

# Fuel Poverty Health Booster Fund Evaluation

July 2017



# **Fuel Poverty Health Booster Fund evaluation**

**Author(s):**

Will Eadson

David Leather

July 2017

# Acknowledgements

This report utilises data collected by each of the local authorities that participated in the evaluation. Data collection was time consuming and challenging to complete and we are very grateful for the time and effort put in to do so. In particular thanks are due to the project leads at each of the participating local authorities, as follows:

- Joanne Walker and David Arkle, Amber Valley District Council
- Martin Brown, Derby City Council
- Bill Purvis and Rina Jones, Derbyshire County Council
- Helen Langley, Dudley MBC
- Cliff Duff and Dianne Hedley, Durham County Council
- Jane Mears, East Riding of Yorkshire Council
- Anees Mank, Wigan MBC

Thanks are also due to the DECC (later BEIS) team that helped facilitate the evaluation and who designed survey instruments – in particular, William Boohan and Dora Slater. Finally, many thanks to Emma Smith, Lou South and Sarah Ward in CRESR, whose support administering the survey was invaluable.

# Contents

<b>1. Introduction .....</b>	<b>1</b>
1.1. Introduction.....	1
1.2. Background to the project.....	1
1.3. About the survey .....	2
<b>2. Fuel poverty and health: existing evidence.....</b>	<b>3</b>
<b>3. Respondent Characteristics .....</b>	<b>5</b>
3.1. Introduction.....	5
3.2. The Survey Sample.....	5
3.3. Respondent characteristics .....	7
<b>4. Benefits for Households .....</b>	<b>12</b>
4.1. Introduction.....	12
4.2. Support received .....	12
4.3. Impacts on warmth and bills .....	13
<b>5. Conclusion.....</b>	<b>17</b>
<b>Appendix 1 .....</b>	<b>18</b>
<b>Appendix 2 .....</b>	<b>36</b>

# Introduction

## 1.1. Introduction

This report presents the results of the Fuel Poverty and Health Booster Fund evaluation. The evaluation focused on understanding the self-assessed quantitative impacts of the scheme, with a particular emphasis on health and wellbeing. It uses analysis of survey data collected by the participating local authorities to estimate financial, energy use and health and wellbeing impacts.

## 1.2. Background to the project

The Fuel Poverty and Health Booster Fund was an initiative under the 2010-15 coalition government, which provided funding to nine local authorities to support existing projects focused on fuel poverty and health. The Department for Energy and Climate Change (DECC) administered the programme until the department was dissolved in June 2016: responsibility for the fund then transferred to the newly created Department for Business, Energy and Industrial Strategy (BEIS). Table 1.1, below, shows the nine local authorities and the level of funding received.

**Table 1.1: Funding for Fuel Poverty Health Booster Fund**

Local Authority	Scheme name	Amount
Amber Valley Borough Council	Healthy and Warm (Amber Valley)	£75,000
Blackburn with Darwen Borough Council	Royal Blackburn Hospital Pilot	£50,000
Derby City Council	Stay Warm and Healthy Programme (Derby)	£83,300
Derbyshire County Council	Derbyshire Healthy Home Project	£163,900
Dudley Metropolitan Borough Council	Dudley Winter Warmth Support Service	£163,900
Durham County Council	Warm and Healthy Homes Programme (Durham)	£100,000
East Riding of Yorkshire Council	Health Through Warmth (East Riding)	£100,000
Islington London Borough Council	Islington Council (multiple schemes, including SHINE – Seasonal Health Intervention Network)	£163,900
Wigan Council	Wigan Affordable Warmth Access Referral Mechanism (AWARM)	£100,000

The precise nature of projects varied but most involved delivery of physical energy efficiency improvements, energy advice and income maximisation for households. Projects were targeted at households who were living in fuel poverty under the Low Income, High Costs definition<sup>1</sup> of fuel poverty and with household members that experienced health problems that are known to be exacerbated by living in a cold home.

### **1.3. About the survey**

Each of the projects agreed to monitor the impacts of the project by conducting baseline (pre-intervention) and post-intervention surveys with households that received support. The survey was designed by DECC with advisory input from the research team at CRESR. The pre- and post-intervention surveys are included here as Appendices 1 and 2.

Six of the local authorities commissioned CRESR to analyse the survey data: Amber Valley Borough Council; Derby City Council; Derbyshire County Council; Dudley Metropolitan Borough Council; Durham County Council; East Riding of Yorkshire Council; and Wigan Council.

This report details the findings from this analysis. The following section briefly outlines existing evidence on the impacts of fuel poverty interventions on health and wellbeing to provide some context to the findings. Section 3 focuses on the characteristics of project participants to help understand who projects reach and how successfully they targeted those living in fuel poverty with health conditions with a known link to cold homes. Section 4 then provides detail of the key outcomes of the project in terms of self-reported changes between pre- and post-intervention surveys. Finally, Section 5 offers some brief conclusions about the survey findings.

---

<sup>1</sup> <https://www.gov.uk/government/collections/fuel-poverty-statistics>

# 2

## Fuel poverty and health: existing evidence<sup>2</sup>

Fuel poverty and cold homes negatively impact physical and mental health. Between 10 and 25 per cent (Marmot Review, 2011) of the 43,900 excess winter deaths (EWDs) in England and Wales in 2014/15 were attributable to fuel poverty and cold homes.

Cold homes exacerbate existing medical conditions, increase hospital admissions and may slow down recovery following discharge from hospital for people with long term conditions and older people. For every EWD there are an estimated eight hospital admissions and 100 GP consultations (Roche, 2010). Cold housing conditions and fuel poverty also impact on longer term health outcomes and contribute to wider social and health inequalities.

Age UK<sup>3</sup> estimated that costs to the NHS of cold homes were around £1.36 billion per year. The Building Research Establishment (BRE)<sup>4</sup> has calculated that reducing hazards in housing including cold could deliver £600 million of savings per annum for the NHS. It has also been estimated that for every £1 spent on fuel poverty prevention there is a 42 pence saving in NHS health costs (Liddell, 2008).

Recognition of the impacts of cold homes on health is increasingly reflected in government and NHS policy. For instance the latest UK Fuel Poverty Strategy emphasises the need for partnership work to include the NHS, local authorities, industry, local community energy groups and the third sector. NICE has developed guidelines on action to tackle cold homes<sup>5</sup> and the Department of Health's Cold Weather Plan<sup>6</sup> includes a focus on tackling fuel poverty.

<sup>2</sup> For a more in-depth review of the evidence on cold homes see Bennett E, Dayson C, Eadson W and Gilbertson J (2016) *Warm, safe and well: The Evaluation of the Warm at Home Programme* CRESR: Sheffield Hallam University.

<https://www4.shu.ac.uk/research/cresr/sites/shu.ac.uk/files/warm-safe-well-eval-warm-home-programme.pdf>

<sup>3</sup> Age UK (2012) *The Cost of Cold: Why We Need to Protect the Health of Older People in Winter*. London: Age UK.

<sup>4</sup> Nicol, S. et al (2010) *Quantifying the Cost of Poor Housing Information Paper*. IP 16/10. Bracknell: BRE Publications.

<sup>5</sup> NICE (2015) *Nice Guideline 6: Excess winter deaths and illness and the health risks associated with cold homes* <https://www.nice.org.uk/guidance/ng6/>

<sup>6</sup> Department of Health (2011) *Cold Weather Plan for England: protecting health and reducing harm from severe cold*. London: Department of Health.

