FUEL POVERTY REDUCTION EVALUATION (FuelPRE) – FINAL REPORT

Evaluation of the NHS Hastings & Rother Clinical Commissioning Group Healthy Homes Programme

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Contents

List of figures

List of tables

List of abbreviations

BME – Black and Minority Ethnic

CBA – Cost-benefit analysis

BEIS - Department of Business, Energy and Industrial Strategy

ESCC – East Sussex County Council

FuelPRE – Fuel Poverty Reduction Evaluation

H&R CCG – Hastings & Rother Clinical Commissioning Group

IMD – Index of Multiple Deprivation

SAP – Standard Assessment Procedure

WEMWBS – Warwick-Edinburgh Mental Wellbeing Scale

WHCS – Winter Home Check Service

Contributors

Jörg Huber was principal grant holder and has overall responsibility for the report. Nigel Sherriff was co-applicant and contributed to all phases of the project, including the final report. Alexandra Sawyer was in charge of day-to-day delivery of all aspects of the project and made substantive strategic contributions to the project. Mary Darking was scientific adviser to the project.

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Glossary of key terms

Beneficiary – a person who received a major measure as part of the Healthy Homes Programme.

Energy assessor – a qualified energy advisor who investigates the physical aspects of the property and the heating and water systems of the property. They also provide advice on behaviours that will both promote health and wellbeing, including energy efficiency advice.

Fuel poverty – A household is considered to be fuel poor if: they have required fuel costs that are above average (the national median level); and, were they to spend that amount, they would be left with a residual income below the official poverty line.

Major measure – for the purpose of this project a major measure refers to the installation of a new boiler, central heating system, storage heater, or loft insulation.

Minor measure – for the purpose of this project a minor measure includes measures such as draught proofing, fitting of thermostatic radiator valves, repairs to boilers and heating systems, gutter clearance.

Stakeholder – used to refer to anyone interviewed for this evaluation other than scheme applicants.

Standard Assessment Procedure (SAP) - The SAP is the methodology used by the Government to assess and compare the energy and environmental performance of dwellings. Its purpose is to provide accurate and reliable assessments of dwelling energy performances that are needed to underpin energy and environmental policy initiatives.

Winter Home Check Service – a preventative service, commissioned by East Sussex County Council, which provides a single point-of-contact health and housing referral service for people living in cold homes. This has since been renamed the Warm Home Check Service.

EXECUTIVE SUMMARY

KEY MESSAGES:

- In Hastings 11.8% of households are fuel poor compared with 9.0% in the South East and 11.1% in England.
- As part of the NHS Hastings & Rother Clinical Commissioning Group's Healthy Homes programme, major heating and insulation measures were installed in 149 dwellings.
- Satisfaction with the service and its delivery was very high.
- General health, wellbeing and social isolation were all improved following the targeted upgrading of dwellings.

AIMS

In October 2016 NHS Hastings and Rother Clinical Commissioning Group (H&R CCG) established an 18-month pilot project to fund installation of major heating and insulation measures in properties in wards with the highest levels of fuel poverty in Hastings and Rother. The programme was delivered through the Winter Home Check Service (WHCS), which is commissioned by East Sussex County Council's Public Health Team, and offers advice, home visit assessments, provision of small preventative measures and the coordination of installation of major heating/insulation measures (where funding allows). The University of Brighton were commissioned to carry out an evaluation to provide a greater understanding of the impact of H&R CCG's Healthy Homes programme on psychosocial wellbeing and health.

METHODS

The project was based on a single-cohort, mixed-methods evaluation approach, with before and after data collection points. Data collection for the evaluation was carried out via three main phases: 1) Baseline survey data collection, which included information on scheme beneficiaries, beneficiaries' homes, and self-reported wellbeing; 2) Follow-up survey data collection, which included data on scheme interventions, beneficiaries' subjective experience with the service, and self-reported health and wellbeing; and 3) Follow-up qualitative data collection, which included interviews with scheme beneficiaries and key stakeholders. To assess health and wellbeing, a general health status question and the Warwick-Edinburgh Mental Wellbeing Scale were used. Baseline data were collected before any heating and/or insulation work had started and follow-up data were collected after all intervention work was completed.

FINDINGS

Monitoring and survey data

A major heating/insulation measure was installed in 149 homes as part of the Healthy Homes programme. Ages of beneficiaries ranged from 22 to 94 (mean age = 57.7). Many people self-referred into the WHCS (27.1%), but the overall majority were referred to the programme by Home Works (13.2%), Steps East (11.8%), landlords (10.4%) and Hastings Borough Council (9.7%). The majority of measures installed were boilers (57.7%) and new central heating systems (32.2%). Other works included storage heaters (6.7%) and loft insulation (3.4%). On average Standard Assessment Procedure ratings for energy efficiency were significantly higher post-installation (M = 66.5) compared to pre-installation (M = 56.5) which suggests that energy performance of dwellings increased after the heating or insulation works were completed. Self-rated health and wellbeing in beneficiaries increased significantly from 2.0 and 39.3 respectively, to 2.9 and 42.5. Interestingly, health and wellbeing of those who had a minor measure installed, in addition to a major measure, benefitted more than those who only had a major measure installed. This advantage although small did reach significance, and points to the possible importance of comprehensive home energy improvements. Satisfaction with the overall quality of the service was very high, with approximately 90% of scheme beneficiaries reporting that they were totally satisfied with the service.

Interviews with beneficiaries

Twenty-three beneficiaries were interviewed about their experiences of the programme and the impact that the new heating system had on their lives. The primary reason people applied to the scheme was that they were either currently cold in their home, or they were worried about being cold in the future. All of the people reported that since the work had been completed they were warmer as they were able to heat their homes to a suitable temperature. Clear examples were provided of the positive impacts on physical health and wellbeing including people reporting fewer chest infections, reduced pain, feeling less anxious and depressed, and generally feeling happier and more relaxed. Interviews also highlighted broader areas of impact such as reduced social isolation, increased use of domestic space, and an increased sense of control. Many of the beneficiaries also reported a reduction in their energy bills since their new heating systems had been installed. However, two people reported that their bills had increased which they explained by having their heating on more now that it was working. All of the beneficiaries interviewed reported high levels of satisfaction with the WHCS and the works completed in their home. A small number of people reported that communication from the service provider was slow at times, which in some cases led to a delay in work being completed.

Interviews with stakeholders

Twelve interviews with key stakeholders of the programme were carried out to gather information on the delivery of the programme, its benefits and challenges, and its impacts on health and wellbeing of beneficiaries. A clear success of the Healthy Homes programme was that it met its key objective of installing major heating measures in 149 homes, within budget and on time. A particular strength of the programme included the development of strong partnerships within the statutory and voluntary sector, which was viewed as essential for the scheme to be successful. It was widely recognised amongst stakeholders that successful delivery of the programme was due its integration within the already established WHCS. Stakeholders agreed that the eligibility criteria were broad enough to ensure that the people who most needed help met the criteria. However, many stakeholders recognised there were "hard to reach" groups who may not have accessed the programme such as families with very young children. Most stakeholders were confident that the programme had positive impacts on the health and wellbeing of scheme beneficiaries, and it was reported by some stakeholders that the programme saved lives by bringing heat into people's homes. However, one tension that existed for many of the stakeholders involved in the programme was that improving the private-rented housing stock is not always the same as improving the life of the tenant. In particular, the biggest challenge in delivering the scheme was concern that installation of new heating measures could impact on the home security of the tenant.

RECOMMENDATIONS

Future evaluations should consider assessing health impacts more comprehensively (e.g. healthcare utilisation), including an economic evaluation such as a cost-benefit analysis, and including a self-rated assessment of warmth and fuel poverty. Recommendations for future programmes include targeting underrepresented groups (e.g. families with very young children, households where the oldest person is younger than 25) and to continue building partnerships with community organisations (e.g. local food banks, community centres, and charities) and the health sector (e.g. GP surgeries). Finally, possible avenues for future research include in-depth studies to understand tenants' experiences and impact of fuel poverty, and also further research to explore the broader psychosocial impacts of living in a cold home including impact on social networks and isolation.

CONCLUSIONS

The findings from the evaluation suggest that the installation of major heating or insulation measures such as new boilers have substantial benefits for the health and wellbeing of beneficiaries. The findings also suggest that the programme had a positive impact on wider determinants of health

including reduction in stress and isolation that are likely to be part of the pathways between fuel poverty interventions and mental and physical health outcomes.

Section One – Introduction and background to the evaluation

This section provides an overview of fuel poverty and its impact on health and wellbeing, followed by an outline of the Healthy Homes Programme and its evaluation.

1.1 Fuel poverty

Fuel poverty is defined broadly as the inability to afford an acceptable level of warmth in the home and is determined by three principal factors including the energy efficiency of the property, energy costs, and household income. The Low Income High Cost (LIHC) Indicator is the official fuel poverty indicator and classifies a household as being fuel poor if its energy costs are above the average (median) for its household type and this expenditure pushes it below the poverty line. The most vulnerable groups to fuel poverty include older people (65 and older), single parents with dependent children, families who are unemployed or on low income, children and young people, pregnant women, people with disabilities, people with existing illnesses and long-term conditions, and single unemployed people (NICE, 2015). Fuel poor households are more likely to live in energy inefficient homes across all tenures compared to non-fuel poor households. However, private tenants are at the greatest risk of severe fuel poverty due to lower incomes compared to owner occupiers and living in less energy efficient homes compared to social housing tenants (Butcher, 2014).

People living in fuel poverty use a range of coping strategies to deal with their financial situation. A review reported that these strategies can be grouped into three categories (Gibbons & Singler, 2008). Firstly, fuel use reduction, which is either through rationing or self-disconnection for those with payment meters. Secondly, financial measures by trading warmth for other essentials, such as food. This is known as 'heat-or-eat' dilemma. Thirdly, continuing their normal spending patterns, which can lead to arrears in fuel payments or to increases in other forms of debt.

1.2 Health effects of fuel poverty

Fuel poverty and living in a cold home can contribute to adverse physical and mental health. The Marmot Review into the health impacts of cold homes and fuel poverty found a strong association between cold temperatures and cardiovascular and respiratory diseases. Links between cold housing and minor illnesses such as colds and flu were also reported (Marmot Review Team, 2011). Fuel poverty and living in a cold home has also been linked to excess winter deaths, the phenomenon where frequency of death is higher in winter months than at other times of the year. The World Health Organisation (WHO) estimates that 40% of excess winter deaths are caused by living in a cold home (WHO, 2007) and the Hills review estimates that some 10% of excess winter deaths are directly

attributable to fuel poverty (Hills, 2012). There is also clear evidence highlighting the negative impact of fuel poverty on mental health (Liddell & Guiney, 2015). Social problems can also arise from energy inefficient housing such as residents becoming isolated and too embarrassed by their home to accept visitors (Richardson & Eick, 2006).

1.3 Health impacts of energy efficiency interventions

It has been suggested that energy efficiency measures and interventions are the main and simplest ways of tackling fuel poverty and preventing its associated health, wellbeing and socio-economic consequences (Grey et al., 2017). Energy efficiency measures such as insulation, double glazing, and heating improvements aim to reduce energy demand making it more affordable to keep homes warm. Evidence suggests that energy efficiency interventions targeted at those at risk of fuel poverty and living in poor quality housing may lead to health improvements. In particular, energy efficiency interventions can improve general, respiratory, and mental health outcomes, and these effects are more apparent when targeted at those most at risk (e.g. Thomson et al., 2013). For example, evaluation of the government's Warm Front scheme (which offered a package of heating and insulation measures to people on certain income-related benefits) found increases in room temperature were associated with reduced likelihood of experiencing depression and anxiety. Furthermore, the Warm Front evaluation estimated mortality effects based on other UK studies (e.g. Wilkinson, et al., 2004) and found that heating and insulation improvements were estimated to be associated with an average increase of 10 days life expectancy for men and 7 days for women (Green & Gilbertson, 2008). Studies reviewed by Thomson et al. (2009, 2013) suggest a range of socioeconomic outcomes linked to warmth and energy efficiency improvements. For example, reduced fuel bills and less time off from work/school. Data from qualitative research reviewed found that improved thermal comfort was related to more usable space indoors, improvements in diet, improved household and family relationships and opportunities for leisure and studying. There is also some evidence that energy efficiency interventions are more effective if at-risk groups are targeted. For example, a meta-analysis by Maidment et al. (2014) found that significant health benefits from energy efficiency interventions were identified for vulnerable groups as a whole (e.g. children, the elderly, those on low incomes or pre-existing medical conditions) and for children and people in poor health in particular. Recipients on low incomes saw the greatest improvements in health following energy efficiency interventions.

1.4 Fuel poverty in Hastings and Rother

In East Sussex 9.6% of households are fuel poor compared with 9.0% in the South East and 11.1% in England (Department for Business, Energy and Industrial Strategy (BEIS), 2018a,b). However, there is variation within East Sussex. For example, Hastings is the only local authority in the county where the proportion of fuel poor households is significantly higher than both East Sussex and England (11.8%; Table 1). This has been attributed to the nature of the housing stock but also as a result of poor housing management in some areas and many households being on low incomes[1]. Hastings and St Leonards and three areas in Rother account for 47 of the 69 most deprived Lower Layer Super Output Areas (LSOAs) in East Sussex with many in the lowest decile in the UK[2]. Approximately 60% of dwellings in Central St Leonards are privately rented and approximately 26% of these dwellings failed to meet the decent homes standard[3].

Table 1. Fuel poverty statistics in the South East[4]

Area	Estimated number of households	Estimated number of fuel poor households	% of fuel poor households
Hastings	43,394	5,135	11.8
Rother	43,152	4,284	9.9
East Sussex	244,709	23,411	9.6
South East	3,755,000	336,585	9.0
England	20,446,000	2,551,000	11.1

1.5 Healthy Homes Programme

In October 2016 NHS Hastings and Rother Clinical Commissioning Group (H&R CCG) established an 18-month pilot project to fund installation of major heating and insulation measures, through the Winter Home Check Service (WHCS)[5]. The WHCS is commissioned by East Sussex County Council's (ESCC) Public Health team and offers advice, home visit assessments, provision of small preventative measures and the coordination of installation of major heating/insulation measures (where funding allows). The Healthy Homes programme is a project within H&R CCG's Healthy Hastings & Rother Programme and it was developed in partnership with Hastings Borough Council and ESCC. The

[1] https://hastings.moderngov.co.uk/documents/s13452/Housing%20Strategy%202016-2019.pdf
[2] http://www.energisesussexcoast.co.uk/wp-content/uploads/2017/04/ESEP-Final-Report-2016-FINAL-V4.pdf
[3]https://www.hastings.gov.uk/content/planning/planning_policy/local_plan/evidence_base/pdfs/information/Hastings_Stock_Condition_Survey_2016.pdf
[4] These figures relate to 2016 data.
[5] This has since been renamed the Warm Home Check Service.

programme aimed to reach at least 148 properties in wards with the highest number of fuel poor households in Hastings and Rother (i.e. Braybrooke, Castle, Gensing, Old Hastings, Central St Leonards, and Bexhill Central). The programme was targeted at poor condition properties in the private sector (owner-occupiers and private tenants) where fuel poverty is an issue due to unsatisfactory heating, poor thermal insulation, and generally poor energy efficiency. Major measures funded by the programme included: cavity wall insulation, hard-to-treat cavity works, loft insulation, floor insulation, solid wall insulation, full central heating systems, central heating boiler replacement, and storage heaters.

1.6 Evaluation aims

The overall aim of this Fuel Poverty Reduction Evaluation (FuelPRE) is to provide a greater understanding of the impact of H&R CCG's Healthy Homes programme and the services and activities provided, including the provision of CCG funded major heating/insulation measures through the East Sussex WHCS. The evaluation will provide valuable information to understand the effectiveness of current approaches and may inform planning and commissioning of services in the future.

Specific evaluation outcomes include:

1) To have a clear understanding of the impact of the fuel poverty reduction interventions/services on the health and wellbeing of individuals and families;
2) To be provided with evidence that shows how the programme is effectively improving health and wellbeing (or not);
3) To be provided with evidence that individuals' and families' ability to keep warm at home has positively changed as a direct result of the fuel poverty reduction services (or not).

Section Two – Methods

2.1 Evaluation approach

The FuelPRE project was based on a single-cohort, pragmatic, mixed-methods evaluation approach, with before and after data collection points. Both process and impact/outcome evaluation measures were utilised. The evaluation framework for FuelPRE can be found in Appendix A. This document includes a simple logic model of H&R CCG's Healthy Homes programme and a detailed list of key evaluation questions and associated indicator(s), data collection methods, and timing of data collection. FuelPRE comprised of the following five work packages: 1) Development of a detailed project plan and evaluation framework; 2) Brief literature review of the impact of energy efficiency interventions on health and wellbeing; 3) Evaluability assessment; 4) Survey and semi-structured interviews; and 5) Case studies and video clips. This evaluation report focuses on the data collection phases (work package 4), specifically secondary quantitative research (survey analysis) and primary qualitative research (semi-structured interviews).

2.2 Data collection

Data collection for the evaluation was carried out via three main phases:

- Baseline survey data collection;
- Follow-up survey data collection;
- Follow-up qualitative data collection.

Baseline (pre-intervention) data were collected before any heating and/or insulation work had started. Follow-up (post-intervention) data were collected after all heating and/or insulation work was completed.

2.3 Survey data collection

Survey data (collected between October 2016 and July 2018) was derived from organisational monitoring data[6] and questionnaires administered by the providers of the WHCS (Osborne Energy). This data was incorporated into the evaluation design as secondary data that were subsequently analysed by the evaluation team. No additional survey data was collected by the evaluators because these data were deemed sufficient and in order not to add to data collection requirements placed on beneficiaries. Anonymised data was shared by the providers of the WHCS with the University of Brighton. In accordance with UK Data Service (2017) data anonymisation guidelines, either direct

[6] Monitoring is the routine and systematic collection of data by the service provider to check scheme operational progress against plans and targets set at the point of commissioning.

identifiers were removed from the dataset or precision was reduced before the data was shared with the University.

2.3.1 Baseline survey data collection

The following information was collected at baseline by an energy assessor at the first home assessment visit. Questions were completed on behalf of a single representative of the household i.e. the beneficiary.

- *Data about scheme beneficiaries* – ward, sociodemographic information, household income, current health, disability, details of benefits, carer status;
- *Data about scheme beneficiaries' homes* - household size, detachment type, property type, tenure type, number of bedrooms, number of occupants, storeys, main fuel type, number of rooms with no heating, type of heating, whether boiler was working at the time of assessment, age of boiler, property SAP rating;
- *Referrals* – source of referrals e.g. landlord, support service, GP, family/friend, self-referral;
- *Health and wellbeing* - The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS; Tennant et al., 2007) was completed by beneficiaries pre-intervention to assess mental wellbeing. The WEMWBS is a 14-item questionnaire, with five response categories ranging from ('none of the time' (1) to 'all of the time' (5) and is scored by summing all the items into a total wellbeing score (range 14–70). A sample item is *'I've been feeling optimistic about the future'*. The WEMWBS has been shown to have good validity, internal consistency and test–retest reliability with a general population sample (*n* = 2075) (Tennant et al., 2007).

2.3.2 Follow-up survey data collection

This information was collected after the heating/insulation works had been installed and was completed either by the energy assessor or beneficiary (again a single representative of the household).

- *Data on scheme interventions* - type of advice given, whether a minor measure was installed, type of major installation, cost of installation, property SAP rating. This information was completed by the energy assessor;
- *Beneficiaries' subjective experiences with service* - a range of questions were included in the "Post Installation Customer Handover Checklist" to measure satisfaction with the service (e.g. *How would you rate the overall quality of the service?*). This questionnaire was posted to beneficiaries approximately 6 weeks after the measure was installed;

- *Health and wellbeing* - Two single item questions were asked to measure beneficiaries' health in the post-intervention phase only (*In general, how would you describe your health prior to the preventative works being complete? - excellent, very good, good, fair, poor* and *In general, how would you describe your health now? excellent, very good, good, fair, poor*). These two questions were included in the *"Post Installation Customer Handover Checklist".* The WEMWBS was also completed by beneficiaries post-intervention. The health and wellbeing questionnaires were completed approximately 6 weeks after the measure was installed[7].

2.4 Qualitative interviews

Interviews were carried out with beneficiaries and stakeholders between February and November 2018.

2.4.1 Beneficiaries

All beneficiaries who had a major heating or insulation measure funded by the H&R CCG Healthy Homes programme were eligible for participation in the qualitative interviews[8]. In addition, participants had to be over 18 years of age; be able to give informed consent; and be able to understand and speak English coherently.

The evaluation team worked closely with the providers of the WHCS to invite participants to take part. Study packs were posted to all beneficiaries of the Healthy Homes programme. Packs comprised: a letter introducing the evaluation, a participant information sheet (PIS), and a reply slip to indicate interest in participating (Appendix B). Following receipt of a completed reply slip, the evaluators contacted any beneficiaries who had responded positively, clarifying that they understood the nature of their involvement, and if they agreed, arranged a suitable date and time for interview. A reminder letter was sent to any beneficiaries who had not responded approximately two weeks after the first letters of invitation had been sent[9]. If a response was not received after the second follow-up/invite no further action was taken, which was in line with the received ethics approval for the evaluation.

[7] This was initially completed in error over the phone approximately 5 days post-installation by the service provider but was corrected and posted to participants at approximately 6 weeks post-installation. The date the questionnaire was completed was not recorded.
[8] Beneficiaries did not need to have completed pre- and post-intervention surveys in order to be eligible for the interviews.
[9] Reminders were sent approximately four weeks after the first round of invites were sent due to staff changes within the service provider's organisation.

A semi-structured interview schedule was used to generate qualitative data (Appendix C), which allowed participants to have flexibility in their answers and identify or explore further areas as required. Topics included: experience of the application, experience of the assessment process, experience of the installation, impact of the heating/insualtion intervention, and overall satisfaction. In addition, a simple and short structured questionnaire was administered to gather basic socio-demographic characteristics (e.g. age, ethnicity, education) and property/household characteristics (e.g. household size, number of rooms, property type, tenure type, main type of fuel; Appendix D). Interviews lasted approximately 30 minutes and interviews either took place at the participant's home (*n*=12) or over the telephone (*n*=11). Participants were given a £10 'thank you' voucher for their time.

