000	£ 11,077,900	£ 21,440,100	£ 1,146,300	£ 20,142,800	£ 3,005,100
South West	£ 93,915,500	£ 13,277,100	£ 25,740,700	£ 1,370,600	£ 24,137,700	£ 3,631,200
West Midlands	£ 88,396,800	£ 12,498,900	£ 24,194,200	£ 1,307,100	£ 22,703,400	£ 3,401,400
Yorkshire and the Humber	£ 84,515,200	£ 11,960,700	£ 23,160,300	£ 1,236,100	£ 21,723,100	£ 3,254,900
England	**£ 859,105,100**	**£ 121,383,500**	**£ 235,327,900**	**£ 12,606,900**	**£ 220,763,700**	**£ 33,068,100**

	Estimated total cost of works (where a hazard is identified)*					
	Excess cold	Stair falls	Level falls	Damp	Entry by Intruders	Crowding and Spacing
Per 100,000 households	£ 1,562,809	£ 105,794	£ 214,116	£ 1,982,425	£ 3,268,750	£ 297,414
Strategic Health Authority						
East Midlands	£ 21,604,711	£ 1,462,526	£ 2,962,574	£ 27,388,475	£ 45,261,466	£ 4,081,181
East of England	£ 28,390,198	£ 1,921,868	£ 3,892,591	£ 35,982,675	£ 59,473,468	£ 5,369,975
London	£ 33,887,491	£ 2,294,006	£ 4,646,617	£ 42,948,850	£ 70,990,974	£ 6,410,924
North East	£ 11,788,473	£ 798,018	£ 1,616,265	£ 14,940,175	£ 24,691,876	£ 2,230,605
North West	£ 34,306,903	£ 2,322,398	£ 4,704,382	£ 43,491,525	£ 71,874,844	£ 6,493,539
South Central	£ 20,226,643	£ 1,369,238	£ 2,773,490	£ 25,638,625	£ 42,374,506	£ 3,816,813
South East Coast	£ 22,902,891	£ 1,550,406	£ 3,140,105	£ 29,027,575	£ 47,977,928	£ 4,329,026
South West	£ 27,446,521	£ 1,857,986	£ 3,763,197	£ 34,786,575	£ 57,496,528	£ 5,188,222
West Midlands	£ 25,828,789	£ 1,748,474	£ 3,541,380	£ 32,737,700	£ 54,108,534	£ 4,890,808
Yorkshire and the Humber	£ 24,700,371	£ 1,672,086	£ 3,386,569	£ 31,309,025	£ 51,742,482	£ 4,676,009
England	**£ 251,077,998**	**£ 16,996,668**	**£ 34,427,170**	**£ 318,240,125**	**£ 525,993,652**	**£ 47,470,579**

Ratio of remedial works costs/NHS annual costs†	**0.29 years**	**0.14 years**	**0.15 years**	**27.9 years**	**2.4 years**	**1.7 years**

Household numbers by SHA are taken from the ONS website and relate to 2001 figures.

The figures are based upon average interventions involving housing insulation and heating etc, and do not take into account further savings to the NHS due to availability of grants. For information on potential grants, contact the Energy Savings Trust Advice Centre network on 0800 512 012 or www.energysavingtrust.org.uk

* Using the median cost of work gives a 'best case' scenario

† It assumes all the relevant hazards are found and required action taken.

Example of good practice on accessing grant funded assistance

Regional Fuel Poverty Promotional Activities by the Health Sector

The Health Sector has an important part to play to ensure that the assistance available to help vulnerable households is targeted to help reduce health inequalities. An increase in the promotion of the schemes to assist Fuel Poverty by the health sector will mean that more of the available assistance is being directed at people whose health is most at risk from living in a cold, damp home.

This promotion can be done best by using a combination of projects and methods, aiming to reach both those who will easily respond to simple to deliver advice and information, as well as those who are more difficult to engage and need a higher level of support and assistance to take up the available help. This latter group, which often includes the most vulnerable, can often only be engaged by (direct word of mouth) recommendation from a trusted contact, such as a health professional, and are much less likely to respond to leaflets, mailings or other modern marketing and information techniques.

Increasing Health Sector Referrals

In the winter period 06/07 around 2% of all Warm Front referrals came from directly health related sources. The situation over the last winter 07/08 showed significantly more activity, especially in London, the North West and the South West. In total, from just four specific projects around 22,000 households were referred to the government's Warm Front Grant scheme, about 7.5% of the overall referral targets. This has resulted in an estimated £10M worth of insulation and heating measures being installed in vulnerable households in England, and an estimated £2.5M annually being saved on their fuel bills. In 2008/9 around 24,000 referrals came from major health related activity, around 8% of all Warm Front referrals.
In addition, many of these people will have taken advantage of the free benefits entitlement check (BEC), which often identifies additional income and disability related benefits they are entitled to. In 2006-7 Warm Front provided over 78,000 BECs, and where additional income was identified, the average increase was over £1,600 per annum, which is enough to pay the average annual fuel bill.

Over the last few years, the main projects undertaken by health to promote the Warm Front scheme at a national or regional level were:

- **'Generic Health'** – referrals made with health coded marketing materials. This would include any referrals generated by word of mouth recommendations from health professionals. It is possible to ensure that any local projects generating health related Warm Front referrals which are currently not being recorded as such can be included in these figures.
- **'Flu Jab mailshots'** –where an additional letter/flyer was included within the mailing going out from the PCT or GP surgeries advising people to get their flu immunisation.
- **Keep Warm Keep Well** – the booklet advises about the Warm Front scheme, and an application form is included within the book. Distribution of these freely available materials is by a variety of organisations, both local authority, the third sector and the health sector.
- **Healthy Start** – a flyer was included in the national Healthy Start voucher scheme, to low income families with children under 4.

See below for the variations in the regional breakdown of the qualifying health-related referrals made to the Warm Front Scheme in the last two years from these projects:

2008/9	Generic Health	Flu Jab Projects	Healthy Start Mailshot	Keep Warm Keep Well	Total	%age of Total WF Referrals
East Midlands	152	384	307	542	1,385	4.7%
East of England	140	3,303	412	595	4,450	13.8%
London	129	1,632	1,329	767	3,857	16.8%
North East	56	37	178	267	538	3.2%
North West	231	3,241	471	1,010	4,953	7.4%
South East	156	618	344	835	1,953	6.5%
South West	118	1,833	41	770	2,762	10.2%
West Midlands	211	769	484	796	2,260	5.6%
Yorkshire and Humber	131	1,153	400	776	2,460	6.3%
England	**1,324**	**12,970**	**3,966**	**6,358**	**24,618**	**8.0%**

2007/8	Generic Health	Flu Jab Projects	Healthy Start Mailshot	Keep Warm Keep Well	Total	%age of Total WF Referrals
East Midlands	22	80	274	411	787	2.1%
East of England	42	829	352	412	1,635	5.9%
London	42	1,079	960	594	2,675	20.4%
North East	15	147	147	193	502	2.5%
North West	65	4,709	401	789	5,964	11.1%
South East	45	766	447	562	1,820	6.0%
South West	24	2,215	257	454	2,950	10.6%
West Midlands	36	1,739	367	622	2,764	7.7%
Yorkshire and Humber	96	1,554	316	516	2,482	6.8%
Grand Total	**387**	**13,118**	**3,521**	**4,553**	**21,579**	**7.7%**

It is important to highlight that these figures are only from where it was possible to identify referrals as coming from a health related source. There are some known examples of local health-related referral schemes that currently use referral routes or methods whereby the referrals cannot be identified or quantified as health related. Many of these projects are often likely to reach some of the most vulnerable householders, and are an important example of good practice in helping reduce health inequalities. Experience and evidence, however, suggests that these positive examples of projects are unlikely to have made a significant impact on the above graphs.