There is a growing evidence base linking warmth interventions and energy efficiency improvements to health.<sup>7</sup><sup>8</sup> Energy efficiency improvements can reduce cold related illness and associated stress by making it easier for residents to heat their homes. However, overall evidence on the effectiveness of different interventions for reducing cold home related ill health is less well developed. In turn, there is limited evidence on the cost effectiveness of interventions that address the adverse health outcomes of fuel poverty and cold homes. The economic analysis of the cost savings to the NHS and beyond from alleviating fuel poverty and cold homes through measures such as energy efficiency improvements is difficult to calculate.<sup>9</sup>

---

<sup>7</sup> Thomson H et al (2013) Housing improvements for Health and Associated Socio-Economic Outcomes, Cochrane Database of Systematic Reviews, Issue 2. Art. No.: CD008657. DOI: 10.1002/14651858.CD008657.pub2

<sup>8</sup> Maidment C et al (2014) The Impact of Household Energy Efficiency Measures on Health: A Meta-Analysis. *Energy Policy*, 65, pp. 583-593.

<sup>9</sup> Fenwick, E. Macdonald, C. and Thomson, H. (2013) Economic analysis of the health impacts of housing improvement studies: a systematic review. *Journal of Epidemiology and Community Health*, 67, pp. 835–845.

# 3

## Respondent Characteristics

### 3.1. Introduction

This section gives an overview of survey respondents, in turn helping to understand who FPHBF projects reached. It shows that projects successfully reached low income households and households with inhabitants who had health conditions known to be exacerbated by living in cold homes. Fewer participants had high energy costs, however, although the measure used by the survey did not account for different household size, for example.

### 3.2. The Survey Sample

In total, 893 participants responded to the baseline questionnaire (Table 3.1). This accounts for at least 1,489 individuals, based on respondents being asked about the number of people who live in their household. However it is worth noting that 18 respondents did not provide an answer and the question included a category of 6+ people, so this figure is likely to be higher.

From this sample, just over a fifth of respondents (22%) also responded to the post-intervention survey, relating to at least 322 people. Respondents were also asked to fill in questions relating to the EQ-5D-5L measure of health status, for which 162 people responded in both the baseline and post-intervention surveys.

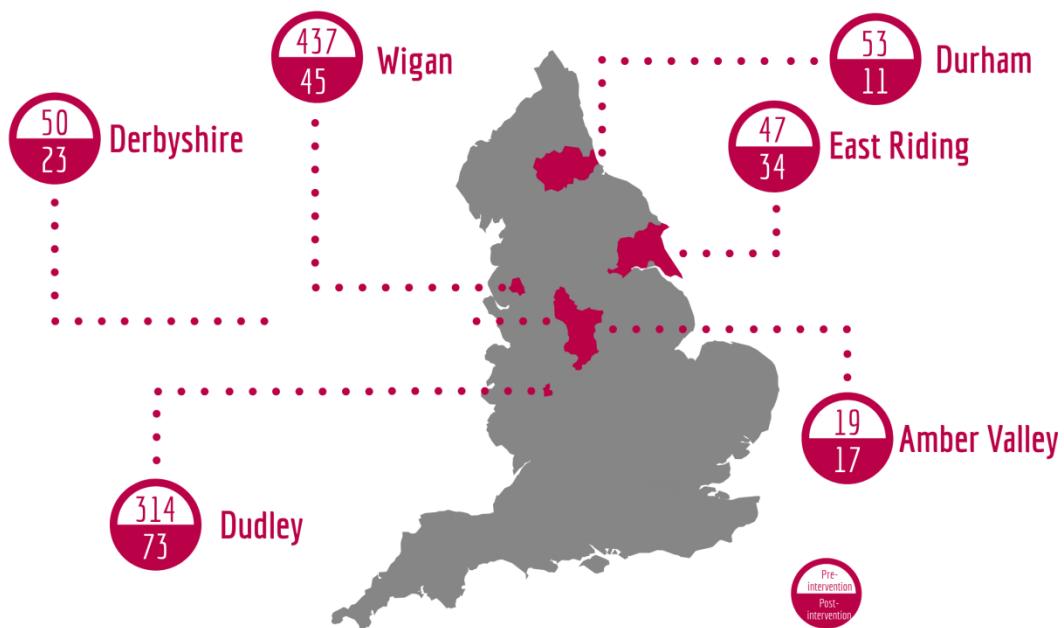
**Table 3.1: Survey sample**

	Baseline	Post intervention	EQ-5D-5L
Respondents	893	193	162

Figure 3.1 below shows how these responses break down by local authority area. Because of the relatively small numbers for each area, this report does not disaggregate analysis by area. Dudley, which received the largest level of funding from DECC, returned the highest number of post-intervention survey responses. Data collection for Wigan Council continued beyond the end of the reporting period for this project and this data is being used separately as part of a more in-depth evaluation of the Wigan Affordable Warmth Access Referral Mechanism (AWARM)<sup>10</sup>.

<sup>10</sup>More information about Wigan AWARM can be found here: <https://www.nice.org.uk/sharedlearning/wigan-council-s-affordable-warmth-access-referral-mechanism-awarm--the-original-single-point-of-contact-health-and-housing-referral-service-for-people-living-in-cold-homes-as-recommended-by-nice-guidelines-ng6>

**Figure 3.1: Responses by local authority<sup>11</sup>**



### ***Sample demographics***

Around half of responses came from single-person households, with a further third from two person households. 8% of respondents had children under six living in the property, whilst 39% had household members over the age of 75.

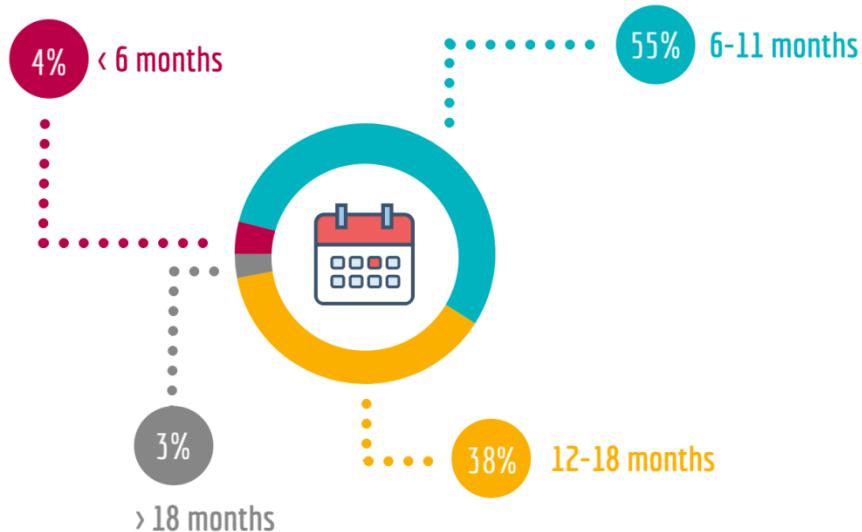
In total only 1% of respondents indicated they were from a Black or Minority Ethnic (BME) background. Overall ethnicity figures from the 2011 Census for the intervention areas combined indicate the White British population comprises 93% of the total. This suggests that projects were less successful in reaching BME households, already known to be a difficult population group to reach with energy support and advice.