2.4.2 Stakeholders

The term 'stakeholder' is used to refer to anyone interviewed for this evaluation other than scheme beneficiaries e.g. referral partner, service provider. The fuel poverty coordinator (Hastings Borough Council) emailed a study pack to eligible selected stakeholders. This study pack contained a letter introducing the project, a PIS, and a reply slip to indicate their interest in the study (Appendix E). The researcher contacted those that responded positively, clarifying that they understood the nature of their involvement, and if they agreed, arranged a suitable date and time for interview. A reminder letter/email was sent to stakeholders who had not responded approximately two weeks after the first letters/emails of invitation were sent. Stakeholders were contacted a maximum of three times and if no response was received after the third attempt, no further reminders were sent. A semi-structured interview schedule was used to explore their experiences of the delivery of the H&R CCG Healthy Homes programme, its benefits and challenges, and the impacts on health and wellbeing of beneficiaries (Appendix F). Interviews lasted approximately 30 minutes and interviews either took place at the stakeholder's office (*n*=5) or over the telephone (*n*=7).

2.5 Data storage and confidentiality

Anonymised secondary data provided by the service provider and all primary research data generated was stored securely at the University of Brighton using a password protected network and in compliance with data protection legislation (i.e. GDPR). Only the research team and an approved University transcriber had access to this data. To mitigate against the unlikely loss of data, digital files are backed up daily to University external (secured) servers. All data will be retained for 10 years and then digital files will be destroyed/deleted and physical data shredded (as per University of Brighton policy).

2.6 Research governance and ethical approval

The University of Brighton's College Research Ethics Committee (CREC) for the College of Life Health and Physical Sciences reviewed and approved this evaluation (Appendix G).

2.7 Data analysis

Data analysis of the surveys and interviews with beneficiaries and stakeholders was guided by the evaluation questions (see Appendix A).

Survey data: To safeguard data quality, the anonymised survey data was checked for the following: double-checking coding of observations or responses and out-of-range values; checking data completeness; adding variable and value labels where appropriate; double entry of data; statistical analyses such as frequencies, means, ranges or clustering to detect errors and anomalous values. Basic descriptive quantitative analysis was then conducted on the secondary data provided. Graphs were used to illustrate the main findings. Data was also analysed to explore the impact of the scheme and to understand the impact for different groups of target beneficiaries. SPSS data analysis software (Version 24) was used for all analysis. Normality tests were performed on the data prior to running the analysis. Difference in pre and post WEMWBS scores were normally distributed, therefore parametric tests (paired samples t-tests) were used. Difference in pre and post SAP scores and difference in pre and post self-rated health were not normally distributed, therefore the parametric t-test was conducted with bootstrapping. To explore the impact of the scheme on health and wellbeing for different groups of target beneficiaries repeated measures ANOVA was used. The interaction term of the repeated measures ANOVA was explored for each analysis to understand how different characteristics of the scheme/beneficiaries impacted on wellbeing (a significance value of $p < .05$ indicated a significant interaction).

Interview data: The evaluation team as a whole were responsible for the analysis of the interview data. With participant's permission, all interviews were audio recorded, quality checked, and fully transcribed. Qualitative thematic analysis was used to inductively (from the data) and deductively (based on the project's objectives and indicators) analyse the data. Separate analyses were conducted for the stakeholder and beneficiary interviews. Braun and Clarke's (2006) method was used to identify, describe, and analyse themes and patterns within the data. After transcripts were read and re-read to become familiar with the data, interviews were coded to generate an initial pool of codes. Codes were then collated into potential themes. Themes were reviewed by three authors (AS, JH, NS) in relation to the generated pool of codes and the entire data set. Finally, definitions and names were generated

for each theme. Specialised qualitative data software (NVivo; Version 11) was used to support this process. Adopting a team approach, analytical processes were triangulated to increase reliability and validity of the findings. Direct quotes are referred to by participant codes to ensure anonymity.

Section Three – Results: Secondary analysis of survey data

3.1 Scheme beneficiary and property characteristics

A major heating/insulation measure was installed in 149 homes as part of the Healthy Homes programme. Table 1 displays the main demographic and property characteristics of beneficiaries who completed the survey. Ages of beneficiaries ranged from 22 to 94 with the average age being 57.7 (*SD* = 17.5). Figure 1 shows a breakdown of ages of the beneficiaries. All but three beneficiaries had a household income under £16,000. Beneficiaries with a White British background were slightly overrepresented compared to the profile of Hastings and Rother (96.9% compared to 91.7%; Office for National Statistics, 2011). The main groups of people likely to experience particularly negative health impacts of fuel poverty are the elderly, infants, disabled people and those living with long-term conditions. According to the Hills report (2012) 34% of fuel poor households contain someone with a disability or long-term illness, 20% have a child aged 5 or under, and 10% a person aged 75 or over. Of the beneficiaries of the Healthy Homes programme approximately 90% described living with a long-term health condition and 21% were living with a disability, 20% of families had a child aged 16 years or under[10], and 20% were 75 years or older. As such it appears that people over 75 and those living with a long-term illness were overrepresented in the scheme. However, this is not surprising and is probably a result of the targeting approach taken by the WHCS.

[10] Monitoring data did not measure whether scheme beneficiaries had a child aged 5 or under, therefore it is likely that the number of applicants with a child under 5 is less than 20%.

Figure 1. Age composition of programme beneficiaries

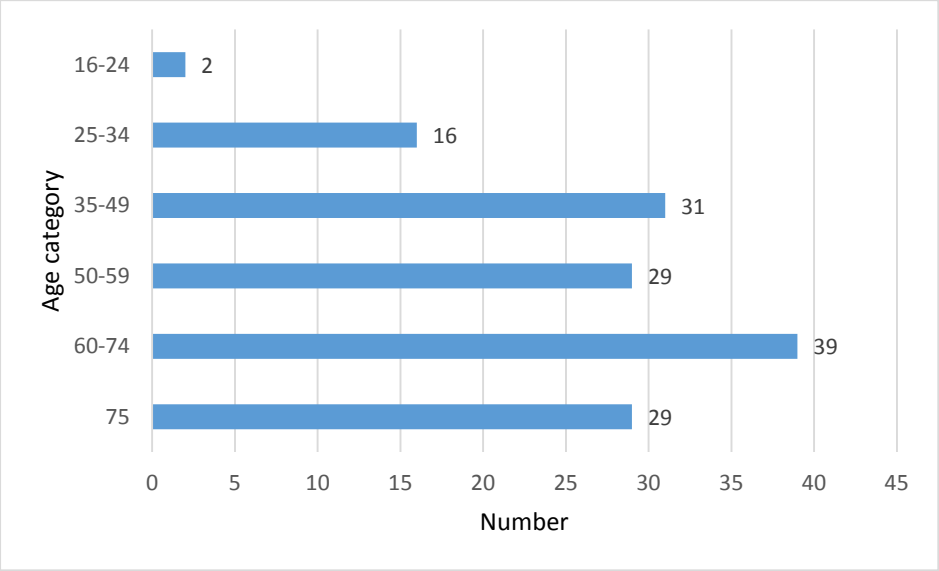


Figure 2 shows the wards where households were based. Wards with the most households who received major heating and/or insulation measures were: Castle (26.8%), Central St Leonards (26.2%), Gensing (14.8%), Braybrooke (8.7%), Old Hastings (6.7%), and Bexhill Central (5.4%). A small number of major measures were installed in non-priority wards when in exceptional circumstances households met the criteria for the programme.

Figure 2. Wards where properties received a CCG funded major measure

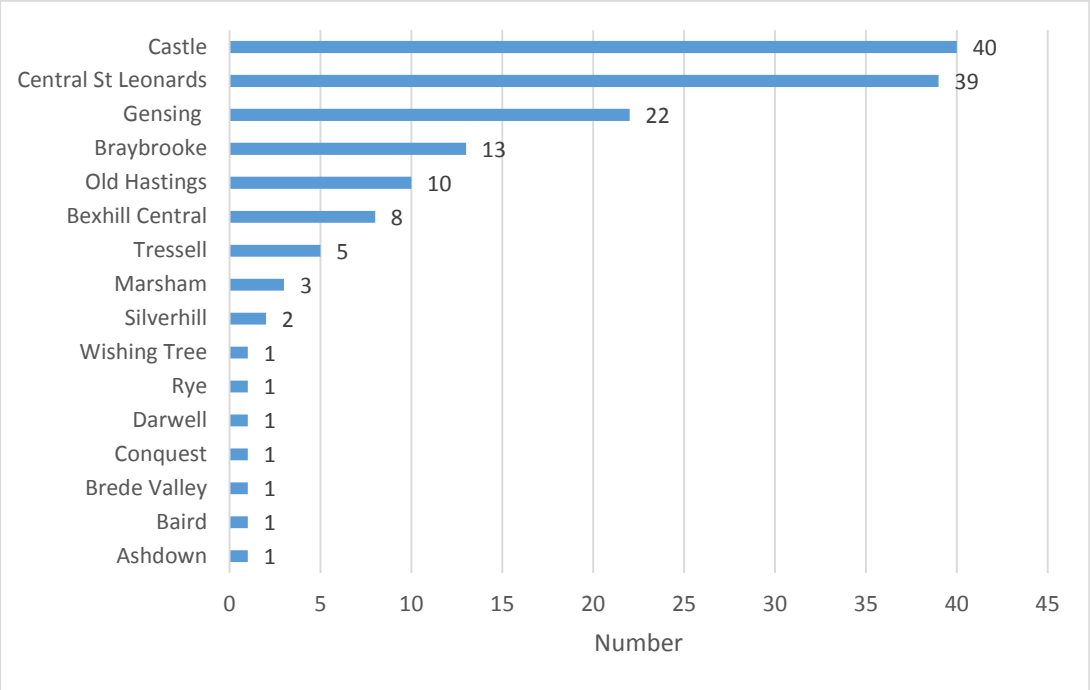


Table 2. Demographic and property characteristics of scheme beneficiaries

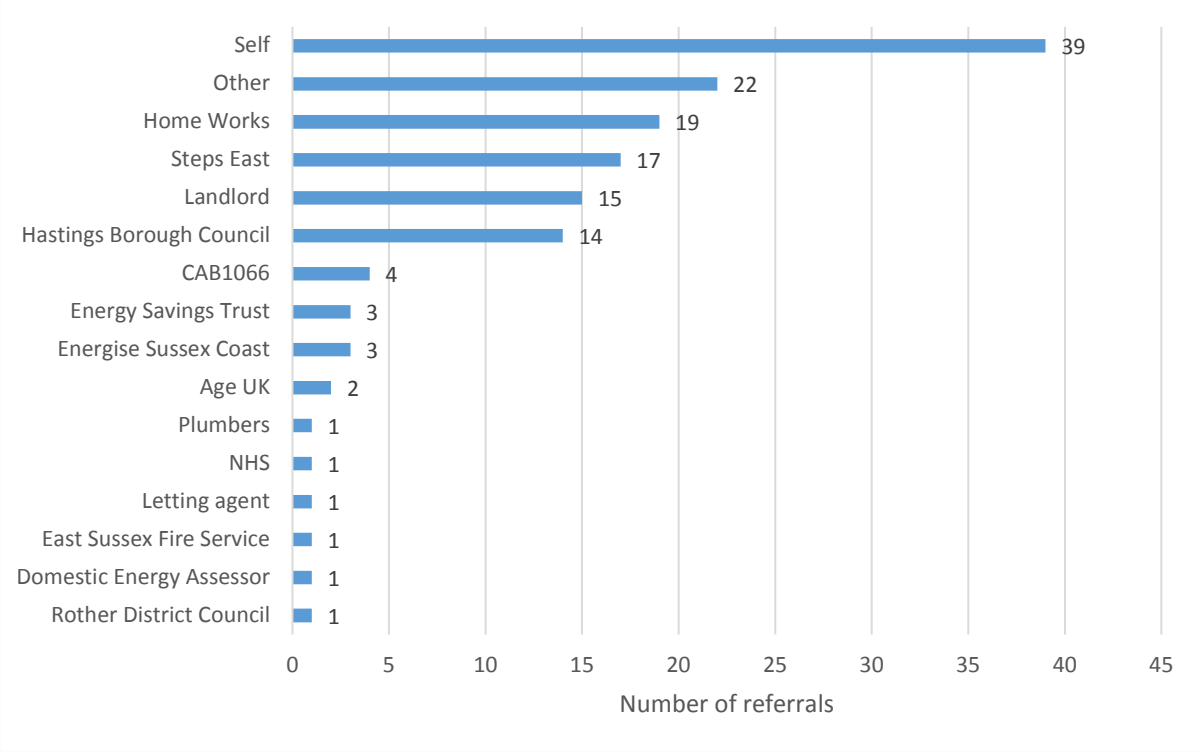
	Scheme beneficiaries *N*=149 (%)	Beneficiaries who completed pre and post WEMWBS *N*=78 (%)
Gender*		
Male	47 (32)	22 (28.6)
Female	100 (68)	55 (71.4)
Ethnicity*		
White British	125 (96.9)	64 (97)
Other	4 (3.2)	2 (3)
Living with a disability	32 (21.5)	17 (21.8)
Employment status		
Employed full time	5 (3.4)	2 (2.6)
Employed part time	6 (4.0)	2 (2.6)
Unemployed	87 (58.4)	45 (57.7)
Self-employed	2 (1.3)	2 (2.6)
Retired	49 (32.9)	27 (34.6)
Long-term health condition	137 (91.9)	74 (94.9)
Property type		
Bungalow	8 (5.4)	7 (9)
Flat	96 (64.4)	49 (62.8)
House	42 (28.2)	21 (26.9)
Maisonette	3 (2.0)	1 (1.3)
Occupants*		
1	82 (55.4)	45 (57.7)
2	38 (25.7)	19 (24.4)
3	16 (10.8)	6 (7.7)
4	8 (5.4)	8 (10.3)
5+	4 (2.7)	-
Tenure		
Owner occupier	58 (38.9)	32 (41)
Privately rented	91 (61.1)	46 (59)
Detachment type		
Terraced	92 (61.7)	45 (57.7)
End of terrace	15 (10.1)	10 (12.8)
Semi-detached	26 (17.4)	14 (17.9)
Detached	14 (9.4)	8 (10.3)
Other	2 (1.3)	1 (1.3)
Number of storeys		
1	99 (66.4)	54 (69.2)
2	35 (23.5)	19 (24.4)
3	13 (8.7)	4 (5.1)
4	2 (1.3)	1 (1.3)
Main fuel type		
Electric	43 (28.9)	25 (32.1)
Gas	104 (69.8)	53 (67.9)
Oil	2 (1.3)	-
No working boiler	103 (69.1)	53 (67.9)
Rooms with no heating	68 (45.6)	34 (43.6)

Note. *missing data (*N* ranges for full sample from 129 to 148). On occasions the percentages may not add up to 100% precisely due to the rounding up or down of decimal places.

3.2 Source of referrals

Figure 3 displays the main source of referrals into H&R CCG's Healthy Homes programme[11]. Many people self-referred (27.1%) to the programme[12]. Other common sources of referrals were Home Works (13.2%), Steps East (11.8%), landlords (10.4%) and Hastings Borough Council (9.7%).

Figure 3. Main source of referrals into the Healthy Homes programme



3.3 Works completed

Figure 4 shows a breakdown of the work funded by the Healthy Homes programme. The majority of measures installed were boilers (57.7%) and new central heating systems (32.2%). Other works included storage heaters (6.7%) and loft insulation (3.4%).

[11] Detail of referral source was not available for five beneficiaries (*n*=144)

[12] Although this was noted as a self-referral in the data shared by the service provider, it is likely these referrals were directed by someone i.e. friend/family or a service offering signposting rather than formal referral e.g. voluntary and community sector.

Figure 4. Types of major measures installed

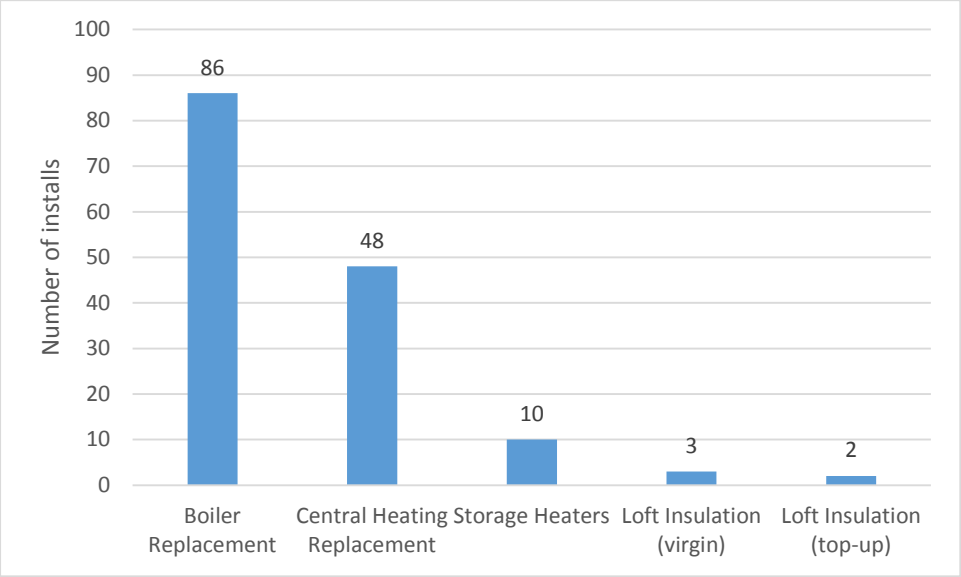
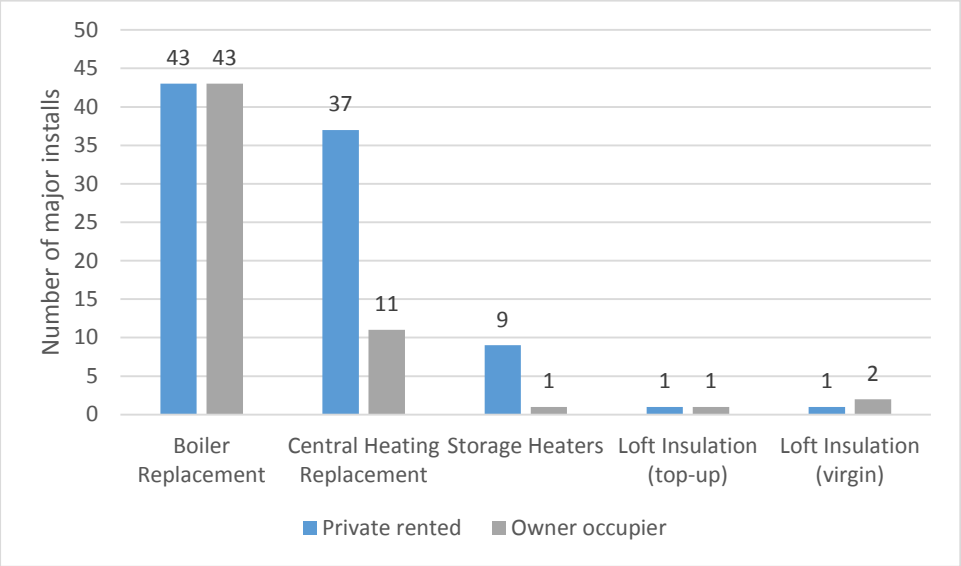


Figure 5 shows that private rented properties were more likely to have central heating replacements and storage heaters installed compared to owner occupied properties.

Figure 5. Types of major measures installed by tenure

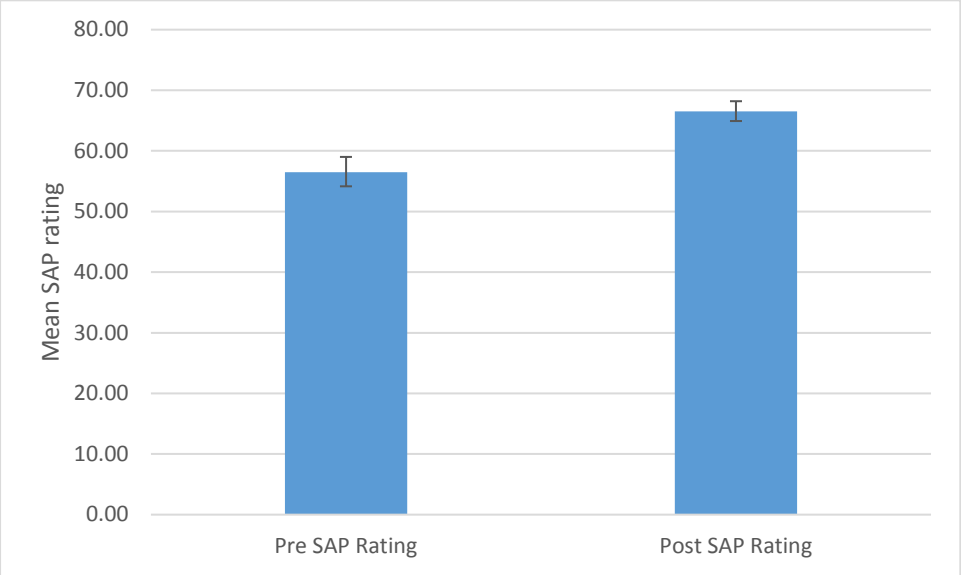


In addition to the installation of major measures, 58 properties (38.9%) also had some minor heating/insulation measures installed. These included but are not limited to: boiler service/repair, gutter clearance, draught proofing, and door/window repairs.

