

Warm Well Families: Doncaster Final Report

NELSON, Pete, TOD, Angela, CRONIN DE CHAVEZ, Anna, POWELL-HOYLAND, Vanessa and STOCKS, Amanda

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Warm Well Families : Doncaster Final Report

2014

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A four letter word: cold.

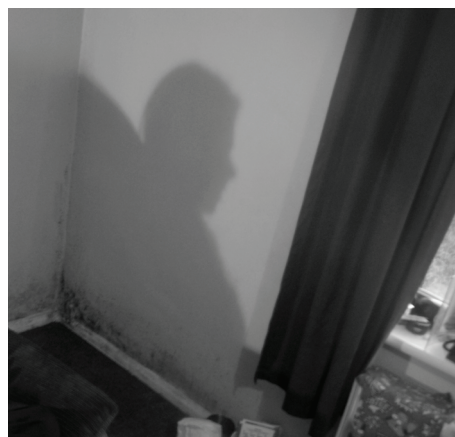
A four letter word: warm.

I was told not to use four letter words.

But I am (four letter word).

I want to be (four letter word).

by Ian McMillan



Foreword



Cold homes harm health. There is a growing knowledge and evidence base related to the direct negative impacts on morbidity and mortality of living in cold housing. We know for example that in children, cold homes are associated with poor infant weight gain, slower development, worse asthma, and more hospital admissions. Adolescents are five times more likely to suffer multiple mental health problems. Adults – particularly those who are vulnerable – suffer more heart disease, stroke and respiratory disease, their general health is worse and existing conditions are exacerbated by living in cold properties. Older people suffer worse mental health and higher mortality rates.

Living in cold housing can also indirectly harm health. It affects children’s educational attainment, emotional wellbeing and resilience; limits the dietary opportunities and choices people make; and the impact of cold on dexterity leads to a higher risk of accidents and injuries.

The Warm Homes, Warm Families research project adds to our knowledge about the complex interaction between cold homes and health by exploring factors influencing the ability of households with children with asthma to keep warm at home in winter and access help. The experience, knowledge, beliefs and values of adults living in households with children with asthma affect the choices they make. This work will help to design improved information and support to enable families to protect themselves better from the harm to health caused by cold, damp housing. This work is particularly important at a time when energy costs are spiralling upward and when many families are faced with very stark economic choices.

A handwritten signature in black ink that reads "Tony" followed by a stylized flourish.

Dr Tony Baxter

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Executive Summary

This report presents findings from a research project funded by Consumer Futures and NHS Doncaster. The Warm Well Families Project in Doncaster aimed to explore factors influencing the ability of households with children with asthma to keep warm at home in winter and access help. The project was conducted in partnership with a Warm Well Families Project in Rotherham, funded by NHS Rotherham and the subject of a separate report.

Background

For 2011, around 2.39 million households in England were identified as fuel poor (DECC 2013), representing approximately 11% of the population. Fuel poverty rates for Doncaster and the surrounding areas are slightly higher at 11.4%. A safe household temperature is 21 degrees centigrade for the main living area, and 18 degrees centigrade for other occupied rooms. The key factors behind fuel poverty are the energy efficiency of the property, the cost of energy and the income of the household.

Living in cold, damp housing is linked to health problems. Children living in cold homes are at increased risk of respiratory illness, colds and flu, mental health problems, low self esteem and low confidence (Marmot Review Team, 2011, Department of Health 2012). Cold housing for children also lowers educational attainment, emotional well-being and resilience, has negative impacts on dietary opportunities, nutrition and food choices and increases risk of accidents and injuries in the home (Marmot Review Team, 2011). Asthma in particular is made worse by cold, damp homes. Poorly heated homes are more at risk of experiencing serious damp problems, leading to more allergens that worsen asthma symptoms and severity of attacks (Nibhanipudi et al 2009; Razzouk et al 1998; Somerville et al 2000). Cold temperatures also increase the number of respiratory infections and so exacerbate asthma.

The UK has one of the highest incidences of paediatric asthma in the world. The UK average for asthma prevalence is 5.9% and in Doncaster is 6.8% (YHPHO 2012a, b & c). Doncaster has twice the national average for England for years of life lost due to asthma mortality (Healthy Ambitions 2011).

Despite the above indication of negative health impacts of cold homes on families and households with children, little is known about decision making and factors influencing heating behaviour in those homes. How do parents of children with chronic health conditions such as asthma manage in keeping a warm, dry and mould free home? The focus of this current study is therefore on households containing children with asthma. This is because of the direct health impact of cold weather on young children (Marmot Review team 2011).

Design and methods

The study is an in-depth, qualitative exploration of factors influencing the decisions and behaviour of vulnerable households with children regarding keeping warm and well at home. Individual, and group interviews have been used along with temperature measurement in homes, consultation methods and framework analysis techniques. The different methods used capture the views and experience of adults living in households with children who have been diagnosed as having asthma and also professionals working with families to ensure that we obtain an accurate understanding of factors that influence keeping warm.

Research activity in the study is summarised below.

- Consultation with staff from a range of organisations including children's centres, NHS Doncaster, local authority, housing associations, financial inclusion and the voluntary sector.
- In the period up to mid June 2013, 18 parents from households with children with asthma were interviewed. Recruitment was through Childrens Centres.
- Temperature measurements were taken in two rooms in the homes (the bedroom of the child with asthma and the main family living room) for two weeks prior to the interview.
- Eleven staff were interviewed from a range of health, social care and voluntary sector organisations who work with vulnerable families.
- Two focus groups were held with a total of 13 front line staff participants from the organisations included in the consultation stage.
- One focus group was held with 20 parents.
- One focus group was held with six schoolchildren aged between 9-11 years.

Findings

The different data revealed a range of themes which explain the complex world within which families operate and the barriers they encounter in relation to keeping warm. Key themes included:

- Contextual factors e.g. type of home and income.
- Social factors e.g. the nature and quality of social contact and support.
- Behaviours e.g. the behaviours and coping strategies of families employed to keep warm and manage household budgets.
- Attitudes and beliefs, including fear of debt, priorities and beliefs regarding asthma, cold and health.
- Knowledge and awareness of cold household temperatures, heating systems, getting help and trusted sources of information.

Household, parent and children

Factors relating to limited household income, fuel poverty and other variables all impacted upon asthma.

Households varied in terms of knowledge and behaviours regarding heating and health, as well as asthma. Most had little reliable knowledge about safe temperatures and avoiding asthma triggers. Where knowledge had been obtained there are some clear benefits to being informed, most noticeably in the control of damp. Variations in home temperatures were identified across and within homes.

Fuel was prioritised as a household expenditure. Whilst a few left their heating on for most of the day, most participants limited their fuel use and prioritised times when the children were home. An on/off approach was adopted by some households based on their subjective feeling of hot or cold as thermostats or timers were often not available. For some the temperature in the child's bedroom was very low and the humidity high. In particular cases the temperature was as low as 6 degrees Centigrade.

For many of the families, damp and mould were problematic due to the competing demand of maintaining heat and therefore not opening windows and ventilating adequately.

All the interviewees were on low income whether unemployed or on low wages and for all there appears a pervasive fear of debt and of 'not managing', of 'getting behind'. High bills were to be avoided and for that reason a pre-payment card was the desired method of payment whether of choice or of necessity.

Disconnection is something to be avoided at all costs. The fear of debt was strong and in many cases influences the type of payment method chosen, in the full knowledge that the method is more expensive than others. Not facing a large unpredictable bill was important to participants in maintaining control when budgeting on a low income. Consequently disconnection by external agencies is avoided but self-disconnection becomes a regular feature of life, one to be managed in the same way as other life choices. The process can include degrees of self-disconnection, for example not heating particular rooms at all, not heating particular rooms at specific times and not heating the house at all. The peaks and troughs of the tiny tag temperature measurements bear out the irregular heating pattern.

Participants in the private rented sector provide evidence of the interplay between heating systems, equipment and self – disconnection. Families with no thermostat or timer controlled the boiler with the on/off switch. The requirements of managing finances lead to competing priorities and consequences with self-disconnection a key management tool.

Staff

The findings from the staff interviews and focus groups indicate a range of comparable themes to the household interviews but there were differences in how family behaviours are understood and explained. One manifestation of this is in the complex interplay between low income, high fuel bills and household priorities. For some staff what is important is helping families budget appropriately, for others the structural restraints of government policy, rising fuel costs and payment methods and the consequent effect on expenditure and pattern of fuel use were more important influences.

Key messages

The research demonstrated very powerfully how parents were constantly assessing their family's needs against the resources available to them. Many of the parents interviewed displayed high levels of ability and skills in the way they controlled, managed and allocated limited budgets and planned ahead for expenditure. Evidence was also seen of parents working their way through conflicting and confusing information or advice, negotiating with professionals and taking different approaches when faced with barriers in the way of what they wanted to achieve. Parents were also seen, not only to manage their own time and resources, but also provide help and support for extended family and friends. In return, they also turned to peers and family for support and advice.

In summary key messages are:

- Cold, damp and mould are seen as significant problems both by household members and by staff from a range of professions and over a range of service user groups
- Damp and mould are prevalent in cold, poorly ventilated homes.
- The temperature of the home has a reported impact on the wellbeing of the inhabitants
- Heating, temperature of the home and levels of humidity and damp are reported as affecting the health of children with asthma.
- There is a complex interplay between heating systems and equipment and patterns of heating use. Where there is no thermostatic control or timer it can be easier and cheaper not to use the heating at all or to engage in an inefficient stop start pattern.
- Fuel is prioritised as a household expenditure, but is one priority amongst many.
- For families on a low income paying for fuel and keeping the home warm is problematic.
- These families have a pervasive fear of debt, of getting behind and not managing.
- Management is a key concept for families - in particular managing the complex interplay between low income, high fuel bills, household priorities and child health and wellbeing.
- To solve the problem of providing a warm home and paying for fuel, families make use of a range of strategies. These include:
 - self-disconnection
 - a pragmatic heating pattern of peaks and troughs
 - wearing more clothes in the home
 - rigid budget management
 - choosing a method of paying for fuel which provides control and avoids large bills
 - being out of the house
 - seeking support from families and friends
- Families were reluctant to seek professional help irrespective of agency.
- The need to 'juggle' or manage priorities against resources often meant the parents were making 'trade-offs'. It is proposed that these trade-offs drive behaviour and, in conjunction with the parent's ability to take positive actions when faced with difficult circumstances or challenges, are ultimately the governing factors that will determine the level of vulnerability to illness for that child.

Considerations for Professionals

The focus group discussions and household interviews indicated that vulnerable households need information that is easy to understand. There was a strong message that much existing information on how to manage and alleviate fuel poverty existed but was not sufficiently accessible or useable. The notion of 'visual messages' was stressed where the benefits of taking a specific form of action could be clearly seen.

Families on low incomes are by necessity experts in budget management and in order to bring about changes in behaviour positive benefits must be clearly evidenced. How professionals understand and explain family behaviour influences both the type and manner of the support offered. We can learn from this data to develop clear accessible messages regarding financial inclusion and household budgeting.

Many participants were concerned about "damp" properties and mould. Data from households, alongside that from staff and focus groups should inform the development of acceptable and assessable messages regarding preventing the build-up of condensation and mould.

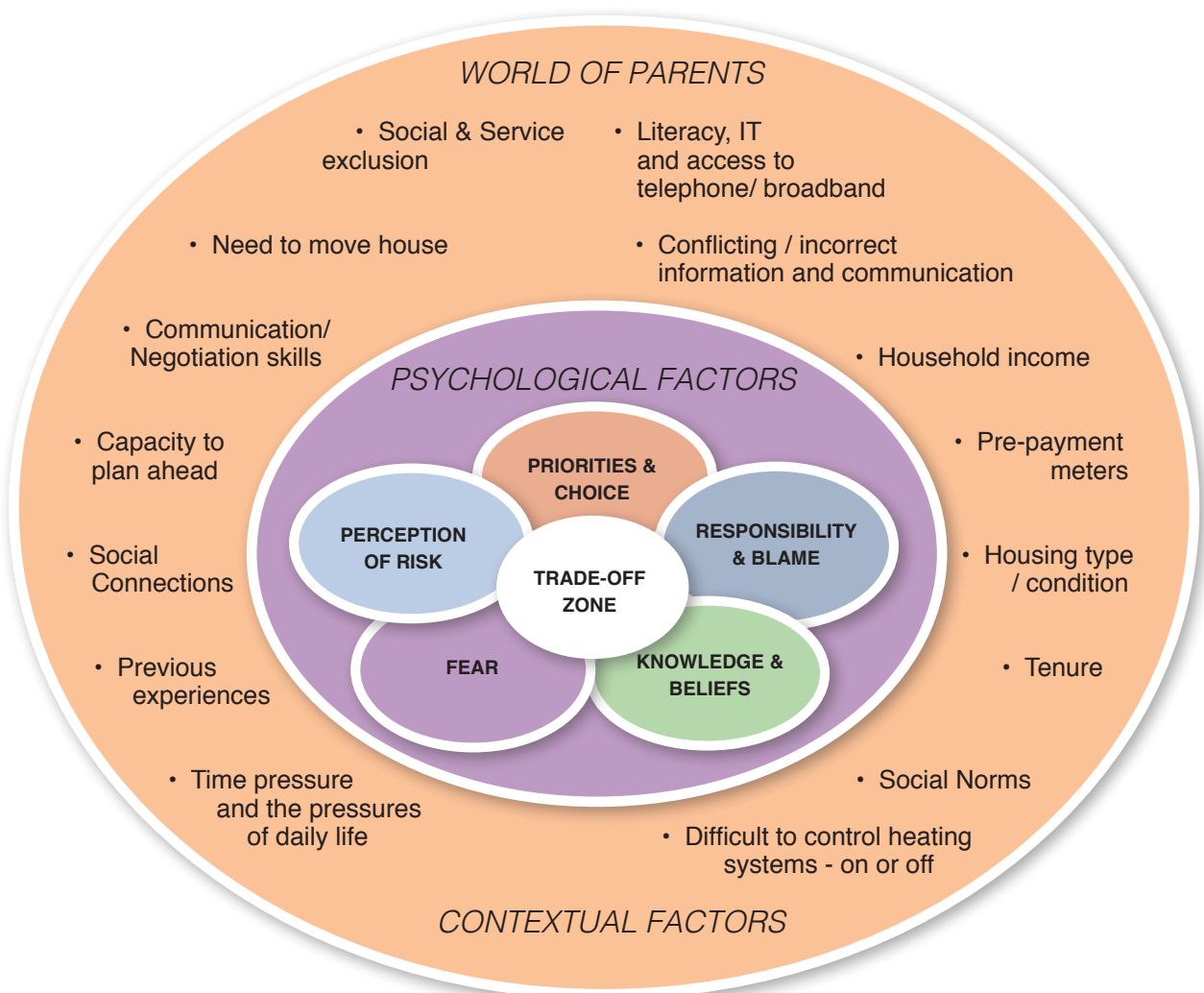


A Trade-off Zone

This research identifies a range of influences that may place a child being at risk of illness associated with living in a cold home, a home with fluctuating temperatures, damp conditions or mould. The need to 'juggle' or manage priorities against resources in this way often meant the parents were making 'trade-offs'. It is proposed that these trade-offs drive behaviour and, in conjunction with the parent's ability to take positive actions when faced with difficult circumstances or challenges, are ultimately the governing factors that will determine the level vulnerability to illness for that child.

The model below represents some of the contextual and psychological factors found in the research and aims to help professionals understand how similar challenges may lead to different behaviour outcomes within different families.

To assist professionals to gain further understanding and therefore target interventions more effectively, a basic segmentation model has also been developed along with some pen-portraits. These can be used as an educational tool for staff working with vulnerable families.



Conclusion

This project has generated findings to help people working in public health, policy and practice understand the complex network of factors that influence how households make decisions regarding keeping warm at home. This project is one of few that examine the lives of families in relation to fuel poverty and affordable warmth. Whilst it does provide valuable insight, ongoing research is essential to examine the impact of fuel poverty, energy price rises and welfare reform on the health of different segments of the population, as well as better understand the perspective of children, and the influence of cold on people with clinical conditions that make them vulnerable to the impact of cold.



Introduction

This report presents findings from a research project funded by Consumer Focus Energy and NHS Doncaster. The Warm Well Families Project in Doncaster aimed to explore factors influencing the ability of households with children with asthma to keep warm at home in winter and access help. We examined the experience, knowledge, beliefs and values of adults living in households with children with asthma regarding keeping warm at home.

The project was conducted in partnership with the Warm Well Families Project in Rotherham, funded by NHS Rotherham. This report presents findings from the Doncaster site only. A second report will be produced with findings from Rotherham.

Following a brief overview of background and methods, a summary of the main findings is produced. Also included is a “trade-off” model to help understand the complex psychosocial and contextual influences at play for families with asthma, vulnerable to the cold. Recommendations for interventions and action to identify vulnerable families and reduce cold related risk and harm are presented at the end.

This project builds on the success of the Keeping Warm in Later Life project (KWILLT) (Tod et al 2012). KWILLT was funded by the National Institute of Health Research. It developed valuable insight into the factors influencing older people’s decisions and which conspire against older people being able to keep warm. Pen portraits, a DVD and e-learning materials were developed from KWILLT findings.

Background

Fuel poverty

In the UK a household was said to be in fuel poverty if it needs to spend more than 10% of its income on fuel to maintain a safe temperature (Marmot Review Team, 2011). This is usually 21 degrees centigrade for the main living area, and 18 degrees centigrade for other occupied rooms. The key drivers behind fuel poverty are:

- The energy efficiency of the property and appliances within (and therefore, the energy required to heat and power the home)
- The cost of energy
- Household income

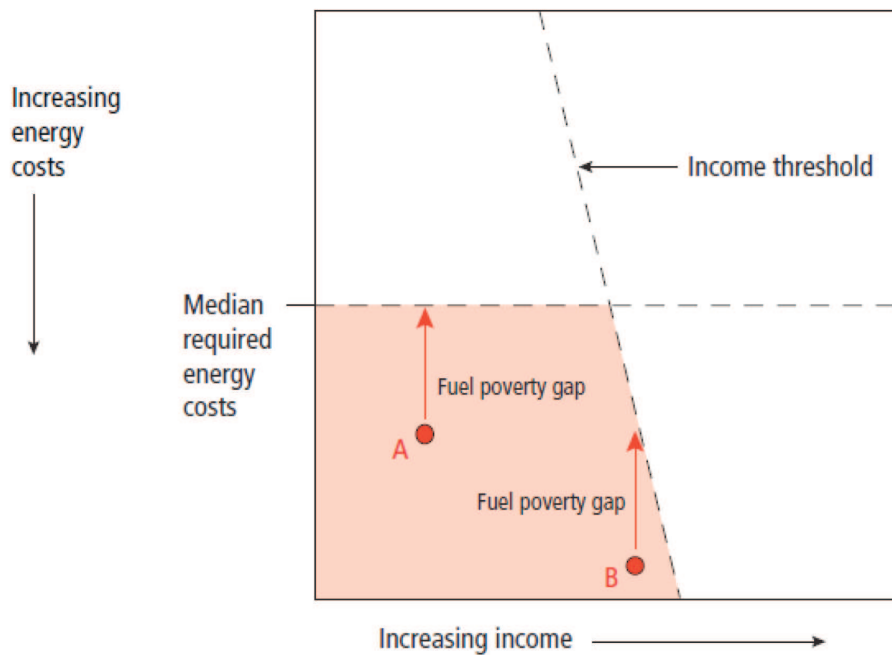
The government has recently set out a new definition of fuel poverty which it intends to adopt under the Low Income High Costs (LIHC) framework (DECC, 2013). Under the new definition, a household is said to be in fuel poverty if:

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

The low income high cost indicator consists of two parts:

- The number of households that have both low incomes and high fuel costs (the bottom left quadrant in the diagram below);
- The depth of fuel poverty amongst these households. This is measured in terms of a fuel poverty gap, which represents the difference between the required fuel costs for each household and the required fuel costs for all households. This is summed for all households that have both low income and high costs to give an aggregate fuel poverty gap.