UKPHA & Greater Manchester Fuel Poverty Initiative

The UKPHA & Greater Manchester Fuel Poverty Initiative is a far-reaching *review* of how local authorities, Primary Care Trusts, energy suppliers and other partners can work together to optimise the contribution they make to improving housing conditions for vulnerable people.

The model recognises that it is not the job of Health professionals to improve housing, but acknowledges that they see the effects of poor housing on health through their every day work. Health professionals can therefore assist local authorities to target those most at risk from poor housing and the project aims to develop a framework by which PCTs and LAs can work together in a practical way to bring about this improvement.

The 'Clearing House' model at the heart of the pilot was proposed by UKPHA in 2006 (based upon the previous work summarised in the figure on page 19) and is being implemented through;

- Training – to spot the sights and sounds of fuel poverty

- Freephone referral line and case management system – so that the health professional does not have to manage the sometimes complex public grants and private company offers
- Co-ordinating networks of local financial and practical services which can respond to the clients needs
- Feedback to the individual referrer on each case outcome
- Evaluation leading to evidence based commissioning

The Project is currently running as a pilot, initial developments include;

- Implemented the model which can manage access to the services on *an industrial scale and Greater Manchester wide* through a developmental approach to staff training
- Begun to work with PCTs to identify best practice for establishing Fuel Poverty referrals within PCT policy and procedure, which will support and enhance current practice including a review of innovative communications and customer relationship management (IT) solutions
- Developing a model which supports the aims of World Class Commissioning, assisting the PCT to embed the activity in strategy, work across traditional boundaries and close the feedback loop for evidence based commissioning.

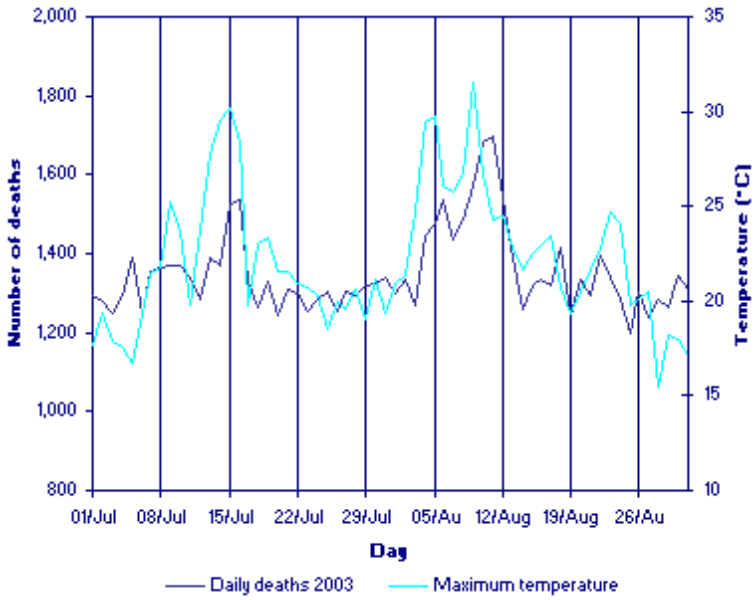
The project is being supported by Manchester Business School who will evaluate the development of the framework and emerging evidence for principles which can be shared with other PCTs and local authorities including how to engage PCTs and local authorities to join together; understanding the current priorities for Health staff and managing their motivation to make referrals including how best to train staff; and ultimately how to improve access to service for the most at risk.

More information is available at www.warmerhealthyhomes.org.uk/

Insulating Homes and Climate Change

Currently, there are approximately 25,000 excess deaths each winter. Warmer winters, due to climate change, are likely to gradually reduce this number, however excess summer deaths due to heatwaves are forecast to increase. It has been estimated that by 2050, every second summer will be similar to the conditions experienced during the 2003 heatwave, where over 2,000 extra deaths occurred.

Daily deaths in England & Wales and maximum Central England temperature, July & August 2003



The impact was greatest in the southern half of England, particularly in London, where deaths for all ages were 42 per cent (616) above the average. In all regions, deaths for the 75 and over age group were above average levels. In the London region, deaths in the 75 and over age group were 59 per cent (522) above the average. The graph to the left shows how the variation in daily deaths closely followed the peaks in maximum temperature. This also shows that deaths from excess heat occur more quickly following a peak than excess winter deaths, which often lag by 3-5 days behind a particular cold snap.

There are two factors relating to climate change that are affected by installing appropriate insulation in households:

- **Mitigation** – the improved insulation will improve the energy efficiency of the house and will reduce the CO_2 and help towards reducing the levels of greenhouse gas emissions
- **Adaptation** – helping future-proof existing houses to reduce the health impact of excessive thermal gain in the warmer summers forecast due to climate change (see below).

Protecting from excess cold also protects against excess heat and is cost effective. It helps improve health due to reducing fuel poverty, maintaining warmer indoor temperatures in the winter and cooler temperatures in the summer.

A range of measures were recommended* to retrofit homes to ensure that excessive solar gain in the summer was avoided. The report specifically highlighted that some of these measures, including cavity wall and loft insulation, were also of direct benefit now and in 2050 to retain warmth in the home during the cold winter months.