### ***Length of time between baseline and post-intervention surveys***

To ensure that households could properly reflect on the impact of support received, local authorities endeavoured to allow a period of time to pass – ideally 6 months or more and after one winter had passed – before returning to households to conduct post-intervention surveys. The majority of responses to the post-intervention survey were collected within 6-11 months of the baseline survey (55%). A further 38% were collected within 12-16 months with a small number occurring both before and after this time frame (Figure 3.2).

<sup>11</sup> Derby City Council, which also took part in the research, conducted their own post-intervention survey using different metrics: these figures are not included in this report and a separate report was produced for Derby City Council.

**Figure 3.2: Time between completing baseline and follow-up questionnaires**



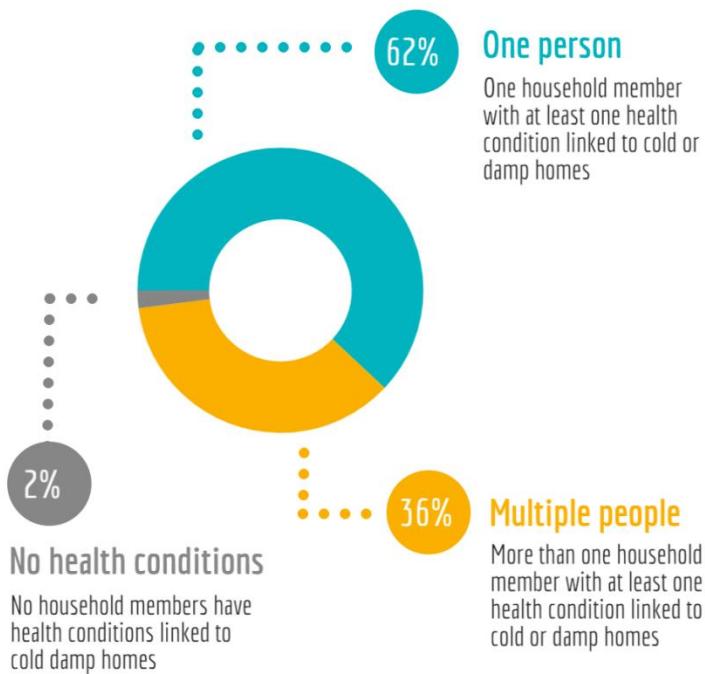
### 3.3. Respondent characteristics

The pre-intervention survey collected information about respondent household characteristics, including health conditions, income, energy use, housing tenure and homes' existing energy efficiency. The data shows that projects successfully targeted people with health conditions that have been linked to cold homes, and people with low incomes. Reaching households with high energy costs was harder to achieve, but this was most likely because of the proxy used to measure it, which does not take into account the size of households (i.e. single-person households will most likely have lower energy costs).

#### ***Health conditions***

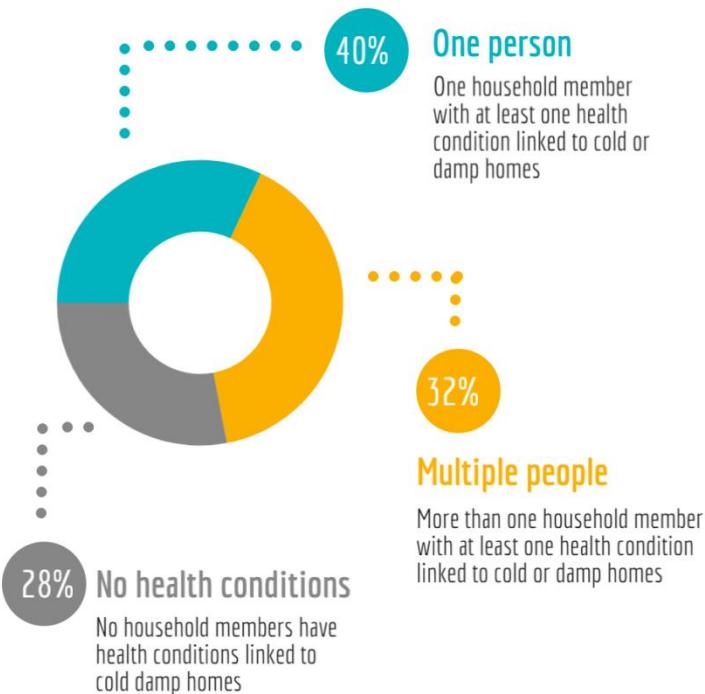
Respondents were asked to record any health conditions they, or anyone living in their household, were experiencing. Only 2% of respondents indicated that no household member had at least one health condition. 36% stated that more than one household member had at least one health condition (Figure 3.3).

**Figure 3.3: Households where one or more people have health conditions**



Respondents were also specifically asked to identify household members with cardiovascular or respiratory conditions. 72% of respondents indicated at least one household member had a health condition linked to cold or damp homes, whilst 32% had more than one member with at least one of these conditions. Again, this suggests that projects were targeting people most likely to immediately benefit from warmer homes.

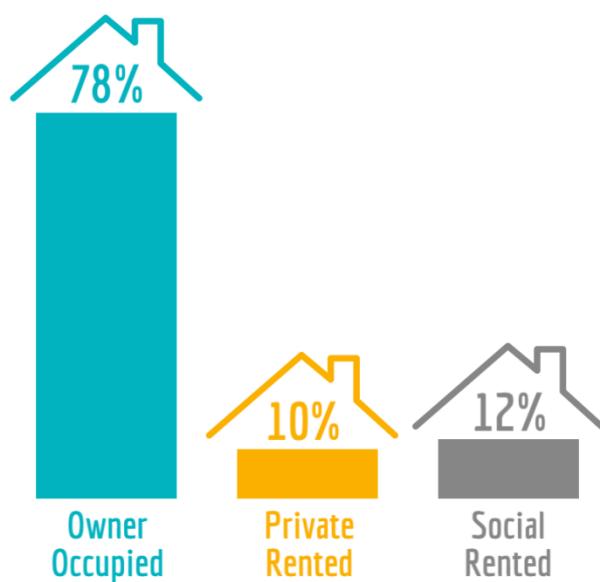
**Figure 3.4: Household members with health conditions linked to cold homes**



## **Economic Characteristics**

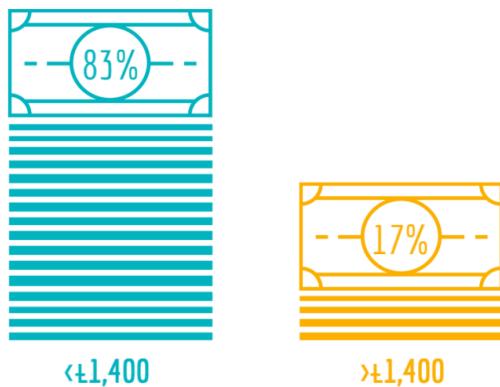
Figure 3.5 shows the tenure of respondent households. More than three-quarters (78%) of respondents were owner occupiers. This is higher than the average for the whole intervention area, which according to the 2011 Census was 69%. This is partly because a number of projects targeted their support specifically at this group, as the responsibility for improving heating and insulation in rented properties lies with the landlord. However, there is a clear need to engage with the private rented sector, which typically has worse energy efficiency standards than other tenures and often houses vulnerable people: future targeted support from BEIS or local authorities might want to consider how to better engage with this sector in order to either incentivise or enforce improvements to energy efficiency.

