



Research paper

Cold comfort: Covid-19, lockdown and the coping strategies of fuel poor households

Aimee Ambrose^{a,*}, William Baker^{b,2}, Graeme Sherriff^{c,3}, Joseph Chambers^{d,4}^a The Centre for Regional Economic and Social Research, Sheffield Hallam University, Chair of the Fuel Poverty Research Network, United Kingdom^b Citizens Advice, Trustee of the Fuel Poverty Research Network, United Kingdom^c University of Salford, Trustee of the Fuel Poverty Research Network, United Kingdom^d The Centre for Regional Economic and Social Research, Sheffield Hallam University, United Kingdom

ARTICLE INFO

Article history:

Received 6 January 2021

Received in revised form 12 July 2021

Accepted 25 August 2021

Available online 2 September 2021

Keywords:

Fuel poverty

COVID-19

Lockdown

Third spaces

ABSTRACT

The number of households experiencing fuel poverty is thought to have risen by at least 600,000 in the UK because of the ongoing Covid-19 pandemic. The concentration of fuel poor households in poor quality, energy inefficient accommodation that they have little power to improve means they are particularly negatively affected by the retreat into the home brought about by successive lockdowns and restrictions. For many such households, the home is not the place of sanctuary that it needs to be at a time like this. However, our empirical research into the lived experiences of fuel poverty reveals additional consequences for fuel poor households, chiefly associated with restricted access to third spaces and other disruptions to their usual coping strategies. Based on our evidence, we highlight three key considerations for policy on fuel poverty in the era of Covid-19: the need to rapidly upgrade the energy performance of the existing housing stock; the need to address the additional financial hardship faced by fuel poor households; and the need to prioritise access to third spaces and high-quality public spaces while restrictions last. This paper develops the concept of energy poverty by considering the role of spaces outside the home as part of the overall experience of energy poverty and the range of ways in which policy makers can mitigate its impacts.

© 2021 Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

The impacts of Covid-19 for fuel poor households – those who struggle to afford to heat their homes to a safe and comfortable temperature – have received inadequate coverage or consideration and because of the crisis, many more households have fallen into this category since the onset of the pandemic in the UK in March 2020. Recent estimates suggest that the number of households in fuel poverty in the UK could have risen by at least 600,000 because of the pandemic (Citizens Advice, 2021a). Discussion to date has focused on the increase in energy costs that households are experiencing because of restrictions requiring them to spend more time at home. This is a valid focus, not least because recent research has revealed the average UK household

was set for a 37% rise in their annual energy bill in 2020/21 and those with unchecked balances increased their debt by £145 (Compare the Market, 2021). Furthermore, 72% of households have increased their energy use since the onset of the pandemic, spending an average of £32 extra a month on energy (Partridge, 2020) against a backdrop of average reductions in income levels of 28% (Bank of England, 2020). Moreover, because the lowest income and most vulnerable households are concentrated in the least energy-efficient housing (VEIC, 2019) they are likely to experience higher than average energy cost increases on top of already strained household incomes, including income decreases of as much as 76% (this figure relates to unemployed households, which will be disproportionately represented in the poorest quality housing) (Bank of England, 2020). The problems associated with poor quality, thermally inefficient housing are widely experienced in the UK as a result of our ageing housing stock and low rate of renovation resulting in an estimated one in three people living in poor quality housing. This inadequate housing stock has proven consequences for health, wellbeing and life expectancy, with vulnerable people including children experiencing some of the worst effects (APPG Healthy Homes and Buildings, 2018). Furthermore, falling housing quality in the UK is likely to have worsened since 2020 due to many energy efficiency programmes

* Corresponding author.

E-mail addresses: a.ambrose@shu.ac.uk (A. Ambrose), william.baker@citizensadvice.org.uk (W. Baker), G.Sherriff@salford.ac.uk (G. Sherriff), j.chambers@shu.ac.uk (J. Chambers).

¹ Professor of Energy Policy.² Energy Advice Development Lead.³ Co-Director of the Sustainable Housing and Urban Studies Unit.⁴ Research Associate.

being paused (Kotak and Chappell, 2021) and restrictions being placed on contractors entering the home (Brown et al., 2020). Brown et al. (2020) also described how occupants' awareness of disrepair and its implications was increasing, and tolerance of it waning, as a result of spending more time in the home (Brown et al., 2020).