Cost of Measures for Adapting Houses for Climate Change

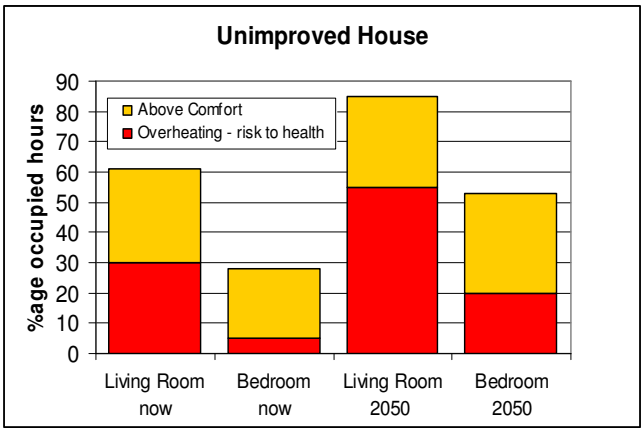
Measures which aid overheating only	
• Natural ventilation through windows	£ 0
• Awnings on all south/west windows	£1,700
• Ceiling fans (DIY)	£ 545
• Wood or tiles not carpets on ground floor	£2,100
• Paint façade to increase reflectivity	£3,750
Measures which also benefit winter warmth	
• Improve roof insulation	£ 199
• Cavity wall insulation where cavities are present	£ 199
• Replace single-glazing with double-glazing, low-e coatings	£5,000

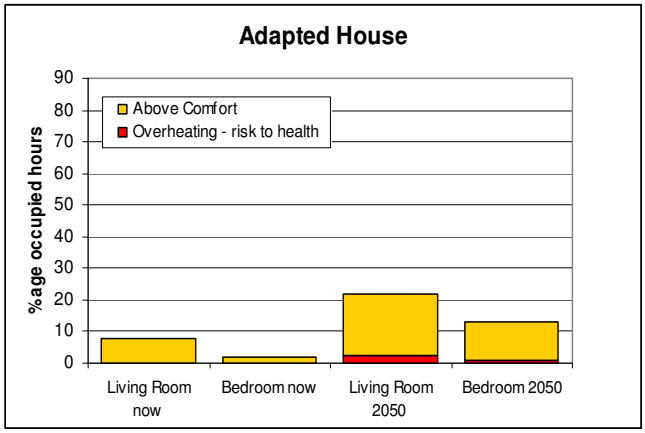
Costs based on figures from "Your Home in a Changing Climate, except roof and cavity wall insulation which are based on current averages for costs through able to pay insulation schemes.

* See Your Home in A Changing Climate – Retrofitting Existing Homes for Climate Change Impacts

Adaptation

The two graphs below identify conditions within an average (1930s semi-detached) house in the month of July, both for now and in 2050, looking at the percentage of the month where internal temperatures would exceed specific thresholds (Living room being above comfort at 25°C and overheating at 28°C, Bedroom 23°C and 26°C), comparing where the measures recommended above had, or had not been, installed.





Mitigation

The measures installed in fuel poor homes are designed to increase the energy efficiency of the property and reduce the cost of providing affordable heat. However, because of this, many energy efficiency measures also have an estimated saving of CO_2. The table of the right shows how long each type of installed measure is expected to last, the annual estimated saving, and the total CO_2 saving brought about by the measure. Efficient modern central heating can save more CO_2 per year, but will not last as long as insulation measures, which have a higher overall saving.

Average Saving of CO_2 per installed measure

Measure	Lifetime of measure (years)	Annual CO_2 savings (tonnes)	Lifetime CO_2 savings (tonnes)
Cavity wall insulation	40	1.74	69.60
Loft insulation – Full	40	1.00	40.00
Loft insulation – top up	40	0.25	10.00
Replacement boiler and controls	12	2.83*	33.96
Gas Central Heating	12	2.58*	30.96
Low energy light bulbs	17.7	0.04	0.71
Hot water cylinder insulation	10	0.156	1.60
Draught-proofing	20	0.16	3.20

Estimated Savings in CO_2 due to Warm Front work brought about by health related referrals in 2007-8

Region	CO_2 Savings (tonnes)	
	Annual	Lifetime
East Midlands	741	15,404
East Anglia	1,104	27,851
London	1,269	25,124
North East	425	7,814
North West	5,055	113,768
South East	1,218	30,737
South West	2,176	54,165
West Midlands	2,240	46,073
Yorkshire	2,136	44,469
Total	**16,365**	**365,404**

These savings will reduce CO_2 build-up in the atmosphere and helps mitigate against the effects of climate change. The graph to the left shows the estimated CO_2 savings brought about in each government region due to the health related referrals to Warm Front in 2007-8.

On average, there is a reduction in carbon emissions in the households assisted by Warm Front, from 7.1 tonnes per year to 5.9 tonnes per year, equalling total annual savings of 1.2 tonnes of CO_2 per year for those homes improved.

There are an estimated 93,000 professionally qualified clinical staff in the South East of England. If 1 in 10 of them could help identify someone who could benefit from a Warm Front grant – then around 9,000 tonnes of CO_2 would be saved annually. This applies similarly to all the other health regions, with around 680,000 professionally qualified clinical staff in England as a whole.

Ways Forward: Working in Partnership

The role health professionals can play in addressing fuel poverty

There are three main ways that the health sector can help to ensure that fuel poor households, with specific health needs, that are eligible for assistance, receive help:

- ***Advice*** - Tie in advice on fuel poverty assistance with existing information provision, e.g. promotion of the NHS Keep Warm Keep Well booklets, additional information included in flu jab mailings.
- ***Awareness*** - Ensure that front line staff are up to date with the problems facing householders and the help available to them, through training, which can be cascaded down to them in team meetings. This helps them identify the simplest way of ensuring a referral to the agencies that can help.
- ***Referral Pathways*** - Identify additional processes and opportunities which can be used to reduce health inequalities amongst vulnerable households, e.g. using the Single Assessment Process to pass details of vulnerable patients to agencies, who can identify what help may be available to them.

Many health professionals are in a unique position to make a difference for people experiencing fuel poverty. Not only do health professionals visit patients in their homes, (especially older people who are at greater risk of fuel poverty), and are aware of which are the colder homes, but they are held in a position of trust by their patients, which means that any advice offered is more likely to be accepted.

There are hundreds of millions of pounds of grant aid available to private households each year, to tackle fuel poverty. The health sector needs to significantly increase its targeting and co-ordination to ensure people who need the help for health reasons, take up the opportunities available. Without this, there is a real danger of increasing health inequalities, as those with lesser health needs take advantage of energy efficiency grants.

There are four areas of help available that health professionals can refer to, and that can have an impact on fuel poverty:

- Advice on keeping warm as an individual, e.g. clothing, hot meals, keeping active, maintaining recommended internal temperatures.
- Reducing fuel bills
- Tackling low household incomes
- Programmes and grants for improving warmth in the home via energy efficiency improvements

Addressing fuel poverty is a national priority, of which there are a number of grants for home improvements (including central heating, insulation), which are available locally. There are local referral agencies, which provide advice on making the home warmer and on how to reduce fuel bills. Additionally, local support and benefit entitlement advice for those on low incomes can be sought from many agencies.

What national help is available for addressing fuel poverty?

The Warm Front Scheme

This is the government's main fuel poverty instrument. Current budgets are around £350M per year, and it provides a range of appropriate insulation and heating measures to eligible households. The scheme is designed to assist the most vulnerable owner occupiers and people who rent from private landlords. Full details of eligibility and what is available can be found on www.warmfront.co.uk.
In simple terms, the scheme provides:
Warm Front survey - within three weeks of applying, a Warm Front assessor will visit, who will undertake an energy efficiency survey. They will recommend appropriate insulation and heating

measures and give advice on saving energy. Subsequently, householders may expect to wait between 2-3 months for insulation work, and between 4 -6 months for heating work.