Figure 1: Representation of the Low Income High Costs indicator and fuel poverty gap



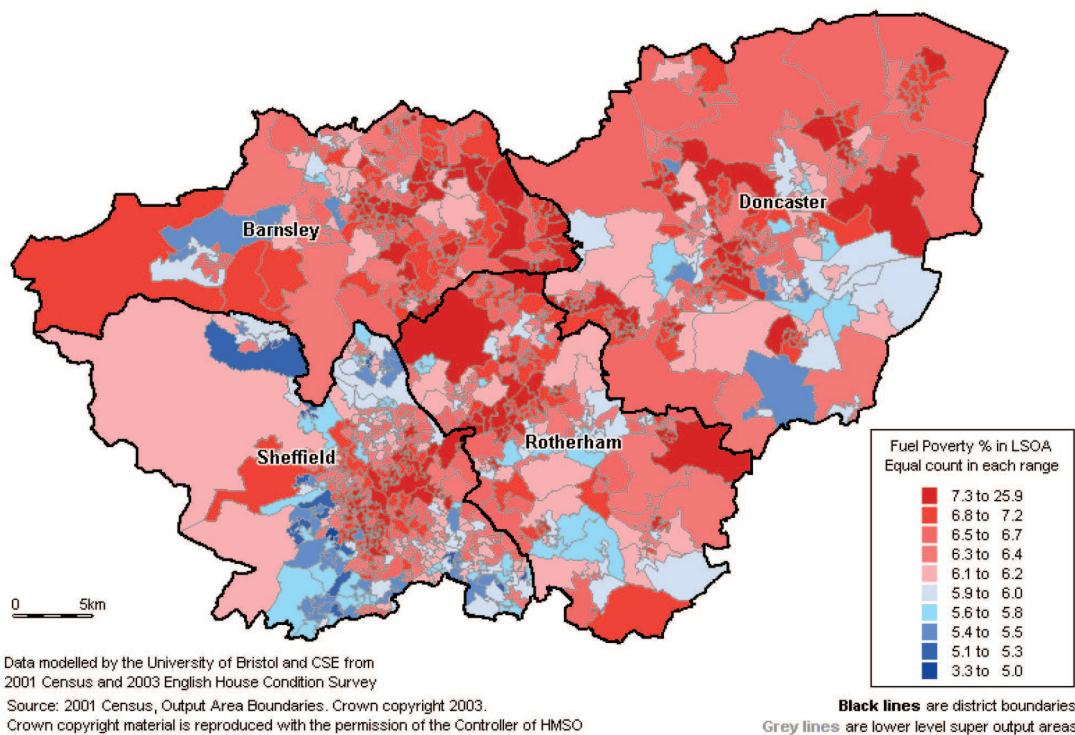
Using the LIHC indicator, fuel bills are now equalised by the number of people in the household, rather than the household composition (e.g. lone parent, couples with dependent children). This is to reflect the fact that different sizes of households will have a different required spend on fuel.

For 2011, around 2.39 million households in England were identified as fuel poor under the new proposed LIHC measure, representing approximately 11% of the overall population. Fuel poverty rates for Doncaster and the surrounding areas are indicated in Table 1. Doncaster has slightly higher fuel poverty rates at 11.4%.

Table 1: Fuel poverty in South Yorkshire

Local Authority	All Households	Fuel Poor Households	Percentage Fuel Poor
Barnsley	102,298	11,175	10.9%
Doncaster	127,619	14,516	11.4%
Rotherham	110,636	11,160	10.1%
Sheffield	234,605	25,899	11.0%

From DECC (2013) Sub-regional fuel poverty data: low income high costs indicator

Figure 2: Fuel poverty in Doncaster and Rotherham

Cold and health

Living in cold, damp housing is linked to health problems, winter deaths and impaired quality of life in vulnerable households, including those with young children (National Children's Bureau, 2012; Department of Health 2011a). Specifically, children living in cold homes are at increased risk of respiratory illness, colds and flu, mental health problems, low self esteem and confidence (Marmot Review Team, 2011, Department of Health 2011b). There is additional evidence of cold housing impacting upon infant's weight gain and the mental health of adolescents (National Children's Bureau, 2012; Marmot Review Team, 2011). Cold housing for children also lowers educational attainment, emotional well-being and resilience, has negative impacts on dietary opportunities, nutrition and food choices and increases risk of accidents and injuries in the home (Marmot Review Team, 2011). Asthma in particular is made worse by cold, damp homes. Poorly heated homes have more serious damp problems, leading to more allergens

that worsen asthma symptoms and severity of attacks (Nibhanipudi et al 2009; Razzouk et al 1998; Somerville et al 2000). Cold temperatures also increase the number of respiratory infections and so exacerbate asthma.

Fuel poverty is a major contributor to the negative health impacts of cold weather. Strategies to address fuel poverty aim to increase household income (for example, unlocking benefits householders are eligible for but not currently claiming), reducing fuel costs (for example, accessing social tariffs for fuel) or improving the energy efficiency of the home (for example, accessing initiatives such as ECO (Energy Company Obligation) Affordable Warmth and the Green Deal). However, there are concerns that those at most risk sometimes struggle to access such interventions (Stockton & Campbell 2011).

A UK longitudinal study of housing conditions and child health revealed some worrying indications of the health impact of cold homes (Liddell & Morris, 2010, Barnes et al 2008). In relation to respiratory problems they were twice as prevalent in children that lived for three years or longer in homes that lacked affordable warmth (15%), compared with children who had never lived in homes that were hard to heat during the previous 5 years (7%). For children who had lived at least 3 years in homes that were cold and damp, 15% had respiratory problems compared with 6% of children that had never lived in homes that were cold and damp (Barnes et al, 2008).

After adjustment for covariates (including maternal education, income, multiple deprivation index, family composition, and ethnicity) the research indicated living in homes which lacked affordable warmth was significantly associated with “multiple mental health risk”. This was defined as an adolescent manifesting four or more negative mental health symptoms (Barnes et al, 2008). Adolescents who had lived for long periods in homes that lacked affordable warmth were at a greater health risk than those in homes with affordable warmth. For example, 28% were classified as having a multiple mental health risk, compared with 4% of children who had always lived in homes that had affordable warmth. In addition 13% had truanted (compared with 3% in homes with affordable warmth), 10% had been expelled / excluded from schools (compared to 3% in homes with affordable warmth), 7% had been in trouble with the police (2% in homes with affordable warmth), and 10% of the adolescents felt unhappy in their family compared with 2% in the group that had affordable warmth. Adolescents from cold homes were more than twice as likely to have run away from home (Barnes et al, 2008). 27% of teenagers from homes without affordable warmth were worried about bullying and mugging, compared with 15% of teenagers who lived in warmer homes (Barnes et al, 2008).

Explanations for these statistics lie in teenager’s responses to the environment. For example they may seek time away from family members, either for solitude (Larsen, 1997), privacy or to spend private time with their peers. This is because fuel poor households can encounter what is referred to as “spatial shrink”, where families cluster in certain rooms most of the time as heating is limited. (Lawlor et al, 2002, Farrell et al., 2008). This can place inter- generational relationship under strain during adolescence (Kwak, 2003). Seeking privacy and respite in public spaces such as parks and shopping centres may make adolescents more vulnerable to anti-social or high risk behaviour as well as other mental health risks (Wells et al., 2005).

It is therefore important to promote keeping warm at home to reduce the burden on individuals and the health service. This is especially true in households where residents are at high risk of being cold at home or at high risk of suffering the negative health consequences of being cold at home, for example households containing children with asthma. Interventions to improve the energy efficiency and warmth of homes have delivered significant benefits and reduced the severity and frequency of children’s asthmatic symptoms (Liddell and Morris 2010).

Asthma

The UK has one of the highest incidences of paediatric asthma in the world. Asthma accounts for 1 in 250 deaths worldwide and was the 25th leading cause of disability adjusted life years (DALYS) in the world in 2001 (Masoli et al 2004). Even in this global context of high asthma rates, Yorkshire and Humber have one of the highest rates for emergency hospital admissions for children in the UK. 2.5 years of life are lost due to asthma in Yorkshire and Humber which is 25% higher than the national average. Worse still asthma prevalence and mortality in Doncaster is well above both Yorkshire and Humber and UK averages, Doncaster has the highest asthma rate in Yorkshire and Humber. The UK average for asthma prevalence is 5.9% and for Doncaster 6.8% (YHPHO 2012a, b & c). Doncaster has twice the national average for England for years of life lost due to asthma mortality (Healthy Ambitions 2011).

Asthma also accounts for more emergency bed days and emergency admissions to hospital for children and young people than any other paediatric long term condition (from YHPHO 2012c). An estimated 75% of hospital admissions and 90% of deaths from asthma are preventable. Triggers for asthma include: moulds and fungi; smoking; weather; wood and coal fires; air pollutants; cold and viral infections; and animals. Adequate heating systems have been shown to improve asthma symptoms and reduce days off school from asthma and respiratory conditions by 80% (Somerville et al 2000). A warm, damp free home is important in the prevention of asthma because this reduces allergens such as moulds, fungi and dust mites. In addition bronchial spasm resulting from going from a warm to cold room can be prevented and incidence of respiratory infections can be reduced through reduction of cold indoor environments. As indicated above, children living in accommodation with inadequate heating and poor conditions were twice as likely to suffer from respiratory conditions such as asthma and bronchitis (Barnes et al 2008).

Warm Well Families

Despite the above indication of negative health impacts of cold homes on families and households with children, little is known about decision making and factors influencing heating behaviour in those homes. How do parents of children with chronic health conditions such as asthma manage with keeping a warm and mould free home? The focus of this current study is therefore on households with children with asthma. This is because of the direct health impact of cold weather on children (Marmot Review team 2011).

Doncaster Health Profile

The study was based in Doncaster a town in South Yorkshire with a population of 127, 850 which forms part of the Metropolitan Borough of Doncaster (DMBC). DMBC has a population of 302,400 at the 2011 census.

Key messages regarding the health of the Doncaster population are listed below.

- The health of people in Doncaster is generally worse than the England average. Deprivation is higher than average and about 14,100 children live in poverty.
- Life expectancy for both men and women is lower than the England average.
- Life expectancy is 10.5 years lower for men and 7.0 years lower for women in the most deprived areas of Doncaster than in the least deprived areas.
- Over the last 10 years, all cause mortality rates have fallen. The early death rate from heart disease and stroke has fallen yet is still is worse than the England average.
- In Year 6, 18.8% of children are classified as obese, compared with a national average of 19.2% http://www.noo.org.uk/NOO_about_obesity/child_obesity .
- Levels of teenage pregnancy, GCSE attainment, breast feeding and smoking in pregnancy are worse than the England average.
- Estimated levels of adult 'healthy eating', smoking and obesity are worse than the England average.
- Rates of road injuries and deaths, smoking related deaths and hospital stays for alcohol related harm are worse than the England average. The rates of statutory homelessness and violent crime are better than average.

Further information on the health of Doncaster is available in appendix 4 and at <http://www.apho.org.uk/resource/view.aspx?RID=50215&SEARCH=doncaster&SPEAR=>

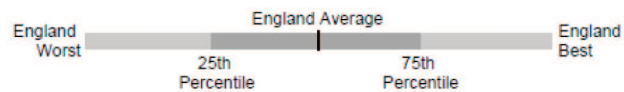
Table 2 Doncaster Health Summary

Health summary for Doncaster

E08000017

The chart below shows how the health of people in this area compares with the rest of England. This area's result for each indicator is shown as a circle. The average rate for England is shown by the black line, which is always at the centre of the chart. The range of results for all local areas in England is shown as a grey bar. A red circle means that this area is significantly worse than England for that indicator; however, a green circle may still indicate an important public health problem.

- Significantly worse than England average
- Not significantly different from England average
- Significantly better than England average



Domain	Indicator	Local No. Per Year	Local Value	Eng Avg	Eng Worst	England Range	Eng Best
Our communities	1 Deprivation	113144	37.4	20.3	83.7		0.0
	2 Proportion of children in poverty	14070	24.9	21.1	45.9		8.2
	3 Statutory homelessness	61	0.6	2.3	9.7		0.0
	4 GCSE achieved (5A*-C inc. Eng & Maths)	1888	54.7	59.0	31.9		81.0
	5 Violent crime	3740	12.9	13.8	32.7		4.2
	6 Long term unemployment	2588	13.4	9.5	31.3		1.2
Children's and young people's health	7 Smoking in pregnancy ‡	808	22.2	13.3	30.0		2.9
	8 Starting breast feeding ‡	2408	66.1	74.8	41.8		96.0
	9 Obese Children (Year 6) ‡	545	18.8	19.2	28.5		10.3
	10 Alcohol-specific hospital stays (under 18)	35	54.9	61.8	154.9		12.5
	11 Teenage pregnancy (under 18) ‡	266	45.8	34.0	58.5		11.7
Adults' health and lifestyle	12 Adults smoking	n/a	27.0	20.0	29.4		8.2
	13 Increasing and higher risk drinking	n/a	21.9	22.3	25.1		15.7
	14 Healthy eating adults	n/a	21.4	28.7	19.3		47.8
	15 Physically active adults	n/a	52.1	56.0	43.8		68.5
	16 Obese adults ‡	n/a	29.0	24.2	30.7		13.9
	Disease and poor health	17 Incidence of malignant melanoma	39	12.6	14.5	28.8	
18 Hospital stays for self-harm		598	207.8	207.9	542.4		51.2
19 Hospital stays for alcohol related harm ‡		7524	2145	1895	3276		910
20 Drug misuse		2443	12.4	8.8	26.3		0.8
21 People diagnosed with diabetes		17252	6.9	5.8	8.4		3.4
22 New cases of tuberculosis		19	6.7	15.4	137.0		0.0
23 Acute sexually transmitted infections		2517	832	804	3210		162
24 Hip fracture in 65s and over		358	507	457	621		327
Life expectancy and causes of death		25 Excess winter deaths ‡	183	20.4	19.1	35.3	
	26 Life expectancy – male	n/a	77.6	78.9	73.8		83.0
	27 Life expectancy – female	n/a	81.8	82.9	79.3		86.4
	28 Infant deaths	17	4.6	4.3	8.0		1.1
	29 Smoking related deaths	611	267	201	356		122
	30 Early deaths: heart disease and stroke	240	69.9	60.9	113.3		29.2
	31 Early deaths: cancer	442	128.7	108.1	153.2		77.7
	32 Road injuries and deaths	145	48.2	41.9	125.1		13.1

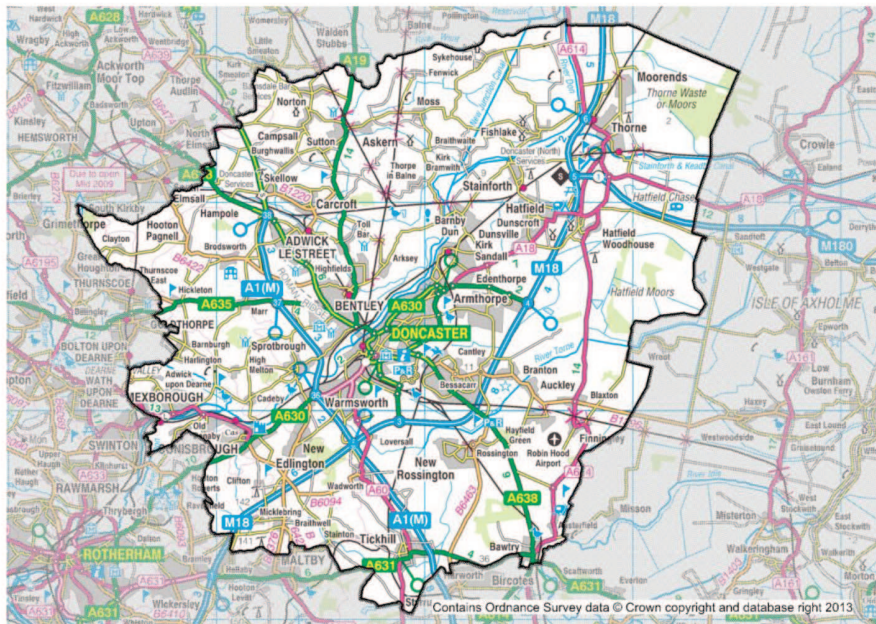
‡ For comparison with PHOF Indicators, please go to the following link: www.healthprofiles.info/PHOF

Methods

Design

The study is an in-depth, qualitative exploration of factors influencing the decisions and behaviour of vulnerable households containing children regarding keeping warm and well at home. Individual, and group interviews have been used along with temperature measurement in homes, consultation methods and framework analysis techniques. The different methods used will capture the views and experience of adults living in households with children who have been diagnosed as having asthma and also professionals working with families to ensure that we obtain an accurate understanding of factors that influence keeping warm.

Figure 3:Setting



Doncaster has high levels of deprivation, fuel poverty, excess winter deaths, and childhood winter hospital admissions for respiratory complaints. The area is in South Yorkshire and has a demographic mix in terms of urban and rural populations, ethnicity and socio-economic status. By merging findings from Doncaster and Rotherham in the latter stages of the project we will ensure a breadth of participants and increase the transferability and rigour of the findings.

Detailed maps of the demographics of Doncaster are provided in appendix 4. These relate specifically to children living in poverty; the proportion of the community population that is non white; the proportion of housing stock that is social housing; and emergency admissions for asthma and lower respiratory tract infections for 0-5 year olds for the winters of 09/10 and 10/11.

Four areas were identified within Doncaster as having the highest rates of winter hospital admissions for child respiratory problems, infant asthma and living on benefits. We ensured recruitment included families in these four settings alongside a consideration of associated demographic data. This resulted in a focus for data collection in the areas of Tollbar, Bentley, Hexthorpe, Intake and Rossington.

Activity summary

Research activity in the different stages of the study is summarised below.