**Figure 3.5: Household tenure of survey respondent**



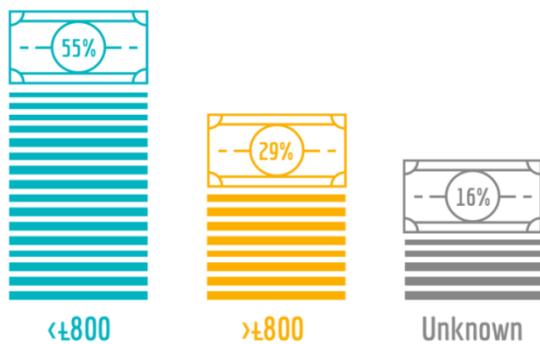
The programme aimed to support people experiencing fuel poverty. Under the current definition of fuel poverty, this is households with a low income and high energy costs. The survey sought to measure this by capturing household income and energy expenditure. In terms of household income, the survey asked whether respondents' household income was below £1,400 before housing costs and below £800 after housing costs – these figures were based on income levels at 60% of median income: a standard measure for relative income poverty in the UK. The majority of respondents have a monthly income, before costs, of less than £1,400. The average income was around £996 per month.

**Figure 3.6: Household income before housing costs**



Respondents were also asked for their estimated monthly income after housing costs. Whilst 16% did not know this figure, 55% had an income, after costs, of under £800 per month with the remaining 29% earning more than £800 (Figure 3.7).

**Figure 3.7: Household income after housing costs**



Finally, the survey asked respondents whether their annual energy use was above or below £1,400 – a proxy measure for whether or not they had high energy costs (Figure 3.8). 71% of respondents had an annual energy cost of £1,400 or less, indicating that most people in the group did not have high energy costs, but this is most likely due to the composition of households: one-person households by definition will normally have lower energy costs than those with multiple members (the survey did not control for this) and deliberate underheating is also prevalent among those with low incomes.

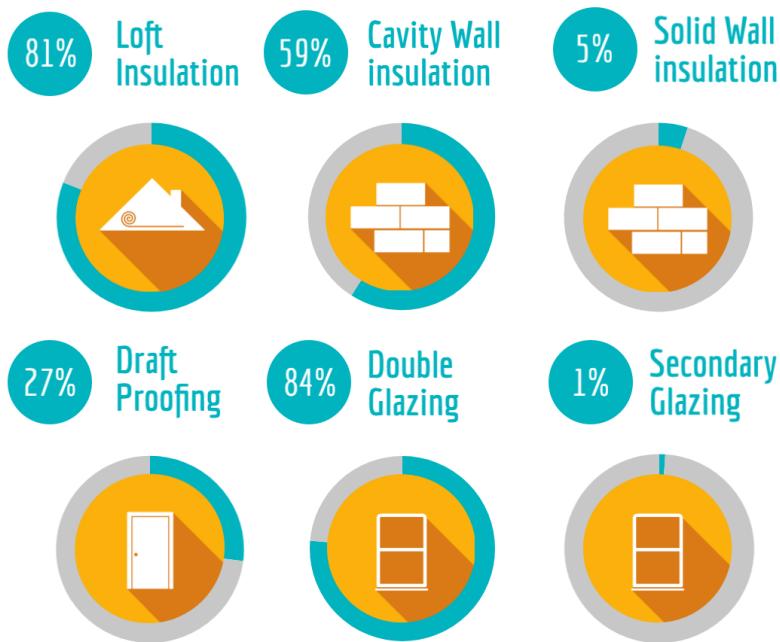
**Figure 3.8: Household annual energy costs**



***Household efficiency measures before receiving support***

Respondents were asked which measures they already had in their property (Figure 3.9). Almost all (98%) respondents had a boiler. A high proportion of respondents also indicated that there already had some energy efficiency measures, such as loft and cavity wall insulation, while double glazing was also a common energy efficiency measure already in place. In line with housing stock in general, fewer respondents had draft proofing, solid wall insulation and secondary glazing.

**Figure 3.9: Existing energy efficiency measures in households**



# 4

## Benefits for Households

### 4.1. Introduction

This section details some of the key findings from the responses of 193 respondents who completed the post-intervention survey. Key points include:

- Respondents found it easier to heat their home after receiving support.
- Respondents were keeping up with their bills better.
- There was some improvement in respondents self-rated health and wellbeing, particularly in terms of reduced anxiety.

### 4.2. Support received

Survey respondents were asked to provide information about the measures they received through FPHBF projects (Figure 4.1). Nearly three quarters of respondents received a boiler, by far the most common measure. 18% received new central heating, while smaller numbers received insulation measures such as draft proofing (13%) and loft insulation (10%). Only 2% received the more costly solid wall insulation and just 1% received cavity wall insulation.

**Figure 4.1: Physical measures received by survey respondents**

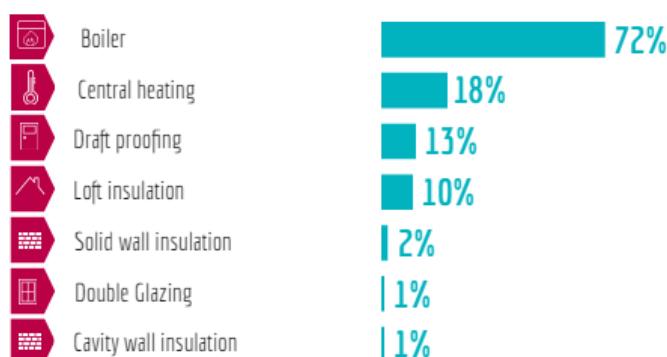
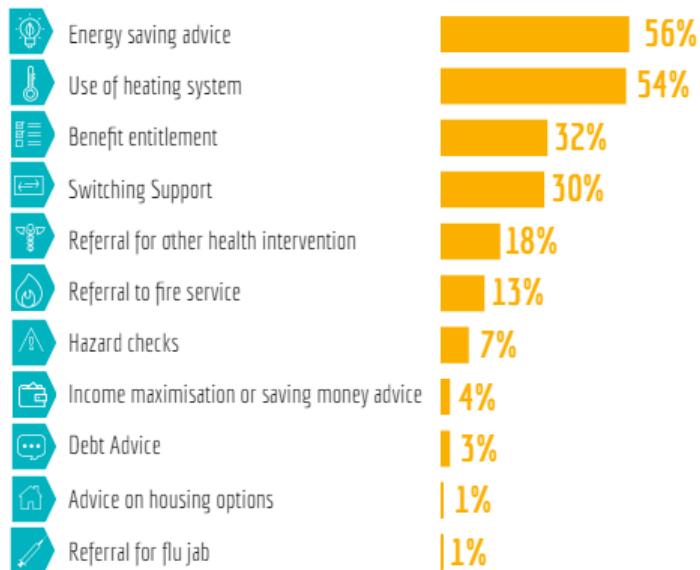


Figure 4.2 shows the proportion of respondents receiving different forms of advice or referrals to other organisations through FPHBF projects. More than half of respondents received advice / referrals for energy saving advice (56%) and around the use of their heating system (54%). After this, nearly a third received advice / referrals around benefit entitlement and switching support. A small proportion of respondents received advice on housing options and referrals for flu jabs.