3.4 Standard Assessment Procedure (SAP) rating

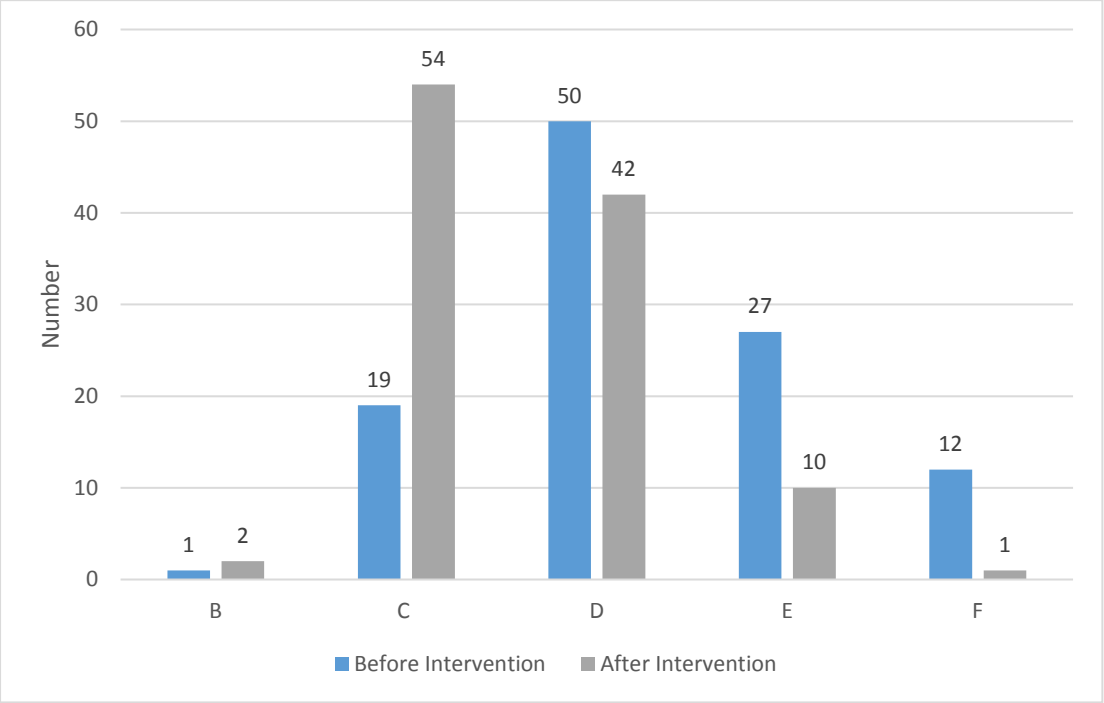
Figure 6 displays the mean SAP rating pre- and post-installation[13]. This assessment is used to gauge the energy performance of buildings. The Government has indicated that a SAP rating of 65 represents a standard of heating and insulation that minimises the risk of fuel poverty. On average SAP ratings were significantly higher post-installation (M = 66.50, SD = 9.07) compared to pre-installation (M = 56.47, SD = 13.29). This difference was significant, $t(108) = -9.001$, $p = 0.001$, and represents a large-sized effect ($r = .65$, $d = 0.86$). This suggests that energy performance of buildings increased after the heating and/or insulation works were completed. Figure 7 displays household EPC band before and after installation of heating/insulation measures. Post-installation, just over half of the properties (51.4%) were rated as Band B or C, compared to 18% pre-installation.

Figure 6. Mean SAP ratings before and after installation (*n*=109)



[13] Based on pre- and post-data from 109 homes (final data shared with the evaluation team)

Figure 7. Household EPC band before and after installation (*n*=109)[14]



3.5 Impact on health and wellbeing

The WEMWBS was used to assess wellbeing before and after the installation of major measures. Of the 149 homes which received a major heating and/or insulation measure funded as part of H&R CCG Healthy Homes programme, 78 beneficiaries (representing 52.3% of all scheme beneficiaries) completed the WEMWBS before *and* after the installation, which can be considered a good response rate[15]. Table 1 displays the characteristics of the beneficiaries who completed the WEMWBS at both time points compared to the overall scheme beneficiaries and these seem to be broadly similar. Ages of participants who completed the WEMWBS ranged from 22 to 93, with the average age being 60.5 (*SD* = 16.8).

Figure 8 illustrates the positive relationship between pre-installation scores on the WEMWBS and post-installation scores on the WEMWBS, indicating that higher wellbeing before the installation is related to higher wellbeing after the installation. Figure 9 displays the mean scores of the WEMWBS pre- and post-installation. On average people experienced higher wellbeing post-installation (*M* =

[14] The remaining property in category F had loft insulation fitted as part of the programme.
[15] Higher than an evaluation of a Warm Homes scheme in Oldham (Bashir et al., 2016) and similar to the response rate reported by an evaluation of a recent large-scale energy efficiency intervention (Poortinga et al., 2018).

42.49, *SD* = 9.83) compared to pre-installation (*M* = 39.31, *SD* = 11.06). This difference was significant, *t*(77) = -3.42, *p* = 0.001, and represents a medium-sized effect (*r* = .36, *d* = 0.39). However, it should be noted that scores on the pre- and post-WEMWBS are considerably lower than the wider UK population norm of 49.9 (Fuller, Mindell, & Prior, 2017) and that reported in Hastings (48.50)[16].

Figure 8. Scatterplot of WEMWBS scores pre- and post-installation

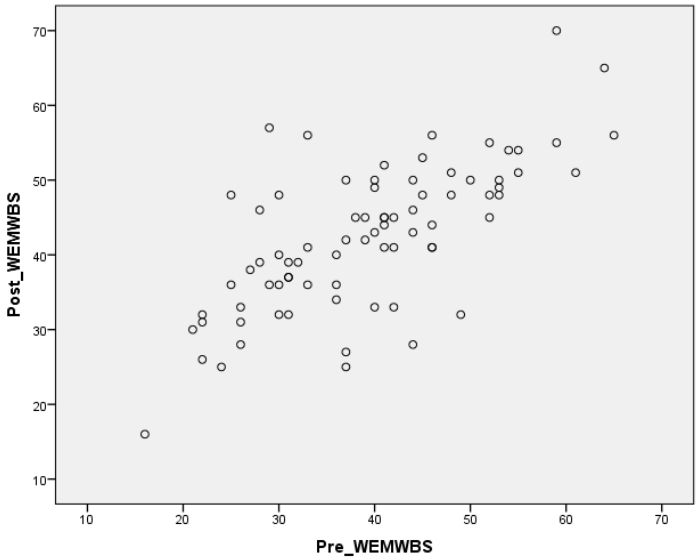
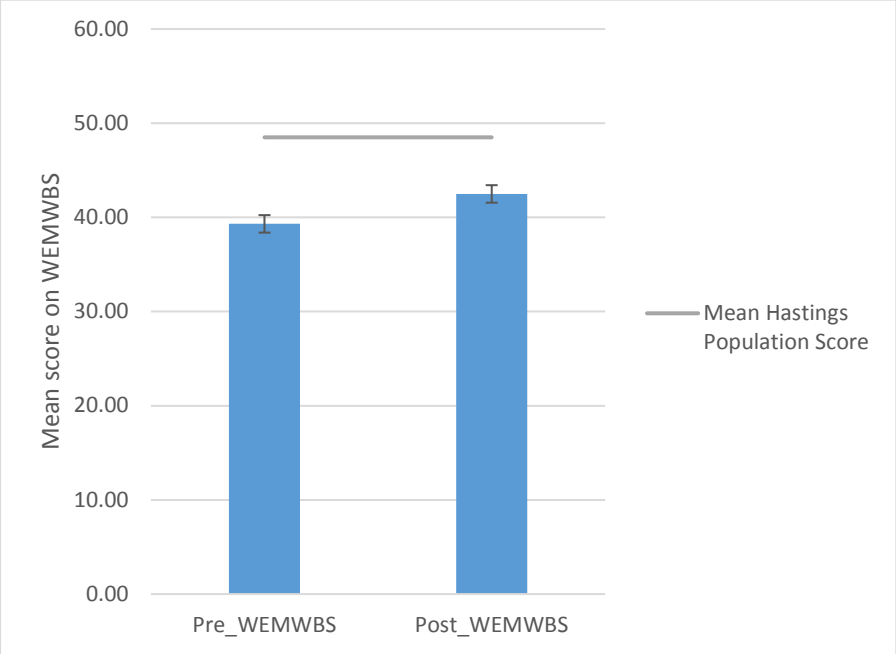


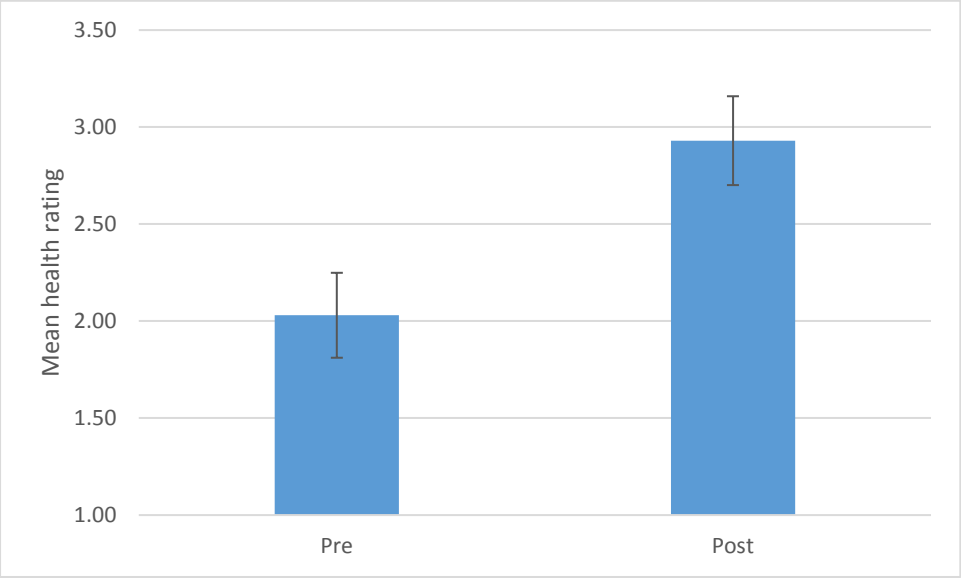
Figure 9. Scores on WEMWBS pre- and post-installation (higher scores indicate better wellbeing)



[16] http://www.eastsussexjsna.org.uk/JsnaSiteAspx/media/jsna-media/documents/publichealthreports/2016_17/DPHreport2016_17_Main_report.pdf

Figure 10 displays the responses to the two single questions[17] about beneficiaries' health prior to the installation (retrospective assessment) and post-installation[18]. On average people reported better health post-installation (M = 2.93, SD = 1.16) compared to pre-installation (M = 2.03, SD = 1.11). This difference was significant, $t(100) = -9.29$, $p = 0.001$, and represents a large-sized effect ($r = .68$, $d = 0.92$).

Figure 10. Retrospective self-rating of health pre- and post-installation (ratings 1 – 5 with 1 indicating poor health and 5 indicating excellent health)



3.6 Understanding changes in health and wellbeing

Data was also analysed to explore the impact of the scheme and to understand the impact for different groups of beneficiaries, property characteristics, and intervention characteristics. Overall, beneficiary characteristics, property characteristics, and intervention characteristics did not impact on pre- and post-wellbeing or pre- and post-self-rated health. However, there was a significant interaction between minor measures and pre- and post-wellbeing ($p < .05$) and between minor measures and pre- and post-self-rated health. Figures 11 and 12 display this relationship. In particular, those who had a minor measure installed in addition to a major measure reported greater increases in wellbeing and self-rated health from pre- to post-intervention. This finding suggests that those who had a minor

[17] "*In general, how would you describe your health prior to the preventative works being complete?*" and "*In general, how would you describe your health now?*"
[18] Based on data for from 101 beneficiaries who completed these two questions.

measure installed reported a larger increase in wellbeing and health scores compared to those who did not, suggesting that a combination of both a minor and major measure has a greater impact on wellbeing and health. However, as this is not a controlled study other variables could influence this finding (e.g. tenure, property type).

Figure 11. Impact of minor measures on wellbeing

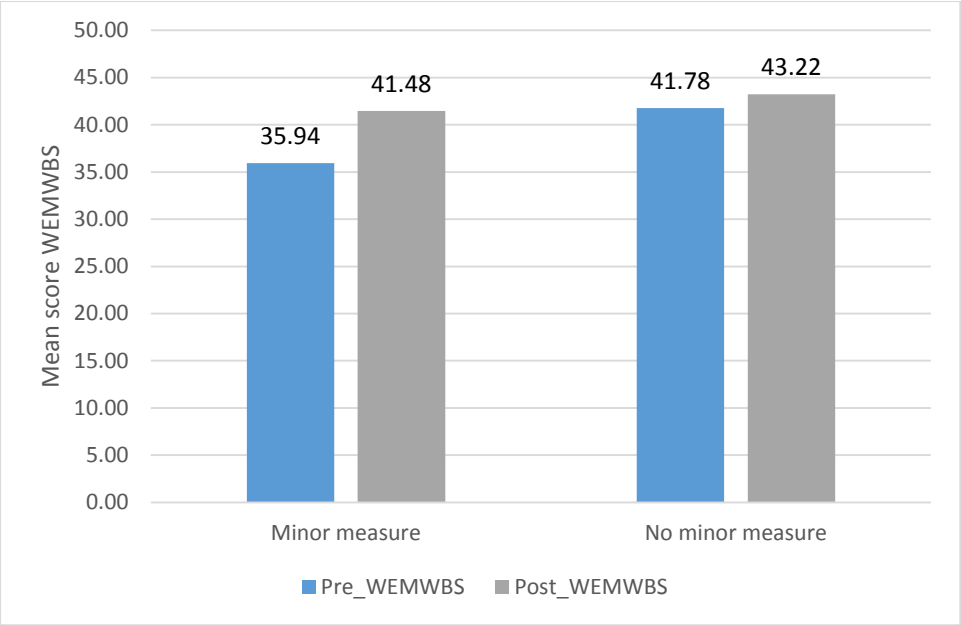
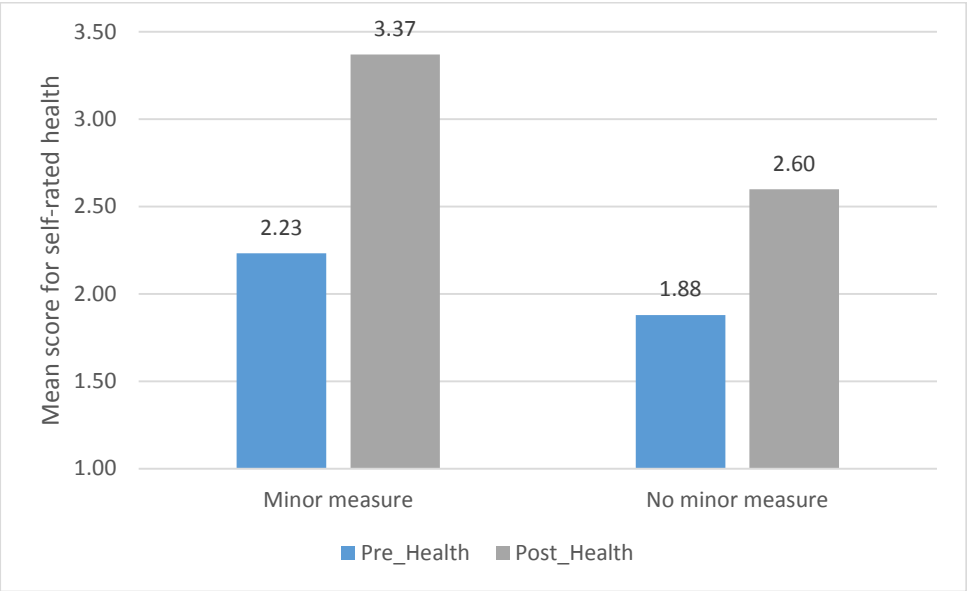


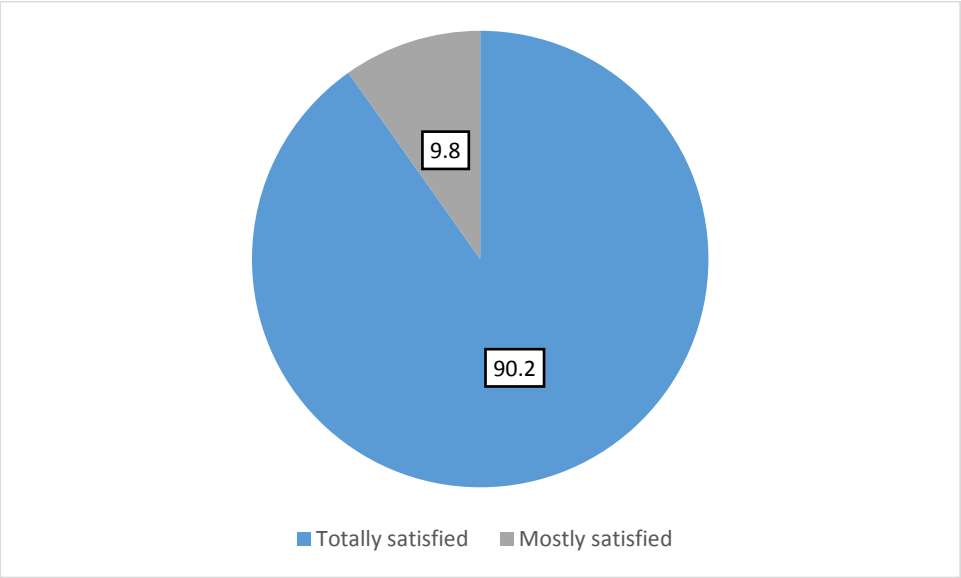
Figure 12. Impact of minor measures on self-rated health



3.7 Satisfaction with service

As Figure 13 shows satisfaction with the overall quality of the service was very high, with approximately 90% of people being totally satisfied[19].

Figure 13. Satisfaction with overall quality of service



3.8 Summary

In summary these findings show:

- The majority of people self-referred into the programme and other common sources of referrals included Home Works, Steps East, landlords and Hastings Borough Council.
- The majority of measures installed were boilers and new central heating systems.
- The energy performance of buildings significantly increased post-installation.
- Beneficiaries of the NHS H&R CCG Healthy Homes programme report improved health and wellbeing after heating/insulation measures have been installed in their home.
- Participants reported high levels of satisfaction with the WHCS.

[19] Based on data from 102 beneficiaries who completed this question (i.e. *"How would you rate the overall quality of the service?*).

Section Four – Results: Qualitative interviews

In this section, the findings from 35 interviews with scheme beneficiaries (*n*=23) and key stakeholders are presented (*n*=12).

4.1 Interviews with beneficiaries

148 beneficiaries[20] were invited to take part in the interview and 26 people returned a reply slip to indicate they would be interested in participating and 23 were subsequently interviewed (16% response rate). This is a reasonable response rate considering the vulnerable population and is similar to other studies which have used an opt-in recruitment procedure. Table 2 displays the demographic characteristics of the sample of beneficiaries who were interviewed. Ages of participants ranged from 33 to 87 (*M* = 61.5, *SD* = 15.9). The characteristics of the sample were broadly similar to the beneficiaries of the Healthy Homes programme overall, although more people were owner occupiers. Participants self-reported numerous health conditions such as diabetes, cardiovascular disease, respiratory problems, mental ill health, cancer, Raynaud's condition, and arthritis, all of which would be worsened by living in a cold home. Postcode data were analysed using the indices of multiple deprivation (IMD) from the Office of National Statistics to gain an indication of the socioeconomic background of the interviewees. IMD scores range from 1 to 32844 with a low score indicating most deprivation and a higher scoring indicating least deprivation. For the purpose of this research, IMD scores were categorised into quintiles to give an overview of the kinds of areas participants were drawn from. Analysis revealed that 70% of the people interviewed lived in the most deprived areas of England (see Table 3).

14 (61%) of the interviewees had a new boiler installed, seven (30%) had a whole new central heating system installed, and two (9%) had storage heaters installed as part of the programme. Ten interviewees reported that they also had some minor heating work completed as part of the WHCS such as draught proofing, new thermostats on radiators, energy saving light bulbs fitted, and aluminum foil fitted behind radiators.

[20] One of the beneficiaries had died since the installation hence the lower number of invitees.

Table 3. Demographic and property characteristics of beneficiaries interviewed

	***N* = 23 (%)**
Gender	
Male	5 (21.7)
Female	18 (78.3)
Ethnicity	
White British	23 (100)
Marital Status	
Married/Civil Partnership	4 (17.3)
Single	8 (34.8)
Separated/Divorced	9 (39.1)
Widowed	2 (8.7)
Living with a disability	20 (87)
Property type	
Detached house	2 (8.7)
Semi-detached house	1 (4.3)
Terraced house	4 (17.4)
Flat	16 (69.6)
Tenure	
Owner occupier	15 (65.1)
Privately rented	8 (34.8)
Number of people in household	
1	18 (78.3)
2	4 (17.4)
3	0 (0)
4+	1 (4.3)
Children living in household	3 (13)
Main fuel type	
Electric	2 (8.7)
Gas	21 (91.3)
Employment status	
Employed full-time	1 (4.3)
Unemployed	10 (43.5)
Self-employed	1 (4.3)
Retired	11 (47.8)
Level of education	
None	10 (43.5)
GCSEs/O Levels	4 (17.4)
A-Levels/diploma/City & Guilds	6 (26.1)
Undergraduate	1 (4.3)
Professional qualification	2 (8.7)

Table 4. Index of multiple deprivation (IMD) based on postcode data

IMD Quintile	*N* (%)
Band 1 (1-6568) – most deprived	16 (70)
Band 2 (6569-13 137)	4 (17)
Band 3 (13 138-19 706)	3 (13)
Band 4 (19 707-26 275)	0
Band 5 (26 276-32 844) – least deprived	0

4.2 Analysis of interviews with beneficiaries

The section below presents the findings of the interviews conducted with 23 beneficiaries of the H&R CCG Healthy Homes programme (Table 5). The findings are summarised within the following thematic areas: 1) Motivations for applying to the service; 2) Delivery of service – Home assessment (Informative and thorough, Personable approach); 3) Delivery of service – Installation of new heating system (Clean and tidy, Personable and professional, Clear information and explanations, High quality); 4) Delivery of service – Bottlenecks; 5) Impacts of heating/insulation works (Thermal impacts, Physical health impacts, Psychological wellbeing impacts, Psychosocial impacts; Financial impacts); and 6) Overall satisfaction.