Insulation measures:

- **Loft insulation** - The insulation is around 27cm thick and is fitted in two layers. If the loft space is used for storage, it must be emptied before the installer starts the work. The householder will not be able to store items in the loft once the work has been done. Existing insulation up to 10cm thick will be topped-up.
- **Cavity-wall insulation –** where a cavity wall exists without insulation, this will be pumped into the void through small drill holes from the outside of the property.
- **Draughtproofing** - to help stop warmth escaping through gaps in external doors and windows.

Heating measures - all heating work will need a technical survey.

- **Repairs** – if economical and appropriate, repairs will be undertaken.
- **Replacement boiler** - during the technical survey, the installer will identify and discuss the appropriate replacement, and building regulations require appropriate modern efficient controls as well.
- **New heating system** - during the technical survey the installer will explain the new central-heating system that will be installed and the most suitable position for the boiler, radiators and necessary pipework. The gas central-heating system will provide heating in at least five main living areas. Radiators are not installed in conservatories, loft spaces, utility areas, toilets, cloakrooms or porches.

The maximum grant available per household increased in 2009 to £3,500 (and up to £6,000 where oil central heating is required). Normally, the cost of cavity wall and full loft insulation comes from alternative sources of funding (CERT) and not out of the Warm Front pot.

Benefit Entitlement Checks

An equally important part of the Warm Front Scheme is identifying where householders are entitled to additional income. Billions of pounds of benefits and credits are unclaimed each year. This unclaimed income can make a significant difference to the quality of life of the householder.

The Benefit Check itself can be completed over the phone or a short questionnaire is sent directly to the customer for them to complete in their own time.

A comprehensive letter and report is sent to the customer with detailed information on their benefit entitlement and also comprehensive guidance as to what they need to do in order to claim them.

New or additional levels of benefit are found in around 45% of completed BECs, but peace of mind is just as valuable. The average increase in income identified is £31.07 per week (£1,615.64pa).

There may be local help available to assist the householder in completing the application forms.

£300 Heating Rebate Scheme

This rebate is available to all householders aged 60 or over, who own their home or rent it from a private landlord, are not eligible for Warm Front and who either have no central heating system or one which is inoperable.

A letter and voucher/claim form is sent to the customer detailing names of six registered installers working in their area. The householder should obtain more than one quote and then decide which installer they want to carry out the work. After the work, the signed voucher/claim form is given to the installer to enable the installer to claim the rebate. This rebate is not available retrospectively.

Carbon Emissions Reduction Target

CERT is running from 2008 to 2011, and succeeded the Energy Efficiency Commitment (EEC). It is an obligation on energy suppliers to deliver carbon savings through action in homes. The suppliers are expected to undertake 40% of this work in a 'priority group'. This group requires a permanent resident in the property who is either over 70 or in receipt of specific benefits (which are very similar to the Warm Front eligibility).

The majority of work provided includes loft insulation, cavity wall insulation and low energy light bulbs. There is no set scheme, and offers and prices vary – all 6 main utilities can offer assistance to any household. Normally cavity wall insulation and full loft insulation is free to households in the priority group, and loft top-ups may be free. Prices for those in the 'able to pay' group are currently in the

region of £200 to £250 per measure. The local Energy Savings Trust Advice Centres (0800 512012) will have details of the best offers in the area.

Tariff Advice

Often, housholders in fuel poverty can be paying more for their gas and electricity than non fuel poor customers. Traditionally, pre-payment meter users paid more for their gas and electricity than standard meters, and quarterly payments cost more than direct debits. All utility companies are now expected to offer a social tariff to specific vulnerable customers to prevent this. Householders should check with their utility to ask about social tariffs.

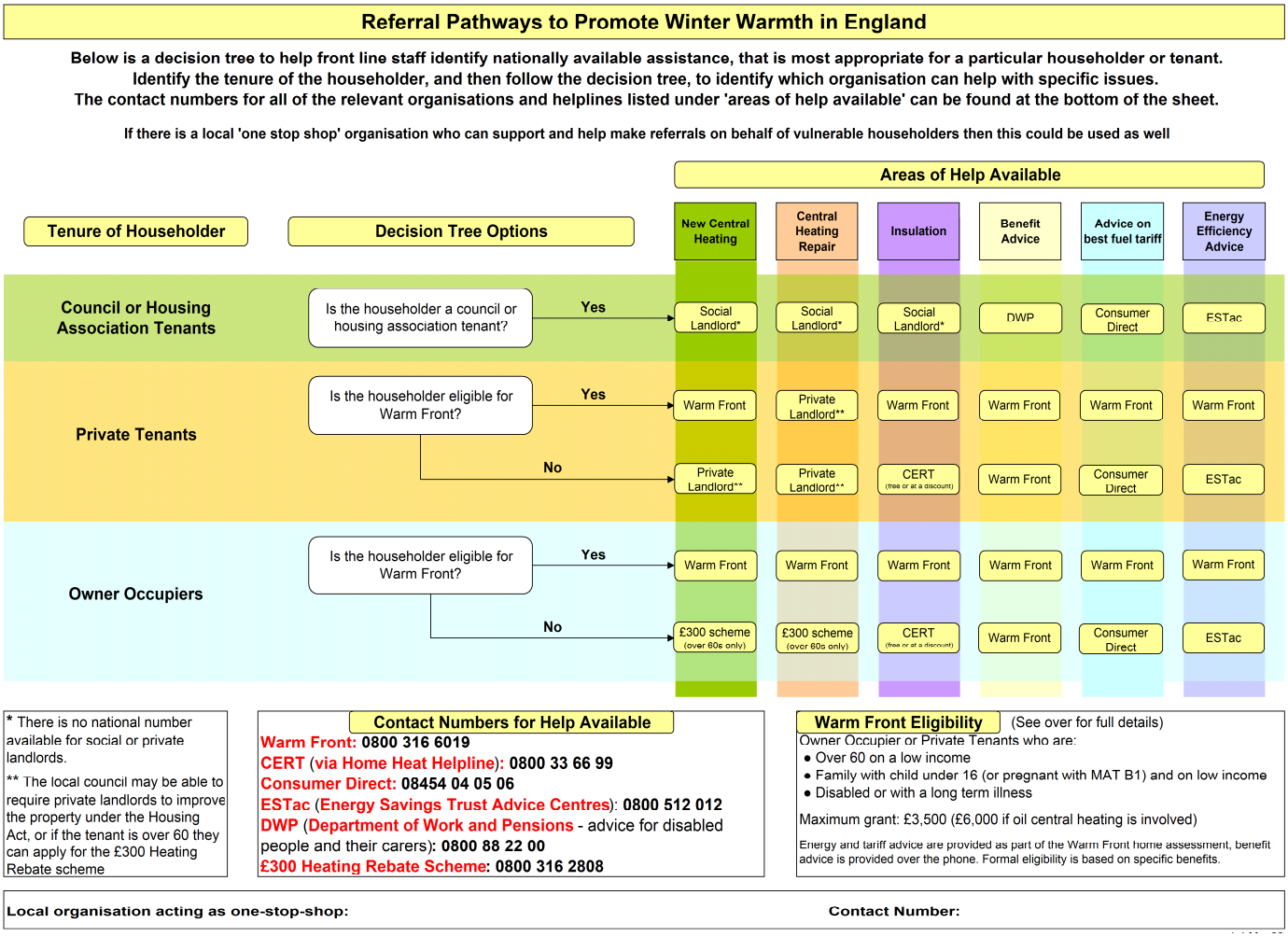
Householders should also check to see if it makes sense for them to switch tariffs or chan ge to another utility to reduce their bills. Help with this is available through Consumer Direct.