Exposure to low indoor temperatures increases risk of respiratory infections. These are the leading cause of excess winter deaths,⁵ defined as deaths that occur over and above what would ordinarily be expected during the winter. In the winter of 2019/20, there were 28,300 excess deaths (excluding deaths directly related to Covid-19), 19.6% higher than in the previous year (ONS, 2021). Around 30% of excess winter deaths can typically be attributed to cold homes (Guertler and Smith, 2018), but this percentage may be higher in the context of the pandemic given our increased exposure to indoor cold during this period. These figures underline the extent of the growing crisis around cold homes in the UK and its ultimate consequences. The combination of poor-quality, thermally inefficient housing, falling incomes, and spending more time at home have created the perfect storm for fuel poor households (existing and newly created) resulting in poorer physical and mental health (depressive symptoms have been shown to increase during lockdown, particularly in poor quality housing, according to Amerio et al., 2020) and decreasing prosperity and social inclusion. The situation has led to the vast majority of fuel poor households (between 80 and 96%) being forced to make choices between heating the home and eating, rationing energy use, and eating cold meals (Fuel Bank Foundation, 2020).

However, our research on the impact of the pandemic on fuel poor households reported in this article suggests that a series of lockdowns in addition to the ongoing restrictions on our daily lives have raised challenges for the fuel poor and that these extend beyond and exacerbate financial impacts and reductions in physical health. Most significantly it has confined fuel poor households to cold and uncomfortable homes that provide little in the way of sanctuary from the crisis and has closed off the alternative coping spaces that they relied on to access warmth, comfort and social support.

In this paper, we draw on a combination of existing empirical data on the lived experiences of fuel poverty and the coping mechanisms employed by fuel poor households as well as updates from some research participants gathered during lockdowns to better understand the impact of Covid-19 on the fuel poor. We reference the concepts of the psycho-social benefits of home and third spaces to understand how Covid-19 has affected the coping strategies of the fuel poor and put forward considerations for policy.

We begin by setting out the current evidence regarding the extent of fuel poverty in the UK and the current policy context relating to fuel poverty in the UK before presenting secondary statistical and qualitative data providing insights into the impact of the pandemic on fuel poor households. Original empirical data is also shared in the form of case studies, illustrating the daily challenges and adapted coping strategies employed by fuel poor households during the first national lockdown, which ran from March to June 2020.

2. The nature and extent of fuel poverty in the UK

Fuel poverty is defined and measured differently across the four countries that make up the UK, preventing UK wide estimates of fuel poverty levels. However, in England alone, 3.2 m

households live in fuel poverty according to the government's new 'Low Income Low Energy Efficiency' (LILEE) measure of fuel poverty — equivalent to 13.4% of all households (BEIS, 2021a). Many people who live in a cold home also experience fuel poverty. Fuel poverty in the private rented sector is much higher than in the owner occupied and social housing sectors — 27% on the LILEE measure. 38% of all fuel poor households live in the private rented sector, despite the sector only accounting for 19% of all housing (BEIS, 2021a). High levels of fuel poverty in the private rented sector are explained by the extent of poor-quality housing and inadequate heating systems in the sector. English Housing Survey data reveals that 6.3% of private rented housing is still rated Energy Performance Certificate (EPC) F or G (where G is the worst performing on a scale of A–G) despite it being illegal for landlords to rent out F and G homes (MHCLG, 2020a; BEIS, 2017a). By comparison, 4.7% of homes in other tenures and 1.2% of housing association properties are rated F or G (MHCLG, 2020a).

Homes rated F or G are generally considered 'dangerously cold' on the Housing, Health and Safety rating system⁶ (CAG & ACE, 2018). Inadequate heating systems are also common in the sector with 13.4% of private rented homes heated by electric storage heaters (many of which are inefficient older heaters), with 6.8% still relying on very expensive and inefficient single room heaters. The comparable figures for all housing are 7.4% and 3.3% respectively (MHCLG, 2020a).