Table 5. Detail of participants interviewed

ID	Gender	Age	Tenure	Work completed
B1	Male	63	Owner occupied	Boiler replacement
B2	Female	60	Privately rented	Boiler replacement
B3	Female	82	Owner occupied	Boiler replacement
B4	Female	68	Owner occupied	Central heating replacement
B5	Female	42	Owner occupied	Boiler replacement
B6	Male	74	Owner occupied	Boiler replacement
B7	Female	46	Owner occupied	Boiler replacement
B8	Female	33	Privately rented	Boiler replacement
B9	Female	76	Owner occupied	Boiler replacement
B10	Female	37	Owner occupied	Boiler replacement
B11	Female	87	Owner occupied	Central heating replacement
B12	Female	81	Owner occupied	Boiler replacement
B13	Female	59	Privately rented	Boiler replacement
B14	Female	78	Owner occupied	Boiler replacement
B15	Male	79	Owner occupied	Boiler replacement
B16	Female	52	Privately rented	Boiler replacement
B17	Female	39	Privately rented	Central heating replacement
B18	Female	45	Owner occupied	Central heating replacement
B19	Male	60	Privately rented	Central heating replacement
B20	Female	61	Owner occupied	Storage heater
B21	Male	54	Privately rented	Central heating replacement
B22	Female	69	Privately rented	Storage heater
B23	Female	70	Owner occupied	Central heating replacement

1. Motivations for applying to the service: *"My boiler kept messing up and my bills were so dear"*

The primary reason people applied to the scheme was that they were either currently cold in their home, or they were worried about being cold in the future. It was very common for people to report being worried and concerned about how they were going to cope with upcoming winters with their old heating systems. Two beneficiaries reported not having any heating in their home at all, with one person stating that they *"put the oven on for an hour to take the chill out" (B19).* Many of the people who did have some form of heating described that it was not effective in keeping them warm. One woman, who was in her late 60s, only had a single oil-filled radiator in her two bedroom flat and this was in the living room, which meant this was the only room that had any heating:

> *"All I had was an oil-filled radiator, and I have got Parkinson's…And I suppose it was that I was feeling the cold more, and I thought I have got to do something about this". (B4).*

Many of the people who did have some form of heating described their heating systems as being old and faulty, with one person describing that their boiler broke down as frequently as a couple of times a week. This meant that some of the people interviewed reported regularly having no heating or hot water. As such, many people reported using alternative strategies to stay warm. These included using hot water bottles, wearing hats and gloves indoors, using portable heaters, and only heating one room. For example, one couple who lived in a privately rented flat had a very old and temperamental boiler, which meant they struggled to keep warm. They reported that when they were inside they had to dress like they were going *"out in the snow".* Two of the people interviewed lived on the seafront and they reported that the cold was exacerbated by the coastal weather conditions, making it particularly uncomfortable:

> "*I live in a flat on the seafront, and believe me when the wind comes off, straight onto these houses, it's like being able to have a free wash and blow dry because the rain would come in and drip down. So that was the wash, and then I'd step back to the wind, to blow dry my hair". (B20)*

Some people also reported that not only were their heating systems not working properly but they also had concerns over the safety of their boilers. For example, one man described that when he turned on his 62-year old boiler he experienced gas blow backs from the boiler, which made him feel dizzy. Another woman, who also has four young children living at home, described how her old boiler was leaking carbon monoxide:

"They said our boiler was probably one of the worse they'd seen, I think it was thirty years old and it was leaking carbon monoxide. So it really needed to be changed…either the thermostat didn't work, it didn't heat, we were using electric heaters, like the really cheap fan heaters, which again cost a fortune to run". (B5)

The majority of participants said that they would not be able to afford to pay for a new central heating system or replacement boiler themselves, and for those people who lived in private rented accommodation it was often difficult to get landlords to fix the heating:

"*Last year my central heating boiler broke down in March and I unfortunately didn't have enough money to buy another boiler and I didn't do anything until it started getting quite cold and I was racking my brains about what to do. The thing is I had done some part-time work, although I'm seventy six years old, I have carried on doing a little bit of part-time work, but unfortunately that's diminished, so I was living just off my pension". (B9)*

"*No there was no window in my downstairs toilet for five months, they didn't even come and board it up, I had rain pouring through the ceiling. It was bad, the house was really bad, I think there was about thirty repairs that needed doing, it was really bad". (B16)*

As well as concern over inadequate heating people also reported applying to the scheme because they noticed that their fuel bills were very expensive and they wanted advice on how these could be reduced. Many of the people reported how expensive it was to heat their home. For example, some of the people interviewed were aware that that their heating systems were inefficient, which is why their fuel bills were higher than expected. One person described how his gas bills were extremely high even in the summer when he did not use any heating:

"The central heating system was working but it was burning far too much gas, my gas consumption, average bill, even in the summer, the gas consumption, even though I was only doing cooking, was still running at fifty pound a month". (B1)

2. Delivery of service – Home assessment: *"He was really thorough and really approachable"*

This theme describes participants' experience of the home assessment component of the WHCS, which is carried out by an energy assessor[21]. The purpose of the assessment visit was to provide beneficiaries with a holistic home energy and fuel poverty focused home assessment. All of the beneficiaries interviewed were overwhelmingly positive about this stage of the service and their experiences can be summarised into two sub-themes: i) Informative and thorough; and ii) Personable approach.

Informative and thorough

The majority of participants commented on the detailed information provided to them as part of the home assessment visit, including the purpose of the visit, measures that might be available to them, and the next steps in the process:

> "*That was really good, he came round and he looked at all the rooms and looked at all the radiators and assessed what might be available and how it would work if it was available. He explained everything to me that he was doing, and then told me a timeframe that it might happen in and that they would be in touch with me, and they were. So, just all really clear and helpful". (B18)*

It was clear that beneficiaries appreciated such a thorough approach at this early stage of the process:

> *"Most people they come in okay this needs that and they're gone within fifteen, twenty minutes…but he was definitely doing a thorough job, he was taking pictures with his phone [of the work that needed doing] as he went as well, he was explaining everything fully". (B8)*

> *"He checked every room methodically and explained everything to me in detail as to what he was checking and why. He checked my windows, he checked my fireplaces, my chimneys, doors, looking at the system, radiators, pipes, really thorough". (B10)*

People reported feeling comfortable asking the assessor questions and felt these were considered fully:

[21] A qualified energy advisor who investigates the physical aspects of the property and the heating and water systems of the property. They also provide advice on behaviours that will both promote health and wellbeing, including energy efficiency advice.

"He [assessor] said "If you've got any questions while we're walking around, just ask, and if I can answer them, I'll answer them for you"." (B1)

Finally, part of this home assessment included energy efficiency advice and advice on getting help with the cost of heating the home. It is worth noting that not all the people interviewed recalled this information and many of those that did said they were already aware about energy saving tips (such as unplugging devices when not in use, washing at a lower temperature, using energy efficiency lightbulbs). However, those who did comment recalled that the information provided was thorough and well explained, especially relating to advice about energy bills:

"And he could just tell where I needed support and where I didn't, and as far as the bills go I was fine, I was happy I was getting a good deal and that kind of thing. But I think he was making sure that I was aware that I could move around [switch companies] if I wanted to…I remember thinking, that's thorough". (B7)

Personable approach

Whilst it was important to beneficiaries that this assessment was thorough and informative, it was equally as important that they were treated respectfully as some of the beneficiaries reported being sensitive about their situation. For example, one participant noted that the assessor did not ask any questions about her health or her income, which she would have felt uncomfortable talking about:

"*Well the person who came was very courteous and very thoughtful and at that point he didn't ask me any awkward questions about my income or anything. That was very good that they didn't do it at that point". (B9)*

Similarly, another participant described that she had felt anxious about the visit from the assessor because of the shame she experienced around her mental health and her living situation. However, the respectful and sensitive manner of the assessor made the visit "normal", which minimised the anxiety she might have felt in such circumstances:

"*They were extremely sensitive to my situation… they didn't pry into my situation, and there's a lot of shame for me around my mental health. It was a guy that came over, he was very boundaried and structured which really helped me at the time, and he made it seem very normal, the paperwork that he needed from me. It was all normal and I felt the least amount of shame I suppose that I could in the circumstances". (B10)*

Finally, many of the beneficiaries commented on the general personable and friendly character of the energy assessor, which also helped them feel comfortable and at ease during this stage of the process:

> "*He was lovely, he was a very, very comfortable man to be around, very pleasant man. Free with the information…He was just a very, very comfortable man to be around. Informative. He was here for some time, had a cup of tea. And you couldn't have asked for a nicer chap to come round to be honest with you, because he was very comfortable about the whole thing". (B2)*

Part of this assessment visit included the provision of a winter warmth pack, which included a hot water bottle, insulated mug, a blanket, thermal socks, a thermometer, and a box of instant soups. Not everyone commented on receiving this pack but those who did thought it added a personal touch and that it came in very useful:

> *"It [warmth pack] was so lovely, that actually was really brilliant. Yeah that was quite sweet". (B7)*

> *"In fact the [cold] snap that we've had just recently I used the hot water bottle". (B12)*

3. Delivery of service – Installation of new heating system: *"It's all finished beautifully"*

All 23 beneficiaries interviewed were extremely happy with the installation of their new heating system and this section describes their experiences with this part of the process, which includes the following sub-themes: i) Clean and tidy; ii) Personable and professional; iii) Clear information and explanations; and iv) High quality.

Clean and tidy

Some of the beneficiaries discussed that they were concerned about the mess and upheaval associated with having new heating works installed in their home. This was especially a concern for those people who were having a new central heating system installed which requires a lot of extra pipework to be installed. One person mentioned that she had even considered not having the work done because she was so worried about all the mess and disruption. However, all of the beneficiaries interviewed were extremely happy with how clean and tidy the installers left their home:

"They took all the packaging and there was a lot of it, cleared up where they had to drill, and just left it spotless". (B13)

"Absolutely spotless, it was actually cleaner when they left than what it was when they started". (B21)

Personable and professional

Many of the beneficiaries commented on the friendly and professional nature of the installers. One of the beneficiaries even described that the approach of the installer was the best thing about this stage of this process:

"Generally the approach of the guys who came round and did the work, they were helpful, they were professional in their approach, they were professional but without being pompous or removed. They were very approachable. And that was great". (B2)

One person who was visually impaired also described how the installers were particularly considerate, compared to her experiences with other companies *"by making sure not to leave stuff in my way" (B8).* Furthermore, several of the beneficiaries mentioned that they were particularly impressed when they asked the installers to change something (such as the location of pipework) and this was done without any difficulty or fuss. This *"customer focus"* was extremely important to the beneficiaries:

"I mean I suggested where the radiators could go…and he agreed with it, which made life a lot easier because sometimes they get under the window don't they, and places like that. And he said, that's not necessary these days. So in the bedroom I have got it behind the door, which is nearer the bed. And the pipe work it's not so obvious, and he was quite happy to let me suggest this". (B4)

Finally, many people reported that overall disruption was minimal as the installers were efficient and finished their work very quickly, which all contributed to the high levels of satisfaction reported by beneficiaries:

"Very efficient because what they did worked and it worked after one day's installation". (B9)

Clear information and explanations

Nearly all the beneficiaries interviewed described that the installers explained what they were doing,

explained how to operate the new system, and who to contact if there were any problems. As a result, the majority of beneficiaries reported feeling confident about operating the new system. Clear and simple explanations were very important to the people interviewed.

> *"I said, can you please explain it in words of one syllable because I don't understand about the terminology that's used with gas and stuff. And neither does [husband]. So they were very clear". (B2)*

> "*Yeah, and they explained that to me all really well as well, when they installed it, exactly how to work it and they set it at the temperature that I wanted and they set the timer for me, so that it would come on at a certain time. They also recommended what temperature to ideally have it on to be more efficient and all that kind of stuff, so it was really good". (B17)*

High quality

Finally, the majority of beneficiaries were very satisfied with the both the quality of the work and the heating system that was installed:

> *"They took immense care with what they were doing, so it's all finished beautifully, it's just a really high standard of work". (B18)*

However, one visually impaired participant reported that she was unable to use the digital thermostat meaning that she was not able to control the temperature in her home. Therefore it was important to her that systems could be adapted to make them more accessible for people with visual impairments:

> *"I have no control whatsoever over it, if it wasn't for having my husband here then if I wanted it adjusted it would be tough basically". (B8)*

4. Delivery of service – Bottlenecks: *"There were a couple of communication issues"*

Although people were overwhelmingly positive about the delivery of the service at all stages, there were some delays reported at various points. These bottlenecks were primarily around communication between the beneficiary and the service provider. However, it is important to note here that this did not impact on beneficiaries' satisfaction with the service, which was overall very high. Several beneficiaries reported that they were not updated frequently, especially regarding the next stage in the process, and this meant they had to be proactive themselves in finding out what was

happening and when. Some concern was expressed that people who were less confident, not well, or did not have any support, may be left waiting.

> "*I had to be quite assertive…they weren't very good about keeping me up-to-date with what was going to happen next and so I usually had to phone them to find out at pretty well every stage of everything". (B9)*

> *"I remember doing a bit of chasing, and that really was the only thing in the whole scheme of things that I would want them to do better, because I wasn't well enough to do chasing and had I not had a Support Worker in place, which I actually only had for a very limited amount of time, I wouldn't have even been able to do that, and so whether the whole service would have worked as effectively I don't know. So there was something missing at the beginning with the administration of it". (B10)*

One of the people interviewed thought that information was being communicated directly to her landlord rather than through her personally. However this was not the case, which led to some delays in the processing of her application. Another beneficiary discussed that part of the problem was that there was no single point of contact with the service provider, reporting that she often spoke to different people throughout the process. This meant that information was not always communicated effectively and could be inconsistent:

> "*There was no continuity, so I'd speak to one person and then I'd ring up and speak to another person and then I'd email the person and nothing will come back to me and I'd ring again and then get another person's name and just kind of felt a bit lost in the system. I didn't have that one point of contact at that point". (B18)*

In one situation, lack of communication led to a delay in the installation of a new central heating system in one person's home. This person described that their flat was too cold to live in and that they had to go and live with a friend for a few weeks:

> *"Because it was really cold this year, I actually had to go and stay with a friend, because I couldn't get this place warm enough, because it's all double brick walls and so I actually ended up staying with a friend again, because I'd done that in December, which is why I was away in December, and I went away again in February, because it's too cold to stay here*

without central heating. So yeah I was away for I think about three weeks when that cold spell hit us". (B18)

5. Impacts of heating/insulation works - *"It's changed my life, not to have the continual worry of not being warm"*

All beneficiaries interviewed reported positive impacts of having new heating measures installed in their homes. These impacts were broad and included: i) Thermal impacts; ii) Physical health impacts; iii) Psychological wellbeing impacts; iv) Psychosocial impacts; and iv) Financial impacts.

Thermal impacts

As described earlier many of the people interviewed were either living with no heating or inadequate heating. Therefore, as might be expected, the majority of participants reported feeling warmer since their new heating systems had been installed in their home. There was a significant cold spell in the winter of early 2018 and many of the beneficiaries commented that they were very happy to be able to have adequate heating and warmth during this period.

"To be warmer is lovely I have to say, because I can't deal with the cold at all. And neither can my husband as he's got older. And so to have that little extra bite of heat is gorgeous". (B2)

"That cold spell we had with the snow when it got bitterly cold, to have that warmth when I needed it, to be able to put it on and have the, the whole flat was beautifully warm. I think it's the first time it's ever been that warm, it's been marvelous". (B11)

Those people who also had children living at home reported that their children also feel warmer now, which was the most important impact:

"The children are warm, which I suppose is probably the biggest thing". (B5)

It was also common for people to report that they generally felt more comfortable since having their new heating installed. Many people reported that because they were warmer they no longer needed to use strategies to keep warm, such as wearing extra blankets or layers of clothes when they were in the house:

"[a new boiler] has just made life more comfortable for me, all round you know last year I was putting on all sorts to keep myself warm". (B3)

"It's [new storage heater] made it much more comfortable, and when you go out and come in and the warm hits you, instead of the cold, it just makes it quite luxurious, that's what it feels like, luxury". (B20)

"I don't have to like overdress in the house, before I'd have like a jumper on, tee shirt on, pyjamas on top of that, or underneath it, dressing gown, you know, a blanket to sit with, I don't need to do as much as that". (B16)

Several people also reported that the damp in their home had also improved because it was warmer:

"There's definitely an improvement. I think because the flat was a little bit damp before, so now that I've got proper heating in every room, it's getting rid of the damp and that's really helping". (B18)

Finally, not only did people report that they are warmer now but they can also get warm water whenever they want, something which is required throughout the year, not only during cold months.

Physical health impacts

Many of the people interviewed described numerous positive impacts on their physical health, which they directly attributed to having improved heating in their homes. Firstly, there were frequent examples where people reported fewer health problems such as chest infections, pneumonia, and colds, compared to when they had their old heating system:

"The thing is before when I got pneumonia it was around Christmas time in January, but this winter I would say I have not, unlike all my friends who have had colds or had flu or whatever, I have had a flu jab, I have not had the slightest bit of a cold or slightest bit of pneumonia or anything at all, I've kept well all the time touch wood. Touch wood I've had, completely, completely illness free winter". (B9)

"It's made it better in that, like I got chest infections regularly anyway, but my chest infection wasn't as bad this year as it was last year, so it wasn't as bad after the [new] boiler". (B8)

Several of the beneficiaries also reported feeling in less pain now that they were warmer. This was particularly pronounced for those people who suffered from arthritis. The two quotes below illustrate how the cold worsened one person's arthritis and how having a warm home can alleviate arthritic pain:

> *"I suffer from arthritis and when it gets cold that's when the pain comes in my hands. Bad. And my legs. And I used to phone my daughter. She goes, "What's the matter?" Cos I was crying. I goes, "I can't cope with this. It's so bloody cold. It's making all my legs really, really hurt." (B22)*

> *"Yeah because I have got very bad arthritis everywhere, and if I am warm I am not in so much pain. So it's helped everyway, yeah". (B3)*

Another person, who suffers from a range of health problems, describes how being warmer has reduced the pain and suffering she experiences when cold. She goes on to say later in the interview that she has taken fewer painkillers than she did last year:

> "*One of my biggest problems is temperature control, my internal thermostat just doesn't work, so if I get cold, it's really hard for me to warm up and if I get cold it increases my pain levels. So the fact that I've been able to stay warm this last winter, has probably, overall, reduced my level of suffering, because I haven't been freezing cold and therefore in more pain". (B17)*

Another woman described that she is also going to the doctors less frequently because she is in less pain:

> *"I broke my leg last year, in two places, so I've got metal pins in my leg, and when it was cold, it was the year before, I always thought it was an old wives tale, that when it's cold, it affects your bones, but of course having metal pins, it really did affect the pain, so I was sort of going up and down to my doctor". (B13)*

Several of the people interviewed also described that being warmer in their home has meant they can now move around more, which has the positive effect of reducing their pain:

"Yeah because my muscles hurt sometimes, really, really bad they hurt and if the heating's on, and they're playing up, I can walk a bit". (B16)

Two people also reported that their children's health is better. Specifically, the woman below describes that she can now bathe her daughter regularly, due to having hot water and being warmer when she comes out of the bath, which has had a positive impact on her young daughter's eczema:

"The other aspect is that my daughter, she's got eczema, and so I like her to have a bath at least every other day so that I can apply her cream that she gets from the doctor and it was just such a pain to be honest with the old boiler, to be able to, because it's cooled down so quickly but I couldn't then top it up with hot water, because it would come out cold for the first five minutes, that sort of thing. So now she's having more regular baths and her eczema's a lot better, because I'm able to keep on top of her treatment". (B17)

Finally, one person discussed that having no hot water was impacting her personal hygiene. Although this was only mentioned by one person this impact of having no hot water and heating is significant because of the associated negative physical (and social impacts):

"So it's helped me with hygiene and things, because obviously, I wasn't comfortable having a shower before, because it switched off and I'm suddenly freezing cold with shampoo in my hair or whatever, well I just didn't do that anymore, and so I was not, I was having a bath maybe once a week or ten days or so and probably not washing my hair and things…I'm actually a lot more hygienic". (B17)

Psychological wellbeing impacts

Many of the interviewees also reported that having the new heating measures had a positive impact on their mental wellbeing and this was put down to a range of different factors. For example, many participants reported anxiety about their old boiler breaking permanently, not being able to afford to fix it, and therefore being left without heating and being cold. Having a new boiler helped alleviate a lot of this worry and anxiety:

"Well I know last winter I thought, I can't go through another winter like this. But I just didn't know whether I would get … I knew I couldn't afford it to have it done". (B4)

"It's stress and strain off me because I am confident that it's new and it's going to work". (B3)

"Confidence, I was really confident that it would see me through. And I have had no problems over the winter….just confidence and peace of mind that this is a good one now". (B7)

Another woman who was living in a rented property described the worry of having to look for somewhere else to live with her young daughter because of having no heating or hot water, something that she no longer has to think about:

"Although I think my landlord would have dealt with it, I don't think he would have immediately dealt with it and I would have had to have found somewhere to go, because I couldn't have stayed there, if there was no heating or hot water, and I don't worry about that now, so that's less stressful…It was always the question, can I even stay here? Do I need to actually find somewhere else to live, because this is really becoming a problem…I don't have to worry about that now. So it's had a direct impact on my mental stress levels as well, it's really reduced that level of that particular kind of anxiety". (B17)

People's sense of wellbeing also increased in numerous ways with one person describing *"it's made life a lot happier*" *(B21)*. Some people described that living in a cold home can make them feel *"ashamed",* and one man described having no heating as *"psychologically degrading" (B6).* The quote below illustrates how having a warm home has improved one woman's sense of pride and self-worth:

"My dignity as well and my pride and my self-worth, because you feel like, almost like a homeless person if you're in a cold house and you can't feed yourself properly. There's a lot of shame involved in that". (B10)

Several people who reported suffering from depression said that having a working heating system and being warm helped them with their depression:

"Just wonderful knowing that they were coming and then when it was installed, just the peace of mind, feeling faith with your boiler, it's anyone's biggest fear that the boiler's going to go and it was just a wonderful feeling, I suffer from depression and that really lifted my spirits. I know it sounds daft, it used to be diamonds and pearls but now it's my boiler". (B13)

"The depression is, it's much improved, just knowing that you haven't got to go through the winter, thinking am I going to be able to afford this, will I have the money to do this? And being much more comfortable, without putting loads of blankets on you and feeling like a normal person does". (B20)

Many of the people living in fuel poverty have complex and chaotic lives where having no heating is just one part of several challenges such as physical health conditions, poor mental health, and not being able to afford food. Making people warmer is one way to relieve the stress and this is reflected in the quote below:

"it's just made my life so much easier, because when you're very, very vulnerable, depressed, and dealing with whatever health conditions you're dealing with and you're cold and you're hungry, that pushes you right to edge. So to be able to be warm, even if sometimes I was hungry this winter, it just made such a difference honestly I can't tell you". (B10)

Therefore, not surprisingly, several people described that the mental health impacts of having a warm home were the most significant to them:

"The mental side of the health side, because mentally it destroys you, if you've not got the proper things you need, but the mental affect it had took up like, I know it's warm enough to turn the tap on and it's hot, but it's like a big relief, instead of sitting there saying "oh I've got to go downstairs, boil the kettle, ten times, to put in the sink, up and down the stairs and don't want to get out of bed because you're shivering, because it's cold", so I think the mental side of it." (B16)

Finally, one impact of having a new heating system, which influenced people's wellbeing was an increased sense of control. In particular, some people discussed feeling like they now had some control over their environment and that they could adjust their heating depending on how they felt due to the installation of a thermostat. This was especially important for people who previously had storage heaters, which did not allow you to adjust the temperature:

"Since I've had the new boiler, I am in control of the temperature…I've got it exactly how I need it to be". (B17)

Psychosocial impacts

Some of the people interviewed also commented on the broader benefits of having heating works installed in their home. Firstly, some of the beneficiaries reported that the new installation opened up rooms that were previously unheated, therefore increasing the amount of space they could use in their home. For example, one woman described that before she had a new boiler installed she and her daughter would just stay in the living room but now the whole flat is warm they can move around more:

> *"I'm more mobile within the flat. Yeah so instead of us all huddling on the sofa with a duvet, I'm pottering around doing stuff". (B17)*

Similarly, another woman described how she is now able to "live" in her flat and is no longer confined to a single room because her whole flat is warm. These impacts are best reflected in the quote below where a woman describes that her *"house became a home":*

> *"I was cold, I had to have one room heated, and so I would have to put myself in one room, keep the door closed, and just heat one room. This winter…I have been able to come in and out of rooms and have all the rooms warm... So I've been able to move around my flat, I've been able to live in it". (B10)*

Another significant impact described by one of the women interviewed is that she feels that she can now invite friends round. This is because not only is her flat warmer and people will be more comfortable but because before she felt ashamed about her situation and felt too embarrassed to have people around. As such she now feels less lonely:

> *"I didn't really have people over because of the shame of the situation, so it's very valuable that you, because yeah no I've had people over and I've been able to have, which has provided me with support and seeing people that I wouldn't have had the winter before, well I didn't have the winter before, people have been able to come over and sit and talk". (B10)*

Interestingly several beneficiaries described that having heating that worked gave them more freedom to decide whether to stay in or go out. For example, one person reported that because they knew their home was warm they were more likely to stay in rather than go out to find somewhere to get warm. On the other hand, several people described they feel they can now go out knowing they

will come back to a warm home. Essentially, what is important is that people feel they have some choice over what to do, rather than being determined by the temperature of their home.