- Consultation with staff from a range of organisations including children's centres, NHS Doncaster, local authority, housing associations, financial inclusion and voluntary sector.
- In the period up to mid June 2013, 18 parents from households with children with asthma were interviewed.
- Temperature measurements were taken in two rooms in the homes (the bedroom of the child with asthma and the main family living room) for two weeks prior to the interview.
- Recruitment was through Childrens Centres.
- Eleven staff were interviewed from a range of health, social care and voluntary sector organisations who work with vulnerable families.
- Two focus groups were held with a total of 13 front line staff participants from the organisations included in the consultation stage.
- One focus group has been held with 20 parents.
- One focus group has been held with six school children aged between 9-11 years.

Household interviews

Recruitment flow chart



Sampling

Sampling was conducted in a purposive manner to include a range in terms of key characteristics. These characteristics included: the size of family, health and disability, location, areas with high asthma rates, age of children, type and tenure of housing, ethnicity, substance misuse and severity of asthma. Sampling decisions were made with reference to routine demographic data (see maps in appendix 4) alongside the type of medication used by the asthma suffering children, (see appendix 6).

Asthma inhalers can be described as either reliever or preventer inhalers. Relievers are usually blue and are essential in treating asthma attacks. Relievers are medicines that children can take immediately when asthma symptoms appear. They relax the muscles surrounding the narrowed airways quickly, allowing the airways to open wider, and making it easier to breathe again. Preventer inhalers protect the lining of the airways and are usually brown, red or white. Preventer inhalers help to calm down the swelling in the airways and stop them from being so sensitive. This means that children are less likely to react badly when they come across an asthma trigger. Not all children and young people will need a preventer inhaler. These inhalers are usually prescribed for children and young people using their reliever inhaler three or more times a week. Most children or young people who need preventer medicines will receive one from their doctor or asthma nurse. Preventer inhalers contain inhaled steroids, of which there are several kinds, but all work in the same way.

Families who have children using brown and purple inhalers only were recruited at first as this is a more certain indication of a true asthma diagnosis and parents will potentially be more aware of asthma triggers. However, after 6 weeks recruitment via this method was low so recruitment of children on blue inhalers was commenced.

As a gesture of gratitude, participating households were given a 'Warm Pack' with a few simple items such as a fleece blanket, hand warmers, room thermometers etc alongside a £15 high street voucher. Parents were also signposted to organisations that might be help or advise them on fuel payments and housing repairs if required.

Interviews

Individual interviews took place with 18 parents living in households with children with asthma in Doncaster. Where required, an interpreter was offered. Hourly room temperature and humidity measurements were taken for the two rooms where the children spend most of the day and night using Tinytag Ultra 2 monitors (see page 26 and appendix 3). This was conducted for two weeks prior to the interview. This time period has been decided following the stakeholder consultation. Two weeks was considered long enough to allow participants to forget about the measurements. The risk that behaviour may be changed because they are being measured is reduced. However in a household with young children a longer period increases the risk that the device would be lost or damaged e.g. through child play.

An interview with one or more adults in the household was conducted using an interview schedule devised following the pre-protocol consultation. Interviews were digitally recorded, transcribed and any identifying details removed. The Tinytag data was downloaded onto a computer using specific software for the devices and charts generated for each household. The participants were offered a copy of their temperature charts.

The number given to each participant relates to the anonymised code ascribed for purposes of data collection and analysis. (See appendix two for full details of participants and housing type.)

Interviews spread over a longer period than originally envisaged to include some undertaken in warmer weather. Tinytag readings were therefore not undertaken for the final four of the overall eighteen interviews

Where a question mark appears in the following tables it indicates the participant did not know if the supplier had been switched or how long they had been with their current supplier. In addition to gas central heating households had additional heating primarily in the form of gas or electric fires which were rarely if ever used.

Figure 4: Household interview sample characteristics

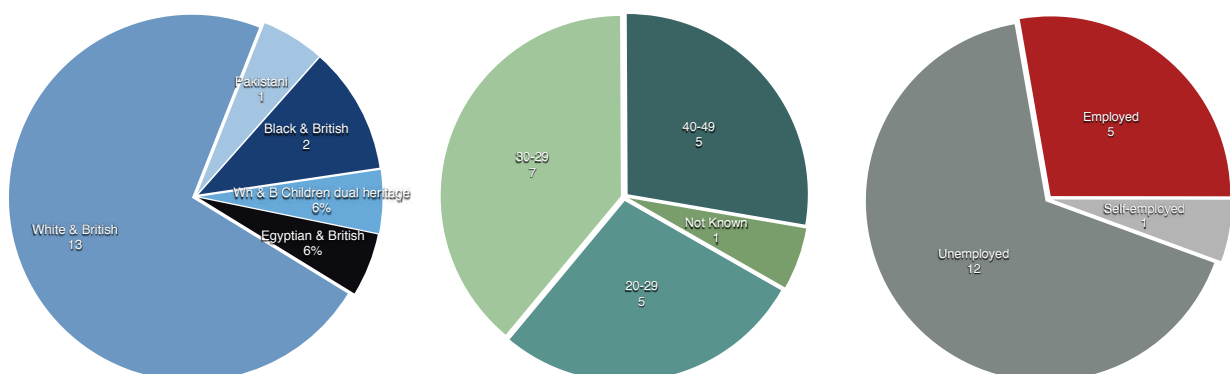
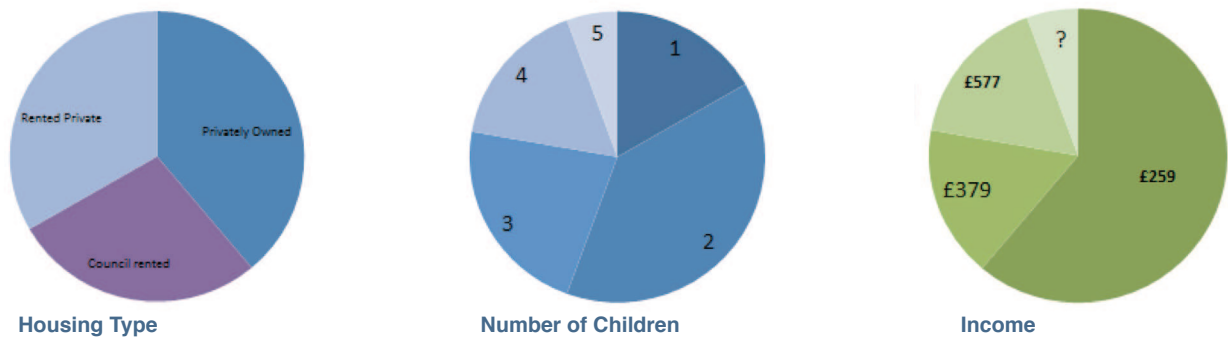


Figure 5: Household interview sample characteristics**Table 3: Household interviews heating type**

Participant	Type of heating	Switched supplier	Time with supplier	Method of payment
1	gas CH	yes	3-4 years	pre-payment meter
2	gas CH	yes	?	pre-payment meter
3	gas CH	?	11 years	pre-payment meter
4	gas CH	?	6 months	pre-payment meter
5	gas CH	no	5 years	direct debit
6	gas CH	?	?	pre-payment meter
7	gas CH	no	?	cash
8	gas CH	?	4 years	direct debit
9	gas CH	yes	?	pre-payment card
10	gas CH	yes	4 years	bill - cash at bank
11	gas CH	no	20 years	direct debit
12	gas CH	yes	6 years	pre-payment meter
13	gas CH	yes	18 months	pre-payment meter
14	gas CH	no	2 ½ years	Direct-debit gas/pre-payment electric
15	gas CH	yes	1 year	pre-payment meter
16	gas CH	no	4 years	pre-payment meter
17	gas CH	yes	2 years	direct-debit
18	gas CH	yes	1 years	pre-payment meter

Interviews with staff who work with families

Eleven staff were interviewed to explore their perceptions of the knowledge, beliefs and values of parents living in households with children with asthma regarding keeping warm at home. The sample included health, social care, education, housing, welfare and voluntary sector staff. Staff were recruited via email or telephone following initial contact from the relevant advisory group member. The staff groups were decided upon in the initial scoping stage.

Staff interviews were conducted in the workplace or location convenient to the participant or by telephone. All the interviews were digitally recorded, transcribed and any identifying details removed.

Table 4: Staff interview characteristics

Staff interviewed	
● Children centre manager	● Children centre support worker
● Gypsy & Traveller worker	● Police Support Officer
● Health visitor	● Debt advisor
● Children support worker	● Head teacher
● Safer neighbourhood officer	● Debt manager
● Local Council Cabinet Member for Health	● Police Support Officer 2

Group interviews

Two group interviews were held in Doncaster with a total of 13 frontline staff from a range of health, housing, social care and voluntary sector organisations. This was to verify, challenge and expand upon findings from the individual interviews.

Table 5: Staff group participant characteristics

Group	Participants
Staff Group 1 Civic Centre Doncaster	8 Well Being Officer, Children Centre Manager, Wider Determinants Manager, Health and Wellbeing team worker, Department of Working Pensions team representative, Business Doncaster representative, Community Safety Officer, Vulnerable Persons Advocate
Staff Group 2 Civic Centre Doncaster	5 Children Centre Support Officer, Vulnerable Persons Advocate, Community Support Officer, Health and Social Care Team representative, Area Team representative, Active Doncaster Support representative.
Total	13

The groups were co-facilitated by two members of the research team. They took place within a location familiar to the group. Consent to participate was obtained after discussion prior to the group and a consent form signed. The group topic guide was developed after the initial analysis of the interviews. Discussions were recorded, transcribed and all identifying data removed.

Focus group with children

One focus group has been held with seven school children aged between 9-11. The group was co-facilitated by two members of the research team. The group took place within the children's school. The group was discussed with the school who assisted in identifying children for the study and facilitating permission to participate with parents. Consent forms were obtained and the research was explained

to the children in age appropriate language. The group discussion was initiated through the use of pre prepared and piloted drawing and writing materials. The discussion was recorded, and transcribed and all identifying information removed. Examples of the materials used and the information collected from the children through the use of drawing is included in appendix 8.

Focus group with parents

One focus group was held with 20 parents. The group was co-facilitated by one member of the research team. The group took place within a children centre and the parents were all attendees at a regular group within the centre for families identified as 'vulnerable' by the centre workers. The focus group was discussed with the Children Centre who assisted in identifying parents for the study and facilitating permission to participate with parents. Consent forms were obtained. The discussion was recorded, and transcribed and all identifying information removed.

Social marketing consultation

A social marketing consultation with up to 50 lay and professional stakeholders took place in early autumn. This included representatives from regional and national organisations, including parents and staff involved in the reference group, interviews and focus groups, to examine the findings and shape the study outputs to help adults living in households with young children keep their homes warm and families healthy. The format and content of the consultation events was informed by the study findings which included some presentations and some interactive discussions and activity.

Data analysis for all stages

Following anonymisation and transcription the data from all individual and group interviews were entered on to password protected computers in Microsoft Office Word. Framework Analysis methods were used to generate themes and issues that capture the experiences, views and perceptions of the sample. Framework Analysis has emerged from policy research and is a pragmatic approach to qualitative data analysis. It involves a systematic process of sifting, charting and sorting the material into key issues and themes. It allows the integration of pre-existing themes into the emerging data analysis.

Tinytag device and recording

Tinytag data loggers (dataloggers or data recorders) are electronic devices for monitoring temperature, humidity, CO₂, power usage and other environmental parameters in a variety of applications across many different industries. Data is transferred to a PC with a USB or serial cable and the data can then be made available in a variety of formats.

Tinytag specific software was used to generate charts of each participating household and analysed alongside participant transcripts. Three charts of the bedrooms of three children with asthma are appended (Appendix 3) as examples of the data from the Tinytags. They indicate an overall warm room (4), an overall cold room (10) and a room with high humidity (8).



Tinytag data was used as an objective measure to examine if households perceptions of temperature were accurate.

Some additional analysis of the Tinytag data was conducted by the Head of Public Health Intelligence at Doncaster Metropolitan Borough Council (Laurie Mott). This analysis consisted of:

- Information from the Met Office was obtained in respect of external temperature and humidity during the primary interview period. This was then used as an independent variable to fully interrogate the data sets.
- Measurements that were taken between 4th December and 19th December 2012 were analysed, using temperature and humidity recorded between 9pm and 8am (when children are likely to be in the room).
- A comparison was made of 6 children's bedrooms every hour against met office data of external temperature.
- Ideal Type analysis against a norm of 18 degrees centigrade and 60% humidity was conducted.

Funding available for this research project prohibited further detailed analysis.

Results

Tinytag findings

The following graphs indicate a comparison of the temperature in the children's bedrooms between 9pm and 8am (Figure 6), temperature in the children's bedrooms averaged over night (Figure 7) and humidity in the children's bedrooms (Figure 8) – all set against outside measurements for temperature and humidity.

DWW02, 03 and 04 were the warmest bedrooms. Although the temperature tended to drop during the course of the night they generally remained above the 18 degrees centigrade threshold.

The meteorological data from the three closest weather stations showed that night time temperatures started to fall to below freezing from the night of the 8th/9th to the 13th/14th December. The three coldest bedrooms appeared to be more affected by this drop in temperature; this is particularly true of the coldest room (DWW06). As the temperature fell so did average temperatures in these bedrooms.

Humidity in most of the rooms remained fairly consistent. One room DWW01 was below 60% humidity for only 55% of the time. DWW05 was very humid and only below the 60% threshold less than 4% of the test period.

Figure 6

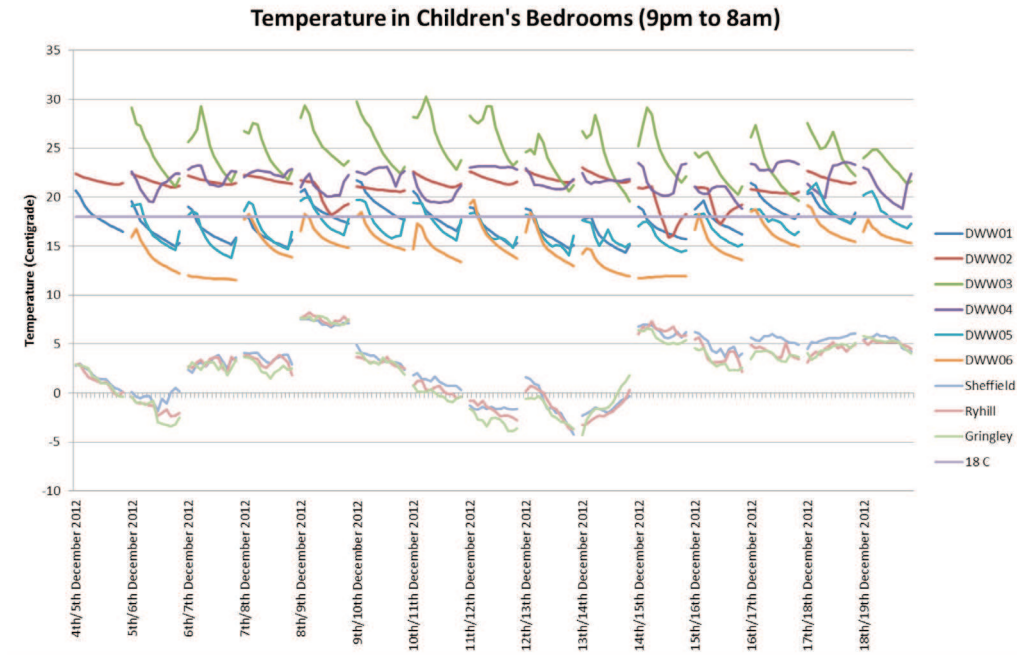


Figure 7

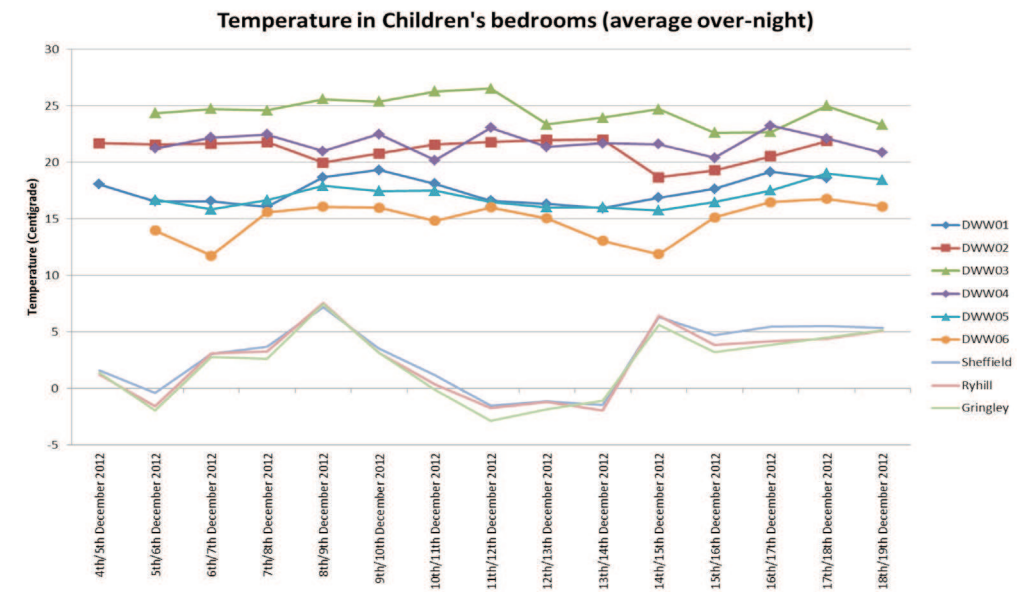


Figure 8

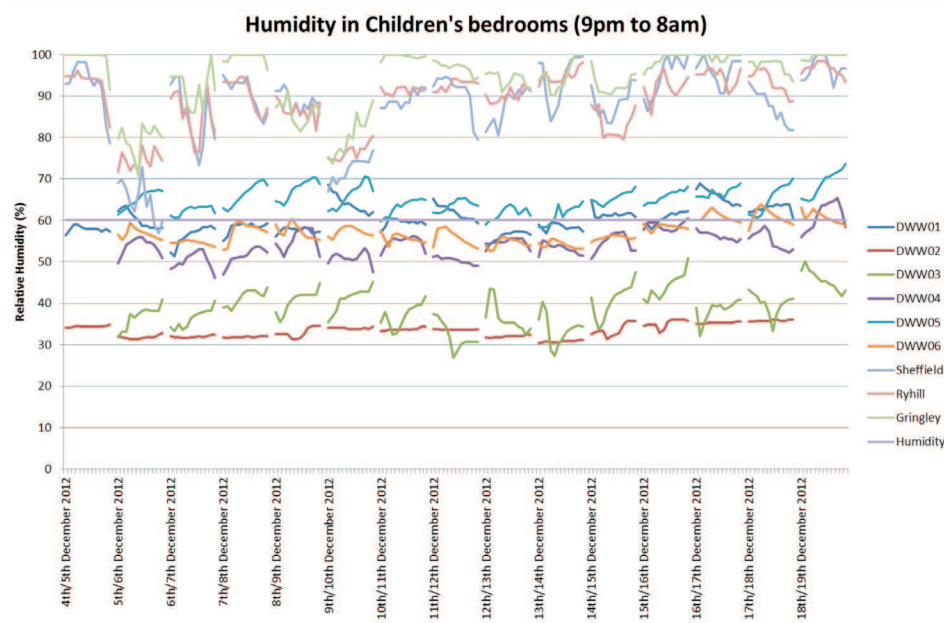


Table 6: Percentage of time childrens bedrooms were >18° C and >60% humidity

	Percentage of time above 18 C	Percentage of time below 60% humidity
DWW01	36.3	4.8
DWW02	95.2	100.0
DWW03	100.0	100.0
DWW04	100.0	95.2
DWW05	29.2	3.6
DWW06	7.7	83.9

Findings from household and staff interviews and focus groups.