It is therefore hardly surprising that it costs an average of £2820 and £2170 per annum to heat a G and F rated home respectively to an adequate standard (BEIS, 2020a). The comparable figure for an A–C rated home is £990 per annum. Of course, most occupants of F and G homes do not spend this amount and instead endure cold homes and often suffer poor physical and mental health as a result.

The health consequences of living in cold housing (which is in turn more susceptible to mould) are well-established within the literature. Indeed, the National Institute for Clinical Excellence (NICE) recognise the profound effects that cold housing can have on health and cite links to health problems, excess winter deaths and reduced quality of life, with the impacts being most acutely felt amongst the vulnerable including the elderly, children, and those with chronic conditions. Specifically, indoor cold has been proven to suppress the immune system and lead to increased risk or exacerbation of asthma and respiratory infections. It has also been linked to mental health issues, low self-esteem, educational attainment, nutrition, injuries and reduced infant weight gain (Tod et al., 2016). Recognised social impacts include truancy and bullying amongst children and issues allied to overcrowding as families cluster together in one or two rooms to ration heating and keep warm (Tod et al., 2016).

Insights into the coping strategies employed by households living in fuel poverty are less well-documented and represent a gap in knowledge to which this paper contributes. However, in addition to the clustering of families into one room and the associated rationing of heating, it is also well-established that fuel poor households face 'trade offs' between heating the home and eating enough good quality food (Lambie-Mumford and Snell, 2015) a strategy that is being practised widely by fuel poor households during the pandemic (Fuel Bank Foundation, 2021). There are also indications from the existing literature that strategies such as wearing coats in the house, riding public transport without a destination in mind, maximising time outside the home and eating cold food, have been identified amongst the fuel poor (Ambrose et al., 2017).

⁵ Excess winter deaths refers to the higher rate of deaths in winter (December to March) compared to the rate in other months of the year.

⁶ The Housing, Health & Safety Rating System is a risk based assessment tool which is used by environmental health officers to assess the risk of a hazard in residential housing to the health and safety of occupants.

3. The current policy context in the UK

There are two key pieces of legislation intended to address fuel poverty. These apply primarily within England, with separate legislation in place in Scotland, Northern Ireland and Wales. The 2015 Fuel Poverty Strategy for England set a statutory target of as many fuel poor households as reasonably practicable achieving an A–C EPC rating by 2030. The Strategy also includes two interim milestones: a minimum of Band E by 2020 and Band D by 2025. In 2021, a new Fuel Poverty Strategy for England was launched but it retains the 2030 target and milestones (BEIS, 2021b). The new strategy has introduced a new way of measuring fuel poverty – the ‘Low Income Low Energy Efficiency’ (LILEE) measure. As previously mentioned, (BEIS, 2021a) there are now 3.2 m households in fuel poverty under the new measure 13.4% of all households (strictly speaking the figures relate to 2019 – official government fuel poverty data is always two years out of date).

The other piece of relevant legislation is the Private Rented Property for England and Wales Regulations (2015). This requires private landlords to upgrade the energy efficiency standards of their F and G rated properties to a minimum of Band E by 2020. The government later required landlords to spend up to £3500 on improving their properties to meet the minimum standard. In September 2020, it consulted on requiring landlords to improve homes to Band C by 2028, subject to a price cap of £10,000 (BEIS, 2020c). As of July 2021, it has yet to announce its response to the consultation.

The government’s official advisory body, the Committee on Fuel Poverty, recently highlighted the government’s failure to meet its first interim fuel poverty milestone (all fuel poor households improved to Band E (Committee on Fuel Poverty, 2021). It drew attention to the fact that only about half of the 293,000 Band F/G fuel poor homes at the start of the 2015 Fuel Poverty Strategy had been upgraded to Band E or above by 2020. The Committee (op.cit) further estimates that the government is only just over 50% towards achieving its second interim 2025 Band D milestone and that future progress with current programmes is forecast to be slow.

The Committee also draws attention to the 294,000 Band E/F/G fuel poor private rented homes (op.cit.). It welcomes the government’s proposals to raise the minimum standard and cap on landlord costs to £10,000 (BEIS, 2020c). However, the Committee is concerned that landlords are only required to upgrade their properties for new rentals by 2025 and for all rentals by 2028 in that this will delay progress on meeting the 2025 fuel poverty Band D milestone. It also highlights the lack of accurate, up to date data on where rented properties are and who is managing them.