> *"When I go out and I know I can come in at any time and get the flat warm, it's much better". (B18)*

Financial impacts

Many of the beneficiaries reported a reduction in their energy bills since having their new heating system installed. However, it should also be noted that for some participants it was too early to tell whether there would be an impact on their bills because they had yet to experience a full winter with their new heating.

> *"I reckon my gas consumption payment saving on just that period over the last twelve months, I would say I've saved about twenty-five per cent". (B1)*

> *"Big improvement. I'm actually in credit. That's a first … I pay a sum monthly for gas and electric combined and I stuck to the same amount that I had been paying before which was actually, it's actually seventy pounds a month". (B11)*

This reduction in energy bills was primarily attributed to a more efficient heating system, which did not need to be on for as long in order to adequately heat up the home:

> *"We were spending a fortune to keep it so that it wasn't freezing in here but because it warms it up properly now with like a little bit of use we have got a reduction in the heating bill because it doesn't have to be on absolutely constantly". (B8)*

People reported that this reduction in their energy bills relieved overall financial pressure, which is especially significant for people who are already living on an extremely limited income:

> *"Yeah because I'm mainly on Incapacity Benefits, so I don't get a lot of money as you can imagine, and I have to sort of break it down into bills and things like that, so it has made it a heck of a lot easier". (B21)*

"My bills have been less. I can't even afford to feed myself at the moment, I'm taking food vouchers, but as a result of the work that they've done to me, it's ongoing supported me, because all my bills have been so much lower". (B11)

However, it is also important to highlight that two people reported an increase in their bills. One person noted that their bills were higher since the installation of the new boiler and this was thought to be due to keeping the heating on for longer than they used to with their old boiler:

"This time of year we're keeping the heating on longer. And before we had the new boiler I was inclined to turn the heating off for economy. And now I turn it down when it's warmed up and I forget about it. So obviously it's on longer". (B2)

Finally, another beneficiary noted that some of their benefit entitlements had been reduced since the new boiler was installed, and consequently they cannot afford to heat their home as much as they would like, thus highlighting again the complex lives of many of the interviewees.

6. Overall satisfaction – *"I thought it was a miracle"*

This section describes people's overall satisfaction with the WHCS and the work they had completed as part of the Healthy Homes programme. Overall, the interviews showed that beneficiaries were very satisfied with their experience of the WHCS. One participant described the whole process as *"first class" (B1).* Participants were extremely positive about the process from accessing help and advice to having the work done and beyond. Nearly all of those interviewed commented on how quick the process had taken from when they first heard about the service to when the work was completed in their home.

"After having this meeting at the church hall about energy saving and trying to get your bills down, to it all being done, I was surprised how quick it was done. I would say from start to finish, I'd say it would be about six weeks, from start to finish". (B1)

People were also extremely grateful that they were able to benefit from the scheme, with some people describing it as a *"miracle".* People were not only grateful because the scheme was free, but also because of the positive impact the programme had on their lives. People thought schemes like the Healthy Homes programme were extremely valuable. One of the beneficiaries also said that it was important that schemes like this are open to people who privately rent rather than to just those who own their home:

"Projects like this are priceless for a million reasons that I'm probably not able to articulate right now". (B10)

"I think it's very important that properties are brought up to a certain standard, because people need to keep warm. And just because you're not buying somewhere, you don't own a property, doesn't mean that you shouldn't be warm in it". (B2)

Some of the people interviewed provided suggestions regarding how the service could be improved. One person suggested that an annual follow-up to see the impact of their new heating system on their bills would be helpful. Another beneficiary thought more information at the early stages would have been helpful to help her manage her expectations for what she was eligible to have:

"I didn't want to get my hopes up so I just wasn't sure what was happening, or things were definitely going to happen, so I guess a bit more information might have been helpful, because I didn't want to get my hopes up and think "oh I'm going to get the system put in" and then be let down". (B18)

Two people thought the scheme should be more widely advertised. Specifically, they were concerned people who might be eligible would miss out, either because they do not have access to the Internet or because they do not have a support worker to inform them about the scheme:

"I don't think that other people who weren't so handy on the internet, handy on Googling who might actually need more than me, because I've been lucky in life on the whole, so I think that you might find that there are lots of people who are not aware of this service because it's, basically it's not advertised". (B9)

"I suppose the only other feedback would be ways to make it more widely available to people, because had I not had a Support Worker, which I very nearly didn't get, because all these services they're so few and far between, you have to be kind of dead and homeless, before you can access any of these services. To make it maybe a little bit more widely available through perhaps doctors' surgeries". (B10)

Finally, it is worth highlighting that eight of the people interviewed indicated there was still more work to be done in their home to improve the heating, such as draught proofing, improving ventilation and replacing radiators, which was not able to be completed from the funding available:

> *"So ideally it would have been nice to have all the radiators replaced, because they are old radiators, and there is not enough radiators for this house". (B7)*

> *"It needed a lot of draught proofing in places, especially round some of the windows, and that was one of his recommendations, but they weren't able to do that". (B11)*

4.2 Summary of interviews with beneficiaries

All beneficiaries interviewed reported high levels of satisfaction with the WHCS and the works completed in their home. A small number of people reported that communication was sometimes slow between the provider and the beneficiary, which in some cases led to a delay in work being completed. All of the people reported that they were warmer since the work had been completed and clear examples were provided of the positive impacts on physical health and wellbeing, and also on broader areas such as reduced social isolation, increased use of living space, and more control over their lives. Many of the beneficiaries also reported that they had seen a reduction in their energy bills since having a new heating system. However, two people reported that their bills had increased.

4.3 Interviews with stakeholders

Interviews with a sample of 12 key stakeholders were carried out to gather information on the delivery of the H&R CCG Healthy Homes programme, its benefits and challenges, and the impacts on health and wellbeing of beneficiaries. The role of some stakeholders in the scheme were relatively niche and therefore to help protect anonymity, stakeholders contributing to the research have been grouped, and are identified according to their overarching group. Table 6 outlines these groups.

Table 6. Stakeholders interviewed as part of the evaluation

Stakeholder Group	Description	Number of interviews
Scheme management stakeholder	Commissioners of programme	1
Key partner stakeholders	Management team and key delivery partners	5
Referral network stakeholder	Third partner organisations working to generate referrals	4
Service provider	Service provider key staff	2

The section below describes some of the key findings from these interviews under the following five themes: 1) Key successes and challenges of the scheme; 2) Delivery of the service; 3) Referral process; 4) Targeting of the Healthy Homes programme; and 5) Impact and legacy of the Healthy Homes programme.

1. Key successes and challenges of the scheme – *"We've delivered on target, slightly under budget"*

This theme describes the successes and challenges of the scheme as viewed by the stakeholders interviewed. A clear success of the programme is that the key objective of installing a major heating measure in 149 homes was met within budget and on time[22]. This was recognised by many of the stakeholders interviewed:

> *"We managed to do 149 [homes], so over target and significantly under budget as well". (SH7)*

> *"I think overall the delivery and management has been successful in achieving the activity targets it's trying to achieve, so on target in terms of numbers through the door and installations achieved". (SH8)*

A further strength of the programme was its success at partnership working. It was recognised by many of the stakeholders that the scheme had integrated within existing services provided by statutory and voluntary sectors, which was essential in order for the scheme to be successful. It was clear that as a result of this successful partnership working, stronger relationships were beginning to develop between different organisations and sectors, and this provided hope that more long-term changes were possible as discussed by one of the referral partners below.

[22] Target was installation of major heating/insulation measures in 148 homes.

"It's a grouping of people who are not sitting in silos, and so therefore you have that hope of legacy, because something structural seems to be happening". (SH5).

"I think the main achievements are that we always said that we would want to deliver this at the greatest scale that we could, but in partnership and building on the existing relationships that exist between statutory and voluntary and community sector organisations, so it is added value, it is aligned, it is enhanced support for vulnerable people in our most deprived communities". (SH12)

"You know you have some of us in the charity sectors, some of us in the local authority sector we have kind of linked arms and we are trying to move forward. And that's a really powerful feeling". (SH5)

Three of the stakeholders interviewed also discussed that a broader success of the programme was the focus on the wider social determinants of health and how these can impact on fuel poverty. Two of the stakeholders mentioned that H&R CCG were very *"forward thinking"* in focusing on a programme looking at prevention and impact regarding fuel poverty.

There were several challenges associated with the scheme and these were primarily around issues to do with wider funding of measures and the tension arising from working with private landlords. Many stakeholders discussed several challenges around ongoing funding sources for the installation of major measures, beyond what had been made available through the Healthy Homes programme. In particular the "stop-start" nature of funding was difficult to manage, especially for referrers who were not always clear if there was money available. However, it was recognised that this was characteristic of fuel poverty funding in general:

"*We need to be clear from the beginning about what funding is available when … I think that was the problem, we didn't quite know when it was going to come on stream, if there was going to be any additional money. But that's not necessarily just this project, that's fuel poverty funding in general. It's stop-start and it's very difficult to actually manage a service like that". (SH10)*

Several stakeholders also mentioned the difficulty managing the scheme towards the end of the funding stream, which also coincided with the busiest time of the year. They reported they had to be

cautious how many surveys they could carry out and what installs they could afford. This was important to manage customer expectations.

> *"There is an anxiety as you're coming up to the end of the funding stream, as to you don't want to be introducing people to the idea that they may be getting a heating system, until you know that there's enough money in the bank to do theirs. So as we come up to the end of that funding stream, everybody kind of pulls back a little bit". (SH1)*

As might be expected a challenge raised more generally was that there was not enough money to meet demand for the scheme:

> *"There's greater need than there is provision, and that's heart-breaking". (SH1)*

> *"So I can't say there's a downside to the scheme other than there's probably not enough money to do what needs to be done, but that's just the way of the world". (SH6)*

The biggest challenge which was identified by most of the stakeholders was the issue around landlords and private rented sector individuals who were eligible for the programme. This raised two main concerns for the stakeholders. Firstly, there was a concern that installation of new heating measures could impact on the security of the tenancy. In particular, there was concern that improvements in the property could lead to tenants being evicted under a Section 21 notice[23] so the landlord can charge a higher rent. Three stakeholders reported instances they had heard of where someone had been evicted shortly after having a heating measure installed in their home, however they were unable to say with certainty that this was due to the property improvements. Furthermore, several stakeholders noted that concern over being issued a Section 21 notice might make tenants less likely to apply for the scheme because of fear of being evicted and having to find another place to live:

> *"People are very concerned as to what the impact will be with their landlord because in this area it's so difficult to find good landlords, reasonable properties and because there's so many people on universal credit and benefits, if their landlord kicks them out then they are absolutely screwed, they will not get another flat here. So a lot of them don't want to". (SH3)*

[23] In England and Wales, a Section 21 notice is the notice which a landlord must give to their tenant to begin the process to take possession of a property let on an assured shorthold tenancy without providing a reason for wishing to take possession.

"There is a little bit of anxiety sometimes from the residents, "well does that mean my rent's going to go up, am I going to get kicked out now because it's got gas central heating and it's an easier property to rent", things like that and what assurances do I have that these things aren't going to happen?" (SH6)

When the WHCS was first alerted to this issue the project group established a review process to identify any immediately affected households. The service liaised closely with the local housing authority (Hastings Borough Council), the commissioner of the service (ESCC), local housing support services and H&R CCG to identify appropriate steps to reduce the likelihood of a tenancy becoming insecure following an installation. Legal advice was sought in order to inform the required action and confirm the limitations of powers available under current legislation to protect a tenancy in these circumstances. Clear additional information was then produced for both WHCS clients and landlords to outline their respective rights and responsibilities. Clients are informed that the installation will not change any of the terms of their tenancy agreement i.e. both they and the landlord will have the same rights and responsibilities regarding renewal of a tenancy agreement and implementation of any rent increase. Although the installation does not guarantee that a tenant will be able to stay in the property beyond the end of the current tenancy agreement, the WHCS and local authority strongly encourages landlords to maintain and renew tenancy agreements where grant funded works have been provided. Provision of this information was integrated as part of service delivery with the aim of providing an informed choice for clients regarding the benefits as well as the possible impacts of the installation. Where clients have agreed that an installation should proceed, landlords are informed that the installation is to be funded as a result of the tenant being at risk of fuel poverty, for which the local authority may have considered any required action. Landlords are also informed that the Energy Efficiency (Private Rented Property) Regulations 2015 establish a minimum level of energy efficiency for privately rented property which must be reached before granting a new tenancy to new or existing tenants. In addition, the WHCS is delivered in the context of Hastings Borough Council's Selective Licensing scheme which aims to improve conditions, management standards and tenancy practices in the private rented sector.

However, it was recognised amongst stakeholders that even with these processes in place dealing with this issue is almost impossible without a change in housing legislation as any agreement is not legally binding. For example, the information provided the WHCS was described as *"toothless"* by one stakeholder as they had no way of forcing landlords to abide by these. One of the stakeholders also thought that landlords should have to pay back the grant funding if they evict a tenant and put the rent up after having the installation.

Secondly, there was a concern amongst some of the stakeholders that landlords could be *"taking advantage of the system in order to get installations" (SH8).* This was an important consideration for two of the stakeholders, in that what they suggested the scheme is doing is improving the conditions of the property and the housing stock, which does not always mean an improvement in the life of the tenant:

> *"We shouldn't pretend that we are always improving the life and the living conditions of that vulnerable person, what we do is we improve the conditions of the property and that is the fundamental difference really". (SH11)*

Indeed, there was a view that the scheme should not be open to private landlords as landlords should be paying for the installations as they have a legal responsibility to provide a source of heating, rather than relying on grant funding to install it for little or no cost. However, overall there was an understanding that despite landlords benefitting from a free new heating system, the tenants would be benefitting from a warmer home.

> *"The argument is of course but it's not them [landlords] that's living there, it's the tenants that are living in fuel poverty". (SH10)*

Finally, one specific challenge noted by the service provider was the difficulty in communicating with and gaining permission from freeholders in properties where one of the flats required significant work, which was especially challenging with larger properties that had many different freeholders. For example, one person was eligible for a new central heating system but this required a gas connection to the flat. These ongoing negotiations between landlords, freeholders, and the service provider could often lead to a significant delay in the installation:

> *"Getting gas connected to her property was extremely difficult, there was a three month period of negotiation between us, the landlord and the freeholder to get it agreed. It was one of these situations where there were five freeholders and two of them were refusing to give consent for gas to be connected to her flat even though other flats in the property had gas. We were able to persuade one of them, but the final one held out and just kept on refusing to sign the necessary paperwork". (SH7)*

2. Delivery of the service – *"A pretty tightly tuned machine"*

The overall view of the stakeholders was that the WHCS and the H&R Healthy Homes programme was run to a high standard, including management, communication, and delivery of installs. As might be expected at the beginning of any programme there were some issues, however these were resolved quickly. It was recognised by many stakeholders that the successful delivery of the Healthy Homes programme was largely due its integration within an already established service with existing partnerships and referral networks (i.e. the WHCS). It was also commented by the stakeholders that beneficiaries of the programme were happy with the delivery of the service.

> *"Over the course of time, we've knocked off all the rough edges and now it's smooth, it's a pretty tightly tuned machine now, and the little niggles and bobbles that we're picking up on, really in the grand scheme of things, they're barely a blip, but we're just keeping on top of it and it works". (SH1)*

> *"The install is done within six weeks of the initial referral. I mean really that's pretty good, but it's not as a standalone, because if the CCG was the standalone, then it wouldn't have all of the rest of the service around it to find those referrals to do the support, to arrange the installation, to do the everything else. We've had with other funding programmes fantastic success and astounding success because it's not been set up overnight as a standalone, it's not had to start from cold, start from scratch, building all of its referral networks, building all of its stakeholders, because there is a perfect machine, delivery machine, sat there waiting". (SH1)*

A couple of stakeholders noted that one of the main bottlenecks in the service was between the assessment visit and the installation. For example, one of the stakeholders noted, *"some clients that are left in a little bit of limbo, are not quite sure what happens after that first assessment" (SH4).* Several of the referral partners also commented that the service should be more widely advertised as most of their clients had not heard about it.

3. Referral process – *"The basic referral process is so easy"*

This section describes stakeholders' views of the referral process into the scheme. Overall the stakeholders thought the referral process worked well and as discussed in an earlier section enough referrals were made for the programme to meet the delivery targets. The referral process itself was viewed as straightforward by the majority of the stakeholders interviewed:

"It couldn't be easier, couldn't be simpler. Free phone telephone number, email straight in, there's an online portal". (SH1)

It was clear from the interviews that a lot of work had been done around ensuring that the referral process was as streamlined and as effective as possible. In particular, monthly meetings with key partner stakeholders, key referral partners, and the service provider were organised early on in the service to improve communication. These meetings provided an open forum for people to discuss referral rates, problems with particular clients, available funding streams, and any other issues that arose. These meetings were also viewed as a particularly important part of the process because the scheme deals with very vulnerable people who have multiple needs, therefore maintaining communication with support services was seen as crucial:

"So being able to coordinate that and just behave in a respectful way to the other organisations and services as well, work together…so it's not just pinging in a referral has to be easy, but you also have to be able to maintain that communication if you want to do a really good job". (SH1)

A particular strength of the referral process is that regular referral partners had a named person they dealt with at the service provider's office who was responsible for dealing with that person's referrals. This meant they were aware of their client's situation and needs, without the referrer having to explain them to a different person every time. It was also recognised by many of the stakeholders that the best referral partners are those that provide a home-based support service to clients and those that provide benefits and debt advice because they are able to identify those most in need and refer them into the WHCS:

"The services that go into people's homes, so they see the conditions people are living in so they are well placed to have a conversation about anything to do with severe poverty, anything to do with keeping warm, and anything to do with improving the home". (SH11)

"The other services that I think are perfect referral partners, are those who deal with benefits advice and debt, because they are in the perfect opportunity, although they can't see inside someone's home, they can see inside someone's finances, and they can see people that get into energy debt, or even worse, that they have no energy bills, or their energy bills are irrationally low. In which case you know someone who's self-disconnecting". (SH1)

There was also significant discussion that there were some services which were not referring into the scheme as much as would have been expected. In particular, referrals from general practice and providers of social care were low overall. This was a source of frustration for the stakeholders as healthcare professionals see the most vulnerable: *"the sickest quickest and the poorest soonest" (SH1).* However, at the same time it was recognised that GPs do not have the resources to be providing information in already time limited appointments. Working with general practice to generate support and advice about keeping warm and well in winter was identified as an important partnership to develop:

> *"I see that happening through a number of different approaches including information and communication campaigns targeted at general practice, information coms campaigns targeted at communities particularly our most fuel poor communities, CPD, training for frontline clinicians, practice managers, administrators within general practice, other health and social care professionals. I think we need to continue to integrate any work around reducing fuel poverty within other approaches to raise awareness of the benefits of improving health through the wider determinates of health". (SH12)*

Several stakeholders had some comments about how the referral process could be improved. For example, one of the referral partners mentioned that once they refer a client into the service they do not receive feedback on the progress of the referral and what their client has or has not received in terms of heating:

> *"Once we've filled in that form that's the last I hear of it…we should get the feedback from this because these are vulnerable people, they will be coming into [name of service] on a regular basis and I might see them initially and that and then they'll come back in for something else another time. So we don't know whether they've had anything done, whether they're still waiting, so what each individual has actually had done would be really important for us to know". (SH3)*

Finally, a couple of stakeholders suggested that the service needs to engage more with community organisations and centres *"who work with people in poverty"* in order to access the most vulnerable people. This was viewed as particularly important as often the most vulnerable people do not engage with mainstream services. One of the stakeholders discussed that a local charity, which works with some of the most disadvantaged people in the community, had little interaction with the WHCS:

"So in a case like that where you've got the most needy people in the town there was not much interaction then with the Winter Home Check Service". (SH2)

4. Targeting of the Healthy Homes programme – *"It seems to be targeting very fuel poor homes"*

This section describes the views of stakeholders on whether the scheme reached the groups it aimed to target. The majority of stakeholders thought that the programme was successful in reaching the groups it aimed to target, primarily because it focused on six priority wards in Hastings and Rother, which are the most vulnerable to fuel poverty.[24] Some of the stakeholders discussed the appropriateness of the eligibility criteria. There was a general consensus that these were broad enough to ensure that the people who most needed help met the criteria. However, one of the stakeholders also commented that the criteria were overly complex and if the programme was to be integrated into healthcare services then they need to be simplified to avoid confusion. One stakeholder also thought that the key eligibility criteria should be focused on health where you prioritise those who are most vulnerable rather than postcode:

"In order to make the health a priority, then that must be the primary criteria, and the postcode and the circumstance, the secondary criteria. If your primary function is to prevent excess winter deaths, improve health, reduce the impacts of living in a cold home, if that is your primary objective, then you must make that the primary criteria in my opinion". (SH1)

Finally, many stakeholders discussed "hard to reach groups" who may not access the programme and might be particularly vulnerable to fuel poverty. For example migrant groups, homes with very young children, and single parents. Furthermore, it was recognised that it is not one particular group of people who may be missing out. Rather it is those with chaotic lifestyles and complex issues that have the highest needs but yet do not engage with services and *"go missing"*. Also, some of the stakeholders discussed that shame and pride might prevent people from accessing the service. Therefore there is a concern that those who are most in need and most vulnerable, may not access the service.