www.consumerfocus.org.uk

A simple guide to identifying the most appropriate first point of contact for an individual householder has been developed for front line health staff. This referral decision tree, with additional information, is available as an electronic download from the Department of Health Keep Warm Keep Well pages

http://www.dh.gov.uk/en/SocialCare/Deliveringadultsocialcare/Olderpeople/DH_4076849

Improving Winter Warmth: a referral pathways decision tree of the main national agencies offering fuel poverty assistance



Copies of the latest version of this referral pathways document are available to download from the **www.warmerhealthyhomes.org.uk** website.

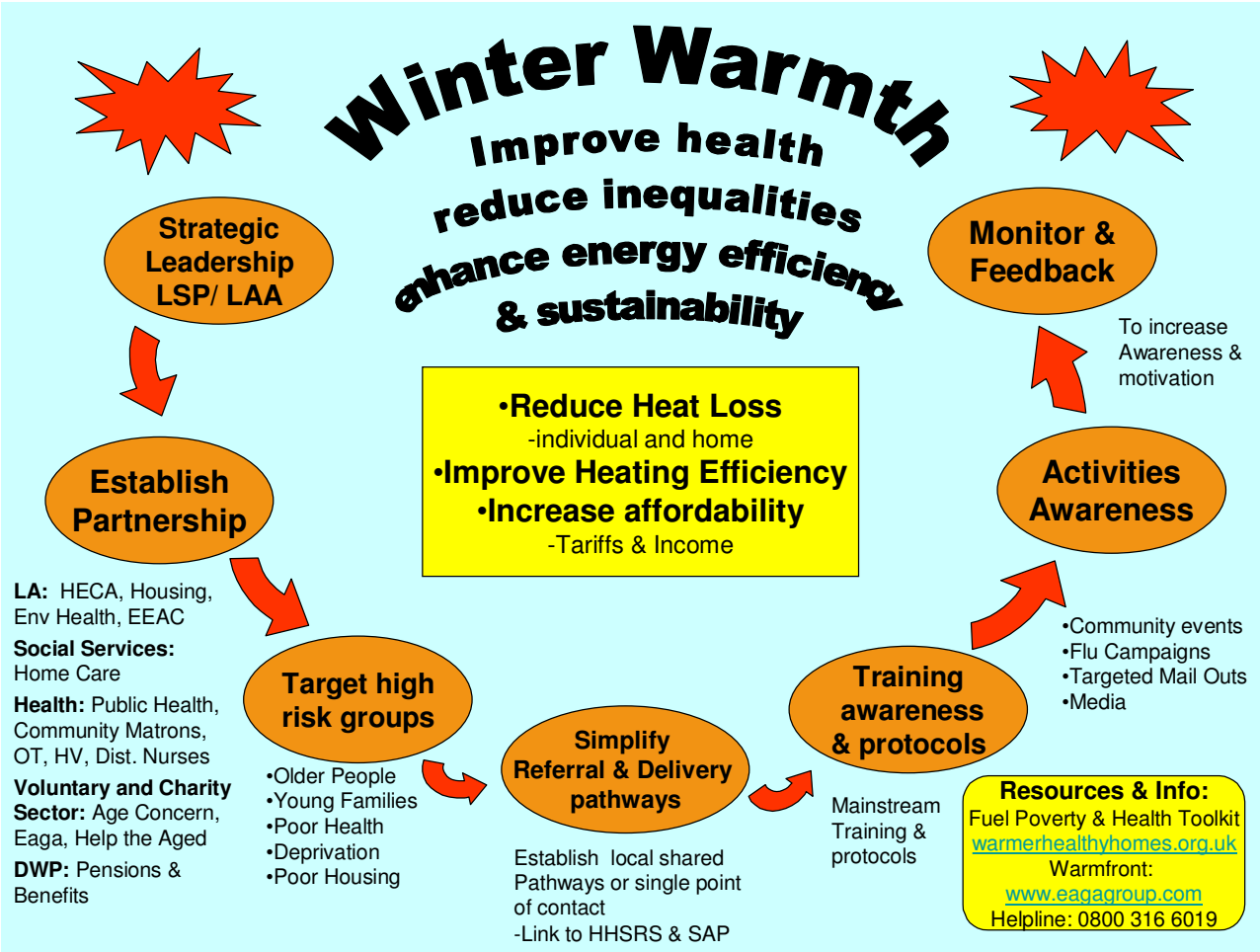
The role of health and social care sector in referrals

There are many potential opportunities, within the health and social care sector, to identify individuals who could benefit from the help available, to assist in fuel poverty. It is not expected that health professionals should become experts on fuel poverty, just act as a means to signpost potentially vulnerable individuals. Often, something as simple as providing awareness that help is available, and that it could benefit the householder or tenant, is all that is needed. There are plenty of opportunities to tie into local and national schemes, which will undertake the necessary work to identify how best to assist the person. Individuals and projects within the health sector that could do this include, but are not limited to:

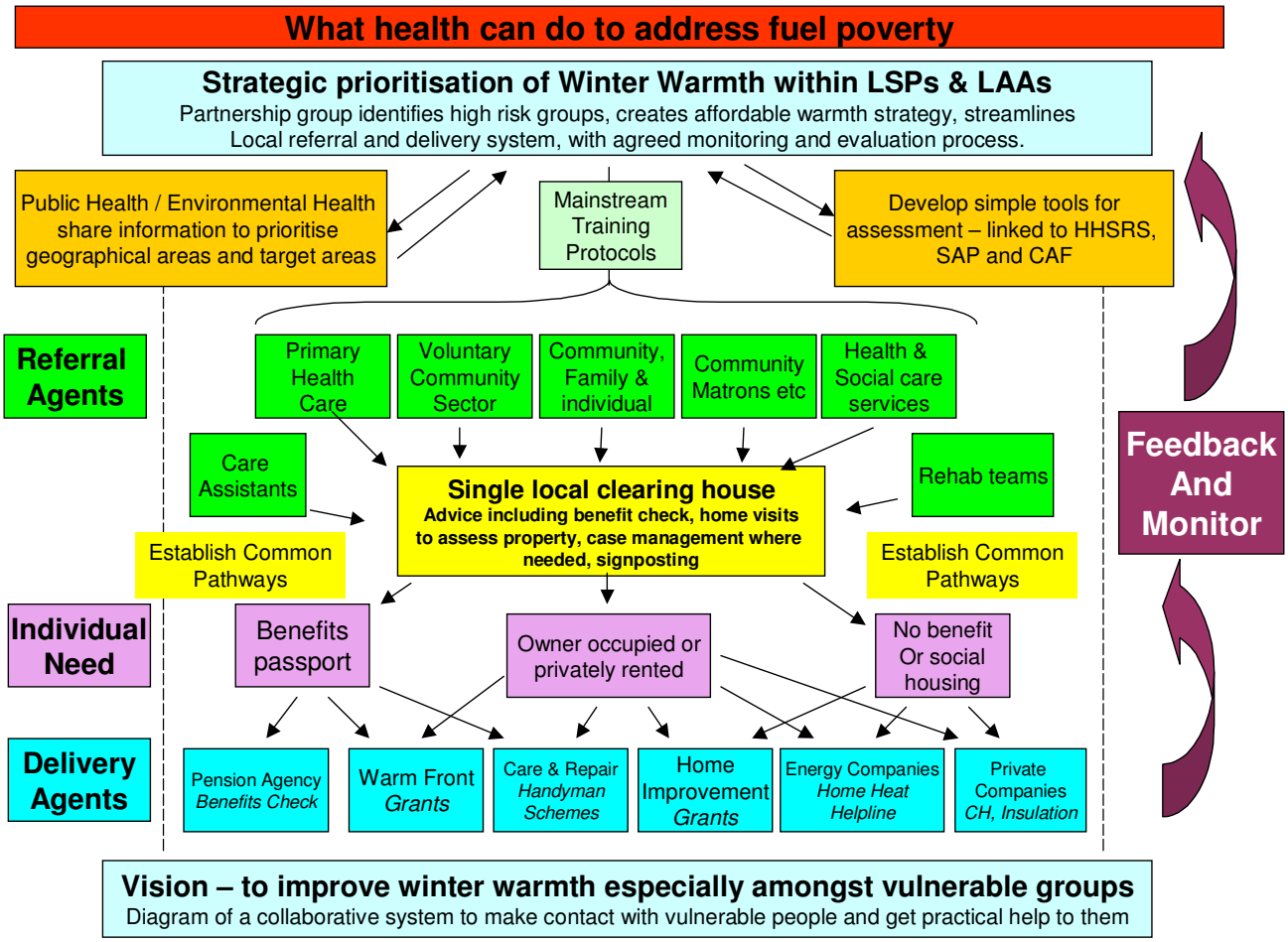
- Front line Staff - GPs, District Nurses, Home Visitors, Community Matrons, Occupational Therapists, Rehabilitation Teams, Falls Clinics, Community Teams and Social Care
- SAP - Single Assessment Process
- Flu jab campaigns
- Mental Health Trusts - Housing condition re Care Programme Approach
- Environmental Health Practitioners via the Housing Health and Safety Rating System

However, experience has shown that although it is easy to explain the health benefits of reducing fuel poverty to staff, and to develop a simple way of signposting householders to help, in reality this results in very few referrals to the schemes available. Experience has shown that referrals from front line staff are more likely to come from those who, through the nature of their role, have a more comprehensive holistic approach, such as community matrons or occupational therapists.

See below for a visual example of the processes to consider when developing a co-ordinated and sustainable referral scheme, involving health professionals with all the other groups that are working towards affordable warmth at a local level.



There are many opportunities for assistance for householders to help them improve heating and insulation, some of which will cost them nothing. The main focus of health practitioners should be to identify those people who are most at risk of fuel poverty and to encourage or assist them to apply for the help available. This help can be at either a local, regional or national level, and includes grants, discounts and advice specifically aimed at the most vulnerable households. Health practitioners should ensure that all the routes into a referral process (the green boxes), are being supported by a common referral pathway. Local or national organisations should be able to ensure that individuals were directed to the most appropriate assistance.



Importance of strategic level leadership and integration into regional plans, LAAs and the LDP by the LSP, LAs and PCT.

There are many opportunities to ensure that the joint interests of health and affordable warmth are properly considered when plans and targets are being set at a regional level. Listed below are several opportunities to ensure the health and affordable warmth agenda is included:

Local Strategic Partnerships (LSP) - organisations that bring together local public service providers, businesses and community and voluntary organisations.

Community Strategies – each LSP must produce a 'Community Strategy': a document produced after consultation with the community, with the aim of improving quality of life (economic, social and environmental well-being).

Local Delivery Plan (LDP) - a document, which spells out how the local health service will deliver the national vision and targets for the NHS encompassed in the Department of Health's priorities and Planning Framework 2003-2006.

Local Area Agreements (LAAs) - an agreement between Central Government and a Local Authority, with the aim of building a more flexible and responsive way of making improvements at local level. A recent poll of NHS Primary Care Trust Chief Executives showed that only 25 per cent of respondents had processes that linked their practice based commissioners into the joint commissioning process. Also, only about one third of the second round of LAAs included specific affordable warmth / fuel poverty indicators.

From April 2008, all other sets of indicators, including Best Value Performance Indicators and Performance Assessment Framework indicators, will be abolished. The national indicator set will be the only measures on which central government will performance manage outcomes delivered by local government working alone or in partnerships. In each area, targets against the set of national indicators will be negotiated through new LAAs. Each agreement will include up to 35 targets from among the 198 national indicators.
Although only one indicator, '*NI187 Tackling fuel poverty – people receiving income based benefits living in homes with a low energy efficiency rating'* directly mentions fuel poverty, there are others, mostly health related, that can be directly related to Winter Warmth assistance. PCTs who will have a duty to cooperate within the LAAs may be able to contribute to achieving improvements in these indicator areas by increased promotion of Winter Warmth. Alternatively, significant health benefits can be brought about within a PCT area by including NI 187 – Tackling Fuel Poverty as a chosen indicator in an LAA. See below for a list of the indicators where affordable warmth work can be seen to have an impact:

Economic Wellbeing
- **NI 116** Proportion of children in poverty

Adult health and wellbeing
- **NI 119** Self-reported measure of people's overall health and wellbeing
- **NI 120** All-age all cause mortality rate
- **NI 121** Mortality rate from all circulatory diseases at ages under 75·
- **NI 134** The number of emergency bed days per head of weighted population
- **NI 136** People supported to live independently through social services (all ages)
- **NI 137** Healthy life expectancy at age 65
- **NI 138** Satisfaction of people over 65 with both home and neighbourhood
- **NI 139** People over 65 who say that they receive the information, assistance and support needed to exercise choice and control to live independently

Tackling exclusion and promoting equality
- **NI 141** Number of vulnerable people achieving independent living
- **NI 142** Number of vulnerable people who are supported to maintain independent living

Local economy
- **NI 158** % decent council homes
- **NI 160** Local Authority tenants' satisfaction with landlord services

Environmental sustainability
- **NI 186** Per capita CO2 emissions in the LA area
- **NI 187** Tackling fuel poverty – people receiving income based benefits living in homes with a low energy efficiency rating
- **NI 188** Adapting to climate change

Single Assessment Process (SAP) and Common Assessment Framework (CAF).
The Single Assessment Process (SAP) was introduced in the National Service Framework for Older People (2001), Standard 2: person centred care. SAP aims to make sure older people's needs are assessed thoroughly and accurately, but without procedures being needlessly duplicated by different agencies, and that information is shared appropriately between health and social care agencies.