4. The impact of Covid-19 on the fuel poor

Fuel debt is growing due to higher domestic consumption arising from lockdown measures and the severely reduced income of many households due to reduced hours, unemployment, shielding and furlough (Bank of England, 2020). By September 2020 2.1 million energy consumers had fallen behind on their energy bills, 600,000 more since February 2020, with average household arrears of £760 for electricity and £605 for gas (Citizens Advice, 2020). Furthermore, 700,000 households on prepayment meters (16% of total) had been unable to top-up since March 2020 (Citizens Advice, 2020). Indeed, prepayment meter customers were identified by the government, the energy regulator (Ofgem) and energy companies as the country’s most vulnerable energy users in the context of the pandemic. New guidelines were issued to help minimise self disconnection (losing supply due to being unable to top up meters) and a fuel voucher

scheme established to provide emergency support (BEIS, 2020b; Ofgem, 2021a). An exceptionally cold winter and spring however, coupled with ongoing waves of redundancies, are thought to have increased the wider problem of increased energy debt and rationing of consumption (Ofgem, 2021b).

Other initiatives coming to an end include payment holidays and credit loans for energy customers struggling to meet payments. In addition to the phasing out of these initiatives, Ofgem recently announced that the cap on energy bills will be lifted (Ofgem, 2021b), resulting in a predicted increase of household costs by an average of £96 annually (Compare the Market, 2021). Research by Yonder for Compare the Market’s Household Financial Confidence Tracker (2021) indicated that an increase of £85 would tip many households with children into financial difficulty, especially for the 18% of households on the most expensive energy tariff (standard variable tariffs) and the 17% on a prepayment meter.

There is also evidence of higher levels of self-disconnection during the pandemic (Citizens Advice, 2020a). This is of particular concern given evidence that self-disconnection has been linked to the exacerbation of physical and mental health problems known to be associated with cold homes plus additional social consequences associated with being unable to access the internet and charge devices (Citizens Advice, 2018). Again private rented tenants are more likely to be affected, given that many pay for their fuel via prepayment meters (22%, compared to 13% for all households) (Ofgem, 2019). Moreover, further recent evidence from Yonder (2021) shows that 26% of families were struggling to pay their energy bills and 23% were worried about their ability to meet upcoming financial obligations.

The Government also introduced temporary protection against eviction for tenants as part of its emergency measures in response to the pandemic (MHCLG, 2020b). Yet, Citizens Advice (2021) recently reported that half a million people remain behind in their rent payments, with an average of £360 owed per person and one in four renters threatened with eviction. With the ban on bailiff enforced evictions lifted on June 1st 2021, Citizens Advice, amongst others, have highlighted concern about this in the context of the ongoing financial challenges faced by households (Citizens Advice, 2021a).

Rates of fuel poverty, debt and self-disconnection are very likely to get worse, given the growing rate of unemployment (Oct–Dec 2020) which stands at 5.1%, 1.3% higher than a year ago and 0.3% higher than the previous quarter (ONS, 2021). With at least 600,000 additional households falling into fuel poverty since the first lockdown in 2020, rising unemployment coupled with the end of protection mechanisms, such as furlough, eviction bans and creditors’ forbearance of debt will further exacerbate these problems (Citizens Advice, 2021a).

These statistics paint a bleak picture and point to the inadequacies of current policy responses, particularly in the context of Covid-19. However, whilst they tell us a lot about the scale of the problem of fuel poverty, its many corollaries and its distribution, statistics alone cannot adequately convey the daily practical and emotional struggles that fuel poor households endure nor how they cope under such duress. Moreover, while the analysis set out above suggests that Covid-19 has direct financial consequences for fuel poor households, a group that has expanded in size and probably also in diversified in composition as a result of the pandemic, it cannot help us to understand the implications of this for the everyday lives of such households, for their mental and physical wellbeing and for the coping strategies that the long term fuel poor have honed over many years. The next section of this paper aims to shed light on the lived experiences of the fuel poor and how these have been affected by Covid-19 and the associated changes in how we live.