"If they're [young families] in a situation where they can't afford to heat, or they have no heating, they want to keep quiet about it, because they don't want anyone to know that

[24] As noted in the previous section a small number of major measures were installed in non-priority wards when in exceptional circumstances households met the criteria for the programme.

they're not able to look after their children to the standard that they would want to…so there's all sorts of shame and worry". (SH1)

There was also some discussion by a couple of stakeholders that the CCG programme should have been available to people living in social housing. It was viewed that some of the most vulnerable people live in social housing and it is erroneous to think that these homes are well maintained. For example, one of the stakeholders noted that social housing properties can also suffer from damp, mould, and condensation:

"So I think to assume that fuel poverty is solved in social housing by the social housing provider in this area is not true". (SH2)

"*Obviously there's not much you can do with the housing associations but we should still be able to do something, at least there should be the capacity for people to have a winter home check and then be able to go back to the housing association and say well look you need to do something about this because this is a health issue here for this person". (SH3).*

5. Impact and legacy of the Healthy Homes programme – *"It's a life changing one"*

This section discusses stakeholders' views on the overall impact of the scheme and whether it achieved its objectives of improving health and wellbeing of beneficiaries. The majority of stakeholders were positive about the impact of the Healthy Homes programme on scheme beneficiaries. One of the stakeholders described the experience for beneficiaries as *"life-changing"*:

"So I think the impact for the people who've received the service, it's a life changing one. If you're living in, minus three outside with no central heating and you can turn your heating on, that is a life changing moment". (SH1)

Two of the stakeholders interviewed were clear that some of the scheme beneficiaries may not be alive today if they had not had the heating measures installed as part of the programme:

"The vulnerable have got heating and if they hadn't…I don't mean to overdramatise, but it could well have been the death of them". (SH1)

"I have absolutely no doubt that there are people who've benefitted from the scheme that are alive because they benefitted from the scheme…When you think about those two desperately cold spells we had in the winter just gone, there was some extremely vulnerable people that prior to those cold spells had their new boiler or their new heating system installed and some of those people that had no source of heating at all prior to the insulation, for somebody to be elderly or especially somebody who had cardiac problems or respiratory disease, to go through those winters without having heating in their house would have been terrible…if there's one person who is alive today because they had a new heating system installed then that's all the achievement that I think we need". (SH7)

Nearly all the stakeholders commented that they thought the scheme had a positive impact on the physical and mental health of the beneficiaries:

"It's made them potentially less liable for illnesses and probably saved the NHS a few quid somewhere along the line and the ambulance services or GPs". (SH3)

"It has brought a lot of relief, pleasure and less stress to certain people's lives". (SH6)

The broader impacts of the scheme on beneficiaries were also discussed such as reducing social isolation, people becoming more independent and an increased use of the home. This is summarised in the quote below, which describes the impacts the scheme had on a man who had a new boiler installed:

"We had one customer who was pretty much house bound because he was so cold and he couldn't move around and getting really depressed and feedback from him suggested that it [new heating] made him really happy, that he was now mobile, that he was going out and seeing friends, he was inviting friends and family to his house, he's comfortable. I don't think you can put a price on something like that to have somebody who was effectively restricted to living in one room of their house and didn't see anybody and didn't want to go out and didn't want to see anyone to suddenly having a social life again and be able to move, being able to go out and being able to do stuff in the house, being more independent...so that's a really wonderful thing". (SH7)

Stakeholders also commented on the reduced fuel costs for beneficiaries who have had a new heating system installed:

"The difference of having an old electric storage heating system and then all of a sudden they've got a full gas central heating system installed at about a third of their running costs". (SH6)

"A lot of people have found that they've saved money because by replacing a thirty year old boiler with a really brand new efficient one they can have their thermostat set lower so it doesn't cost them so much in fuel". (SH7)

However, two of the stakeholders commented that the installation of new heating measures does not necessarily mean that bills will become more affordable, with some *"people suddenly find they're spending a lot more" (SH2).* This was attributed to the *"rebound effect"* where people, after an energy efficiency upgrade, elect to raise their room temperatures rather than spending less on energy. Some stakeholders also questioned the longer-term impact of the scheme for the most vulnerable. In particular those who simply cannot afford to run the new heating system and also those who may be evicted at a later date by their landlord:

"They can put the fanciest boiler in and the nicest central heating system in and they can put in the fanciest windows, if the person can't afford the money to put in the meter in the first place you have to sort of predict the saying, was it really worthwhile". (SH3)

Finally, as well as having an impact on the health and wellbeing of beneficiaries several stakeholders also commented that the housing stock, in particular privately rented properties, has been improved as a result of the scheme. However, as discussed earlier in this section this was a tension that existed for many of the stakeholders involved in the project, in that what is going to improve the housing stock is not necessarily going to improve the life of the tenant. The quote below highlights how one woman was caught up in cycle of improvement works and subsequent eviction:

"We had somebody who was really referred to us once she moved into a new property, so she received funding under the first round of CCG funding, she's now receiving funding in a different property from the next round of funding because she had to move into another property that's in a really poor condition and without heating because she couldn't afford anything else. So the outcome for her is really poor". (SH7)

4.4 Summary of interviews with stakeholders

A clear success of the Healthy Homes programme was that it met its key objective of installing major heating in 149 homes, within budget and on time. A particular strength of the programme included the development of strong partnerships within the statutory and voluntary sector, which was essential for the scheme to be successful. It was also widely recognised that successful delivery of the programme was due its integration within the already established WHCS. Most of the stakeholders thought the scheme had positive impacts on the health and wellbeing of scheme beneficiaries. However, one tension that existed for many of the stakeholders involved in the project is that improving the housing stock does not always improve the life of the tenant. The biggest challenge in delivering the scheme was concern that installation of new heating measures could impact on home security of people living in private rented accommodation. There was a general consensus that the eligibility criteria were broad enough to ensure that the people who most needed help met the criteria. However, many stakeholders recognised there were “hard to reach” groups who may not access the programme such as those with very young children and migrant groups.

Section Five - Discussion and recommendations

This evaluation of the Healthy Homes programme draws on a range of different data. These include monitoring data collected by the service provider, a wellbeing survey of scheme beneficiaries pre- and post-installation, telephone and face-to-face interviews with key stakeholders, and telephone and face-to-face interviews with a sample of scheme beneficiaries. Data were analysed using standard statistical analysis and qualitative analysis. Detail of the findings from the various components of the evaluation is presented in the previous sections. The purpose of this final section is to address whether the key evaluation outcomes have been met, as well as a discussion of the strengths and limitations of the evaluation. The section will conclude with recommendations for future evaluations and programmes, and a short discussion of avenues for future research.

5.1 Evaluation outcomes

This section will discuss the findings in relation to the three evaluation outcomes mentioned in Section 1.6.

1. To have a clear understanding of the impact of the fuel poverty reduction interventions/services on the health and wellbeing of individuals and families

There is evidence to support that beneficiaries experience improved health and wellbeing following installation of major heating/insulation measures. Analysis of the WEMWBS indicated that on average people experienced higher wellbeing post-installation compared to pre-installation. It is worth highlighting that levels of wellbeing amongst scheme beneficiaries were generally very low compared to national and local norms, both before and after the intervention. People also rated their health as significantly better following the installation of the work. There was an indication that those who had both minor and major installations reported a larger increase in both health and wellbeing scores compared to those who just had a major measure, suggesting that a combination of both a minor and major measure has a greater impact on health and wellbeing. These findings were corroborated in the qualitative interviews with beneficiaries, which showed clear examples of the positive impacts on physical health and wellbeing. For example, people reported fewer chest infections, reduced pain, and that their children's health was better since having improved heating in their home. Some of the key stakeholders also thought that bringing heating into people's homes saved lives during the winter of early 2018. Data also demonstrated that there were clear impacts on recipients' mental health and wellbeing, and for many these were felt to be the most significant impacts. People spoke about being more relaxed, feeling less anxious, and generally happier. Interviews also highlighted broader areas of

impact such as reducing social isolation, people using their homes more, and people reporting more control over their lives.

2. To be provided with evidence that shows how the programme is effectively improving health and wellbeing (or not);

Survey data and interviews with beneficiaries showed that people reported improved health and wellbeing and the interviews were able to provide insights into the possible mechanisms for these changes. Improvements in wellbeing were generally attributed to being less worried about the boiler breaking down or the heating not working. There is also evidence that other impacts of having a warm home may influence wellbeing. For example, an expansion of the domestic space used during cold months, less worry about energy bills, improved social interaction and reduced social isolation, feeling less stigma about one's home, an increase in comfort in the home, and having an increased sense of control over the situation. Therefore, the findings from this evaluation suggest that the warmth and comfort brought about by the heating installations enhanced a range of psychosocial benefits (Gilberston et al., 2006). People also reported fewer respiratory infections and colds, which was attributed to being warmer. Cool temperatures can lower resistance to respiratory infections and therefore increase the risk of respiratory illness (Liddell & Morris, 2010). Many people reported that they experienced less aches and pain now they were warm as the cold worsened joint pain and arthritic pain. Also, being warmer meant people could move around more, rather than having to sit under blankets, which also helped relieved pain. Furthermore, having hot water meant people could have a hot bath and shower to help relieve joint and muscular pain. Having hot water also meant people were able to wash more regularly, which can impact on physical health (and social activity).

Overall, the findings from this evaluation are broadly consistent with current models, which suggest several key pathways between fuel poverty interventions and improved physical and mental health (Gilbertson et al., 2012; Liddell & Guiney, 2015; Willand et al., 2015). For example, Willand et al. suggest three pathways from energy efficiency interventions to improved health and wellbeing. The *"warmth pathway"* assumes better energy efficiency will raise indoor temperatures and improve thermal comfort. By reversing the cause of cold related ill-health better warmth is predicted to improve respiratory and cardiovascular health. The *"affordability pathway"* suggests that energy efficiency interventions will reduce energy consumption and as such fuel costs which could relieve financial stress and subsequently improve mental health. The *"psycho-social pathway",* accounts for the psycho-social benefits of energy efficiency interventions. This pathway explains health benefits as a result of enriched meaning of the home.

3. To be provided with evidence that individuals' and families' ability to keep warm at home has positively changed as a direct result of the fuel poverty reduction services (or not).

According to the interviews, the primary reason people applied to the scheme was that they were either currently cold in their home, or they were worried about being cold in the future. All of the scheme beneficiaries interviewed reported that they were warmer since the work had been completed, which was primarily due to being able to heat their homes to a suitable level of warmth. Those people who also had children living at home reported that their children also felt warmer, which for them was the most significant impact. People also reported increased control over the temperature due to the installation of thermostats (especially mobile thermostats). In addition, people reported impacts of minor measures, which meant they were now warmer such as draught proofing and fixing windows. Holistic advice provided as part of the service also impacted on their ability to keep warm. For example, some people reported that they switched to a different energy supplier, which resulted in cheaper fuel bills meaning they were able to use their heating more. However, few beneficiaries recalled being given energy efficiency advice (e.g. washing at a lower temperature, unplugging devices when not in use). A similar finding was reported in an evaluation of a scheme in Oldham which delivered home energy improvements and advice (Bashir et al., 2016). This suggests a greater emphasis on energy advice is needed or the use of visual reminders (such as advice/reminders that go on the boiler or near an energy meter/thermostat). One likely reason for this lack of recall is that beneficiaries of the Healthy Homes programme received a major measure, which could override impacts from other parts of the service. Finally, the energy performance of buildings increased after the heating and/or insulation works were completed. For example, post-installation just over half of the properties (51.4%) were rated as Band B or C, compared to 18% pre-installation.

5.2 Strengths and limitations of the evaluation

A particular strength of the current evaluation is that it used a mixed-methods approach to understand the impacts of the Healthy Homes programme on the health and wellbeing of individuals and families. Previous studies which have explored the impact of energy efficiency interventions have primarily been explored by means of quantitative and statistical methods. The use of interviews allowed an in-depth exploration of people's experiences of fuel poverty, people's views and experiences of the Healthy Homes programme, and the impacts of the programme on health and wellbeing and the wider social determinants of health. Furthermore, the use of quantitative and qualitative methods allows

for the triangulation of findings, which can improve the reliability and validity of an evaluation (Patton, 2002).

The evaluation nevertheless has some limitations, which are partly due to the evaluation being commissioned part way through the service. Firstly, the evaluation lacked a control group, which means it is not possible to directly attribute changes identified to the Healthy Homes programme. However, it is recognised that it is very difficult to design a truly comparable group of participants to act as a control in such small-scale evaluations (Bennett et al., 2016). Nonetheless, the current evaluation compared outcomes for beneficiaries of different types of intervention and conducted a qualitative investigation to explore beneficiaries' experiences of how the programme has impacted on their health and wellbeing. Secondly, considering the timing of follow-up (approximately six weeks since installation) it is possible that there was not sufficient time for significant impact to emerge in the areas of health and wellbeing. Therefore in future evaluations to ensure the full impact of the intervention is observed it is recommended that post-intervention data collection is administered over a longer time period. Thirdly, it is also important to be aware of the seasonal timing of the baseline and post-installation measures. For example, many respondents reflected on health and wellbeing late spring/early summer and as a result there might be seasonal impacts that cannot be accounted for. These might include impacts on general wellbeing, houses feeling warmer as a result of warmer temperatures outside, and lower energy use. Fourthly, the impact on physical health was only measured using one item (general health) and there was no baseline assessment; only a retrospective measurement of change, which was contrary to how the service had been commissioned i.e. a pre- and post- measure was included in the service specification. Therefore it is recommended that future service providers give sufficient assurance that the correct evaluation measures are being used, so that self-reported health pre- *and* post-installation can be used as part of future evaluations. Furthermore, future evaluations could assess health impacts more comprehensively by using a simple subjective health assessment questionnaire (e.g. the EuroQol EQ-5D-5L is recommended in a recent Affordable Warmth and Health Impact Evaluation Toolkit, Hodges et al., 2016) and/or simple condition-specific questions. Wider health indicators could also be assessed such as days off work and number of visits to health facilities such as GP appointments. Fifthly, the beneficiaries that returned the WEMWBS at both phases and those that agreed to be interviewed may be those who have had more positive experiences with the programme and experienced greater impacts. Finally, over 80% of the beneficiaries interviewed lived on their own, meaning that it was not possible to explore fully and demonstrate impacts for a household such as the impact on the relationships and dynamics between household members.

5.3 Recommendations for future evaluations

In addition to the suggestions covered in the previous section, this section provides further recommendations for future evaluations of related programmes.

- As discussed, future evaluations could assess health impacts more comprehensively. One option is to collaborate with health partners (CCG and/or GPs) to collect health data for a specific time period pre- and post-intervention e.g. hospital admissions/readmissions, number of primary care visits, number of prescriptions. Data on the number of GP visits and hospital admissions/readmissions would allow potential savings to the healthcare system to be calculated, which could be particularly useful for local authorities, health and wellbeing boards and commissioners. There are limited examples of local authorities and health bodies sharing data for research and evaluation purposes of energy efficiency interventions; however one example is Wigan Council which successfully collaborated with their local CCG to evaluate the Affordable Warmth Access Referral Mechanism (AWARM) scheme[25]. The scheme collected the NHS number of clients with their consent, which were then anonymised by the Council. Using the anonymised codes the CCG analysed the use of health services pre- and post-intervention.
- Future evaluations could include an economic evaluation of the intervention. For example, a cost-benefit analysis (CBA) is a method of economic evaluation that takes into account all the benefits that interventions deliver and attaching a monetary valuation to them to derive an overall benefit for costs expended (HM Treasury, 2014). The resulting cost-benefit ratio gives an indication of whether or not the benefits outweigh the costs of an intervention, and hence provides a decision-making tool with a broad societal perspective (Perkins et al., 2015). Therefore, it is increasingly argued that more attention should be placed on the CBA framework when evaluating public policy interventions (e.g. Kelly et al., 2005). For example, a CBA has been carried out for several affordable warmth interventions including the AWARM scheme and the Warm Front programme.
- Future evaluations may consider including items to assess warmth levels pre- and post-intervention. The Bedford scale is a commonly-used seven point scale for measuring this (Bedford, 1936) and is also recommended in the Affordable Warmth and Health Impact Evaluation Toolkit (Hodges et al., 2016). Thermal satisfaction could also be measured by asking people how satisfied they are with the temperature in their home on a typical winter day (scored on a five-point response scale), which has also been used in previous evaluations (e.g. Poortinga et al., 2018).

[25] 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

- Future evaluations should also consider including a measure of fuel poverty. For example, a simple, self-reported measure of fuel poverty could be used such as *"Within the past 12 months, have you had to put up with feeling cold to save heating costs?"* which has been used in previous evaluations (e.g. Howden-Chapman et al., 2006; Poortinga et al., 2018).

5.4 Recommendations for future programmes

This section discusses several recommendations for future services and programmes. These recommendations focus on: i) targeting of the programme; ii) partnerships with community organisations; iii) increasing referrals from the health sector; and iv) protecting tenants in private rented accommodation.

- Targeting of the programme: There is some indication from the demographic data of scheme beneficiaries that certain groups are under-represented in the Healthy Homes programme compared to the national profile of those living in fuel poverty. Firstly, as discussed earlier (section 3.1) the proportion of families with children under 5 who participated in the programme was lower than those suggested to be living in fuel poverty (estimated to be 20%, Hills 2012) and this was also reflected in several interviews with stakeholders. A range of barriers for young families accessing energy efficiency advice and support has been discussed in a recent report (Ayre et al., 2016). One of which was targeting of schemes, which meant that many families were not aware of what assistance was available. Therefore, approaches that ensure that young families are better engaged need to be explored. One possible option would be to trial advice and/or referral through local Children's Centres. This approach was explored in a project by the Children's Society in Bradford and was viewed positively by both clients and staff (Ayre et al., 2016). Other options are to establish strengthened links with health visitors and children's social services who regularly enter people's homes. These strategies will enable some fuel poor households or those vulnerable to fuel poverty who may not have identified themselves as requiring assistance, or who may not be aware of the advice and support available, to be engaged. Secondly, according to the most recent government statistics, households where the oldest person is younger than 25 are the most likely to be living in fuel poverty (BEIS, 2018a). In the current programme, only 1.3% of applicants were younger than 25. Therefore, approaches need to be further developed to ensure younger households are engaged such as through Children's Centres, Further Education colleges, and youth services. Thirdly, recent statistics also highlighted that a higher proportion of ethnic minority households were living in fuel poverty (17.1 per cent) compared to the proportion of white households living in fuel poverty (10.3 per cent) (BEIS,

2018a). In the current programme only 3.1% were ethnic minority households, compared to 8.3% of households in Hastings and Rother. Therefore future programmes should consult with local Black and Minority Ethnic (BME) groups and organisations to assess how the accessibility of the WHCS/Healthy Homes programme could be improved and to then work with them to implement the recommendations.

- Partnerships with community organisations: The scheme should continue working with local grassroots and community organisations who work with the most vulnerable people in society to identify those most at risk of fuel poverty, and to improve the scheme's recognition justice i.e. different groups' needs and rights (Astbury & Bell, 2018). Indeed, key recommendations from Dodds and Dobson's (2008) report for improving access for vulnerable people argued that schemes should build trust through working with agencies established in the community. For example, the scheme should look to develop stronger partnerships with local food banks, community centres, and local charities (e.g. Seaview[26]).
- Increasing referrals from the health sector: Most referrals came from a relatively small sub-set of partners (e.g. Home Works and Steps East). Referrals from primary care were generally low, which is consistent with other fuel poverty schemes. Primary care professionals are an important source of referrals because of their huge reach and role as trusted professionals. They can also act as a bridge for services that may not be known by the patient (Shelter, 2016). NICE guidelines (2015) also recommend that fuel poverty referral pathways should be embedded within primary care. Therefore it is important that ways to further integrate the programme into the health sector are explored. For example:
    - Consistent, on-going engagement with practices over time is important to fully embed the referral pathway at a practice level (Eadson et al., 2017). Staff need to have the knowledge and confidence to identify a patient in or at risk of fuel poverty and to refer them to the programme. This can be done via training, staff briefings, intranet articles or advertising;
    - Referral mechanisms must be simple and quick, with straightforward eligibility criteria. For example, a simple referral software tool was developed as part of the Warm and Safe Wiltshire Progamme, which flagged patients with one or more conditions that can be exacerbated by the cold prompting GPs to speak to and refer the patient to the programme (Eadson et al., 2017). Before designing a referral

[26] A charity that supports people who are homeless and insecurely housed, and supports up to 100 service users per day.

pathway it is recommended that the project delivery team speaks with health professionals to find out what will work for them;

  - Previous evaluations have highlighted care coordinators as particularly effective sources of referrals in primary care settings (Eadson et al., 2017). Therefore, it should be explored if local GP surgeries have a resident care coordinator that are able to refer patients who are vulnerable to cold;
  - Finally, the health sector's reach can be used to encourage patients who may be in or at risk of fuel poverty to self-refer to schemes tackling fuel poverty. For example, venues such as GP surgeries and hospitals can be used to target patients who may be at risk of fuel poverty through running pop up stalls or providing leaflets. Information can also be provided in community health newsletters, or access can be given to health support groups for agencies to run advice sessions (Shelter, 2016).