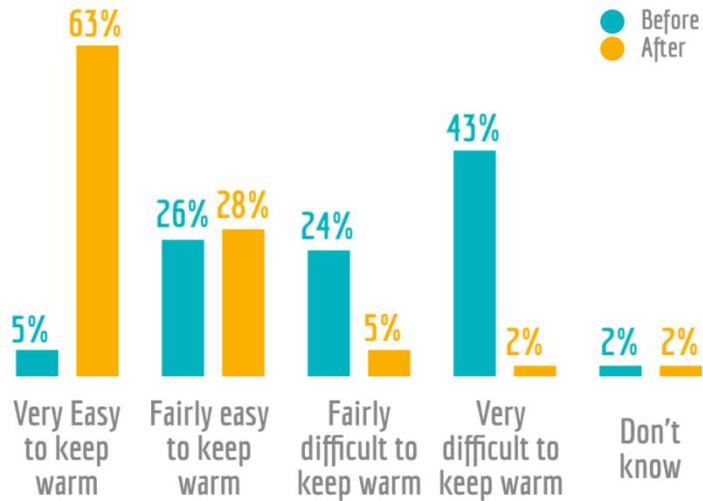
**Figure 4.2: Advice, support and referrals received by survey respondents**



### 4.3. Impacts on warmth and bills

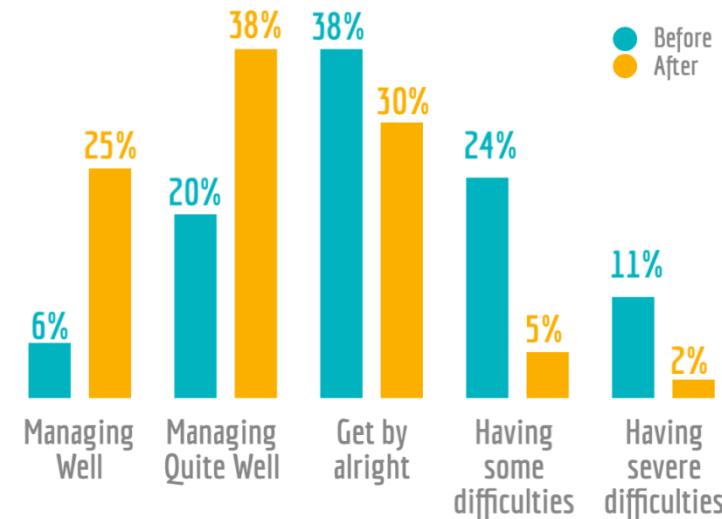
Respondents were asked to indicate how easy or difficult it was to keep their home warm when the heating was on before, and after the intervention (Figure 4.3). Since the intervention, 91% stated that they found it very or fairly easy to keep their home warm when the heating was on, an increase from only 31% before the intervention. Within this, those now finding it very easy to keep their home warm increased from 5% to 63%. On the other side, those finding it fairly or very difficult to keep their home warm when the heating was on fell from 67%, before the intervention to just 7% afterwards. Looking specifically at those who find it very difficult to keep their home warm, these figures fell from 43% to 2%.

**Figure 4.3: Ease of keeping homes warm, before and after the intervention**



Respondents were also asked how well they were keeping up with their energy bills (Figure 4.4). Those households managing well or quite well increased from 26% to 63% after the intervention, with those having some or severe difficulties fell from 35% to 7%.

**Figure 4.4: Ease of keeping up with energy bills, before and after the intervention**



#### 4.4. Impacts on health and wellbeing

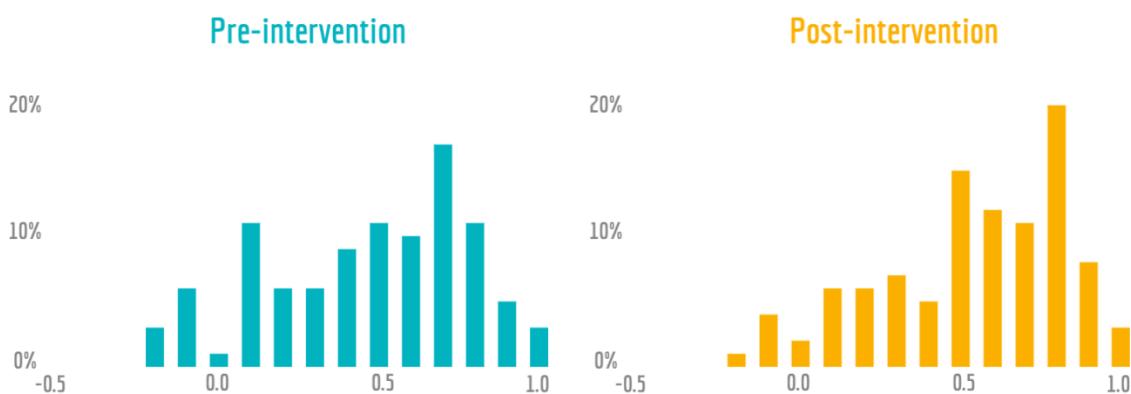
Health and wellbeing impacts were assessed using the EQ-5D-5L standardised measure of health. It looks at five dimensions – mobility, self-care, usual activities, pain / discomfort and anxiety / depression – and asks respondents to rate their level of health based on the level of problems they are experiencing for each dimension.

These ratings range from no problems through to slight problems, moderate problems, severe problems and extreme problems.

The result of this is a single digit number that indicates the level of problems for each dimension, ranging from 1 (no problems) through to 5 (extreme problems). If answered fully, each respondent will have five separate scores, which can be combined into a five-digit number to describe their health state. This number is then converted into an index: the closer to 1.0, the 'better' the respondent's health, the closer to -0.5 then the worse their overall health.

Responses to the EQ-5D-5L questions indicate a general movement towards higher scores in the post-intervention sample, with fewer people placed amongst the lower index scores (Figure 4.5).

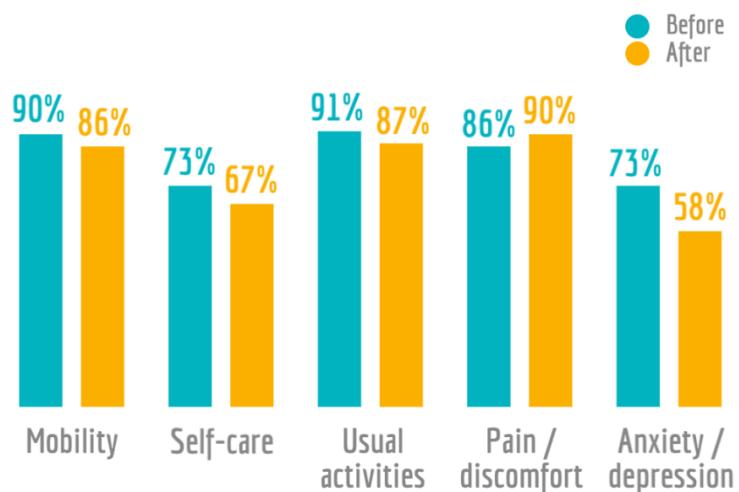
**Figure 4.5: Percentage of households by EQ-5D-5L scores**



An alternative way to consider this data is to look at the combined total of those respondents who reported some level of health problem for each category, namely slight, moderate, severe or extreme problems, and compare how this has changed between the baseline and post-intervention surveys.

The percentage of people reporting some level of health problem with the five dimensions, has fallen since the pre-intervention survey, with the exception of pain / discomfort, which increased by 4 percentage points. Respondents reporting a problem with anxiety / depression fell by 15 percentage points.

**Figure 4.6: Changes in individual dimensions of EQ-5D-5L – percentages experiencing problems**



Finally as part of the EQ-5D-5L, respondents are also asked to score their health on that day, out of 100, with 0 being the worst health they can imagine, and 100 being the best. The average score for respondents to the baseline survey was 45 out of 100. This increased to 57 in the post-intervention sample: a substantial level of improvement.