5. Understanding the lived experience

In this section, we draw on data from a previous study which provided deep qualitative insights into the lived experiences of fuel poor households, conducted between 2016 and 2019. This data supports an understanding of the rhythms and routines of daily life in fuel poverty and provides some indications of the specific ways in which Covid-19 and associated lockdowns may have impacted upon them. The study involved 50 in-depth interviews and aimed specifically to understand the experiences of fuel poor households living in energy inefficient private rented housing (Ambrose et al., 2017) - a group disproportionately affected by fuel poverty. This research provided important insights into how poor quality, energy inefficient housing undermines the key psycho-social functions of home as a place of comfort, safety and sanctuary (Kearns et al., 2000; Brown et al., 2020) and reveals the daily coping strategies of the fuel poor in the face of these shortcomings and associated threats to health, wellbeing and happiness. These insights have renewed significance in the face of Covid-19 – a time when it is more important than ever that the home offers a safe and comfortable sanctuary from the dangers of the outside world and protection from respiratory infection. This data highlights the often ingenious but sometimes dangerous and damaging strategies employed by the fuel poor to navigate daily life in the years preceding the pandemic and reviewing them from this vantage point in 2021, the impact of the pandemic on these strategies is largely self-evident.

To reduce our reliance on inference from pre-pandemic data, this earlier research has been updated with a small number of detailed 'follow up' case studies based on in-depth interviews with three participants of these previous studies conducted in April 2020, one month into the first national lockdown. These accounts provide rare and powerful insights into how they were coping with the unique and unprecedented situation of a national lockdown. The number of case studies developed is undoubtedly small, but they are detailed and nuanced and should be regarded as a supplement to the larger dataset which provides robust insights into coping strategies. The three case studies provide timely examples of the ways in which these coping strategies identified through the larger study have been halted or adapted to meet the challenges of the pandemic. It should also be remembered that the nature of the challenges faced by these households were not fundamentally altered by the pandemic but were severely deepened by it. The principal challenge was still to stay warm whilst keeping costs to a minimum, as has always been the case, but from March 2020, this had to be achieved whilst children stayed at home, incomes fell, fears for health and the wellbeing of loved ones increased, support networks became inaccessible, and, as we will reveal, places of sanctuary were closed off.

The 2016–19 study focused on several case study locations including an inner London borough and a town in the North of England plus a deprived neighbourhood in a large city. The aim of the project was to understand the expectations and experiences of private rented sector tenants likely to be living in fuel poverty regarding the energy performance of their homes. The project was conceived as a way of affording tenants a voice in the debate about energy inefficiency in the private rented sector revealing the everyday human consequences and testing assumptions put forward by landlords in a related research project that the energy performance of a property does not matter to tenants and that their concerns relate primarily to the rent level and location. The research with tenants revealed that while the affordability of the rent is paramount, living in an energy inefficient property costs them dearly. It revealed that many participants were living in precarious and uncomfortable circumstances in an overheated

rental market. They feared eviction or retaliatory rent increases if they spoke out about the poor conditions they endured, which included putting up with cold homes that were expensive to heat due to their poor energy performance (all of the homes that we visited were rated EPC rating E–G), ageing heating systems and persistent damp and mould. This reluctance to report issues of disrepair to landlords has also been identified during the pandemic, despite eviction bans being in place (Brown et al., 2020). Some respondents were angry about the conditions they were experiencing while others were resigned to them, yet still recognised that they fell short of the mark. A small number of respondents had attempted to lobby landlords for improvements and got nowhere.

The only option available to them was to employ coping strategies to try and mitigate the financial and comfort related impacts of their situations. Most commonly, these strategies involved spending as much time as possible outside of the home and rationing access to heating when at home. Spending time in so-called third places (social spaces beyond the home or workplace) such as libraries; community venues; churches; cafés; riding public transport and spending time at the homes of friends and family were identified as key coping strategies for staying warm and reducing detriment to mental wellbeing. Such strategies disappeared overnight with the onset of lockdown, forcing these individuals and the millions like them into the homes from which they derive little comfort and in which their health and wellbeing is far from assured.