- Protecting tenants: One of the primary challenges of the programme was the impact of the scheme for those living in private rented accommodation. One unintended impact of the Healthy Homes programme which emerged from interviews with stakeholders was reports from stakeholders of tenants who received a major measure being subsequently evicted under a Section 21 notice. As discussed previously, this issue emerged before the interviews with the stakeholders and the commissioners asked for this to be explored further as part of the evaluation. It is important that this issue is fully explored and mitigated as much as possible in future programmes. For example, discussions need to be held with the local Landlords Forum, tenant groups and representatives, and housing support agencies to identify the best way to proceed in future programmes. However, it is worth noting here that the government has very recently announced plans (April 2019) to consult on removing Section 21 evictions in England, which means private landlords would no longer be able to evict tenants from their homes at short notice and without good reason.

5.5 Recommendations for future research

The current evaluation has suggested several avenues for future research, which could help the design of future programmes and subsequent evaluations:

- There is a lack of research seeking to understand tenants' perspective when it comes to understanding the impacts of living in fuel poverty, especially those living in the private rented and social housing sector. Therefore studies are needed to explore tenants' experiences of living in fuel poverty, either through interviews and/or focus groups.

- This evaluation has highlighted the broader psychosocial impacts of a fuel poverty intervention such as reducing social isolation and stigma and an increased enjoyment of the home. Maintaining social connections is identified as a public health priority in the Public Health Outcomes Framework but sometimes the links between improvements in housing and social connections are overlooked or not considered as an outcome. Therefore more research is needed to explore the broader psychosocial impacts of living in a cold home. For example, the impacts of living in a cold home on the relationship between different household members would be important to explore in further research.

Table 7 summarises the recommendations for future evaluations, programmes and research.

5.6 Conclusion

The findings from the evaluation suggest that the installation of major heating or insulation measures such as new boilers and central heating systems have substantial benefits for the health and wellbeing of programme beneficiaries. Although there are limitations to the evaluation design, the consistent message that emerges across all the data adds strength to the evaluation findings. The findings also suggest that the programme had a positive impact on a number of wider determinants of health including reduction in stress and isolation that are likely to be part of the pathways between fuel poverty interventions and mental and physical health outcomes.

Table 7. Summary of recommendations

Recommendations for Future Evaluations	
1. Comprehensive assessment of health impacts	• Continue collaborating with health partners (CCG and/or GPs) to collect health data pre- and post-intervention e.g. hospital admissions, number of primary care visits. • Measurement of self-reported health pre- *and* post-intervention using a simple subjective health assessment questionnaire (e.g. the EuroQol EQ-5D-5L) and/or simple condition-specific questions. Wider health indicators could also be assessed such as days off work and number of visits to health facilities.
2. Economic evaluation of the intervention	• Cost-benefit analysis provides an indication of whether or not the benefits outweigh the costs of the intervention.
3. Longer-term follow-up	• To ensure the full impact of the intervention is observed it is recommended that post-intervention surveys and interviews are administered over a longer time period.
4. Assessment of warmth	• Include items to assess warmth levels pre- and post-intervention e.g. The Bedford Scale (Bedford, 1936).
5. Measure fuel poverty	• Include a simple, self-reported measure of fuel poverty.
Recommendations for Future Programmes	
1. Targeting of the programme	• Explore approaches to reach families with young children, such as Children's Centres and working with social services and health visitors. • Consult with local BME groups and organisations to assess how the accessibility of the programme could be improved and to then work together to implement recommendations. • Approaches need to be developed that ensure younger households (25 years and younger) are engaged.

2. Partnerships with community organisations	• Continued consultation with grassroots organisations who work with the most vulnerable people. For example local food banks, community centres, and local charities.
3. Increasing referrals from the health sector	• Continue to explore ways to integrate the scheme into primary healthcare such as ensuring a simple and quick referral process, working with practices in developing the referral process, identifying care coordinators, and advertising schemes in GP surgeries to promote self-referral.
Recommendations for Future Research	
1. Tenant perspective	• Future studies should explore people's experience of fuel poverty who live in the private rented and social housing sector.
2. Psychosocial impacts of fuel poverty	• Future research should explore the broader psychosocial impacts of fuel poverty, such as social isolation and impacts on relationships between household members.

Section Six – References

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APPENDIX A – Evaluation Framework

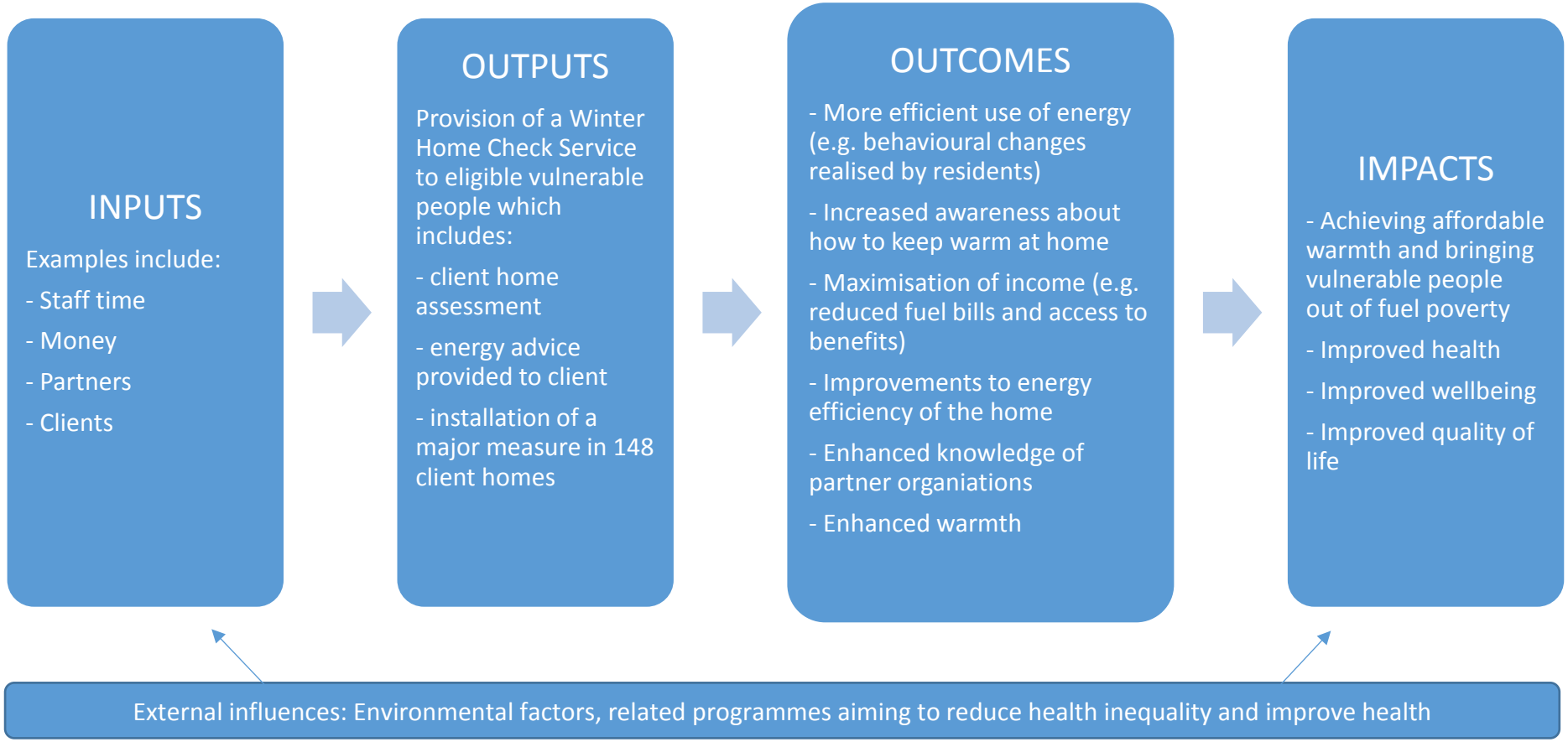


Figure 1. Logic model of Hastings and Rother CCG's Healthy Homes Programme

PROCESS EVALUATION FRAMEWORK

Evaluation questions	Indicator (s)	Data collection method(s)	Data collection tool(s)	Respondent(s)	Person(s) responsible for data collection	Timing of data collection
Is the programme reaching the groups it aims to target?	The sociodemographic background of beneficiaries of the CCG Healthy Housing programme reflects those who are in fuel poverty.	Survey	Demographic information collected in the assessment form	Beneficiaries	Osborne Energy	Throughout the programme (October 2016 to January 2018)
	Views of stakeholders on whether the scheme reached the groups it aimed to target.	Semi-structured interviews	Topic guide developed by the evaluation team and Project Steering Group	Stakeholders	Evaluation team	February 2018 onwards
Is the activity being delivered in the quantity anticipated?	148 homes have received a major installation as part of the CCG Healthy Housing programme.	Document review	Completion data	Stakeholders	Osborne Energy	Throughout the programme (October 2016 to January 2018)
Are a sufficient number of individuals/households being reached?	Views of stakeholders on whether sufficient number of individuals/households are being reached.	Semi-structured interviews	Topic guide developed by the evaluation team and Project Steering Group	Stakeholders	Evaluation team	February 2018 onwards
Is the intervention being implemented as intended/expected?	Installations completed matched with installations expected.	Survey	Completion data	Stakeholders	Osborne Energy	Throughout the programme (October 2016 to January 2018)

	Views of stakeholders on whether the intervention has been implemented as intended/expected.	Semi-structured interviews	Topic guide developed by the evaluation team and Project Steering Group	Stakeholders	Evaluation team	February 2018 onwards
	Views of stakeholders regarding to what extent they think the Healthy Housing programme has met its objectives.	Semi-structured interviews	Topic guide developed by the evaluation team and Project Steering Group	Stakeholders	Evaluation team	February 2018 onwards
What are the barriers / facilitators to implementation?	Views of stakeholders and beneficiaries regarding what the main constraints and barriers are to further success of the Healthy Housing programme.	Semi-structured interviews	Topic guide developed by the evaluation team and Project Steering Group	Stakeholders and beneficiaries	Evaluation team	February 2018 onwards
What are the quality aspects raised through delivery of the services?	Views of stakeholders and beneficiaries regarding acceptability of assessment visit, arrangement of appointments with installer, installation itself, instructions on usage.	Semi-structured interviews	Topic guide developed by the evaluation team and Project Steering Group	Stakeholders and beneficiaries	Evaluation team	February 2018 onwards
Are the services being delivered equitably?	Identification and selection of potential beneficiaries, implicit bias e.g. due to English language skills, level of education; delivery of improvement – any bias at stage of	Survey	Demographic information collected in the assessment form	Beneficiaries Stakeholders	Osborne Energy	Throughout the programme (October 2016 to January 2018)

	delivery/abandonment of planned improvement.	Semi-structured interviews	Topic guide developed by the evaluation team and Project Steering Group		Evaluation team	February 2018 onwards
What was the clients' experience of the service/programme?	Beneficiaries' satisfaction with the programme.	Survey	Post-installation checklist	Beneficiaries	Osborne Energy	Throughout the programme (October 2016 to January 2018)
	Views of stakeholders/beneficiaries including: experience of the application process, experience of the assessment process, experience of the installation process and overall satisfaction.	Semi-structured interviews	Topic guide developed by the evaluation team and Project Steering Group	Beneficiaries and stakeholders	Evaluation team	February 2018 onwards
How well is the referral process working?	Proportion of applications to the scheme from referrals, self-referrals.	Survey	Referral information noted in assessment form	Beneficiaries	Osborne Energy	Throughout the programme (October 2016 to January 2018)
	Views of beneficiaries and stakeholders on how well the referral process worked	Semi-structured interviews	Topic guide developed by the evaluation team and Project Steering Group	Beneficiaries and stakeholders	Evaluation team	February 2018 onwards

OUTCOME EVALUATION FRAMEWORK

Evaluation questions	Indicator (s)	Data collection method(s)	Data collection tool(s)	Respondent(s)	Person(s) responsible for data collection	Timing of data collection
Achieving affordable warmth and reducing fuel poverty through a combination of measures such as:	Standard Assessment Procedure (SAP) rating has improved since receiving a major measure	Survey	Survey	Stakeholders	Osborne Energy	Throughout the programme (October 2016 to January 2018)
energy efficiency improvements to the home (extent and impact of physical improvements to housing);	Views of stakeholders/beneficiaries regarding whether they (beneficiaries) have a better understanding of energy efficiency	Semi-structured interviews	Topic guide developed by the evaluation team and Project Steering Group	Stakeholders and beneficiaries	Evaluation team	February 2018 onwards
more efficient use of energy (e.g. behavioural changes realised by residents), and;	Views of beneficiaries regarding whether they have noticed a reduction in fuel bills since the intervention	Semi-structured interviews	Topic guide developed by the evaluation team and Project Steering Group	Beneficiaries	Evaluation team	February 2018 onwards
income maximisation (e.g. reduced fuel bills and access to benefits).	Views of stakeholders/beneficiaries regarding whether they (beneficiaries) have a better knowledge of benefits	Semi-structured interviews	Topic guide developed by the evaluation team and Project Steering Group	Stakeholders and beneficiaries	Evaluation team	February 2018 onwards

	available to them since the intervention.					
Improvement to service users' health & wellbeing and quality of life.	Increase in WEMWBS scores from baseline to post-intervention	Survey	Wellbeing questionnaire (validated)	Beneficiaries	Osborne Energy	Throughout the programme (October 2016 to January 2018)
	Higher self-reported health post-intervention	Survey	Two items on post-installation checklist	Beneficiaries	Osborne Energy	Throughout the programme (October 2016 to January 2018)
	Views of stakeholders/beneficiaries regarding positive impacts on mental health, physical health, and quality of life	Semi-structured interview	Topic guide developed by the evaluation team and Project Steering Group	Beneficiaries and stakeholders	Evaluation team	February 2018 onwards
What health/social impact does the intervention have on identified vulnerable population groups?	Increase in WEMWBS scored from baseline to post-intervention	Survey	Wellbeing questionnaire (validated)	Beneficiaries	Osborne Energy	Throughout the programme (October 2016 to January 2018)
	Higher self-reported health post-intervention	Survey	Two items on post-installation checklist	Beneficiaries	Osborne Energy	Throughout the programme (October 2016 to January 2018)
	Views of stakeholders/beneficiaries regarding impact on other	Semi-structured interview	Topic guide developed by the evaluation team	Beneficiaries and stakeholders	Evaluation team	February 2018 onwards

	psychosocial areas e.g. improvements in household and family relationships, more usable space indoors)		and Project Steering Group			
What are the wider impacts of the programme in relation to additional advice and information and signposting to partner organisations?	Views of beneficiaries and stakeholders including: enhanced knowledge of efficient use of energy, enhanced knowledge of fuel switching, enhanced knowledge of partner organisations (e.g. Benefits Helpline, Cold Weather Payments)	Semi-structured interview	Topic guide developed by the evaluation team and Project Steering Group	Beneficiaries and stakeholders	Evaluation team	February 2018 onwards
What are the negative or unintended consequences of the intervention, if any?	Views of beneficiaries and stakeholders regarding whether there been any downsides to having the measure installed	Semi-structured interview	Topic guide developed by the evaluation team and Project Steering Group	Beneficiaries and stakeholders	Evaluation team	February 2018 onwards
What could the impact of the services and/or programme be on health service utilisation? (where any associations are measurable / attributable)	Views of beneficiaries e.g. beneficiaries' visits to healthcare professionals (i.e. GP visits)	Semi-structured interview	Topic guide developed by the evaluation team and Project Steering Group	Beneficiaries and stakeholders	Evaluation team	February 2018 onwards

APPENDIX B – Study pack (beneficiaries)

[Add beneficiary address]

[Add Date]

Dear [Add Name],

Re: Fuel Poverty Reduction Evaluation (FuelPRE)

My name is Alexandra Sawyer and I am part of a research team at the University of Brighton who have been asked to find out about people's experiences of having heating and/or insulation work completed in their home, as part of the East Sussex Winter Home Check Service.

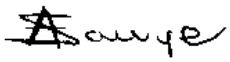
I am writing to you because you have recently had some heating and/or insulation work completed in your home and we would like to invite you to take part in an evaluation study about your experiences of this service. We are writing therefore to ask if you would like to take part in this evaluation. Doing so would involve a face-to-face discussion (interview) about your experiences or a telephone discussion.

I have enclosed a Participant Information Sheet which gives you more information about the study, its purpose and what taking part would involve. It is completely up to you whether you decide to take part in the study or not. **If you would like to take part in the evaluation please either email me (a.sawyer@brighton.ac.uk), call me / send me a text message (number), or complete the enclosed reply form and return it to us in the pre-paid envelope.** Once we receive this, I will contact you.

If you require any further information regarding the study in the meantime, please do not hesitate to contact me.

We look forward to hearing from you.

Yours sincerely,



Alexandra Sawyer
University of Brighton
01273 644169
Email: A.Sawyer@brighton.ac.uk

Information Sheet - Interviews
Fuel Poverty Reduction Evaluation - FuelPRE

Invitation
We are contacting you because you have recently had some heating and/or insulation measures installed in your home, as part of the Winter Home Check Service. We would like to invite you to take part in an evaluation study about your experiences of this service. Before you decide whether to take part or not it is important for you to understand what we are trying to do and what it will involve. Please take time to read the following information carefully and ask any questions you may have about any part of the study.

Why are we doing this evaluation?
The Healthy Housing programme was established by NHS Hastings and Rother Clinical Commissioning Group (H&R CCG) to fund the installation of major heating and insulation measures in areas where properties are most affected by fuel poverty. The installations are provided through the Winter Home Check Service which is delivered by Osborne Energy and commissioned by East Sussex County Council. Researchers at the University of Brighton have been asked by H&R CCG to find out about people's experiences of having these measures installed and to identify which aspects of the project appear to be doing well and which areas might require improvement and/or development.

Do I have to take part?
No. It is entirely up to you whether or not to take part. If you are not sure, please feel free to discuss it with someone else. If you want to find out more information our contact details are at the end of this form. Please remember that even if you say you would like to be involved, you can **opt-out at any time** without stating a reason. A decision not to take part, or to withdraw at a later date, will not impact on any work you are having carried out on your home.

What will taking part in the research involve?
This study involves being interviewed by a researcher for between 30-45 minutes. The interview will be an informal discussion and there are no right or wrong answers – we just want your opinion. We would like to explore your experiences of being involved, including your expectations, your experience of having the work carried out, and any impact on you or your household as a result. With your permission, the interview will be digitally recorded. The evaluators will contact you to schedule an interview at a time and place that is convenient for you. Any public travel expenses (with receipts) will be reimbursed if desired. If you prefer, it is also possible to conduct the interview over the telephone.

At the end of the interview, you may be invited to take part in a case study and/or video case study about your experiences of the Winter Home Check Service. We will provide you with more information about what this entails at the time.

What are the benefits of taking part?
Your input will provide us with valuable feedback regarding the Healthy Housing programme and the Winter Home Check Service. What you tell us will help H&R CCG and its partners to support the future development of projects aimed to reduce fuel poverty.

At the end of the interview, you will be offered a £10 high-street voucher to say 'thank you' for your contribution.

What are the possible disadvantages of taking part?

There are no foreseeable risks of taking part in this study.

How will you keep my personal details safe?
Anything you say to the research team will remain strictly confidential. In certain exceptional circumstances where you or others may be at risk of harm, the researcher may need to report this to an appropriate authority, in accordance with the (UK) Data Protection Act 1998. This would usually be discussed with you first. Nobody from outside of the research team will be able to identify you from any comments you make to us. All data information will be stored securely using locked filing cabinets and password and network protected computers.

How will the research be used?
The research findings will be written up in a project report and submitted to H&R CCG. Results may also be presented at conferences and published in academic, peer-reviewed journals. Reports may include direct quotes from interviews. However, any names or other identifying information will be removed. A summary of the results can be sent to you if you wish to see them. You will not be personally identified in any reports or publications of the research.

What if something goes wrong?
We hope nothing will go wrong. However, if you do not feel happy with the discussion you can leave at any time without giving a reason. If you have any complaint or concern about any part of the study, you can also contact Kate Galvin (Deputy Head of Research and Enterprise) who also works at the University but is separate from this study (Email: K.Galvin@brighton.ac.uk; Tel 01273 644028).

What will happen next?
If you would like to take part in the study please complete and return the reply slip in the prepaid envelope. A member of the research team will call you to talk through the study. The researcher will be able to answer any questions you might have and then ask you if you would like to take part in the study at a time that suits you. You will be asked to give consent to show that it is your choice to join the study.

Who has reviewed this research?
The University of Brighton's College Research Ethics Committee (CREC) for the College of Life Health and Physical Sciences have reviewed this research and given it their support.

Who has funded the research?
The study is funded by NHS Hastings and Rother Clinical Commissioning Group.

Contacts for further information

University of Brighton FuelPRE Research Team

Researcher: Dr Alex Sawyer (Email - A.Sawyer@brighton.ac.uk; Tel 01273 644169)
Principal Investigator: Prof Jörg Huber (Email - J.Huber@brighton.ac.uk)
Co - Investigator: Dr Nigel Sherriff (Email - N.S.Sherriff@brighton.ac.uk)

REPLY SLIP

Fuel Poverty Reduction Evaluation (FuelPRE) – Interview Study

I would like to find out more about the study ☐

I would not like to take part in this study / I am not able to take part in this study ☐

The best way to contact me is (please provide details where relevant):

Name _____

Phone ☐ _____

Email ☐ _____

Post ☐ _____

_____

_____

Is there a particular time of day that is a good time for us to contact you?

_____

Please post back to us in the pre-paid envelope provided

Reminder Letter

[Add beneficiary address]

[Add Date]
Reminder Letter

Dear [Add Name],

Re: Fuel Poverty Reduction Evaluation (FuelPRE)

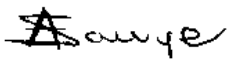
I am writing to you again because a few weeks ago we sent you an invitation to take part in an interview about your experiences of the Winter Home Check Service and the heating/insulation work you had installed in your home. If you can help, your input would be very valuable. I enclose an extra copy of the Participant Information Sheet in case you have mislaid it. If you have already responded, please ignore this letter.