# 5

## Conclusion

This small piece of analysis makes two valuable contributions. First and foremost it helps to show that DECC's investment in Fuel Poverty and Health projects is justified in terms of the (albeit self-ascribed) outcomes produced. Based on the participant survey, **participants' homes were warmer, they were finding it easier to pay their bills, and their health and wellbeing had improved** in the period following the intervention. In particular participants felt less anxious / depressed.

This analysis also adds to existing data on the impacts of fuel poverty interventions. It is largely confirmatory to previous findings – particularly in showing the most pronounced health and wellbeing benefits relate to stress, anxiety and depression – which is reassuring and also helps to add weight to the findings for this study.

There are however methodological limitations with the approach taken to this study. Local authorities administered the survey themselves, in different ways and at different times; the dataset was relatively small (although larger than most other surveys on this subject to date); and self-ascribed quantitative data needs ideally to be supplemented with in-depth qualitative work and healthcare data. CRESR is working with one of the FPHBF recipients, Wigan Council, to produce a more in-depth study of their AWARM service. This will include analysis of participant NHS data before and after receiving support to understand more clearly any links between fuel poverty interventions and direct healthcare costs: a clear gap in existing knowledge.

One group not targeted by most FPHBF projects was private rented sector tenants. There are understandable reasons for this, not least the well-established difficulties in engaging with PRS landlords and tenants. However, this tenure is the most energy inefficient and contains the highest proportion of fuel poor households; and has not received a great deal of policy attention in the past. There is a real challenge for government, local authorities and other stakeholders (including landlords associations) to work together to target the PRS in future fuel poverty / energy efficiency policy and schemes.

A1

## Appendix 1: Pre-intervention survey

## CONSENT FORM

**This evaluation is being undertaken for the purpose of research and analysis to measure the impact interventions which increase the warmth, safety or energy efficiency of a home have on a household's health and wellbeing; and if there are any consequential impacts on health services.**

I understand that by ticking each box I am consenting to this element of the survey. I understand that it will be assumed that leaving boxes unticked means that I DO NOT consent to that part of the research and evaluation.

- I understand that my participation in this evaluation is voluntary and that I am free to withdraw at any time without giving any reason, and this will not affect my access to any support or assistance under this scheme.
- I understand that any data collected about me through this evaluation will be handled and processed in accordance with the UK Data Protection Act 1998.
- I agree that data collected about me and my property in this evaluation may be shared with the Department of Energy and Climate Change (DECC) and may be matched against existing datasets held by DECC regarding the property's Energy Performance Certificates (EPC) for the purpose of research and statistical analysis.
- I agree that data collected about me and my property in this evaluation may be shared with Sheffield Hallam University for research purposes only.
- I agree as part of this evaluation that the local authority may share my information with the NHS in order to match against my existing medical records for the purpose of statistical analysis.

To assist in the collection of this data, please provide your NHS number, if known:

- I understand that confidentiality and anonymity will be maintained and it will not be possible to identify me in any publications.
- I agree to be contacted in the future by the study team researchers to participate in follow-up surveys.

Name of participant

Date

Name of person taking consent

Date

## Health Booster Fund scheme impact evaluation

Please interview the occupant of the household that generated the referral from the health professional. If he/ she is not present then another occupant may complete on behalf of the household. However the same person should be interviewed post-intervention. Only one person per household should be interviewed.

### Pre-installation information

*To be completed at the first contact with the household (before or at the time of providing measures/ advice)*

Date data  
collected  
(DD/MM/YYYY):

Respondent  
reference  
number

## Q1) OCCUPANTS

### Basic information

Q1a How many people live in the property?

Q1b What is the age of the youngest household member?

- 0       1       2       3       4       5       6+

Q1c Are any of the people living in the house over the age of 75?

- Yes  
 No

Q1d What best describes the ethnic group or background of the majority of occupants living in the property?

*Give all possible response options before person decides*

- White English / Welsh / Scottish / Northern Irish / British  
 White Irish  
 Gypsy or Irish Traveller  
 Any other White background (*please specify*)  
 Mixed / Multiple ethnic background: White and Black Caribbean  
 Mixed / Multiple ethnic background: White and Black African  
 Mixed / Multiple ethnic background: White and Asian  
 Any other Mixed / Multiple ethnic background (*please specify*)  
 Asian / Asian British: Indian  
 Asian / Asian British: Pakistani  
 Asian / Asian British: Bangladeshi  
 Asian / Asian British: Chinese  
 Any other Asian background (*please specify*)  
 Black / Black British: African  
 Black / Black British: Caribbean  
 Any other Black / African / Caribbean background (*please specify*)  
 Arab  
 Any other ethnic group (*please specify*)  
 Prefer not to answer

Other, please specify:

## Health information

Q1e Please complete for each household member:

Does the respondent have one or more of the following health conditions and/or disabilities?

***Please tick all that apply***

- A cardiovascular condition (incl. coronary heart disease, stroke, high blood pressure (hypertension) transient ischemic attack etc)
- Respiratory condition (COPD, childhood asthma etc)
- Neurological condition (including Dementia, Parkinson's Disease, Multiple Sclerosis, epilepsy etc)
- Musculoskeletal conditions (incl. Osteoarthritis, Rheumatoid Arthritis etc)
- Blood conditions (incl. Sickle Cell Disease, Thalassemia etc)
- Cancer
- Diabetes
- Mental health condition
- Disability (that is the consequence of an impairment that is physical, cognitive, mental, sensory, emotional, developmental, or some combination of these)
- Is pregnant
- A long-standing illness, disability or infirmity
- None
- Don't know
- Prefer not to answer

**Household member 2:** Does this household member have one or more of the following health conditions and/or disabilities?

***Please tick all that apply***

- A cardiovascular condition (incl. coronary heart disease, stroke, high blood pressure (hypertension) transient ischemic attack etc)
- Respiratory condition (COPD, childhood asthma etc)
- Neurological condition (including Dementia, Parkinson's Disease, Multiple Sclerosis, epilepsy etc)
- Musculoskeletal conditions (incl. Osteoarthritis, Rheumatoid Arthritis etc)
- Blood conditions (incl. Sickle Cell Disease, Thalassemia etc)
- Cancer
- Diabetes
- Mental health condition
- Disability (that is the consequence of an impairment that is physical, cognitive, mental, sensory, emotional, developmental, or some combination of these)
- Is pregnant
- A long-standing illness, disability or infirmity
- None
- Don't know
- Prefer not to answer

**Household member 3:** Does this household member have one or more of the following health conditions and/or disabilities?

**Please tick all that apply**

- A cardiovascular condition (incl. coronary heart disease, stroke, high blood pressure (hypertension) transient ischemic attack etc)
- Respiratory condition (COPD, childhood asthma etc)
- Neurological condition (including Dementia, Parkinson's Disease, Multiple Sclerosis, epilepsy etc)
- Musculoskeletal conditions (incl. Osteoarthritis, Rheumatoid Arthritis etc)
- Blood conditions (incl. Sickle Cell Disease, Thalassemia etc)
- Cancer
- Diabetes
- Mental health condition
- Disability (that is the consequence of an impairment that is physical, cognitive, mental, sensory, emotional, developmental, or some combination of these)
- Is pregnant
- A long-standing illness, disability or infirmity
- None
- Don't know
- Prefer not to answer

**Household member 4:** Does this household member have one or more of the following health conditions and/or disabilities?