The different data revealed a range of themes which explain the complex world within which families operate and the barriers they encounter in relation to keeping warm.

Key themes were:

- Contextual factors e.g. type of home and income
- Social factors e.g. the nature and quality of social contact and support
- Behaviours e.g. the behaviours and coping strategies of families employed to keep warm and manage household budgets
- Attitudes and beliefs, including fear of debt, priorities and beliefs regarding asthma, cold and health
- Knowledge and awareness of cold temperatures, heating systems, getting help and trusted sources of information.

In the following section findings are provided that summarize the main themes emerging from the staff and household qualitative data. This is given in the following form:

- A table of themes, and sub-themes are listed along with descriptive commentary from the household data interviews and focus group.
- Three case studies to illustrate how the influencing factors play out in the everyday life of families with children with asthma. The case studies include examples of the Tiny Tag data along with illustrative quotes. The case studies are of three participants in the household interviews. They illustrate how influencing factors interact and impact upon the vulnerability of people with certain characteristics.
- A table listing themes, and sub-themes are listed along with descriptive commentary from the staff data interviews and focus groups.
- For the staff data, tables are also provided in appendix seven, with illustrative examples that distinguish between where staff views were based on tangible experience as opposed to perceptions.

These findings sections are followed by an integrated discussion which provides more in-depth reflections of the meaning of the data along with qualitative data to illuminate household and staff findings.

Table 7: Findings from household interviews and focus group

Themes	Sub themes	Commentary
Contextual factors	<ul style="list-style-type: none"> • Home type • Home tenure • Heating type • Damp • Household type (lone parent, multiple adult home, established couple, other) • Low income 	A cold house and a damp house are related. There appears to be a correlation between increased damp problems in solid wall older terrace properties that are privately let.
Social factors/ support	<ul style="list-style-type: none"> • Friends • Family • NHS professionals • Social Care • Community • Sure start/children centres • Landlord responsibilities 	There is a reluctance to seek support and barriers exist in respect of not wanting others to know their situation. Where support is sought family and friends provide emotional and financial help. Where families are more isolated (either as lone parents or by culture) Children Centres are important both for services and as somewhere warm. (The sample was however obtained through Children Centres so this is likely to have influenced this finding.)
Behaviours	<ul style="list-style-type: none"> • Times of heating • Rooms heated • Rooms used • Payment methods • Use of home space e.g. play, drying clothes • Experience of cold • Management of asthma • Self-treatment belief around asthma • Budget management 	<p>Types of heating and equipment influence behaviour. For example lack of thermostat or timer on central heating system leads to an 'on/off' approach and to not heating the house in the morning if going out.</p> <p>Self-disconnection is apparent both in respect of times of heating the house and as regards specific rooms.</p>
Attitudes and beliefs (and influences on these)	<ul style="list-style-type: none"> • Fear of debt • Beliefs on cold and health • Priorities • Beliefs about asthma • Misconception - challenge to asthma diagnosis of own child • Beliefs on benefits and grants 	The fear of debt and large bills correlates with preferred payment methods of pre-payment by card. Payment for fuel seen as a priority. Both cold and heat are seen as triggers for asthma. Beliefs regarding asthma influence heating behaviour which in turn is further influenced by fear of debt. Assumption that as home owners not eligible for grant aid.
Knowledge and awareness	<ul style="list-style-type: none"> • Heating • Insulation • Cold/ill health • Support mechanisms • Getting help • Sources of (trusted) information 	Knowledge of targeted support re heating and efficiency limited. Awareness of correlation between cold and ill health present in broad terms. Where knowledge obtained and acted on then benefits reported - ventilation/damp.

Case Study DWW05

Cathy is 29; White British and lives with her husband and 2 year old daughter Jane in small two bedroomed privately rented terraced house. Cathy and her husband are currently unemployed. Cathy has some GCSEs *'from D downwards'* and an NVQ Level 2 in care. They have an income of £259 or less a week.

Jane is partially sighted and suffers from asthma. She uses both a brown and blue inhaler. Cathy told us that her brother, niece and nephew all suffer from asthma. Jane had been in hospital *'three times this year and she's had steroids and some other medications'*. Cathy thought the asthma came on particularly when Jane had colds *'Actually it comes down every time, it sets her asthma off'*. She had been told to give her the inhaler when it starts and if it was no better in an hour then take Jane to hospital. Cathy thought having the heating on made her asthma worse as it dried up the air *'that's all she does is cough in the night'*. We can't have radiators on too long because it makes her cough.

The house was heated with gas central heating and both gas and electricity were provided by British Gas. They had switched supplier about 18 months previously as Atlantic had got a bit dear. They currently had no insulation although loft insulation was due to be installed soon. The family had a gas fire which they never used

It's too expensive to run that. I think I put it on last winter while it was snowing and I only put it on for an hour each night and my bill went up like £150 that month'.

The family paid their fuel bills by monthly direct debit and appreciated the regular payments all year. The payments had increased once to pay

off arrears and the thought that this might occur again was a worry - *'Yeah I'm dreading it now. It's the winter again: it might go up'*. Parents provided financial help when they were *'skint'* as did a friend *'when I've got the money I'll lend her it so then when I'm skint she can give it me back'*.

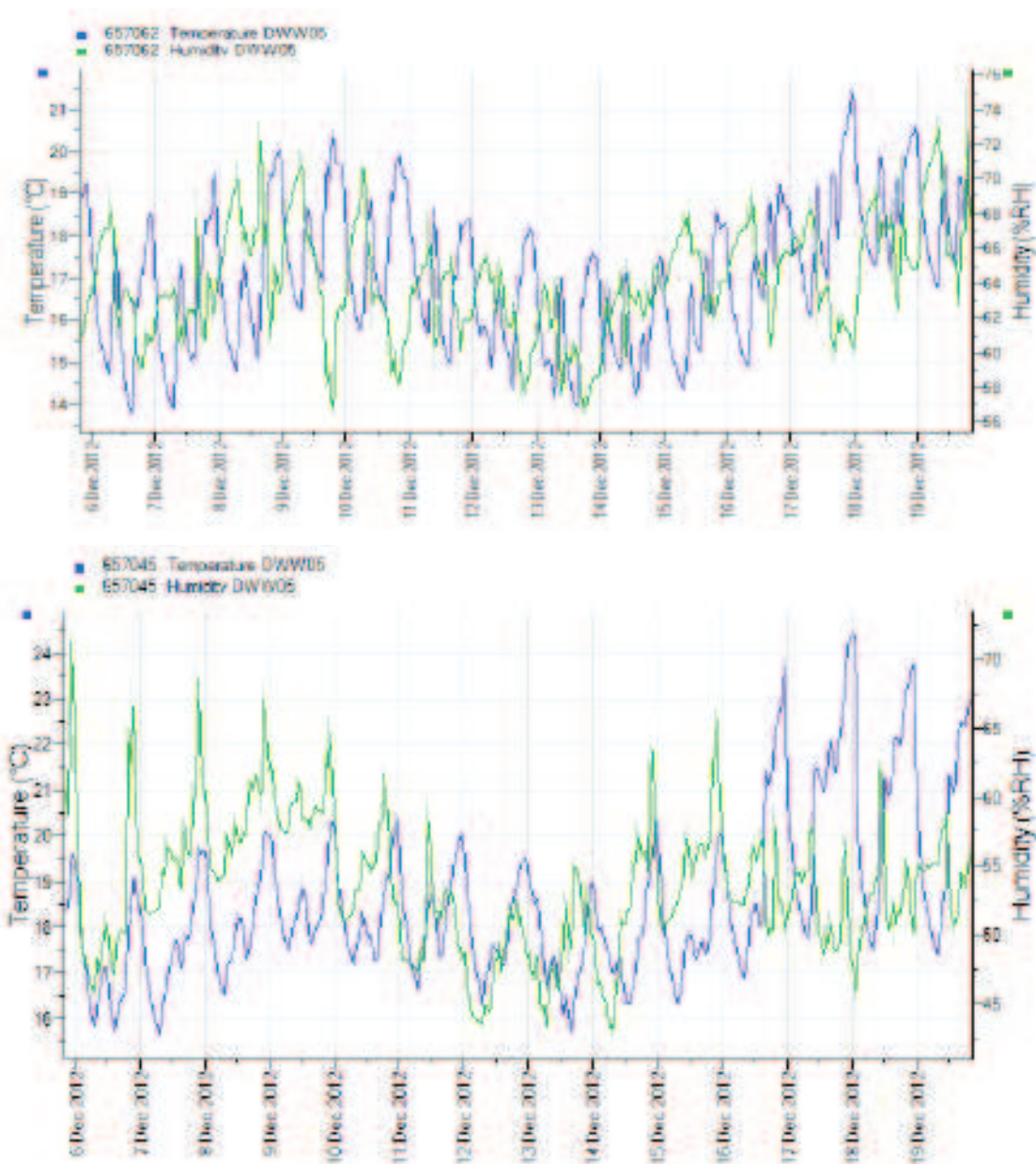
Cathy described her pattern of heating usage:

"We have it on in a morning six while eight, so it's nice and warm for when she gets up. Then I put it on for an hour in the afternoon, and then it will be on again about half past five until about half past nine at night. And then that's usually it then until in the morning."

The heat was controlled by turning it on and off at the boiler, there was no thermostat control and Cathy wasn't sure what temperature was set. She thought the house was warm *'it's really nice and warm this house'*.

Tinytag analysis shows the house was above the recommended 18 degrees centigrade 29.2% of the time within the two week study period and below 60% humidity for 3.6% of the time.

Figure 9: Tiny Tag measurements for DWW05 Cathy's household – the first relates to the child's bedroom and the second to the main living room



Case Study DWW05

These illustrative case studies have been compiled from individual participants' interviews.

The names have been changed to protect anonymity and any identifying data changed or removed.

Case Study DWW08

David is a 42 year old Black British man who lives with his 30 year old wife Lesley and two children, 6 and 2 in a two bedroomed modern second floor council flat. The windows are large and the light floods in to the living room. David is a graduate in sport and health science and is employed part time as a fitness instructor. Lesley is pursuing an English course at college and has a cleaning job. They have an income of £259 or less per week. Their income fluctuates depending on David's job and is currently lower than it has been for some time – *I get calls and they book me for hours, so then they have not been calling me for a while.*

Clare is six years old and asthmatic. She has a blue and brown inhaler. Her parents think the asthma gets worse from mid-November onwards. She was in hospital *many times in the beginning* before asthma was diagnosed and now has to miss school on occasions.

The house is heated by gas central heating and paid for by pre-payment card whilst the electricity is paid by direct debit. They have never switched suppliers although knew about the possibility of changing to a cheaper source. David believes that pre-payment card *is the only option* as a means of payment and this is required by his landlord. (Inquiries by the research team found that this was not the case although the view was held by David and other tenants interviewed.) The heating system has a thermostat and it is set at 25 degrees centigrade, it works well and is maintained by the landlord. The house is described as warm and the family would not like it to be any warmer.

The family do however have problems with mould and damp -

Dark, really black, and the smell as well. She started having breathing problem while she's sleeping from December. We started, I start doing some research and mould, I thought that mould could be a problem and we had a lot of mould in our bedrooms. A lot of condensation on the windows, yeah we had damp problems.

David did some research on the internet and found that spraying could kill the spores of the fungus *I never knew it was a kind of fungus* which alongside ventilation had greatly reduced the damp problem.

They had previously always kept the windows closed to keep the heat in.

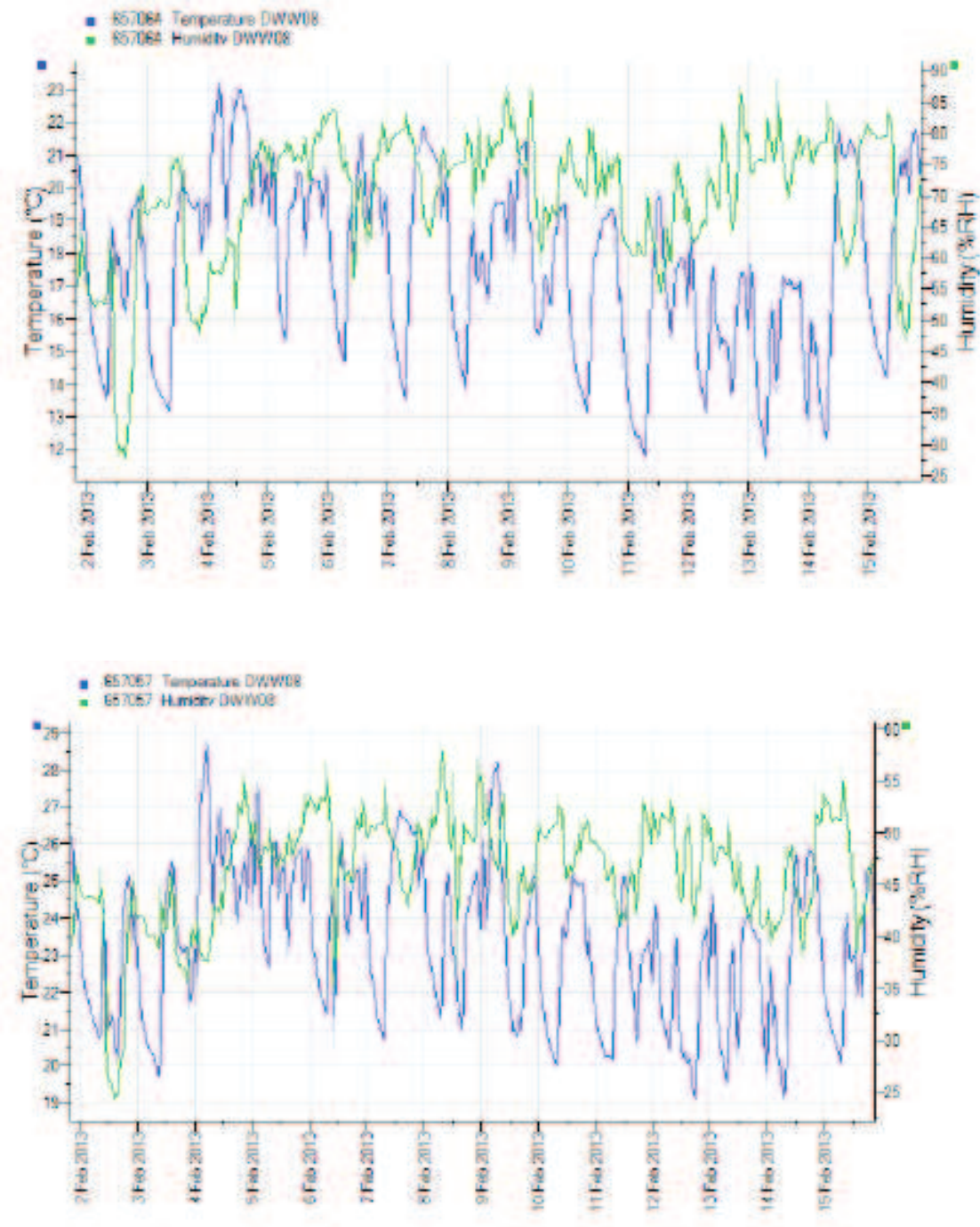
Tiny tag analysis however shows a high degree of humidity remained in the house during the test period.

David got no help from family or friends in paying their bills and the family always manage to pay them but - *It's very tight. The budget is very tight now yes...energy bill, it takes a lot of money from your budget.*

Case Study DWW08

These illustrative case studies have been compiled from individual participants' interviews. The names have been changed to protect anonymity and any identifying data changed or removed.

Figure 10: Tiny Tag measurements for DWW08 David's household – the first relates to the child's bedroom and the second to the main living room



Case Study DWW08

These illustrative case studies have been compiled from individual participants' interviews.

The names have been changed to protect anonymity and any identifying data changed or removed.

Case Study DWW06

Cheryl is a 21 year old White British single parent with a two year old daughter Jenny. They live in a privately rented two bedroomed terraced house which like many in the area have been modernised with the previous small rooms being made into one and with a laminate floor which is not carpeted. The house has loft insulation. They live alone in the house and Cheryl does not have a partner. She has some GCSEs of D and below. Cheryl is currently unemployed and claiming job seekers allowance and income support. She has an income of £259 or less a week which she receives *some weekly, some fortnightly and one every four weeks so it varies really*. The previous year she was employed as a sales assistant and she has experienced a drop in income.