The National Guidance requires that questions are asked on housing, heating, level and management of finances – all questions that relate to fuel poverty, however it is not a specific requirement on its own. Locally, opportunities exist to include a question on fuel poverty with local referral details. Local teams influence the content of their Single Assessment Process.

There is a recognised need to develop a common approach to assessment, a Common Assessment Framework (CAF) for Adults, which will build on existing good practice from processes already in place such as SAP. CAF will deliver an improved, more cost effective and structured approach to multi-disciplinary assessment and care management across health and social services and identify the full range of support that an individual needs in order to remain living independently in the community.

A CAF information set has been developed to provide a consistent format for sharing assessment information between health and social care agencies. This information set includes a domain 'heating my home in winter'. The CAF information set includes the following definition of the section entitled 'Heating my home in Winter: any difficulties maintaining a warm home - e.g. unsuitable heating appliances, unclaimed allowances, financial restrictions, home requires insulation / adaptations, access to grants etc'.

The Role of Environmental Health, Decent Homes and HHSRS for appropriate grants, benefits and improvement orders.

There are other potential avenues to encourage heating and insulation improvements, or in the case of private rented properties to use legislative powers given to Environmental Health Practitioners to enforce them.

Decent Homes – the Decent Homes Standard is the current measure by which homes are rated. The regulations set out an aim to ensure that all social housing meets standards of decency by 2010, and has extended the target to include a minimum of 70% of private households also meeting the standard. A decent home is measured in four areas:

a) It meets the current statutory minimum standard for housing (see HHSRS below)
b) It is in a reasonable state of repair
c) It has reasonably modern facilities and services
d) It provides a reasonable degree of thermal comfort – both efficient heating and insulation

The Housing Health and Safety Rating System (HHSRS) came into effect on 6 April 2006

- This the way local housing authorities assess homes under the Housing Act 2004. It is the basis for regulation of housing conditions (mainly rented homes), but will often form the basis for housing renewal assistance (e.g. grants or loans) from the Local Housing Authority (LHA).
- LHAs have a general duty under the Act to keep housing conditions in their area under review and to inspect homes where they have reason to believe a hazard (risk of harm to the health and safety of an occupier or potential occupier arising from a deficiency. For a Category 1 (most serious hazard) they have a duty to take action requiring that the hazard is reduced.
- There are 29 potential hazards in the system, these include excess cold, excess heat, damp and mould, lead, carbon monoxide, lead, noise, entry by intruders, falls associated with baths, falling on stairs, falling on the level, fire, electrical hazards and crowding and space (for the complete list see http://www.communities.gov.uk/documents/housing/pdf/150940.pdf)
- LHA officers (usually an environmental health officer (EHO) or Practitioner (EHP)) have to use the system (set out in regulations) to assess the risk from hazards arising from deficiencies identified in, or associated with the dwelling, e.g. paths and steps.
- You are advised to identify which department or section in the local housing authority has the EHPs dealing with private sector housing conditions. This will vary from LHA to LHA.

- The EHP will judge the severity of the risk by assessing the *likelihood* (or probability) of an occurrence (event or period of time exposing an individual to a hazard) that could cause harm over the next twelve months, and the potential range of *harms* that would justify medical attention (harm is physical or mental effect, condition, symptom or injury to a person's health (there is detailed operating guidance).
- The assessment is by reference to the vulnerable age group whether or not they are present (empty homes can be assessed). For example for excess cold the vulnerable age group is persons aged 65 and over; for the falling hazards it is mainly those aged 60 and over; for damp and mould it is persons aged 14 years and under, and for electrical hazards it is persons under 5 years old (this is on the principle that if the dwelling is safe and healthy for them it will be safe and healthy for all age groups).
- The hazard of crowding and space has a second stage and is the only hazard where the current occupiers are considered in the scoring.
- Using a prescribed formula the EHP will produce a hazard score and if this is more than 1000 then the hazard is Category 1 with a duty to take action, all scores below 999 will mean the hazards is Category 2 and LHAs have to use their discretion as to whether or not to act. You are advised to find out the LHAs' policy on this. A home that contains a Category 1 hazard fails to meet the Governments Decent Homes standard.
- The course of action taken by the LHA will depend on a number of factors including whether or not a member of the vulnerable age group is actually in occupation, and the attitude of the landlord. The LHA cannot take action where they themselves are the landlord. However under section 4 of the Act a JP can require an inspection to be carried out and a report prepared even in the case of council housing.

The Housing Act 2004 has introduced a licensing system for high risk houses in multiple occupation (HMOs). These properties house some of the most vulnerable persons in society and the licensing system enables Environmental Health staff to gain access to HMOs which would otherwise not be identified and apply the HHSRS in order to introduce high standards of insulation and heating.

National Drivers:

Addressing fuel poverty links in with a number of national strategies which are important drivers for a PCT's activities, including:

- **Health inequalities: progress and next steps, 2008:** as mentioned in section 3.5 "On a broader scale, the Government is taking action to tackle climate change, which is likely to have the greatest impact on the most disadvantaged families and communities. Specific issues which will be addressed include working in partnerships to increase insulation of homes of vulnerable people living in *fuel poverty* to reduce CO_2 emissions, improve income and resilience in maintaining cool homes during heatwaves."

- **The NHS Plan, 2000**: under the 9th priority of reducing health inequalities.

- **Tackling Health Inequalities- A programme for Action, 2003**: Fuel poverty is associated with excess winter deaths. Over £1billion in grants will be spent on reducing fuel poverty amongst vulnerable people over the next few years. People in Fuel Poverty eligible for this help include individuals with and without significant health risks. Health inequalities are likely to increase, without the active co-operation of the health sector in ensuring that those most at need of assistance for health reasons, take advantage of the help available.