**Please tick all that apply**

- A cardiovascular condition (incl. coronary heart disease, stroke, high blood pressure (hypertension) transient ischemic attack etc)
- Respiratory condition (COPD, childhood asthma etc)
- Neurological condition (including Dementia, Parkinson's Disease, Multiple Sclerosis, epilepsy etc)
- Musculoskeletal conditions (incl. Osteoarthritis, Rheumatoid Arthritis etc)
- Blood conditions (incl. Sickle Cell Disease, Thalassemia etc)
- Cancer
- Diabetes
- Mental health condition
- Disability (that is the consequence of an impairment that is physical, cognitive, mental, sensory, emotional, developmental, or some combination of these)
- Is pregnant
- A long-standing illness, disability or infirmity
- None
- Don't know
- Prefer not to answer

**Q1f** Under each heading, please tick the **ONE** box that best describes the respondent's health **TODAY:**

#### **MOBILITY**

- I have no problems in walking about
- I have slight problems in walking about
- I have moderate problems in walking about
- I have severe problems in walking about
- I am unable to walk about

#### **SELF-CARE**

- I have no problems washing or dressing myself
- I have slight problems washing or dressing myself
- I have moderate problems washing or dressing myself
- I have severe problems washing or dressing myself
- I am unable to wash or dress myself

#### **USUAL ACTIVITIES (e.g. work, study, housework, family or leisure activities)**

- I have no problems doing my usual activities
- I have slight problems doing my usual activities
- I have moderate problems doing my usual activities
- I have severe problems doing my usual activities
- I am unable to do my usual activities

#### **PAIN / DISCOMFORT**

- I have no pain or discomfort
- I have slight pain or discomfort
- I have moderate pain or discomfort
- I have severe pain or discomfort
- I have extreme pain or discomfort

#### **ANXIETY / DEPRESSION**

- I am not anxious or depressed
- I am slightly anxious or depressed
- I am moderately anxious or depressed
- I am severely anxious or depressed
- I am extremely anxious or depressed

We would like to know how good or bad the respondent's health is TODAY:  
Imagine a scale numbered from 0 to 100.  
100 means the best health you can imagine. 0 means the worst health you can imagine.

**What number on the scale indicates how the respondent's health is TODAY?**

### Benefits information

Q1g Is anyone in the household receiving one or more of the following means-tested benefits?  
*Please tick all that apply*

- Pension credit (not state pension)
- Income support
- Income-based Jobseeker's Allowance
- Child Tax Credit
- Working Tax Credit
- Income-related Employment and Support Allowance
- Universal Credit
- None of these
- Don't know
- Prefer not to answer

Q1h Is anyone in the household receiving a disability benefit or premium?

- Yes
- No
- Don't know
- Prefer not to answer

### Income information

Q1i What is the household income per month **before** housing costs (rent, mortgage), in £?  
*(estimated values are accepted)*

What are the housing costs (rent, mortgage) per month, in £?  
*(estimated values are accepted)*

- Tick if either of above answers are unknown

*If answers to Q1(i) are unknown, please answer Q1(j) below, otherwise go to Q2*

Q1j After housing costs, is the household income estimated to be:

- More than £800
- Less than £800
- Unknown

## **Q2) PROPERTY**

### Structural information

Q2a What is the current SAP/ EPC certificate for the property?

- G
- F
- E
- D
- C
- B
- A
- Unknown

Q2b What type of tenure is the property?

- Social rented
- Private rented
- Owner occupier

Q2c What is the property type?

- Flat
- End-terrace
- Mid-terrace
- Semi-detached
- Detached
- Bungalow

Q2d What is the property age?

- Post 1964
- 1945-1964
- 1919-1944
- Pre-1919

Q2e How many bedrooms are there?

- Bedsit
- 1
- 2
- 3
- 4
- 5+

## Energy efficiency information

Q2f Does the property use mains gas as the primary heating fuel?

- Yes
- No

Q2g What is the age of the current heating system?

- Less than 3 years
- 3-12 years
- More than 12 years
- Unknown

Q2h What type of fuel does the household primarily use?

- Gas
- Electricity
- Oil
- Solid fuel - coal
- Solid fuel - biomass (e.g. wood)
- Other (*please specify*)

Other, please specify

Q2i Does the property have a boiler?

- Yes
- No
- Unknown

*If the answer to Q2(i) is 'yes', please answer the following additional question,  
otherwise go to Q2(j)*

What type of boiler is used in the property?

- All condensing
- Combination
- Standard
- Back boiler
- Unknown

Q2j Which of these energy efficiency measures does the property already have?  
*Please tick all that apply*

- Loft insulation
- Cavity wall insulation
- Solid wall insulation
- Draft proofing
- Double glazing
- Secondary glazing
- Other (*please specify*)

Other, please specify:

Q2k Has the loft insulation been installed or upgraded since 1985?

- Yes
- No
- Unknown

### **Q3) ENERGY USE**

Q3a If known, what is the overall household energy cost per year, in £?

- Unknown

*If the answer to Q3(a) is 'unknown', please answer the following additional question, otherwise go to Q3(b)*

What is the estimated total energy cost per year?

- £1400 or more (£120 or more per month)  
 Less than £1400 (less than £120 per month)

Q3b Which methods do you use to pay for your electricity/ gas/ other fuel?

*Please tick all that apply*

- Direct Debit or standing order  
 Monthly or quarterly bill  
 Pre-payment (keycard or token) meter  
 Included in rent  
 Frequent cash payment method (more frequent than monthly)  
 Fuel direct or direct from benefits  
 Fixed annual bill (however much gas or electricity is used e.g. Stay Warm)  
 Other  
 Don't know

Q3c Over the winter, how easy or difficult has it been to keep your home warm when the heating is on?

- Very easy to keep warm  
 Fairly easy to keep warm  
 Fairly difficult to keep warm  
 Very difficult to keep warm  
 Don't know

Q3d How well are you and your household keeping up with your energy bills at the moment?

- Managing very well
- Managing quite well
- Get by alright
- Having some difficulties
- Having severe difficulties
- Prefer not to say

Q3e What support has the household requested, or what measures does it seem the property requires?

Energy efficiency measures:  
*Please tick all that apply*

- Boiler
- Loft insulation
- Double glazing
- Secondary glazing
- Central heating system
- Cavity wall insulation
- Solid wall insulation
- Draft proofing
- Other (*please specify*)

Other, please specify:

Advice or referrals:

*Please tick all that apply*

- Debt advice
- Benefit entitlement checks
- Income maximisation or money saving advice
- Switching support
- Advice on use of heating system
- Energy saving advice
- Advice on housing options (e.g. if under-occupying)
- Referral for flu jab
- Referral to fire service (for trip and fall prevention etc)
- Referral for other health intervention
- Hazard check
- Other (*please specify*)

Other, please specify:



#### **Q4) REFERRAL - TO BE COMPLETED BY THE LOCAL AUTHORITY**

Q4a What agency referred this household for support?

- Hospital
- Occupational therapist
- GP
- Ambulance service
- Practice nurse
- Community group
- Health visitor
- Charity
- Midwife
- Police
- District nurse
- Fire service
- Social worker
- Other (*please specify*)

Other, please specify:

Q4b What was the method of referral?

- Email
- Online
- Electronic portal
- Postal
- Fax
- Telephone
- Other (*please specify*)

Other, please specify:

Q4c What was the date of referral?