Cheryl is not sure about the diagnosis of Jenny's health but she knows her health is poor - *she always picks something up, she's always got a rustley chest, a cough, snotty nose, she's always got something*. Jenny has been to hospital frequently for various problems including bronchitis and has had an inhaler and other treatment. Cheryl had not thought that the temperature of the house affected Jenny's health until

them at Sure Start told me about it, not that it is, that it like could be so. Like I know her room it is cold, whereas this room were, but my landlord's just put me a new radiator in and there is a difference, so I don't know if it's her radiator's not big enough or I don't

She is aware that Jenny's room is quite cold - *Yeah, that is the coldest room other than like my kitchen and bath room, I think her room's too*

cold for her. *She sleeps with a blanket on in, well she sweats throughout the night anyway but she's still cold even though she's sweating.*

The house has gas central heating and a gas fire which is never used. Cheryl has never switched supplier and pays her bills by pre-payment card and meter. She prefers this method of payment -

*Just so like then if I've got money for it I just put it on, I don't like the fact that I've got a bill coming in every so often. She pays my gas every week my electricity every few weeks and the payment includes paying off arrears which she doesn't like as a method but was given no option. The heating system does not have a thermostat and is controlled by a switch on the boiler *I've got to traipse upstairs every time I want it on or hot water.**

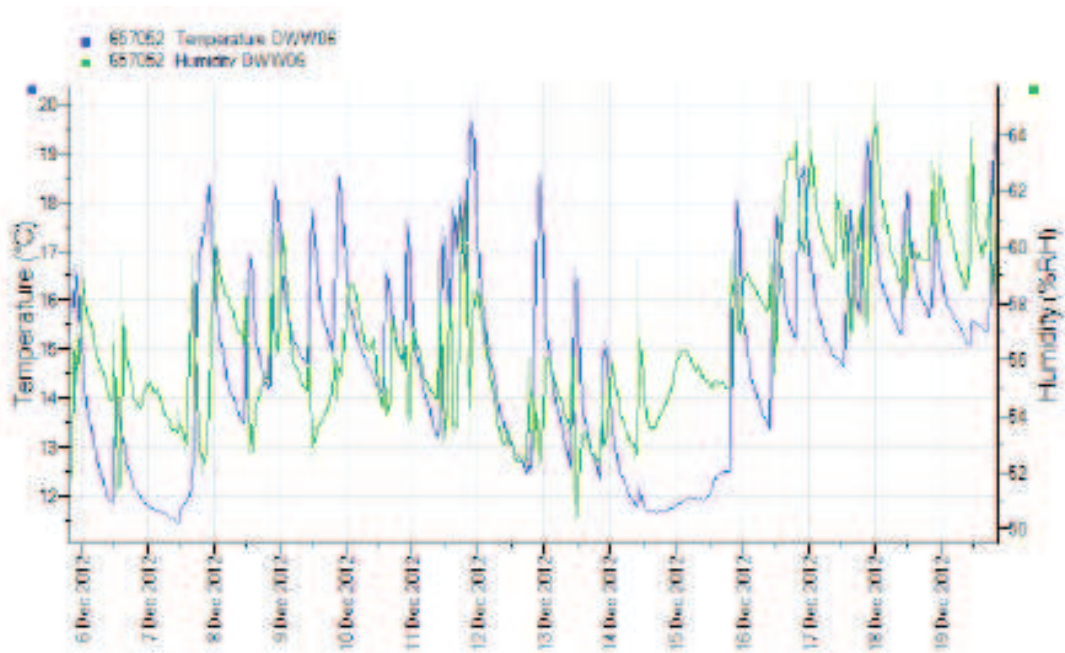
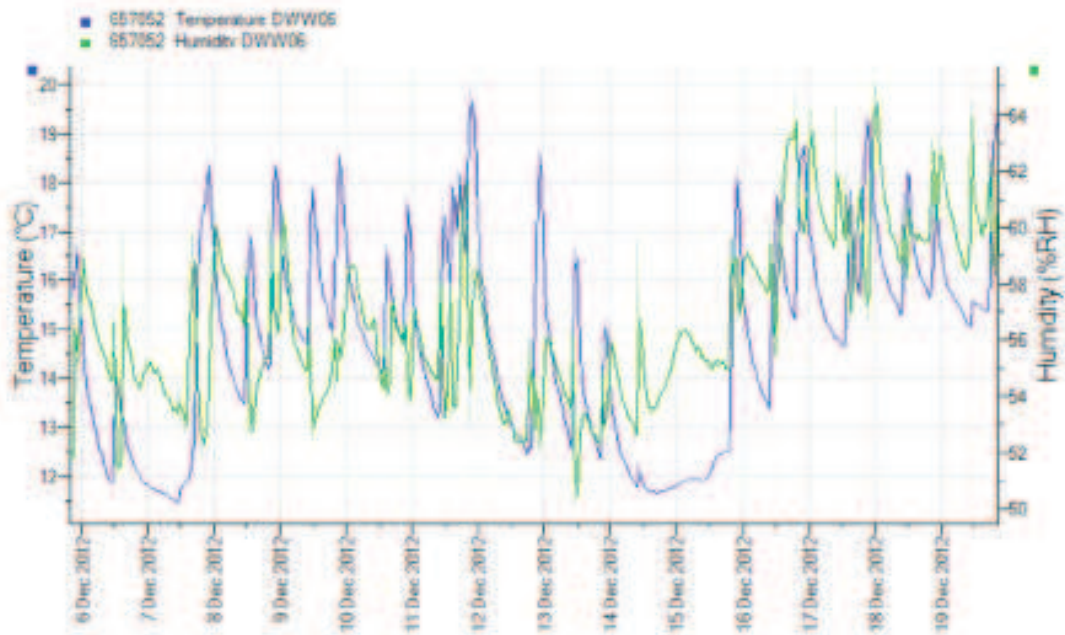
Cheryl spends a lot of time out of the house, two days at nursery one at a play group and Jenny has contact with her dad as well as visiting Cheryl's parents so they are only in the house one day a week. If they are going out then she does not put the heating on in the morning - *there's no point by the time it's warmed up we're going out.*

Analysis of the tinytag data indicates Cheryl is correct the house and Jenny's room is cold. The house was above 18 degrees centigrade for only 7.7% of the time during the study period.

Case Study DWW06

These illustrative case studies have been compiled from individual participants' interviews. The names have been changed to protect anonymity and any identifying data changed or removed.

Figure 11: Tiny Tag measurements for DWWO6 Cheryl's household – the first relates to the child's bedroom and the second to the main living room



Case Study DWWO6

These illustrative case studies have been compiled from individual participants' interviews. The names have been changed to protect anonymity and any identifying data changed or removed.

Table 8: Findings from Staff interviews

Themes	Sub themes	Commentary
Contextual factors	<ul style="list-style-type: none"> • Home type • Cold • Damp • Household type (lone parent, multiple adult home, established couple, other) • Low income • Access to banks 	The contextual factors identified by staff are sometimes indicative of broader poverty indicators rather than those immediately associated with cold homes.
Social factors/ support	<ul style="list-style-type: none"> • Friends • Family • Professionals • Social Care • Community • Sure start/children centres • Landlord/Owner 	Family and friends provide emotional and financial, support.
Behaviours	<ul style="list-style-type: none"> • Heating types • Payment methods • Management of Asthma • Experience of cold • Budgeting • Coping strategies - avoid being in the house 	<p>Types of heating and equipment influence behaviour.</p> <p>Are families on low incomes in need of budgeting advice or are they experts in managing a low income and require different support? Families avoid been in the home due to no heating and other resources.</p>
Attitudes and beliefs (and influences on these)	<ul style="list-style-type: none"> • Fear of debt • Beliefs on cold and health • Priorities • Beliefs about Asthma • Misconceptions around fuel providers • Service user responsibility 	<p>Fuel bills not always seen as a priority. Both cold and heat are seen as triggers for asthma.</p> <p>There was a clear uncertainty around fuel providers. Views of service user responsibility impacts on what support is seen as appropriate</p>
Knowledge and awareness	<ul style="list-style-type: none"> • Education • Heating • Insulation • Cold/ill health • Support mechanisms • Getting help • Sources of (trusted) information 	Knowledge of targeted support re heating and efficiency limited. Awareness of correlation between cold and ill health present in broad terms. Where knowledge obtained and acted on then benefits reported e.g. ventilation and damp.

Table 9: Findings from Staff Focus Groups

Themes	Sub themes	Commentary
Contextual factors	<ul style="list-style-type: none"> • Cold • Damp • Types of heating • Low income • Areas of deprivation • Government policy • Rising cost of fuel 	Difficulty keeping a stable temperature due to different types of heating e.g. solid fuel.
Social factors/ support	<ul style="list-style-type: none"> • Friends • Family • Professionals • Social Care • Sure start/children centres • Children's educational attainment 	<p>Family and friends provide emotional and financial, support.</p> <p>Lower education attainment than expected.</p>
Behaviours	<ul style="list-style-type: none"> • Priorities • Payment methods • Management of Asthma • Experience of cold • Budgeting • Changes in heating patterns. 	<p>Living in one room to stay warm. Use of additional clothing.</p> <p>Noticeable difference of heating patterns due to the financial cost.</p>
Attitudes and beliefs (and influences on these)	<ul style="list-style-type: none"> • Fear of debt • Priorities • Beliefs of Asthma • Service user responsibility 	<p>Some staff thought fuel bills not always seen as a priority.</p> <p>Living in one room to stay warm.</p> <p>Difficulty in GPs diagnosing asthma.</p>
Knowledge and awareness	<ul style="list-style-type: none"> • Training • Cold/ill health • Support mechanisms • Getting help • Sources of (trusted) information • Not access the most vulnerable clients. 	<p>Professional awareness training was identified as a priority – present in some areas but not others.</p> <p>Children Centres are often identified as a safe area to access support.</p>

Integrated discussion

This section integrates illustrative quotes with a discussion of the meaning of the findings to the lives of participants.

Household Interviews and focus group

In examining the data there are a range of themes and sub themes which relate to poverty and the correlation with and impact of fuel poverty, alongside variables that impact on asthma. In respect of **asthma and heating** there are a range of responses which indicate both cold and heat as potential triggers for an attack:

'When it gets too hot, have to turn the radiator off because the air dries out and they start coughing'

'If house is cold the asthma starts its worse in winter'

'We seem to have a regular pattern now where he is more asthmatic, do you know what I mean, in the winter. And basically that leaves it open to think in the summer you're not using the central heating as much'

'he wakes up and he'll come and wake me up and mummy I'm cold, I'm cold, and you can hear it on his chest. So the warmer he is, the better he is'

'We've found out that the warmer the house, the longer he sleeps, and because he doesn't wake up in the night wheezing and stuff'.

Other reported **asthma triggers** include smoking, lack of fresh air and mould. Some respondents were able to identify keeping the house at an even temperature as important, but for some other respondents a lack of knowledge about asthma appears significant; a reported '*not knowing*'. The range of support from professionals varied particularly as to whether the GP surgery had an asthma nurse.

All the interviewees were on low income whether unemployed or on low wages and for all there appears a pervasive **fear of debt** and '*not managing*', of '*getting behind*'. High bills are to be avoided and for that reason a pre-payment card is the desired method of payment whether of choice or of necessity.

Fuel is prioritised as a household expenditure: *'It's got to be my electric and gas. That's the first thing that comes out of my money on a Tuesday morning'...* *'You know that you've got that amount of money to last you a week and you've got a massive chunk that's coming out, that's going on gas and electric, and then you've got your food on top of that ... it is hard, really hard'*.

Yet fuel bills are one **priority** amongst many: *'I know it's hard being a single mum, but my kids are more important than the bill'*.

The reported **pattern of heating** the house varies from *'most of day, would like to leave on all night if I could afford to'* compared with *'If we are going out at 9 I don't put it on it's not worth it'*. The tiny tag information on temperature and humidity grade profile analysis bears out considerable temperature variation between homes. Analysis also shows that for several homes a 'peaks and troughs' profile was revealed. This is consistent with a pattern of heating use where the equipment indicates an on/off approach based on subjective feeling of hot or cold as a thermostat or timer is not available. For some the temperature in the child's bedroom is very low and the humidity high. In some cases the temperature was as low as 6 degrees centigrade.

Where **knowledge and information** has been obtained and accessed there are some clear benefits to being informed, most noticeably in the control of damp.

'It was a lot worse, and his eczema flared up as well, so he had the eczema and asthma at the same time, and it was like, it scared him because I mean seeing his eczema flared and they also, because he was wheezy all the time, he couldn't contemplate, and then as soon as we got rid of the damp, it just went down straight away'.

The following example indicates how a participant actively sought out information regarding preventing damp and mould, acting upon the information and witnessing an improvement in his daughter's asthma

'I start doing some research and mould, I thought that mould could be a problem and we had a lot of mould in our bedrooms. A lot of condensation on the windows, yeah we had damp problems....Dark, really black, and the smell as well....At first we started cleaning it, but it keep coming back. So then I did some research again and I found out there's some spray which can kill the spores or something. I never knew it was a kind of fungus. So we started spraying. But then we found out that it's best to open - we never realised that we had so many, what brought us damp was because there was so many bathroom steam, kind of trapped in the house, because we kept the door closed. But now what we do every morning we open everywhere, so we don't have any damp, I would say we don't have any major damp now.'

A word of caution is required however, as when the Tinytag information is examined for this respondent a high degree of humidity is indicated within the home. (See case study DWW08)

Even when the knowledge of the importance of ventilation in reducing damp is obtained the competing demand of not opening windows and letting out heat provides a powerful counter argument. For many of the families, **damp and mould** were problematic. For example DWW18, a mature student undertaking professional health training with a six year old asthmatic daughter, experienced *black mould in my daughter's bedroom and it smells. In the kitchen and bathroom there's small patches*. The mould had been present for four years in their semi-detached council house and all attempts to remove it had been unsuccessful – *I have used all sorts. My mum told me to use bleach. But*

it just comes back. I don't know what to do about it. I have reported it to the council but nothing has been done about it and I am fed up.

Disconnection is something to be avoided at all costs. The fear of debt is strong and in many cases influences the type of payment method chosen, in the full knowledge that the method is more expensive than others. Not facing a large unpredictable bill is important in maintaining control when budgeting on a low income. Having **control** of expenditure and fuel consumption was significant to many interviewees and can be seen as a way of managing the constant nagging fear of uncontrollable debt and being left without fuel. If a family is to have no heating then it is better that this happens on their terms, through their choice of what the small amount of money they have is spent on and at a time of their choosing. For DWW16 forced to move from direct debit to pre – payment meter as they could not afford a £300 bill, their consequent sparse use of fuel brought suspicion from the fuel company. *Because we only get... paid like once a month ...we only top up once a month...and (the fuel company) had noticed that we're not topping up that much and suspect us of tapping our electric or the gas.* For DWW18 when a family falls into debt then choice of how to repay is taken away: *but what options do I have, we still owe them over a grand.*

Consequently disconnection by external agencies is avoided but **self-disconnection** becomes a regular feature of life, one to be **managed** in the same way as other life choices. One family shared with the interviewer that they spent £10 a week on petrol for their car and once that was spent they did not use the car – *Sometimes I wish I never had the car...We always budget £10 petrol, we put £10 in the car, that £10 has to last us the week, we can't be running here, there and everywhere.* So this and other families ration the use of fuel in a similar manner. The process is subtle and sophisticated, varying from day to day and often hour to hour. The process can include not heating particular rooms at all, not heating particular rooms at specific times and not heating the house at all. The peaks and troughs of the tiny tag temperature measurements bear out the irregular heating pattern. Families are aware that there are consequences for all family members including children and their health but it is something that has to be **managed**. Family DWW03 explained the process well:

We don't go in there in the winter because it's freezing; it's too cold...even with the central heating on...

I think if the house is kept at a temperature, at a level temperature, I don't see any difference in her. If the house is cold and she's cold, then that's when she starts suffering with asthma. So if the house is cold and damp then I see a difference in her. If the room is kept at a certain temperature, I usually get up in a morning and I'll put my temperature to 23, and then I'll knock it down to like 22, 21/22 and I'll leave it at that all day, but it'll stay on all day and she's fine, she's not a problem. It's if the temperature goes off completely, then you'll see a difference in her: she'll get all coughing and wheezing... I wish I could keep it on all night, but because money situation is, you know, when you sit there and you go I'm putting £45 a week on gas, and that's how I've got to run it, I wish I could put an extra £10-15 on so I can keep it on all night every night, especially in winter because it is cold sometimes. But we just put extra blankets on.

Analysis of the temperature measurements in this family home show they were successful in keeping the temperature over 18 degrees centigrade for 100% of the study time in the two designated rooms but at the cost of not using one room at all in the winter, still feeling the house was not sufficiently warm to safeguard the child's health, and at significant financial cost.

Other families were less successful and had to use other strategies. Family DWW18 told us *I think it is really important (to keep the house warm); she (daughter) gets cold really easy. She is always moaning about been cold. I put the heating on for her but sometimes I have to tell her to wrap up...It's because I cannot always afford it, that meter eats my money up like crazy.* For this family budgeting was made more difficult by the use of a meter, forced upon them as they had got into arrears. *I have no idea how much to put on each week, we have an outstanding bill on it so that doesn't help...We still owe loads to be honest. I think that might be why it costs so much but I am not sure.* The family were aware of the need to keep the house warm but this was not always possible. *I try and keep the house warm but if money is tight then I will only put the heating on if I really have to.* In order to manage a situation of low income and high fuel costs exacerbated by previous arrears the family used a range of strategies including self-disconnection, putting on extra clothes and being out of the house: *sometimes we go to my mums, she makes our tea for us too cos she knows I can't always afford to go to the supermarket...We go round twice a week for tea and my daughter has a bath.*

For family DW006, highlighted in the case study, the child's development is being promoted by going to the nursery, yet early morning opportunities for play and quality mother and child interaction are restricted by getting up in, and leaving, an unheated house – *unless like she's going to nursery because we leave at nine so there's no point, by the time it's warmed up we're going out.* Analysis of temperature data indicates that self-disconnection was used extensively in this home with the temperature only exceeding 18 degrees centigrade for 7.7% of the time during the test period.

This family as with a number of others particularly in the private rented sector provide evidence of the **interplay between heating systems and equipment and self-disconnection**. This family had no thermostat and no timer, the heating being controlled by a simple on/off switch on the boiler - I've got to traipse upstairs every time I want it on or hot water. Turning the heating on when the family got up in the morning then took too long to warm the house, it was easier and cheaper not to turn on at all.

The requirements of managing finances lead to competing priorities and consequences with self-disconnection a key management tool. The families we interviewed had a range of such management tools in respect of budgeting, which at times challenge the perceptions of some staff discussed in the next section. For example for family DWW03 - *We've got to literally manage everything. Everything has to be written down what we're spending, how much is going here, how much is going there. Yeah it's definitely; it is hard, really hard.* **Managing**, (of asthma, of budgets, of fuel use, of family wellbeing), using a range of strategies to manage, and the constant fear of not managing is important to all the families.

Staff Interviews and Focus Groups

Analysis indicates a range of comparable themes to those arising from the household interviews in both the staff interviews and the focus group. There is a difference of emphasis however in particular around how family behaviours are understood and explained. One manifestation of this is in the complex interplay between low income, high fuel bills and household priorities. For some staff interviewees what is important is helping families budget appropriately and set what the staff see are the most important priorities for expenditure. For others the structural restraints of government policy, rising fuel costs and payment methods and the consequent effect on expenditure and pattern of fuel use is more important.

Government policy

'Policy, well I'd look at the, for me personally I would look at the massive profits that energy companies are making, because I think it's obscene. I think it's obscene that people are dying in this day and age through not being able to, feeling they can afford to keep their homes warm, and if you looked at the profit, individual profit that has gone up from what £12 to something like maybe £70 per household over the last five or six years or something like that. The government needs to take a handle on the profits that these companies are making.' **Health and Social Care Team representative**

Access to banks

"I think some of them are aware that they could probably pay on direct debit but a lot of our families haven't got a bank account so they can't have that facility. They have, quite a few have the meters put in but you pay more then, for your, so that has another impact on, they pay more don't they for their energy if they have the meter." **Financial Inclusion Officer**

Payment Methods

"The bills are extortionate. They are card meters, rather than like a domestic house they are card meters and some of the families that I've come across think that the rate of electric is absolutely astronomical, so they're using what they term as normal usage such as cooker, washing machine, microwave, maybe, and maybe a bit of heating. It's costing them an absolute fortune. They're having to put pounds and pounds and pounds and pounds on to compensate what the usage is and they think it's set at too high a rate of usage." **Gypsy and Traveller Support Worker**

The method of fuel payment, particularly the use of cards is complex. For some households the use of a card is a choice, for some imposed by the landlord or fuel company and for some assumed to be a requirement of the landlord when in fact it is not.