  As schemes such as Warm Front and Energy Efficiency Commitment (EEC) have progressed over the last 6 years, there has been a natural tendency for the easier to reach customers to come forward. As this 'lower hanging fruit' is assisted, it becomes more difficult to identify and ensure the harder to reach, eligible householders come forward. This problem is most evident amongst the elderly, who are most likely to resist applying for the help available, or turn down measures such as central heating or insulation. Direct contact and reassurance from a trusted person, such as a health worker, becomes more vital to overcome these self-imposed barriers.

- **National Service Framework for Older People, 2001**: As mentioned throughout the factsheet, fuel poverty has a very more pronounced effect on health problems in the elderly. 93% of excess winter deaths are in the over 65 age group. Addressing fuel poverty will have an impact on:
  - Standard 3, on developing intermediate care;
  - Standard 6, on falls prevention;
  - Standard 7, Mental Health;
  - Standard 8, the promotion of health and active life in old age.

- **National Service Framework for Coronary Heart Disease, 2000**: 34% of excess winter deaths are caused by circulatory disease.

- **Our Health, Our Say, Our Care 2006**: promoting independent living of vulnerable groups

- **Choosing Health, making healthy choices easier 2004**: The white paper identified the importance of addressing health inequalities within local communities, and ensuring that the health sector identified ways to highlight the benefits available to vulnerable individuals, including:
  - Making the most of the millions of encounters that the NHS has with people every week and ensuring that all NHS staff have training and support to embed health improvement in their day to day work with patients.
  - Offering practical support and good connections into the advice and support available locally.

- Improving mental health, because mental wellbeing is crucial to good physical health and making healthy choices; because stress is the commonest reported cause of sickness absence and a major cause of incapacity.

- **Department of Health PSA 2**: Reduce health inequalities by 10% by 2010 as measured by infant mortality and life expectancy at birth. The PSA target is underpinned by two more detailed objectives:
  - Starting with children under one year, by 2010 to reduce by at least 10% the gap in mortality between routine and manual groups and the population as a whole
  - Starting with local authorities, by 2010 to reduce by at least 10% the gap between the fifth of areas with the lowest life expectancy at birth and the population as a whole.

- **Department of Environment Food and Rural Affairs & Department for Trade and Industry PSA:** To eliminate fuel poverty in vulnerable households in England by 2010, in line with the Government's Fuel Poverty Strategy objective.

- **Department for Communities and Local Government PSA 7:** Bring all social housing into decent condition with most of this improvement taking place in deprived areas, and for vulnerable households in the private sector, including families with children, increase the proportion who live in homes that are in decent condition.

References and Resources:

Fuel Poverty and Health Toolkit
Nationally, the 'Fuel Poverty and Health Toolkit' was developed by a partnership between the National Heart Forum, The Eaga Partnership Charitable Trust, the Faculty of Public Health, Help the Aged and the Met Office. It also takes into account supportive documentation by the national energy efficiency charity (NEA) (endorsed by the Faculty of Public Health): 'Guidance Note for Primary Care Trusts: PCT Local Plans and Fuel Poverty, 2003-2006'. The toolkit can be found on the www.warmerhealthyhomes.org.uk website

Keep Warm Keep Well
The Department of Health's Keep Warm Keep Well campaign offers older people, the disabled and those on low incomes advice on keeping warm and staying healthy during the colder months. A free winter guide gives plenty of practical tips as well as information on financial support that might be available, such as grants for home improvements to help make houses warmer or help to meet the cost of heating bills. A form for ordering copies of the Keep Warm Keep Well booklet is available on the DH website at www.dh.gov.uk. The book is published in a range of languages and in an easy read format. For the hard of hearing, an audio version of the leaflet is also available. The Keep Warm Keep Well branding is now a cross government campaign involving the Department of Health, Department for Environment, Food and Rural Affairs (DEFRA), The Department for Work and Pensions and the Department for Business Enterprise and Regulatory Reform.

Additionally there is a recently produced guide – *"Supporting vulnerable people during cold weather advice for health and social care professionals"* which is part of the national Keep Warm Keep well programme It contains advice for people working in primary care or social services, and for home care providers and aims to reduce chronic and acute health risks associated with cold weather. It can be downloaded from the DH website.

Details of agencies which provide advice, grants for home improvements, and support agencies for those on low incomes

Local Authorities

Private Sector Housing
The Private Sector Housing team provides a range of services aimed at improving the private sector housing stock within the Local Authority. These include both enforcement action to tackle non-decency and disrepair as well as home maintenance advice and the provision of home renovation grants.

Housing Advice
The Housing Advice team provides a specialist housing advice service for people with housing related problems. The emphasis of the work of the team is on the prevention of homelessness, the promotion of good tenancy relations, and the enforcement of legislation to prevent harassment and illegal eviction.

Environmental Health
As from April 2006, referrals can be made to the Environmental Health team based within the Local Authority who will be carrying out the Health and Housing Safety Rating System (HHSRS). A component of the HHSRS includes assessment of an individual's risk of fuel poverty upon their health, and can make orders and referrals for further home improvements.

Warm Front - 0800 316 6019
Provides grants for heating and insulation measures to those who are disabled, elderly or have children under 16, and are on qualifying benefits. Scheme is funded nationally by the government and managed by the eaga plc.

Energy Saving Trust Advice Centres (ESTACs) previously Energy Efficiency Advice Centres - 0800 512 012
EEACs provide free and impartial advice on a range of energy related issues. Can advise on energy efficiency grants and provide referrals to relevant schemes.

Carbon Emissions Reduction Target (CERT) previously Energy Efficiency Commitment and the **Home Heat Helpline - 0800 33 66 99**
The Energy Efficiency Commitment (EEC) is Government legislation that sets targets on gas and electricity energy suppliers to achieve improvements in energy efficiency by providing energy efficiency measures to households across the UK. Householders generally receive insulation measures, usually cavity wall insulation and loft insulation, at a discounted price (often free to priority group customers). Schemes are run by the utilities (e.g. British Gas, Southern Electric), and vary geographically and over time, and the Home Heat Helpline can advise on what is available and who to contact.

Consumer Direct – 08454 04 05 06
Consumer Direct is the consumer organisation for gas and electricity customers, it replaced Energywatch in October 08. They provide help and information when dealing with energy supply issues, including:

- Template Letters
- Further Help (like Priority Services Registers)
- Changing Supplier & Moving Home
- Debt Advice
- Safety
- Managing Your Bills

Welfare Rights
Welfare Rights Units are small specialist teams, which may exist in Housing and Welfare Advice Services. Their primary objective is to contribute to the Local Authority's Anti-poverty Strategy by maximising the take-up of Social Security benefits, and by stabilising the financial circumstances of residents who live on low incomes. The work of the unit is split into 4 main areas; benefits advice, money advice, awareness and take up campaigns, and welfare rights training.

Local Pension Service
Their aim is to combat poverty and promote security and independence for today's and future pensioners by: delivering a holistic community-based service to customers and working in partnership with other organisations in the statutory and voluntary sector. They provide personal advice and assists in identifying benefits which older people are eligible for.

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