(DD/MM/YYYY)

A2

## Appendix 2: Post-intervention questionnaire

## CONSENT FORM

**This evaluation is being undertaken for the purpose of research and analysis to measure the impact interventions which increase the warmth, safety or energy efficiency of a home have on a household's health and wellbeing; and if there are any consequential impacts on health services.**

I understand that by ticking each box I am consenting to this element of the survey. I understand that it will be assumed that leaving boxes unticked means that I DO NOT consent to that part of the research and evaluation.

- I understand that my participation in this evaluation is voluntary and that I am free to withdraw at any time without giving any reason, and this will not affect my access to any support or assistance under this scheme.
- I understand that any data collected about me through this evaluation will be handled and processed in accordance with the UK Data Protection Act 1998.
- I agree that data collected about me and my property in this evaluation may be shared with the Department of Energy and Climate Change (DECC) and may be matched against existing datasets held by DECC regarding the property's Energy Performance Certificates (EPC) for the purpose of research and statistical analysis.
- I agree that data collected about me and my property in this evaluation may be shared with Sheffield Hallam University for research purposes only.
- I agree as part of this evaluation that the local authority may share my information with the NHS in order to match against my existing medical records for the purpose of statistical analysis.

To assist in the collection of this data, please provide your NHS number, if known:

- I understand that confidentiality and anonymity will be maintained and it will not be possible to identify me in any publications.
- I agree to be contacted in the future by the study team researchers to participate in follow-up surveys.

Name of participant

Date

Name of person taking consent

Date

## Health Booster Fund scheme impact evaluation

Please interview the occupant of the household that generated the referral from the health professional. If he/ she is not present then another occupant may complete on behalf of the household. However the same person should be interviewed post-intervention. Only one person per household should be interviewed.

### Post-intervention information

*To be completed no less than three months after intervention and ideally after a winter has passed. The period of time between the pre- and post- surveys should be as close to consistent to all households as possible in any case. Please ensure you survey the same member of the household that completed the pre-intervention survey.*

Date data  
collected  
(DD/MM/YYYY):

Respondent  
reference  
number

*Note: Questions 1-4 were asked in the pre-installation questionnaire. This post-intervention questionnaire begins at Question 5.*

## **Q5) SUPPORT PROVIDED**

Q5a Did the household accept some form of support, assistance or advice?

- Yes
- No

If No, please specify why:

Q5b What support was provided to the household?

Energy efficiency measures - please indicate which measures were installed:  
*Please tick all that apply*

- Boiler
- Loft insulation
- Double glazing
- Secondary glazing
- Central heating system
- Cavity wall insulation
- Solid wall insulation
- Draft proofing
- Other (*please specify*)

Other, please specify:

Advice or referrals - please indicate what support was provided:  
*Please tick all that apply*

- Debt advice
- Benefit entitlement checks
- Income maximisation or money saving advice
- Switching support
- Advice on use of heating system
- Energy saving advice
- Advice on housing options (e.g. if under-occupying)
- Referral for flu jab
- Referral to fire service (for trip and fall prevention etc)
- Referral for other health intervention
- Hazard check
- Other (*please specify*)

Other, please specify:

Q5c Was the type of support, assistance, measures or advice provided **different from** the requirements originally identified?

- Yes
- No

If Yes, please specify why:

Q5d Were any costs incurred on the household to install any energy efficiency measures?

- Yes
- No

If Yes, please specify how much, in £:

## **Q6) IMPACTS OF INTERVENTION ON HOUSEHOLD**

### **Wellbeing**

**Q6a** Under each heading, please tick the **ONE** box that best describes the respondent's health **TODAY:**

#### **MOBILITY**

- I have no problems in walking about
- I have slight problems in walking about
- I have moderate problems in walking about
- I have severe problems in walking about
- I am unable to walk about

#### **SELF-CARE**

- I have no problems washing or dressing myself
- I have slight problems washing or dressing myself
- I have moderate problems washing or dressing myself
- I have severe problems washing or dressing myself
- I am unable to wash or dress myself

#### **USUAL ACTIVITIES (e.g. work, study, housework, family or leisure activities)**

- I have no problems doing my usual activities
- I have slight problems doing my usual activities
- I have moderate problems doing my usual activities
- I have severe problems doing my usual activities
- I am unable to do my usual activities

#### **PAIN / DISCOMFORT**

- I have no pain or discomfort
- I have slight pain or discomfort
- I have moderate pain or discomfort
- I have severe pain or discomfort
- I have extreme pain or discomfort

**ANXIETY / DEPRESSION**

- I am not anxious or depressed
- I am slightly anxious or depressed
- I am moderately anxious or depressed
- I am severely anxious or depressed
- I am extremely anxious or depressed

We would like to know how good or bad the respondent's health is TODAY:

Imagine a scale numbered from 0 to 100.

100 means the best health you can imagine. 0 means the worst health you can imagine.

**What number on the scale indicates how the respondent's health is TODAY?**

## Energy use

Q6b If known, what is the new SAP/ EPC certificate for the property?

- G
- F
- E
- D
- C
- B
- A
- Unknown
- Unchanged

Q6c What is the overall household energy cost per year, in £?

- Unknown

*If the answer to Q6(c) is 'unknown', please answer the following additional question, otherwise go to Q6(d)*

What is the estimated total energy cost per year?

- £1400 or more (£120 or more per month)
- Less than £1400 (less than £120 per month)

Q6d Over the winter since the intervention, how easy or difficult has it been to keep your home warm when the heating is on?

- Very easy to keep warm
- Fairly easy to keep warm
- Fairly difficult to keep warm
- Very difficult to keep warm
- Don't know

Q6e Since the intervention, how well are you and your household keeping up with your energy bills?

- Managing very well
- Managing quite well
- Get by alright
- Having some difficulties
- Having severe difficulties
- Prefer not to say

## Behaviour

Q6f Have you changed how often the heating is turned on or off since the intervention?

- Yes (turned on more)
- Yes (turned off more)
- No

Q6g Have you changed the temperature of your heating since the intervention?

- Yes (turned up more)
- Yes (turned down more)
- No

Q6h Have you changed the number of rooms that you heat since the intervention?

- Yes (more rooms)
- Yes (less rooms)
- No

Q6i Could you please describe any other ways in which you have changed the way you heat your home, use energy or reduced your energy bills since the intervention?

## Benefits

Q6j Is anyone in the household receiving one or more of the following means-tested benefits?  
*Please tick all that apply*

- Pension credit (not state pension)
- Income support
- Income-based Jobseeker's Allowance
- Child Tax Credit
- Working Tax Credit
- Income-related Employment and Support Allowance
- Universal Credit
- None of these
- Don't know
- Prefer not to answer

Q6k Is anyone in the household receiving a disability benefit or premium?

- Yes
- No
- Don't know
- Prefer not to answer

## Income

Q6l What is the household income per month **before** housing costs (rent, mortgage), in £?  
*(estimated values are accepted)*

What are the housing costs (rent, mortgage) per month, in £?  
*(estimated values are accepted)*

- Tick if either of above answers are unknown

***If answers to Q6(l) are unknown, please answer Q6(m) below***

Q6m After housing costs, is the household income estimated to be:

- More than £800
- Less than £800
- Unknown



*Fuel Poverty Health Booster Fund evaluation*

EADSON, William <<http://orcid.org/0000-0002-2158-7205>> and LEATHER, David

Available from the Sheffield Hallam University Research Archive (SHURA) at:

<http://shura.shu.ac.uk/17294/>

### **Copyright and re-use policy**

Please visit <http://shura.shu.ac.uk/17294/> and <http://shura.shu.ac.uk/information.html> for further details about copyright and re-use permissions.