Priorities

“I do think finance is an issue, but I think the most common thing we come across is prioritising their money and their finances.”

“I think it comes down to when they prioritise what they spend the money on. Obviously people do want to heat the house, but from my experience of having visited and when they’ve got say £70 a week and they’ve got to pay the rent and they’ve got to feed themselves and they may have children, they do tend to put heating as a lower priority” **Financial Inclusion Officer**

“I’ve been to I’d say a couple of families, I’ll just say a couple, where priority is the addiction of smoking and drinking rather than putting priority towards the kids and heating the house. That can be a concern”. **Vulnerable Person Support**

Budgeting

“Just not being able to manage their money correctly, a lot of them speak of they get the money and they spend it within like a couple of days or something like that, it’s hard to plan, that’s the biggest problem we have.” **Financial Inclusion Officer**

What is clear from the interviews is that cold and damp are seen as significant problems by staff from a range of professions and over a range of service user groups:

Cold and Damp

“When I’ve done home visits quite a few of the homes are cold, quite a few of them have had damp, whether it’s private or council properties at St Leger. Particularly flats around here, lots of the flats have black mould on them, so I’ve been into homes and they’re having to wash it with bleach on a daily, that’s what they’ve been advised to do is to wash the black mould off with bleach.” **Children Centre Lead**

“Well generally I’ve been in houses that have been very cold, sometimes quite damp.... Recently I had a family that had a wooden cot for their new baby but before the baby was born they had had to throw the cot out because it was so damp and had got mildew on it” **Health Visitor**

A range of staff identified the connection between cold homes and damp homes, highlighting the adverse effects of damp on family wellbeing.

Service users are identified in using a range of strategies to manage their situation:

Coping strategies

“I think it often depends on what support they have, thinking of family and friends, because at the moment even this week we went to see a lady, she was out but we went because she’s just moved into this house and she has no heating, no beds, no fridge, no cooker, and so it didn’t surprise me that she wasn’t in, because if she’s got some support somewhere else then families tend to go out when they can.” **Health Visitor**

Experiences of Cold

“Going back to the family I mentioned before for example, where mum is struggling, she tends to, they use quilts and things like that”. **Children Centre Support Worker**

For some staff the type of heating available had a major impact on service user experience:

Types of heating

“We also found that with solid fuel that was an issue, because a lot of solid fuel houses you can’t control the heat, once you’ve got a fire in that’s it, especially in a lot of the council homes. So obviously you put a fire in to keep it warm, and then you’ll find that you can’t control it, it gets too hot. So that sort of heat, it does tend to have an effect”. **Community Support Officer Fire and Rescue**

For others it was the **pattern of use** which was most important:

“They used to have it on maybe three hours, three or four hours in a morning, same again on the night, on for when the kids come in from school. Now I’m noticing that a lot of them are saying to us well we’re actually only having it on for about an hour” **Children Centre Support Worker**

The pattern of use is seen as having consequent impacts on child wellbeing. For example **school attainment** where school attendance was seen as poor within certain areas of deprivation as a result of ill health:

‘I think the problems we have is whether it’s linked to children’s education. We have problems with children attending school ... and it seems to be that they’re picking up infections, colds or whatever, or for some reason they’re not thriving as they should be from an early age. And I know getting the kids into school is one of our big issues at the moment, so given the areas that we’re looking at there’s possibly some sort of a link there really.’ **Area Team Officer**

School Attainment also suffered for other reasons: *'I think as well when you're looking at education, I think if, obviously if they're just warming one room up and if they've got homework to do and things like that, they're doing it in a room where everybody else is there and obviously the concentration is not going to be, that would be another one I think'* **Children Centre Support Worker**

The interplay between themes identified in the staff interview analysis and the focus groups indicates how the problem of cold homes is understood and consequently the type of support offered by professionals. In the identification of patterns of heating, types of heating and payment methods the weight given to service user **responsibility for their actions** and consequences in terms of property condition and impact on child wellbeing appears significant. In this context attitudes and beliefs about poverty and individual responsibility are perhaps as important within this small sample as specific knowledge about cold homes. The issue of training is identified but there are implications for the type of training in respect of knowledge but also attitudes, values and beliefs.

Where individual **responsibility** is given less weight then the response for a family managing a child with asthma and suffering fuel poverty can have a different emphasis:

I'm working with a particular family at the moment who's got a little one, she's only two and a half, they're just getting diagnosis at the moment. Mum and dad both unemployed so workless household. So there is issues around how long they can actually have their heating on for and the effects that that's having on her health, coming into a cold damp almost house. So at the moment we're trying to support that looking at insulation that they've not got, cavity wall insulation, loft insulation and things like that, to try and, so even though they can't have the heating on it's to try and keep the heat that they have got in the house. So at the moment they're very lucky, if you can call it lucky, that they've only got very young children, so they've not got the attainment issues as of yet with regards to heating one room, and them all going in one room trying to do homework etc. **Children Centre Support Worker**

Key Messages from the Research

- Cold, damp and mould are seen as significant problems both by household members and by staff from a range of professions and over a range of service user groups
- Damp and mould are prevalent in cold poorly ventilated homes.
- The temperature of the home has a reported impact on the wellbeing of the inhabitants
- Heating, temperature of the home and levels of humidity and damp are reported as affecting the health of children with asthma.
- There is a complex interplay between heating systems and equipment and patterns of heating use. Where there is no thermostatic control or timer it can be easier and cheaper not to use the heating at all or to engage in an inefficient stop start pattern.
- Fuel is prioritised as a household expenditure, but is one priority amongst many.
- For families on a low income paying for fuel and keeping the home warm is problematic.
- These families have a pervasive fear of debt, of getting behind and not managing.
- Management is a key concept for families - in particular managing the complex interplay between low income, high fuel bills, household priorities and child health and wellbeing.
- To solve the problem of providing a warm home and paying for fuel, families make use of a range of strategies. These include:
 - self-disconnection
 - a pragmatic heating pattern of peaks and troughs
 - wearing more clothes in the home
 - rigid budget management
 - choosing a method of paying for fuel which provides control and avoids large bills
 - being out of the house
 - seeking support from families and friends
- Families were reluctant to seek professional help irrespective of agency.
- The need to 'juggle' or manage priorities against resources often meant the parents were making 'trade-offs'. It is proposed that these trade-offs drive behaviour and, in conjunction with the parent's ability to take positive actions when faced with difficult circumstances or challenges, are ultimately the governing factors that will determine the level of vulnerability to illness for that child.

Key Messages for Professionals

The focus group discussions and household interviews gave a clear lead that vulnerable households need information that is easy to understand. There was a strong message that much existing information on how to manage and alleviate fuel poverty existed but was not sufficiently accessible or useable. The notion of 'visual messages' was stressed where the benefits of taking a specific form of action could be clearly seen.

Families on low incomes are by necessity experts in budget management and to bring about changes in behaviour positive benefits must be clearly evidenced. How professionals understand and explain family behaviour influences both the type and manner of the support offered. We can learn from this data to develop clear messages regarding financial inclusion and household budgeting.

Many participants were concerned about "damp" properties and mould and the effect of mould on the health of a child with asthma. Data from households, alongside that from staff and focus groups should inform the development of acceptable and assessable messages regarding preventing the build-up of condensation and mould.

Using the Findings in Practice

This report has discussed the many factors, drawn from the research that may influence a child being at risk of illness associated with living in a cold home, a home with fluctuating temperatures, damp conditions or mould.

The research demonstrated very powerfully how parents were constantly assessing their family's needs against the resources available to them. Many of the parents interviewed displayed high levels of ability and skills in the way they controlled, managed and allocated limited budgets and planned ahead for expenditure. Evidence was also seen of parents working their way through conflicting and confusing information or advice, negotiating with professionals and taking different approaches when faced with barriers in the way of what they wanted to achieve. Parents were also seen, not only to manage their own time and resources, but also provide help and support for extended family and friends. In return, they also turned to peers and family for support and advice.

The need to 'juggle' or manage priorities against resources in this way often meant the parents were making 'trade-offs'. It is proposed that these trade-offs drive behaviour and, in conjunction with the parent's ability to take positive actions when faced with difficult circumstances or challenges, are ultimately the governing factors that will determine the level of vulnerability to illness for that child.

What do we mean by trade-offs?

Used within this report we describe trade-offs as the way the parent's choices (and therefore ultimately behaviour) is governed by the interplay of both contextual and psychological factors. The families in our research all had a common factor; a child with asthma/respiratory problems. However, as we have seen from the research findings, not everyone has the same sets of circumstances ('contextual factors' - financial, type of housing tenure, energy efficiency of home, social relationships) and not everyone thinks or feels the same way about things. ('Psychological factors' - attitudes, knowledge and beliefs).

The contextual factors are often things that are circumstantial such as the family living in a privately rented property, having old and difficult to control heating systems or the need to move house to accommodate a new family member, to be nearer to family support or reduce rent costs. Some factors described as contextual may be easy to define such as things like tenure. Others are not so easy to understand; for example 'social-norms'. However, as these could be described as external forces influencing the parent's behaviour, they have been included within contextual factors.

A norm is a group-held belief about how members should behave, feel or react in a given context. Within the research we saw evidence of social norms around how people coped with managing money by using meters, turning to friends and family and helping each other to cope. This in the world of the parents we interviewed was 'the norm'.

Figure 12: The contextual factors - a word cloud



Figure 13: The psychological factors

Perception Of Risk	Fear	Priorities & Choice	Knowledge & Beliefs	Responsibility & Blame
<p><i>Child becoming ill</i> <i>Losing Home</i> <i>Getting into Debt</i></p>	<ul style="list-style-type: none"> • <i>Loosing home</i> • <i>Debt</i> • <i>Child becoming ill</i> • <i>Blame</i> • <i>Shame or embarrassment/ stigma/loss of privacy</i> • <i>Being judged</i> • <i>Losing control</i> 	<ul style="list-style-type: none"> • <i>Heat: luxury or need?</i> • <i>Needs of family members</i> • <i>Roof over head</i> • <i>Paying the bills/ balancing the budget</i> • <i>Food/heating regime</i> • <i>Safety of family/ possessions</i> 	<ul style="list-style-type: none"> • <i>Causes of asthma</i> • <i>Causes of mould/ damp</i> • <i>Cost heating and energy saving measures</i> • <i>Preventative action</i> • <i>Who can help</i> • <i>Who to trust and not trust</i> • <i>They have no choice sometimes</i> 	<ul style="list-style-type: none"> • <i>Child's health</i> • <i>Damp/ condensation/ mould</i> • <i>Condition of house</i> • <i>Heating regime/ equipment</i>

Pen Portraits

In order to bring the research to life and help gain a deeper understanding of the factors that influence the behaviour of the parents, we have developed a set of 'pen portraits'. These are not real stories or people however, they are built using the research findings and real life observations and a 'portrait' of possible family scenarios has been created using a descriptive narrative. Actual quotations are used for illustrative purposes only.

Paula and Steve

Paula and Steve are Black and British, in their late thirties and have 2 children; a boy and a girl. Their son is at school but their little girl, who has asthma, is only 2 years old. They all live in a 1950s 3 bedroom semi-detached house which Paula and Steve bought 3 years ago just before their youngest child was born. Steve works full time as a delivery driver for a national transport company and Paula works part-time at a local children's centre.

Money is sometimes tight but Steve gets overtime most months and they budget as best they can and save money where possible. They make a good team but Paula tends to manage the budget and is proud that they have a pretty decent life and pay all the bills on time. Paula's mum and dad have a caravan at the coast so they get a family holiday every year and the kids always get a bit spoilt at Christmas time.

There have been challenges though as the house was pretty damp when they moved in and their daughter developed asthma as a baby. She has been in hospital a couple of times which was very upsetting for the family. The GP and the health visitor gave the family information about how damp and allergens such as pollen can trigger asthma attacks. Paula sometimes didn't know the right thing to do and whose advice to take.

Paula had been advised to keep the house warm for her daughter but the heating was costing a lot of money and other bills wouldn't get paid if it all went on the heating. Keeping the windows closed saved money on heating and stopped the pollution and allergens getting into the house. However, this meant the house got damp and that caused mould on the walls; which could also cause asthma. Sometimes there were so many different things to think about it was difficult to know what to do for the best.

"At first we started cleaning it, but it keeps coming back. So then I did some research again and I found out there's some spray which can kill the spores or something. I never knew it was a kind of fungus. So we started spraying. But then we found out that it's best to open - we never realised that we had so many, what brought us damp was because there was so many bathroom steam, kind of trapped in the house, because we kept the door closed. But now what we do every morning we open everywhere, so we don't have any damp, I would say we don't have any major damp now. But before we thought it was just the house, but we never knew it was".

Paula decided she would do some research on line about the mould and also try and get the heating bills reduce by swapping tariffs and seeing if they could get help with better insulation. At first their attempts to get rid of the mould didn't work very well but she found some better advice and a much more useful website.

Tackling the energy companies about the bills and swapping tariffs was quite daunting at first. The bills were hard to understand and she wasn't sure what was available in terms of better deals. The energy companies didn't seem very helpful but she kept on trying and called a number of different people. She also got advice from a colleague at the children's centre that put her in touch with someone at the local authority. They told her about a few schemes running locally to get free insulation and also what kind of questions to ask the energy companies.

Paula says it wasn't easy sometimes to navigate through all the advice or even know where to get the advice but she got there in the end.

The house is easier to keep warm and they are able to tackle the damp and the mould now. Their daughter's asthma seems much better and they are hoping that she will not have any more attacks this winter.

Considerations for professionals when developing interventions or engagement strategies

Although Paula and Steve are both working and own their own home, they still find it hard to make ends meet and cover the fuel bills. Sometimes the advice seemed conflicting and Paula had to be determined and resourceful to find the answers and advice she needed. However, she is pretty confident when dealing with people and she had access to the internet, a land-line and advice from health professionals and colleagues at the children's centre. Not everyone will have these skills, perseverance or resources.



Michelle and Ryan

Michelle and Ryan, white and British, both work very hard and are proud that they are achieving their priorities of paying their bills, looking after their three children and putting a decent roof over their heads.

"You know that you've got that amount of money to last you a week, and you've got a massive chunk that's coming out, that's going on gas and electric, and then you've got your food on top of that, like luxuries. Sometimes we just literally don't have luxuries; sometimes we can't go out to market or things like that. We've got to literally manage everything. Everything's got to be written down what we're spending, how much is going here, how much is going there. Yeah it's definitely; it is hard, really hard".

They live in a privately rented end terrace property with their children who are all school age. The house is over three stories, a good size for the rent they pay and quite near the school their children attend which really helps with the school run. They also needed to live very close to Ryan's parents who provide wrap-around child care both before and after school sometimes as both Michelle and Ryan work shifts. They both work fulltime; Michelle at the local Tesco and Ryan in a large distribution warehouse, so juggling day to day life can be a challenge. This can often be made more difficult as their son, the middle child, suffers from asthma and has even had to go to hospital a couple of times when it has got really bad.

Their practice nurse, who provides the asthma clinic at the GP surgery, advised them that the cold could trigger his asthma and that mould and damp could make it worse too. The hospital had advised that sometimes the steam and humidity from things like a hot bath can help and it did seem to make his chest easier.

There are a few problems with the house such as damp and being quite difficult to keep warm due to the old boiler and radiators. With three children and school uniforms to keep clean, this also makes drying washing difficult in winter and Michelle puts clothes over the radiator. It does seem to make the house a bit damp sometimes. Besides, moving house would be a problem due to their shift work, children's school and child care needs. Although they could ask the landlord to make improvements to the house, he has refused to do things in the past and they are nervous of the rent being increased or even being asked to leave if they make too much fuss about it all. Anyway, they don't like to get into any arguments with anyone or cause any trouble so they have tried to tackle the problems themselves.

They had both also seen lots of news coverage on the TV and in the newspapers about cold weather being bad for your health and the rising cost of fuel bills so they asked family and friends what they did. Some said they had swapped providers to get cheaper fuel tariffs but some colleagues had told them about bad experiences when it went wrong. Ryan's dad has also helped with putting some draft proofing measures around doors and windows and Michelle's mum has lined the curtains for them. They were very worried about the black mould that kept coming back on walls of the bathroom and some of the bedrooms.

“The bathroom’s covered in it, I’ve got damp all along that back wall behind you, all along that wall. Get black mould up in my daughter’s bedroom, it’s everywhere”.

They tried a couple of things and eventually found a spray that worked and it hasn’t really been coming back since so they are happy they are doing their best to sort the problems.

Considerations for professionals when developing interventions or engagement strategies

Michelle and Ryan are proud of how they work hard and take care of their children. They know there are problems with the house and it is hard to keep warm and free from mould and damp but they have to make compromises due to child care and the potential higher rent if they moved. They have tried to address the problems themselves but sometimes find it hard to navigate the information. Parents have helped to try and make some improvements to their home and they have now stopped the mould growing by using the chemical spray. They are pleased with this and they now believe that this must mean the damp has improved too. However, measurements for damp in the house are likely to show very high levels of damp indeed.



Claire

Claire, White and British, lives with her 5 year old son in a housing association flat on a large estate just outside the town centre. This is quite convenient for work and she manages to work the full 16 hours a week she is allowed before it affects her benefits. Money is tight but it is for most people she knows and they all get by somehow.

“And I’ve got a friend who, she’s like, she’s a single mum and she gets a [unclear 00:12:46], so what we do sometimes is I’ll, when I’ve got the money I’ll lend her it, so then when I’m skint she can give it me back. So that helps quite all right as well”.

Claire manages to keep bills down where she can and she doesn’t put the heating on when her son isn’t in. It can get very cold in winter especially and when it was really bad this winter, she went to bed in the day time to keep warm. Often though she will go out through the day to work or visit a friends’ house so she keeps warm there.

She tries to manage each week by making sure she has money for the essentials like food, bus fares to work and to feed the pre-payment meter for the gas and electricity. That is getting more expensive all the time and she is starting to feel stressed and anxious about making ends meet.

She hopes the winter isn’t too cold this year as her son gets a very bad chest sometimes and he struggles to breathe properly.

Although the GP prescribed an inhaler for her son, he wasn’t actually diagnosed with asthma for quite some time, so when she sees the advice on leaflets and posters, she wasn’t always sure if it applied to them.

“I can’t wait for summer so it’s not as expensive. But as I say with eon I had a lot of problems with them, every time I used to top up and put my card in the money used to just go on and then it was off. It just used to disappear. And I rung them and questioned it, because at one point I was putting like, we put like £20, we were putting £20 on a day and it’s impossible I’m using £20 a day on gas, it’s just impossible. And they were like oh well you’ve not put it on, and I’ve got receipts to prove I’ve put it on, and they’re like oh they could be receipts from this and that. I just thought I’ve had it, they had dates and everything on them, but they were just being really funny about it so I just said that I’m moving”.