5.1. The fuel poor under lockdown

In April 2020 (about six weeks into the lockdown in England), we re-contacted a number of participants from the previous study to find out how they were coping with life under the lockdown which ran from March to June 2020. Specifically, we sought an update on their circumstances, establishing what sort of accommodation they were now living in three to four years later and whether they still struggled to afford to heat their homes to a safe and comfortable level. We asked them how they were coping with lockdown and in particular, how it was impacting their ability to stay warm and comfortable. We asked about the financial impacts of lockdown and how it was impacting on the coping strategies they had previously described and whether any new strategies had been developed.

As might be expected, we were unable to contact many previous participants after such a long hiatus and given the extraordinary circumstances we were all facing but we were able to conduct substantial interviews with three former participants who were all still living in poor quality private rented accommodation and reported that they struggled to afford to keep their home at a comfortable temperature. In this section we share some insights into their experiences of living in fuel poverty in the era of Covid-19.

Mo's story

One respondent, Mo (53) told us in 2017 that he relied on local libraries, cafes and riding buses around Hackney in London to keep warm and to reduce time spent in his bedsit. We caught up with him in late April 2020 and discovered that the loss of his job (for health reasons) and the lockdown had been very challenging for him and had effectively removed all of his usual coping strategies:

"The main things that I miss are being in work – it was always warm in there. I sat by a gas fire in the winter and that was bliss really. I miss being able to go to the library and read the paper in a warm place before maybe going to a café and nursing a tea for a bit. It was a social thing but also about saving electricity - a pound on a mug of tea was much cheaper than a couple of hours in the flat and

nicer, too. I miss that and riding the buses. It's been warm but when it hasn't, I miss those places".

In response, Mo had developed alternative coping strategies which were helping to reduce energy costs for the time being but appear unhealthy, unsustainable and of detriment to his wellbeing:

"I've mostly eaten from tins and packets for a long time but now I've stopped warming the food – it does help my electric go further and I'm still getting fed. But your belly doesn't feel the same as it does after a hot meal".

Eadie's story

We also spoke to Eadie who lives in private rented accommodation in Rotherham in the north of England and who was also experiencing considerable disruption to her usual coping strategies:

"I used to visit my daughter and the kids as much as possible but that's not an option at the moment. Not with my lungs as they are. It's too risky....when the warm weather came, I put a chair out on the street. It was so lovely to feel the warmth on my bones. So lovely. But there were people up and down and I felt tense....I ended up in the park where there was more room but had to dodge joggers".

Although it might be assumed that the unusually warm weather experienced in the UK in April and May 2020 benefited fuel poor households, Eadie reported that the temperature of her home was struggling to keep pace with the temperature outside:

"It's been very warm for the time of year and I'm grateful for that but the house doesn't get warm even when it's warm outside. It must take time for it to warm the bricks through".

Sasha's story

Our interview with Sasha, a single mother of a primary school age child, revealed how school had formed a key coping mechanism for her and her son, alleviating some of the pressure on her to provide warmth and nutrition for her son. The alternative strategies she has employed since his school closed are ingenious (notably the use of passive solar gain and distraction techniques) but require a lot of effort to maintain and place a strain on their relationship:

"Now he's not at school, I have to feed him all his meals here. He never stops eating and he does complain that the house is cold. So I have to keep him distracted or he asks for food all the time. He would prefer to sit and watch tele but if he does that then I need to put the heating on....we walk a lot but in quiet places because I don't want him exposed. I get him to run fast when we get near the house so he's warm when we get inside".

"The sun starts off on the back of the house and by mid-morning, his room is pretty warm on a sunny day, so we play in there until it moves round and then we play in my bedroom later in the day. We're both so much more relaxed when we're warm and the sun is shining and we argue less then".

Both Sasha and Mo's accounts bring the well-established 'heat or eat' maxim into sharp relief (Lambie-Mumford and Snell, 2015). This maxim could be criticised for oversimplifying the complexities of life in fuel poverty but it seems to resonate for these two respondents as they describe the daily trade-offs necessary to survive lockdown. It is safe to assume that other expenditure such as tele-comms and other energy services such as lighting and equipment use will also be drawn into dilemmas about what to prioritise are likely to have been subject to rationing.