It is completely up to you whether you decide to take part in the study or not. **If you would like to take part in the evaluation please either email me (a.sawyer@brighton.ac.uk), call me / send me a text message (number), or complete the enclosed reply form and return it to us in the pre-paid envelope.** Once we receive this, I will contact you.

If you require any further information regarding the study in the meantime, please do not hesitate to contact me on the numbers below.

We look forward to hearing from you.

Yours sincerely,



Alexandra Sawyer
University of Brighton
+44 (0) 1273 644169
Email: A.Sawyer@brighton.ac.uk

APPENDIX C – Semi-structured interview schedule (beneficiaries)

Interviewer	
Interviewee	
Date	
Location	

☐ Introductory statement.
☐ Received, read, understood PIS – Questions?
☐ Consent form?
☐ Recorder on?

Introductory Statement (to be read only after recorder started)

My name is Alexandra Sawyer and I am calling from the University of Brighton. I am calling you because you kindly agreed to take part in an interview about your experiences of the Winter Home Check Service [explain the CCG Scheme]. Are you still happy to do this?

The interview will explore your experiences of having some funded major heating and/or insulation measures installed in your home (as part of the Winter Home Check Service) such as your expectations, your experience of having the work carried out, and any impact on you or your household as a result. The interview should last a maximum of 45 minutes. Everything you say will be confidential (unless you disclose information that could lead to harm for yourself or others) to the research team and will not be directly attributed to you. We will also take reasonable steps to ensure that you cannot be identified from anything written in the report. There are no right or wrong answers, we're just interested in hearing about your experiences. Don't worry if you cannot remember everything that happened too clearly – you can just tell us what you remember. As a thank you, you will receive a £10 thank you voucher.

Section 1 – Awareness of CCG Scheme

1. Please can you tell me how you first heard about the Winter Home Check service and specifically about the funded major measure that has been provided through the programme?

   Probe. *Word of Mouth? Citizens Advice Bureau? STEPS? HomeWorks? GP?*

2. What was your first reaction to hearing about the scheme?
   Probe. *What questions did you have about the scheme when you first heard about it? What concerns, if any, did you have about the scheme when you first heard about it? What do you remember about what you were told about the scheme at this time? What did you hear about what you would need to do to apply for the scheme? What did you hear about how long it might take to have an assessment done and for the heating system or insulation to be installed?*

Section 2: Experience of the application process

3. What were the main reasons you decided to apply for the scheme.
   PROMPT: *Financial grant/didn't have to pay full cost installation, House unbearably cold, Couldn't afford to heat house*

4. How did you apply? Did you complete the application yourself or did someone do it on your behalf? Can you talk me through the process, as best you remember it? How did you find the application process as a whole? Did you find it easy or difficult?

5. When you made your application, were you told what to expect to happen next? Can you remember what information you were told at that time about the next steps?

   Probe. Information about how long it would take to have your home assessed • Information about what types of heating system and insulation could be installed and what would not be covered by the scheme • Information about how long it would take to have the installation completed

   Is there any other information that you think should have been available at the time of application that would have helped you? IF YES – why would this have been helpful? Is there anything you think could have been done differently during the application process? What? What difference would this have made?

Section 3: Experiences of the assessment process

After you made your application, the next step would have been for someone to come out to your house to assess what the scheme could do to help you. This would have involved someone coming into your home.

6. Can you remember how long it was between making your application and someone visiting your home? Was this as you expected?

7. What do you remember about this first assessment visit? Was there anything you felt was good about this visit? Was there anything you felt was less good?

   PROBE: Were you told who would be coming and when? To what extent did the assessor explain to you what they were looking at/for in your home? To what extent was the assessor able to answer any questions you had about the scheme? Did you understand what would happen next after this assessment had been done? Was there anything you thought should have been done differently at this stage?

Section 4. Experiences of the installation process

8. The next step would have been for the heating or insulation works to be installed in your home. Please can you tell me what works you had installed [make sure to distinguish between minor and major)? Can you remember how long it was between the first visit to assess your home and the measures being installed? Was this as you expected?

IF RESPONDENT SAYS THEY EXPERIENCED A LONG WAIT: • What, if any, was the impact of this wait on your household? How able were you to keep your home warm whilst you waited for your installation? PROBE Physical / mental health / emotional impacts. • Did you receive any help or advice from anyone during this time you were waiting? • Was there anything that could have been done differently to make this wait easier for you?

9. What do you remember about the day(s) the installation happened in your home? Was there anything you felt was good about the visit(s)? Was there anything you felt was less good? Did the installation go as you expected, or did anything unexpected happen?

   IF HAD NEW HEATING SYSTEM INSTALLED - To what extent did the installer explain to you how to use the new system? How easy or not was it to understand this? Did you get written instructions? To what extent was the installer able to answer any questions you had about the scheme? What did you think about the quality of the installation at the time? What did you understand what would happen next after the installation had been done? Was there anything you thought should have been done differently at this stage?

10. IF HAD NEW HEATING SYSTEM OR HEATING CONTROLS INSTALLED - How easy or difficult have you found it to use your new heating system/controls? For example, how easy or difficult has it been to set the timer, or to set the temperature that you want your house, or different rooms at? Have you needed any help to use it since it was installed? IF YES – where did you go to get this help? How useful was the advice you were given?

Section 5: Impact of the measures

11. [if this has not been discussed previously] Please can you tell me what heating/insulation you have before the installation? And what did you have installed/changed as part of the Winter Home Check Service? Did you have any additional minor measures installed (e.g. draught proofing)?

12. Try to think back to the time before the changes to your house were made, what difference did you expect the ….. [specify the improvements made to specific households) would make? Why did you think that? What difference, if any, has the installation of a new boiler/ insulation made to your home? What have been the benefits of having the measure installed?

    PROBE: • Warmer home • Lower heating bills • Better health • Happier • Other social impacts (e.g. use of more space in home, improved household relationships)
    What has been the greatest benefit/what is most important to you?

    What, if any, have been the downsides to having the measure installed? Since the measure was installed as part of this scheme, have you gone on to do anything else in your home to repair, replace or improve your heating system or insulation? IF YES - What have you done? How have you financed this?

13. Since taking part in this programme do you think you have a better understanding of ways to use energy more efficiently? PROBE Switching off or unplugging chargers/devices that you are not using, washing at low temperatures to save electricity.

Section 6: Overall satisfaction and complaints procedure

14. Overall how satisfied or not were you with your experience of the Winter Home Check service? • What were you most satisfied with? Why? • What were you least satisfied with? Why? After the installation, did you receive any other visits to your home as part of the scheme?

    PROBE: • Did anyone come back later to do a check-up to make sure everything was still working? • Did anyone ever have to come back due to a problem or fault you reported? What was your experience of these follow-up visits?

Section 7: Summary

15. Overall, how would you describe your experience of the Winter Home Check service? • If a similar scheme was to be operated in the future, is there anything you think they should do differently? Is there anything that was particularly good that should be retained?

APPENDIX D – Sociodemographic questionnaire

1. How old are you? _____

2. What is your gender?

   ☐ Female
   ☐ Male
   ☐ Other _____
   ☐ Prefer not to say

3. Which of these describes your background the best? *(please tick one box only)*

   White
   British ☐
   Irish ☐
   Traveller of Irish heritage ☐
   Gypsy/Roma ☐
   Other (please specify) ☐ _____

   Asian or Asian British
   Indian ☐
   Pakistani ☐
   Bangladeshi ☐
   Other (please specify) ☐ _____

   Black or Black British
   Black Caribbean ☐
   Black African ☐
   Other (please specify) ☐ _____

   Mixed/Multiple Ethnic Groups
   White & Black Caribbean ☐
   White & Black African ☐
   White & Asian ☐
   Other (please specify) ☐ _____

   Other Ethnic Group
   Unknown ☐
   Other Ethnic Group ☐
   If Other please state/explain _____

4. Are you….. *(please tick one box only)*

   ☐ Married
   ☐ In a civil partnership
   ☐ Living with partner (unmarried)
   ☐ Have a partner but not living together
   ☐ Separated/Divorced
   ☐ Single

☐ Other (please describe) _____

5. What educational qualifications do you have? *(please tick all that apply)*

☐ None
☐ GCSE's / O levels
☐ A levels / diploma / City & Guilds
☐ Undergraduate degree/HNTQ
☐ Postgraduate degree
☐ Professional qualification (please specify)_____

6. Which of the following best describes your employment status? If more than one of these applies to you, please tick the main ONE only.

☐ Employed full-time (more than 30 hours)
☐ Employed part-time (less than 30 hours)
☐ Self-employed
☐ Unemployed but looking for a job
☐ Unemployed and not looking for a job/long-term sick or disabled/housewife
☐ Retired
☐ Student/In full-time education

7. Please circle the number that comes closest to describing your feelings about your household's income?

1	2	3	4	5
Really struggling on present income		Neither comfortable nor struggling on present income		Living very comfortably on present income

8. Disability monitoring information – do you consider yourself to have a disability?

☐ Yes
☐ No
☐ Prefer not to say

If yes, please specify_____

9. Do you have a religion that you follow?

☐ Yes ☐ No

10. What is your full postcode? **The only reason we are collecting this information is so that we can analyse the results by geographical area. It will not be used to identify you in any way, or used for any other purpose. _____**

SECTION 2: ABOUT YOUR HOME

11. What type of house do you live in?

☐ Detached house
☐ Semi-detached house
☐ Flat
☐ Terraced house
☐ End-terraced house
☐ Other_____

12. How many rooms does the property have, **not** including hallways, landings or cellars?

Total ___

How many of these are bedrooms? ____ and bathrooms? ____

13. How many people live in your household, including yourself?

Adults _____ Children _____

14. Do you own or rent your home?

☐ Own outright
☐ Own with a mortgage/loan
☐ Shared ownership
☐ Rent
☐ Live rent free
☐ Other

15. What fuel do you mainly use for heating? (e.g. gas, electricity, coal) _____

SECTION 3: SUMMARY

16. Would you like to receive any information about the findings of this research?

☐ Yes ☐ No

If yes, please let us know how you would prefer us to reach you. For example: email, home address etc

How to reach me:_____

THANK YOU!

APPENDIX E – Study pack (stakeholders)

[Date]

Dear [Name],

Re: Fuel Poverty Reduction Evaluation (FuelPRE) – stakeholder interviews

My name is Alexandra Sawyer and I am part of a research team at the University of Brighton who have been asked to evaluate the Healthy Housing programme, established by NHS Hastings and Rother CCG. The programme has funded major heating and/or insulation measures for fuel poor households which have been installed through East Sussex County Council's Winter Home Check Service, provided by Osborne Energy.

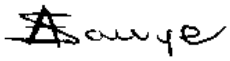
I am writing to you because you are involved in the Healthy Housing programme in some way (for example: referring clients or conducting energy assessments). We would like to invite you to take part in this evaluation study to find out about your experiences and to support the development of this project and future projects aimed at reducing fuel poverty. If you can help, your input would be very valuable. Doing so would involve a face-to-face discussion about your experiences or a telephone discussion.

We have enclosed a Participant Information Sheet which gives you more information about the study, its purpose and what taking part would involve. It is completely up to you whether you decide to take part in the study or not. If you would like to take part in the evaluation please either email me (a.sawyer@brighton.ac.uk), send me a text message (number), or complete the attached reply form and email back to me. Once we receive this, I will contact you.

If you require any further information regarding the study in the meantime, please do not hesitate to contact me (details below).

We look forward to hearing from you.

Yours sincerely,



Alexandra Sawyer
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Participant Information Sheet - Stakeholder Interviews

Fuel Poverty Reduction Evaluation - FuelPRE

Invitation
We are contacting you because you have been working in partnership with Hastings and Rother CCG on the Healthy Housing programme. We would like to invite you to take part in an evaluation study about your experiences of this project. Before you decide whether to take part or not it is important for you to understand what we are trying to do and what it will involve. Please take time to read the following information carefully and ask any questions you may have about any part of the study.

Why are we doing this evaluation?
The Healthy Housing programme was established by NHS Hastings and Rother CCG to fund the installation of major heating and insulation measures in areas where properties are most affected by fuel poverty. These installations are provided through the Winter Home Check Service which is delivered by Osborne Energy and commissioned by East Sussex County Council. Researchers at the University of Brighton have been asked to find out about people's experiences of having these measures installed and to identify which aspects of the project appear to be doing well and which areas might require improvement and/or development. An important part of this evaluation is to speak with stakeholders of the Healthy Housing programme.

Do I have to take part?
No. It is entirely up to you whether or not to take part. If you are not sure, please feel free to discuss it with someone else. If you want to find out more information our contact details are at the end of this form. Please remember that even if you say you would like to be involved, you can **opt-out at any time** without stating a reason. A decision not to take part, or to withdraw later, will not impact on your involvement in the programme.

What will taking part in the research involve?
This study involves being interviewed by a researcher for between 30-45 minutes. The interview will be an informal discussion and there are no right or wrong answers – we just want your opinion. We would like to explore your experiences of being involved, including your role in the project, what works well in the project, what areas require further development, and recommendations for similar future projects. With your permission, the interview will be digitally recorded. The evaluators will contact you to schedule an interview at a time and place that is convenient for you. Any public travel expenses (with receipts) will be reimbursed if desired. If you prefer, it is also possible to conduct the interview over the telephone.

What are the benefits of taking part?
Your input will provide us with valuable feedback regarding the Healthy Housing programme and the Winter Home Check Service. What you tell us will help H&R CCG and its partners to support the future development of projects aimed to reduce fuel poverty.

What are the possible disadvantages of taking part?
There are no foreseeable risks of taking part in this study.

How will you keep my personal details safe?
Anything you say to the research team will remain strictly confidential. In certain exceptional circumstances where you or others may be at risk of harm, the researcher may need to report this to an appropriate authority, in accordance with the (UK) Data Protection Act 1998. This would usually

be discussed with you first. Nobody from outside of the research team will be able to identify you from any comments you make to us. All data information will be stored securely using locked filing cabinets and password and network protected computers.

How will the research be used?
The research findings will be written up in a project report and submitted to Hastings and Rother CCG. Results may also be presented at conferences and published in academic, peer-reviewed journals. Reports may include direct quotes from interviews. However, any names or other identifying information will be removed. A summary of the results can be sent to you if you wish to see them. You will not be personally identified in any reports or publications of the research.

What if something goes wrong?
We hope nothing will go wrong. However, if you do not feel happy with the discussion you can leave at any time without giving a reason. If you have any complaint or concern about any part of the study, you can also contact Kate Galvin (Deputy Head of Research and Enterprise) who also works at the University but is separate from this study (Email: K.Galvin@brighton.ac.uk; Tel 01273 644028).

What will happen next?
If you would like to take part in the study please complete and return the reply slip. A member of the research team will call you to talk through the study. The researcher will be able to answer any questions you might have and then ask you if you would like to take part in the study at a time that suits you. You will be asked to give consent to show that it is your choice to join the study.

Who has reviewed this research?
The University of Brighton's College Research Ethics Committee (CREC) for the College of Life Health and Physical Sciences have reviewed this research and given it their support.

Who has funded the research?
The study is funded by NHS Hastings and Rother Clinical Commissioning Group.

Contacts for further information

University of Brighton FuelPRE Research Team

Researcher: Dr Alex Sawyer – a.sawyer@brighton.ac.uk
Principal Investigator: Prof Jörg Huber J.Huber@brighton.ac.uk
Co - Investigator: Dr Nigel Sherriff - n.s.sherriff@brighton.ac.uk

REPLY SLIP

Fuel Poverty Reduction Evaluation (FuelPRE) – Interview Study

I would like to find out more about the study ☐

I would not like to take part in this study / I am not able to take part in this study ☐

The best way to contact me is (please provide details where relevant):

Name _____

Phone ☐ _____

Email ☐ _____

Post ☐ _____

_____

_____

Is there a particular time of day that is a good time for us to contact you?

_____

Please post back to us in the pre-paid envelope provided

Reminder Letter

[Date]

Dear [Name],

Re: Fuel Poverty Reduction Evaluation (FuelPRE)

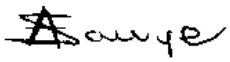
I am writing to you again because around two weeks ago we sent you an invitation to take part in an interview about your experiences of working in partnership with the Healthy Homes programme. If you can help, your input would be very valuable. I attach an extra copy of the Participant Information Sheet in case you have mislaid it. If you have already responded, please ignore this letter/email [delete as appropriate].

It is completely up to you whether you decide to take part in the study or not. If you would like to take part please either email me (a.sawyer@brighton.ac.uk), send me a text message, or complete the enclosed reply form and return it to us in the pre-paid envelope. Once we receive this, I will contact you.

If you require any further information regarding the study in the meantime, please do not hesitate to contact me on the numbers below.

We look forward to hearing from you.

Yours sincerely,



Alexandra Sawyer
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APPENDIX F – Semi-structured interview schedule (stakeholders)

Interviewer	
Interviewee	
Job Title	
Name of organisation	
Age	
Gender	
Date	
Location	

☐ Introductory statement.
☐ Received, read, understood PIS – Questions?
☐ Consent form?
☐ Recorder on?

Introductory Statement (to be read only after recorder started)

My name is Alexandra Sawyer and I am calling from the University of Brighton. I am calling you because you kindly agreed to take part in an interview about the CCG's Healthy Housing programme (provided through the Winter Home Check Service). Are you still happy to do this?

The interview will explore your experiences of being involved, including your role in the project, what works well in the project, what areas require further development, and recommendations for similar future projects. To get the most from this process, it's important that we hear the good, the bad, and the neutral. Your experiences of the things that worked well, and your experiences of things that went wrong or could have been better, are equally useful. The interview should last a maximum of 45 minutes. Everything you say will be confidential (unless you disclose information that could lead to harm for yourself or others) to the research team and will not be directly attributed to you. We will also take reasonable steps to ensure that you cannot be identified from anything written in the report. There are no right or wrong answers, we're just interested in hearing about your experiences. Don't worry if you cannot remember everything that happened too clearly – you can just tell us what you remember.

Section 1: Role and responsibilities in the scheme

1. Can I ask you to start off by very briefly telling me your role in the Healthy Housing programme? Probe. Length and involvement

2. Have there been any changes to your role and responsibilities over the course of your involvement? If so, can you explain?

Section 2: Overall impressions of the scheme

3. Could you give me a short summary of your overall impressions of how successful or not the scheme has been? - In terms of delivery and management. - In terms of outcomes and

impacts. PROBE. Impacts on health, wellbeing, quality of life, reduced fuel bills, more efficient use of energy.

4. What worked well about the scheme? Why? What worked less well about the scheme? Why? What were the main challenges in delivering the scheme? (How were they overcome?)

Section 3: Customer Journey

5. Can you talk us through a typical customer journey through the Healthy Housing programme? How much variation do you feel there was in customer journeys, and what caused this variation? Were there any particular points in the customer journey where there were blockages, delays or people dropped out? Why do you think this was?

6. What do you think customers expected from the scheme? What has informed your view of their expectations? To what extent do you think customer expectations were met?

7. How satisfied do you think customers were with their experience of the Healthy Housing scheme? - In terms of delivery and management. - In terms of outcomes and impacts.

Section 4: Referrals

8. What do you think prompted beneficiaries to apply for the scheme? Were there different prompts for households of different levels of vulnerability / fuel poverty?

9. How did the referrals process work? How effective was the referrals system in creating demand for the scheme? Looking back, is there anything that you would have done differently?

10. Where have referrals come from? What were the most and least successful avenues for generating referrals?

11. Do you think the scheme reached the groups it aimed to target? Why do you think this was? Were there any particular barriers or enablers in terms of awareness of the scheme or the process of accessing support? (e.g. impact of internet access?)

12. What were the barriers to reaching hard to reach homes (rural, private landlord, ethnic minority)? How, if at all, was the process different for hard to reach homes, and how did this impact on the scheme delivery? What was the impact of the scheme on hard to reach homes?

Section 5: General

13. What do you think have been the main achievements of the Healthy Housing programme?

14. To what extent do you think the Healthy Housing programme has met its main objectives? Do you think the scheme has been implemented as intended/expected?
15. What do you think have been the main constraints and barriers to further success of the Healthy Housing programme?
16. What actions, if any, do you think were taken to help overcome these during the lifetime of the Healthy Housing programme? How effective were these?
17. How do you think these constraints and barriers could have been overcome?
18. What do you think the longer term impact/ legacy of the Healthy Housing programme has been /will be?
19. From your experience of the Healthy Housing programme as a whole, what are the key lessons to learn from the programme? In particular, what have been the: Positives (e.g. what has worked well, what elements of the programme should be retained?); and Key issues (e.g. what have been the major challenges, flaws). For each issue, what needs to be changed?

APPENDIX G – Ethical approval

University of Brighton

Tier 2 Cross-School Research Ethics Committee
Research Office
M24 Cockcroft Building
Moulsecoomb
Brighton
BN2 4GJ

Professor Jörg Huber
Westlain House
School of Health Sciences
University of Brighton
Falmer
BN1 9PH

LHPSCREC 17-31 19 December 2017

Dear Jörg

Thank you for your resubmission to the Cross-School Research Ethics Committee for Life, Health and Physical Sciences at the University of Brighton.

The committee feel you have now addressed all the issues raised and are happy to offer a favourable ethical opinion for this study.

Favourable ethical opinion is given on the basis of a project end date of 01/06/2019. If you need to request an extension, please contact the CREC secretary. Please note that the decisions of the committee are made on the basis of the information provided in your application. The CREC must be informed of any changes to the research process after a favourable ethical opinion has been given. Tier 2 research that is conducted without having been reviewed by the committee is not covered by the University research insurance cover. If you need to make changes to your proposal please complete and submit a change notification form in order that the CREC can determine whether the changes will necessitate any further ethical review. The form is available at:

https://staff.brighton.ac.uk/ease/ro/Pages/ethics%20and%20governance/CREC-LHPS.aspx

Once your research has been completed, please could you fill in a brief 'end of project report form' that can be found on the same website. Finally please could I ask that you flag up any unexpected ethical issues, and report immediately any serious adverse events that arise during the conduct of this study.

We wish you all the best with your research and hope that your research study is successful. If the CREC can be of further assistance with your study, please contact us again.

Best wishes

L Redhead

Lucy Redhead
Chair
Research Ethics Committee (Tier 2)
Life, Health and Physical Sciences

Copy to Dr Alexandra Sawyer via email