A colleague suggested doing a bit of research on the intranet but Claire has no computer, only a mobile phone and can only afford a small amount of credit each week. The GP did say though that damp and mould could make things worse so she called the housing people when black mould spots started appearing on the walls and the windows had condensation on them. Claire thought that there must be something wrong with the house and some treatments or repairs would need to be done as it could affect her son’s health. The housing officer visited but said it was because Claire didn’t open the windows to ventilate the house and that she shouldn’t dry washing over the radiators. Claire didn’t know what to do then really as she cannot afford to open the windows and let all the heat out; it is hard enough to keep warm. Anyway, you don’t want to go leaving windows open; there have been plenty of burglaries lately.

The dilemma is not helping her growing anxiety. Claire doesn't have a drier either so has no other way to dry clothes. She will just have to manage the best she can and hope the weather doesn't get too cold this year.

Considerations for professionals when developing interventions or engagement strategies

Claire is managing week to week with money. She has to make short term decisions that may have a longer term detrimental impact on her and her son; but she has no choice really. She has a meter as it means she will not have any big bills dropping through the door and besides, she doesn't have enough credit on her phone to be ringing the supply companies to ask about better options. She cannot act on the advice of the housing officer as she is fearful of opening the windows due to burglars and it feels like throwing money out of the window if the heating is on at the same time. When summer comes she can dry the clothes on the balcony but in winter time she has no choice but to put them over the radiator.

"We went many times in the beginning, but I think they couldn't, at first they wouldn't diagnose it as asthma."

"Well it took quite a few months to get him diagnosed with asthma, I don't know why. He was struggling, he was just coughing, cough-cough-cough about five months before anybody even really did anything about it. It got to a point where he was really wheezing, getting really wheezy, really short on breath, which was quite frightening because he's only small. And that's when he had a course of steroids and we upped his inhalers, he got given some inhalers and then upped the dosage of them and a few days later he settled down. But I've found if he gets a cold his asthma always flares up towards the back end of his cold".



Steph and Adam

When Adam's grandmother left him her house when she passed away, he thought that this was the first step on the ladder for him and Steph to build a great life for them and have the family home they dreamed of. Neither Adam nor Steph had been very close to their own parents as children as both sets of parents had suffered from mental health and substance misuse issues and they now have very little contact with them at all. This house needed a lot of work as it was bought many years ago under the right to buy scheme and had not therefore seen improvements under the decent homes work. It was however theirs, mortgage free and in a decent town for the kids to grow up in. Things were going well as Adam had a pretty decent job, plans to do up the house and Steph was expecting their second child.

Just after the baby was born Adam was made redundant. He had not been in the job long and got only a small amount of redundancy. They immediately made cuts as they looked for work. It was going to be impossible for them both to work as they had no one to look after their baby and three year old boy. They don't put the heating on any more, just using a small electric fire in the evening, and the house is getting very cold now winter is approaching.

I try and keep the house warm but if money is tight than I will only put the heating on if I really have to.

To make matters worse, their three year old boy is getting ill a lot and the doctors say it is asthma. He has been in A&E twice now and admitted to hospital on one occasion when it was impossible for Adam to look for work properly.

They are both worried sick and cannot see a way forward. They don't know where to turn and feel utterly overwhelmed. Steph gets through each day as best as she can but even routine tasks such as washing and drying clothes are becoming a problem with no hot water or heating. She has also now started missing meals to make sure the kids have enough to eat.

Considerations for professionals when developing interventions or engagement strategies

Day to day life has become a real struggle for Steph and Adam. Basic tasks are a huge challenge and they feel overwhelmed; thinking further than the next day is impossible. Thinking about things like swapping suppliers, seeking out help with insulation and other schemes is just not possible for them right now. They are simply surviving and this is having a very detrimental impact on the health of themselves and their children.

The “trade-off zone” model

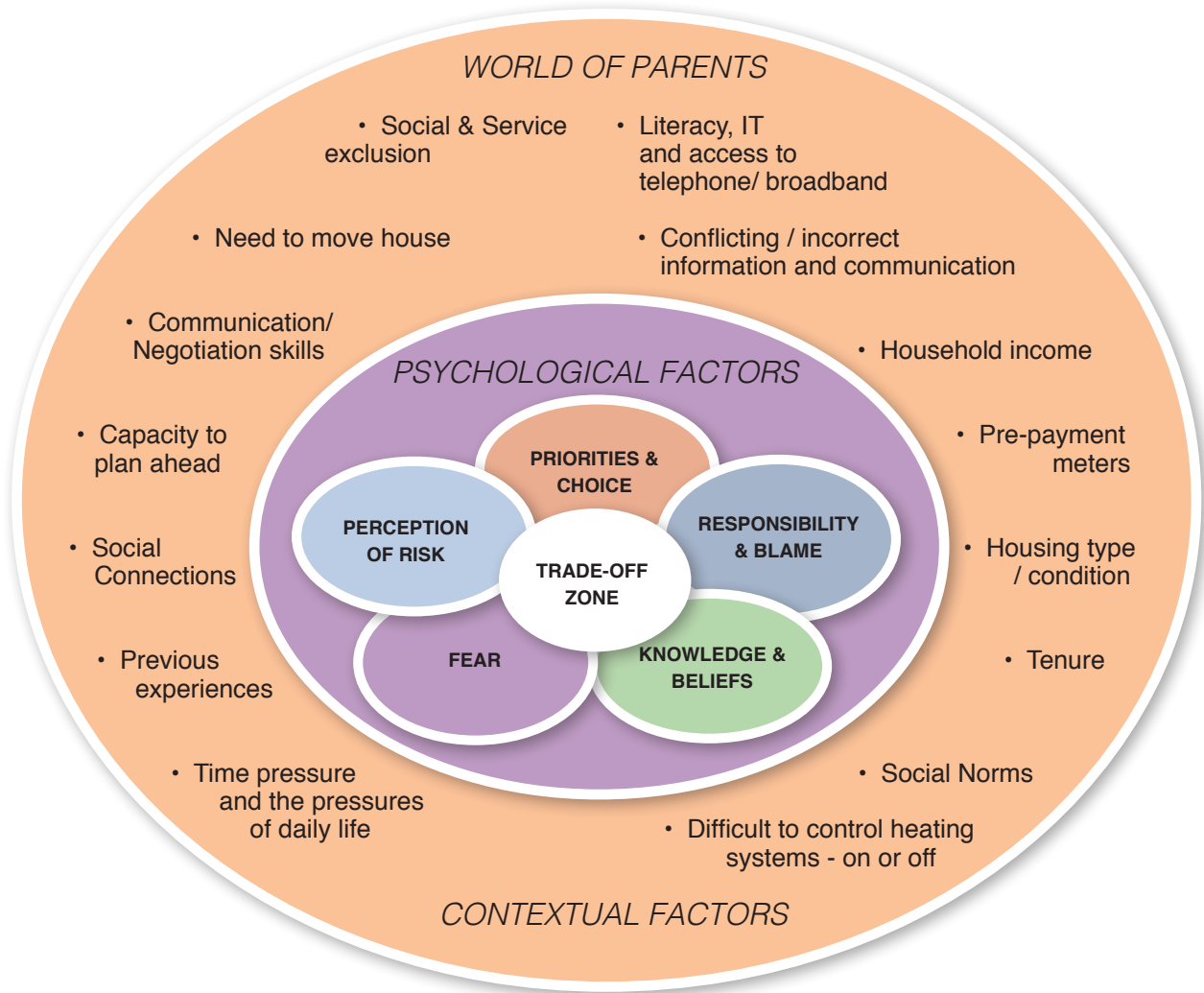
The pen portraits illustrate examples of some of the trade-offs found in the research. In order to develop understanding, and practical application of the research findings and the trade-off faced by parents, a model has been developed. The ‘Trade Off Zone’ Model shows how the contextual factors interplay with the psychological factors to drive behaviour.

Of the families interviewed, eleven out of eighteen families had pre-payment meters (a contextual factor). The research showed that for the majority of the parents, their priorities were providing for their families and ensuring that all bills were paid. However, although respondents appeared to understand that paying for their gas or electricity was more expensive through a meter system, the fear of debt and large bills was powerful enough to drive their behaviour in terms of using this method of payment. This example could also be considered in terms of the ‘choice’ made by the parent. In this instance the ‘trade-off’ was higher fuel prices and control over bills versus fear of debt and large bills.

Another example of trade-off could be demonstrated by the scenario of advice given to social housing tenants who complained of condensation and mould in their homes. Condensation and mould is caused by lack of ventilation within a home and housing officers visiting a property may advise as such. Windows could be opened to allow air circulations and ventilation grills should be left un-covered. However, the research has demonstrated that keeping a home warm is more of a priority and can be a challenge for families and heating regimes are adopted to manage this. When having enough money to keep the home warm for the children is a priority, opening a window and letting the heat out, is not perceived or experienced as a real option. A trade off has to be made between following advice to rid the house of mould/condensation or simply keeping warm.

The model on the next page represents some of the contextual and psychological factors found in the research and help professionals understand how similar challenges may lead to different behaviour outcomes within different families.

Figure 14: The “trade off zone” model



Helping professionals to understand behaviour and target interventions

Previous discussion within this report throws some light onto how the professionals own knowledge, attitudes and beliefs may affect the assessment of a situation and consequently effect decisions around the type of intervention offered. We have demonstrated the complexity of psychological and contextual factors that drive the behaviour of parents and equally, the factors affecting the professionals understanding and actions will be a vital component in the mix that contributes to the outcomes for the child vulnerable to illness.

The 'Trade Off Zone' model has been developed to illustrate how different contextual factors interplay with psychological factors to drive choices and behaviour. However, in order to understand how different parents may react faced with these trade-offs, and what this means to professionals delivering services and supporting interventions, we must appreciate that not everyone will act and react in the same way. For example Paula and Steve were able to meet challenges and find different solutions due to a combination of their contextual factors (financial situation and family support) and their psychological factors (knowledge, confidence, negotiating skills). Whereas, Michelle and Ryan live in a rented home with a difficult landlord (contextual factor) and didn't feel confident enough to make more of a fuss to get things fixed (psychological factor).

To assist professionals to gain further understanding and therefore target interventions more effectively, a basic segmentation model has been used as a way of helping professionals to break down populations into similar sub-groups. From the findings, four possible segments or groups of parents have been identified at this stage.

This segmentation model is still in development and requires further refining and testing before it could be used by professionals to focus their efforts or target interventions to reach at risk households. Once this is completed it is hoped that this will assist in delivering the most effective interventions to the right people at the right time and using the most appropriate methods to communicate with or engage them.

Please see appendix five for a basic illustration of the first draft of this model

Conclusion

This project has generated findings to help people working in public health, policy and practice understand the complex network of factors that influence how households make decisions regarding keeping warm at home. The project focuses on households with a child with asthma. A “trade-off zone” model has been developed to illustrate this challenging landscape. A basic segmentation model has been developed but this requires further development and refining.

This project is one of few that examine the lives of families in relation to fuel poverty and affordable warmth. Whilst it does provide valuable insight, ongoing research is essential on the following:

- The impact of fuel poverty, energy price rises and welfare reform on health.
- Research that includes comprehensive strategies to accurately capture the child’s perspective.
- The influence of cold on people with clinical conditions that would make them vulnerable to the impact of cold.
- The impact of cold and damp on health and strategies to reduce health risk.
- Research that used innovative approaches to capture the reality of the health risks of cold and its impact, for example photo-methodologies and participative methods.

References

- Alderson M (1985) Season and Mortality Health Trends 17. 87-96
- Allmark P, Tod A. (2006) How should public health professionals engage with lay epidemiology?. *Journal of Medical Ethics* 32(8):460-3.
- Barnes M, Butt S, and Tomaszewski W (2008) *The Dynamics of Bad Housing: The Impact of Bad Housing on the Living Standards of Children*. London: National Centre for Social Research
- Boardman B (2010) *Fixing fuel poverty: challenges and solutions*. London: Earthscan
- British Medical Association (2003) *Housing and health: building for the future BMA*. London
- Curwen M & Debit T, (1988). 'Winter Mortality, Temperature and Influenza: Has the Relationship Changed in Recent Years?' *Population Trends OPCS*, Vol. 54
- Cowley S. Grocott P. (2007) Research design for the development and evaluation of complex methodologies: an empirical example and critical discussion *Evaluation* 13(3):285-305
- Defra (2004) *Fuel poverty in England: the governments action plan Defra*. London
- Defra (1999) *Home Energy Conservation Act 1995: Report to Parliament by the Secretary of State for the Environment, Transport and the Regions Defra*. London
- Department of Energy and Climate Change (2013) *Sub-regional fuel poverty data: low income high costs indicator* On: <https://www.gov.uk/government/publications/2011-sub-regional-fuel-poverty-data-low-income-high-costs-indicator> Accessed October 2013
- Department of Energy and Climate Change (2013) *Fuel Poverty: a framework for future action*. On: <https://www.gov.uk/government/publications/fuel-poverty-a-framework-for-future-action> Accessed October 2013.
- Department of Health (2007) *Keep warm. Keep well* Available on: http://www.dh.gov.uk/en/Policyandguidance/Healthandsocialcaretopics/DH_4076849 Accessed August 2008
- Department of Health (2006) *Our Health, Our Care, Our Say*. Department of Health. London
- Department of Health (2004) *Choosing Health* Available on: http://www.dh.gov.uk/en/Publichealth/Choosinghealth/DH_066342 Accessed August 2008
- Department of Health (2011) *Cold Weather Plan for England: protecting health and reducing harm from severe cold* London: Department of Health
- Farrell, C., McAvoy, H., Wilde, J., 2008. *Tackling Health Inequalities: An All-Ireland Approach to Social Determinants*. Combat Poverty Agency, Dublin.
- Healthy Ambitions (date unknown) *Asthma - Better for Less NHS Yorkshire and Humber* Available at: <http://www.healthyambitions.co.uk/Uploads/BetterForLess/25%20BETTER%20FOR%20LESS%20Asthma.pdf> Accessed July 2012
- Howden-Chapman P. (2004) Housing standards: a glossary of housing and health *Journal of Epidemiology of Community Health* 58: 162-168
- Joseph Rowntree Foundation (2001) *The Impact of Housing Conditions on Excess Winter Deaths* Available on: <http://www.jrf.org.uk/Knowledge/findings/housing/n11.asp> Accessed 1st December 2006
- Keating W. R., Donaldson G. G., (2000) *Cold Weather, Cold Homes, Winter Mortality* In Rudge J, Nicol F (ed) *Cutting the Cost of Cold*. Spon Press Taylor & Francis Group. London
- Kreiger J (2010) Home is Where the Triggers Are: Increasing Asthma Control by Improving the Home Environment *Paediatric Allergy Immunology Pulmonology*. 23(2): 139-145.
- Kwak, K., 2003. Adolescents and their parents: a review of intergenerational family relations for immigrant and non-immigrant families. *Human Development* 46, 115-136.
- Lawlor, D.A., Maxwell, R., Wheeler, B.W., 2002. Rurality, deprivation, and excess winter mortality. *Journal of Epidemiology and Community Health* 56, 373-374.

Liddell C, Morris C (2010) Fuel poverty and human health: A review of recent evidence *Energy Policy* 38 (2010) 2987–2997

Masoli M, Fabian D, Holt S, Beasley R for Global Initiative for Asthma (2004) Global Burden of Asthma Available at <http://www.ginasthma.org/pdf/GINABurdenReport.pdf> Accessed July 2012

Marmot Review Team (2011) *The health impacts of cold homes and fuel poverty*. London: Friends of the Earth

National Childrens Bureau (2012) Fuel Poverty and Child health and Wellbeing. Available on: http://www.ncb.org.uk/media/757610/ebr_fuel_poverty_briefing_20june.pdf Accessed March 2013

National Social Marketing Centre (2006) What is social marketing? Available on: <http://www.nsms.org.uk/public/default.aspx> Accessed August 2008

Nibhanipudi K, Hassen GW, Smith a (2009) Beneficial effects of warmed humidified oxygen combined with nebulized Albuterol and Ipratropium in paediatric patients with acute exacerbation of asthma in winter months. *The Journal of Emergency Medicine*, Vol. 37, No. 4, pp. 446–450

Press V. (2003) *Fuel Poverty and Health: a guide for primary care organisations, and public health and primary care professionals* National Heart Forum. London

Ritchie J. Lewis J. (2003) *Qualitative research practice*. London. Sage.

Rotherham Affordable Warmth and Energy Steering Group (2007) *A multi-agency strategy for Rotherham 2007-2010*. Rotherham PCT. Rotherham

Razzouk H, Blaive B, Massot O, Charpin D, Vervloet D (1998) Climatic factors and climatic therapy in asthma *Revue Française d'Allergologie et d'Immunologie Clinique* 38, S272-280

Somerville M. MacKenzie I, Owen P, Miles D(2000) Housing and health: does installing heating in their homes improve the health of children with asthma? *Public Health*. 114. 434-439

Stockton H. Campbell R. (2011) Time to reconsider UK energy prices and fuel policy. Joseph Rowntree Foundation. London. On: <http://www.jrf.org.uk/sites/files/jrf/fuel-poverty-policy-summary.pdf>. Accessed December 2011

Tod AM, Lusambili A, Homer . Abbott J, Cooke JM, Stocks AJ, McDaid KA. (2012) Understanding factors influencing vulnerable older people keeping warm and well in winter: a qualitative study using social marketing *BMJ Open* 2012;2:e000922 doi:10.1136/bmjopen-2012-000922

Wells, S., Graham, K., Speechley, M., Koval, J.J., 2005. Drinking patterns, drinking contexts and alcohol-related aggression among late adolescent and young adult drinkers. *Addiction* 100, 933–944.

YHPHO (2012a) Asthma Primary Care Trust Summary: NHS Doncaster Available from <http://www.yhpho.org.uk/default.aspx?RID=136388> Accessed July 2012

YHPHO (2012b) Asthma Primary Care Trust Summary: NHS Rotherham Available from <http://www.yhpho.org.uk/default.aspx?RID=136388> Accessed July 2012

YHPHO (2012c) Asthma Primary Care Trust Summary: Regional Summary Available from <http://www.yhpho.org.uk/default.aspx?RID=136388> Accessed July 2012

Appendix One

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Appendix Two

Table 10: Household participants

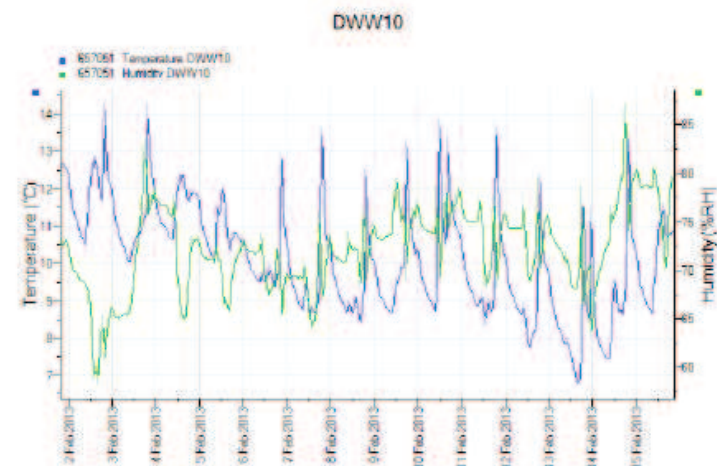
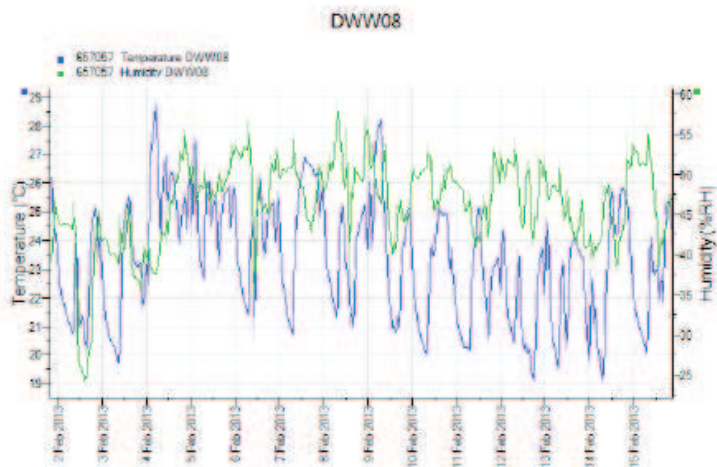
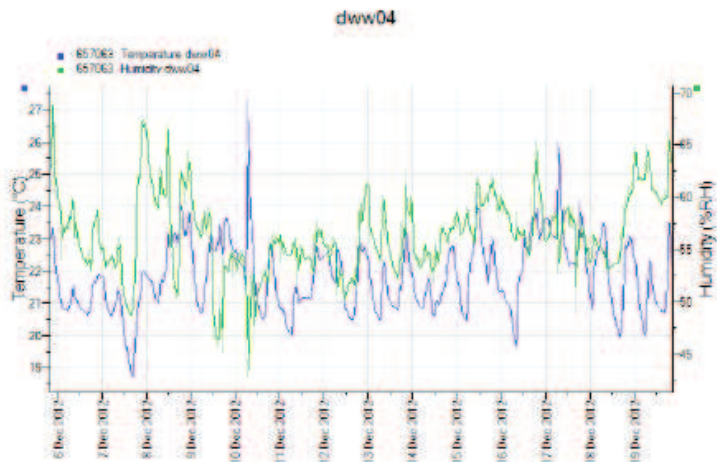
Participant	Ethnicity	Age	Employment self	Employment partner	Number of children	Income weekly - less than
1	white & British	46	No	No	1	£577
2	white & B	30	Yes	No	4	£379
3	white & B	37	No	No	3	£259
4	white & B	29	Yes	Yes	2	£577
5	white & B	29	No	No	1	£259
6	white & B	21	No	single parent	1	£259
7	Pakistani	42	No	single parent	5	£259
8	black & B	42	Yes	Yes	2	£259
9	white & B children dual heritage	32	No	Yes	4	£379
10	Egyptian & B	?	No	No	4	?
11	black & B	41	No	No	3	£259
12	white & B	36	No	single parent	2	£259
13	white & B	33	No	single parent	2	£259
14	white & B	46	Yes	Yes	2	£577
15	white & B	34	Yes	Yes	3	£259
16	white & B	31	No	Yes	2	£379
17	white & B	23	No	Yes	3	£259
18	white & B	28	No	No	2	£259

Table 11: Housing characteristics

Participant	Privately owned	Rented council	Rented Private	Type	Insulation	Reported damp
1			yes	semi	cavity and loft	no
2	yes			terrace	C & L	yes
3		yes		terrace	C & L	yes
4		yes		semi	loft	yes
5			yes	terrace	loft	no
6			yes	terrace	C & L	no
7			yes	terrace	Don't know	yes
8		yes		flat	None	yes
9	yes			terrace	No	no
10	yes			terrace	loft	yes
11	yes			terrace	loft	yes
12	yes			terrace	loft	yes
13		yes		semi	loft	
14			Yes	Semi	Loft	Yes
15	yes			terrace	C & L	no
16	yes			Semi	loft	yes
17			Yes	Semi	Loft	no
18		yes		Semi	Loft	yes

Appendix Three

Figure 15: Tinytag exemplars



Appendix Four

Figure 16 and 17

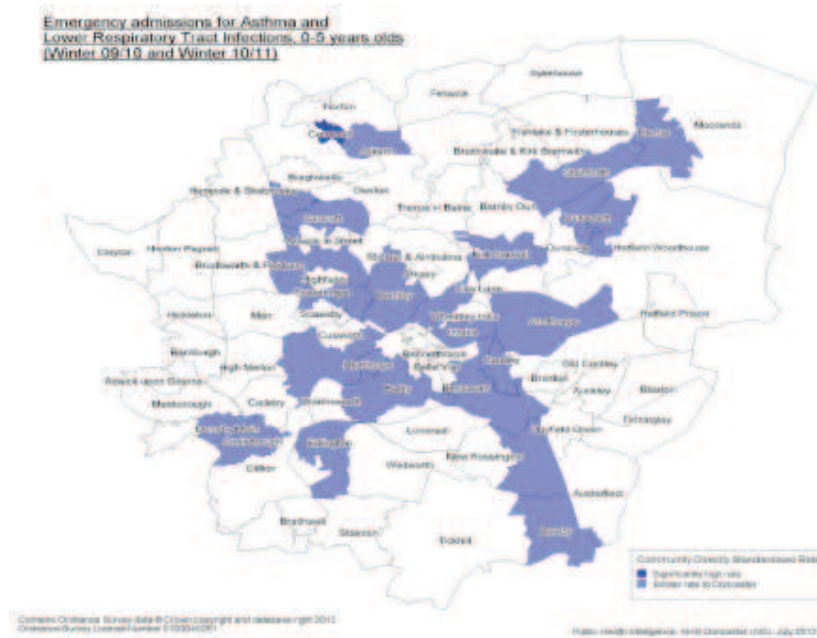
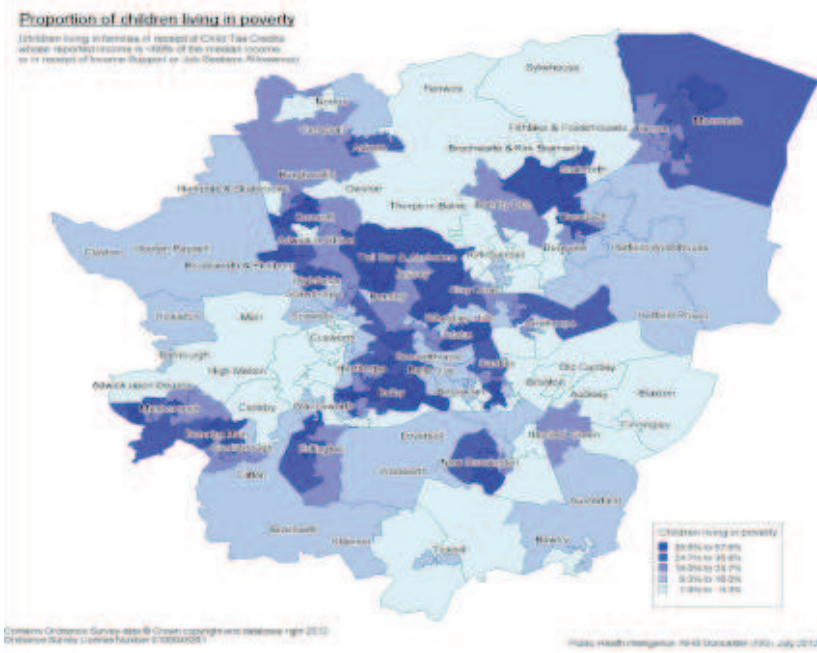
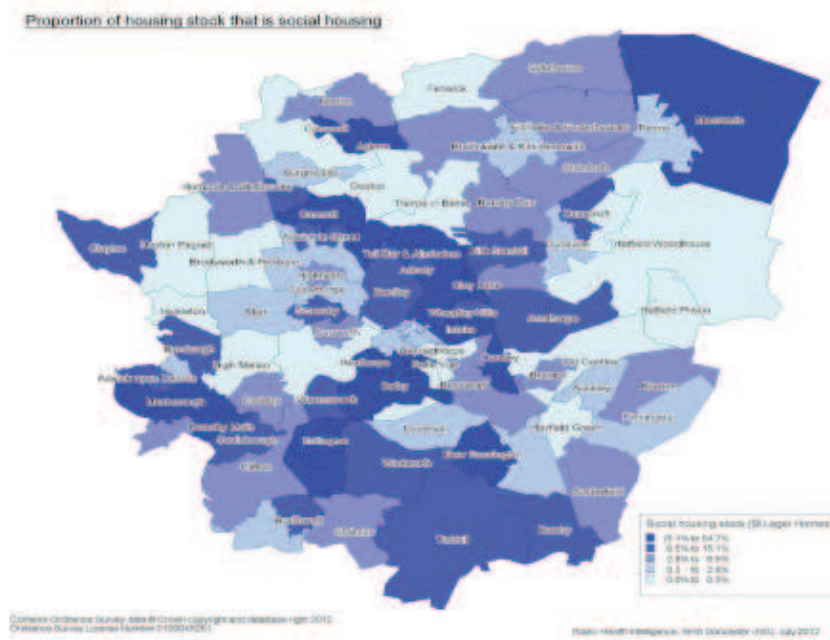
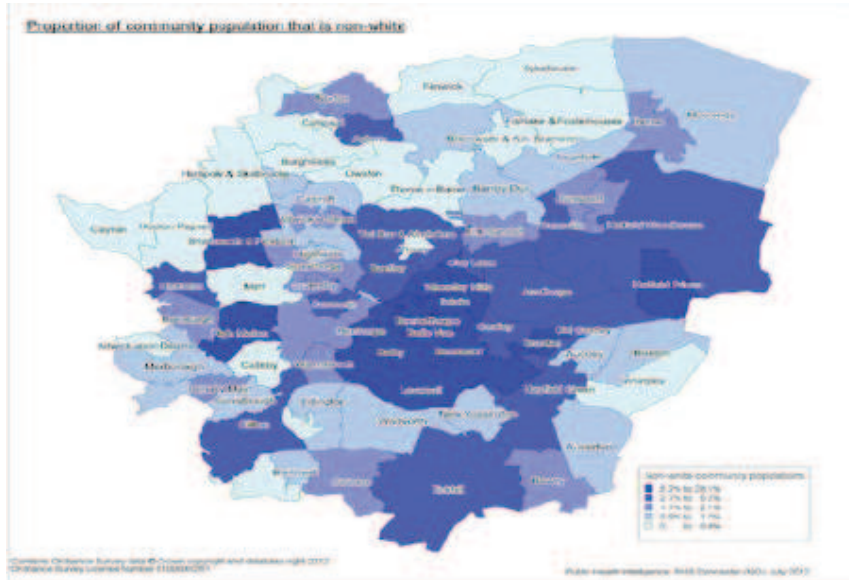


Figure 18 and 19



Appendix Five

Table 12: How the segmentation model might help

The segment	Psychological factors	Contextual factors	What this means to the child at risk	What might help
Michelle and Ryan Can see the issues and trying to take action	Knowledge around causes of asthma Fear of debt & risk of debt Priorities – a roof over head, food and bills paid.	Barriers: Tenure of home Money might be tight Ability to navigate system and communicate with those who might be able to help	Some trade-offs: Heating regimes Access to home improvements	Clear, concise simple messaging A joined up system so they feel able to access help to tackle land lord without losing home Tools so they can help themselves Peer support from people like Paula and Steve – knowledge and confidence

Using Michelle and Ryan as an example, this is how the segmentation model might be used to map out interventions for the different families and understand the best way to engage and communicate with them.

Appendix Six

Inhalers

Asthma UK website <http://www.asthma.org.uk/advice-medicines-for-your-child>

Reliever inhalers are usually blue and are essential in treating asthma attacks. Relievers are medicines that children can take immediately when asthma symptoms appear. They relax the muscles surrounding the narrowed airways quickly, allowing the airways to open wider, and making it easier to breathe again. . Preventer inhalers protect the lining of the airways and are usually brown, red or white. Preventer inhalers help to calm down the swelling in the airways and stop them from being so sensitive. This means that children are less likely to react badly when they come across an asthma trigger. Not all children and young people will need a preventer inhaler. These inhalers are usually prescribed for children and young people using their reliever inhaler three or more times a week. Most children or young people who need preventer medicines will receive a preventer inhaler from their doctor or asthma nurse that contains inhaled steroids. There are several kinds of inhaled steroids, but they all work in the same way.

Appendix Seven

Table 13: Illustrative staff quotations

Children Centre Lead	CCL
Gipsy and Traveller worker	GT
Children Centre Family Support	CCFS
Health Visitor	HV
Head Teacher	HT
Area Team	AT
Financial Inclusion	FI
Debt Manager	DM
Police Support Officer 2	PSC2
Police Support Officer	PSO
Children Support Worker	CSW
Local Council Cabinet Member for Health	LCMH

Table 14: Contextual factors

Sub-themes	Staff perceptions	Staff experience
Damp	One of the families I'm working with, she, her house was really, really cold, and she just used to plug the heater in when you went in. It was just like a blow-out, and she'd put it on for maybe an hour each day. And she'd plug it in when you go in, and she'd got little ones and it was really, really cold. Loads of damp and of course then, you know, you're trying to get onto private landlords to address the damp, and the tenants won't challenge the landlords because they can threaten to evict them. CCS	Families will tell me that they have had furniture, possibly cots even. Recently I had a family that had a wooden cot for their new baby but before the baby was born they had had to throw the cot out because it was so damp and had got mildew on it HV
<p>Commentary/interpretation</p> <p>A range of staff have direct experience of the impact of heating patterns on vulnerable service users. The connection between challenging landlords and potential eviction is a common assumption but not tested.</p>		

Table 15: Social Factors/Support

Sub-themes	Staff perceptions	Staff experience
Family		I think it often depends on what support they have, thinking of family and friends, because at the moment even this week we went to see a lady, she was out but we went because she's just moved into this house and she has no heating, no beds, no fridge, no cooker, and so it didn't surprise me that she wasn't in, because if she's got some support somewhere else then families tend to go out when they can. HV
<p>Commentary/interpretation</p> <p>The multi-faceted impact of poverty can mean that home is not a safe or welcoming place but rather somewhere to be avoided.</p>		

Table 16: Behaviours

Sub-themes	Staff perceptions	Staff experience
Payment methods	Most of them it's on a card system, prepayment yeah, and they just go to the shop or whatever, I've done it for a lady, you know, gone to the shop and you just, you know, they tag it in and bring it back and punch a code into the meter. CCS	I think some of them are aware that they could probably pay on direct debit but a lot of our families haven't got a bank account so they can't have that facility. CCL
Experience of cold	They've not verbally said this to me but in my experience I don't think they would see the heating as an issue, but I could be wrong on that as well. CCL	We went into one lady's; she wouldn't even have the heater on in the room she was in, because she said she couldn't afford it. And she seemed a little bit confused and we were very concerned and didn't feel we could leave her. And that was a big worry, so we stayed with her until we could get some more appropriate people and services in. Because we were very confused, she was very confused and we were a bit worried that that maybe linked to the fact that she's cold. AT
Budgeting	Just not being able to manage their money correctly, a lot of them speak of they get the money and they spend it within like a couple of days or something like that, it's hard to plan, that's the biggest problem we have. CCFS	They don't tend to look at it until it's a problem. They would, past experience is that they will get into a lot of debt; they'll get into arrears with that, with the heating. CCL
<p>Commentary/interpretation</p> <p>Perceptions and experiences of staff at times challenge the data from the household interviews regarding payment methods and budgeting. Families on low income can be excellent at budgeting and use the pre-payment meter as a means to budget despite the extra cost this method involves.</p>		

Table 17: Attitudes and beliefs

Sub-themes	Staff perceptions	Staff experience
Fear of debt	I would say that when they receive their benefits, then they would put say £20 or whatever onto gas or electric, either or, and once that runs out they would then not have fuel or heating until the next benefits. CCS	Regarding energy coRe energy companies, it's difficult to say because they don't really discuss finances and things like that. It's only when things become an issue that you get to know if there's an issue or if there's a problem or if money's not available to buy certain things. It's only when things become a dire issue is when they ask for help or advice. They will try to just muddle through.
Priorities	Again you can offer as much advice but again it's down to their choice isn't it, if they don't want to put the heating on who can come round and start waving fingers saying you need to have your heating on. Again it's their priority isn't it?	I've been to I'd say a couple of families, I'll just say a couple, where priority is the addiction of smoking and drinking rather than putting priority towards the kids and heating the house. That can be a concern. So it's how do you manage that really. VPA
Beliefs of Asthma	Well, I don't think there is really because I'm thinking a lot of them will have the cold homes and they will smoke as well and I think the combination is disastrous isn't it for children CCL	The family that sits in my mind at the moment that I've had a lot of dealings with she is very, very up on her child. He's one of five children. He's one of the younger ones, he's like the second youngest, but when he struggles breathing she takes him to the hospital. He's had nebulisers on with a mask in the hospital. He does have an inhaler in school, he has an inhaler at home, she's quite up on knowing what to do with him, so she does find the information, makes sure he takes the inhaler when he needs it, do you know what I mean, so she's up on it. GT
<p>Commentary/interpretation</p> <p>Self-determination and user choice can be a challenge for staff but is recognised by most as important. Service users make different choices and have different priorities at different times as they negotiate the impact of low income and seek to avoid social exclusion. This may not always be the preferred choice of professionals but very few of us always make the sensible choice. Accessible information to inform choice seems important.</p>		

Table 18: Knowledge and awareness

Sub-themes	Staff perceptions	Staff experience
Heating	It certainly worries me with rising fuel costs that it's going to get worse not better. So that was, is certainly a significant concern for us. Which is why we're now told to actively look for it really, and not to just ignore it but to look out for the signs of people who are only heating one room but the house being cold when we walk in.	I went into one home and the parent had got on three layers of clothing, top half. The children were running around in just their nappies, there was a baby in a crib and a toddler who was running around, no slippers on and it was wintertime and I was so cold when I came out that I asked my work colleague if she could put the heating onto my feet, because I'd got boots on and socks, and my feet were like ice cubes.
Sources of (trusted) information	Again you can offer as much advice but again it's down to their choice isn't it, if they don't want to put the heating on who can come round and start waving fingers saying you need to have your heating on. Again it's their priority isn't it?	Well, they'll come into the Children's Centre, they'll go to the Citizens Advice and they're really, Citizens Advice are really good and have supported me with families in contacting the energy companies and getting people onto payment plans or changing their meters and stopping them getting disconnected.
<p>Commentary/interpretation</p> <p>There is increasing awareness of the impact of cold amongst a wide range of professionals. Information on that impact is important for staff in aiding assessment and decisions to be made in balancing user choice and the need to intervene. Awareness has been raised in respect of older people but is perhaps less advanced in respect of children.</p>		

Appendix Eight

Children focus group example material