6. Fuel poverty, the home, and third places

These accounts of the lived experience of fuel poverty in the era of Covid-19 provide rare and important insights into the coping mechanisms employed by fuel poor households at a

time of deep crisis, and their relationship to the home and the wider neighbourhood. Firstly, the accounts contribute towards an understanding of fuel poverty as an emotional and psychological phenomenon. Longhurst and Hargreaves (2019:2) recognise fuel poverty as an 'intensely emotional experience', dealing with bills and tariffs causes worry and anxiety, poor quality housing causes unhappiness and there is stigma and embarrassment associated with some coping methods. Not only does the stress of fuel poverty contribute towards poor mental health, stress and anxiety from other sources can result in difficulties keeping on top of energy issues and in turn deepen fuel poverty (Sherriff, 2016). As Longhurst and Hargreaves argue, negative emotions can therefore drive fuel poverty. In this context, we begin to see how the extraordinary stresses associated with isolation and poverty during the pandemic can add significantly to the strain on fuel poor households.

Secondly, our interviewees highlight the importance of the home as a site of welfare and sanctuary. Kearns et al. (2000) argue that home is more than just a physical dwelling, but one with symbolic and latent meanings important for the satisfaction of human needs, an 'anchor' within a larger setting, the nucleus of our everyday lives and our primary source of security and status. A period of lockdown and restrictions on our access to alternative spaces causes the focus of life to be placed more firmly on the home and as Kearns et al. and also Brown et al. (2020) highlight, a home that is uncomfortable and in a poor state of repair will not deliver the vital psycho-social benefits of home.

Thirdly, these accounts also highlight the limitations of a narrow focus on the home. They emphasise the importance of what Oldenberg and Brissett (1982) termed 'third places' and described as 'shared locations that enhance democracy, quality of life and personal health' (Wood, 2020). Whilst Wood (2000) argues for the importance of libraries as social space and Hagen (2019) recounts the value of transport services as an 'unlikely social venue in and of itself', we find that for the fuel poor that 'warmth' is far from merely an intangible social feeling but often a tangible thermal reality. Underlining this notion (in an Australian context), Nicholls and Strengers (2018) found that during heat waves people relied on cooling facilities outside the home, such as air-conditioned shopping centres and shaded public spaces. They highlight the potential for the privatisation of public space to limit the options available for vulnerable communities to perform adaptive comfort practices.

7. Considerations for policy

The emphasis in this paper has, thus far, been on exploring the – sometimes ingenious – coping strategies of the fuel poor and how they have been affected by the pandemic. Amongst those we spoke to in April 2020, they were, at least at that time, finding ways to improve their comfort, albeit around the margins and in ways that may ultimately undermine health and wellbeing. In presenting this evidence however, we do not wish to suggest that the fuel poor should be simply left to cope and instead we advocate a series of key policy responses to fuel poverty in the era of Covid-19 that if implemented would drastically improve the circumstances of such households, reducing the need to rely on marginal coping strategies. These considerations, set out in turn, focus on the urgent need to drastically improve the energy performance and thermal performance of the housing stock, starting with the private rented sector; the importance of addressing the added financial implications of Covid-19 for fuel poor households; and on the huge significance of third spaces and making maintaining access to them and other high quality public spaces a priority at least whilst restrictions last and in any case.

Improving energy performance and thermal comfort in the private rented sector

There is overwhelming evidence that warm homes have a positive impact in terms of preventing ill-health and improving the health of those already in ill-health (NEA, 2018). With respect to respiratory illness, evidence shows that warm homes reduce the risk of getting a respiratory illness, improve the health of those already with a respiratory illness and help improve the recovery process for those returning from hospital after receiving treatment (Baker et al., 2020). Put bluntly, the evidence shows that energy efficiency saves lives.

Covid-19 has had a major impact on the population's health with respect to increased health inequalities, increased excess death rates and long-term ill-health for many people recovering from the illness (Bamb et al., 2020). It has also had a dramatic impact on the economy (Beard, 2020). There are widespread calls for a 'green economic stimulus' within which a home energy efficiency programme should play a central part (Energy Efficiency Infrastructure Group, 2020; Bailey et al., 2020). Such a scheme would also have substantial health benefits and help address Britain's long-term problem of excess winter death levels exacerbated by cold homes.

The improvement of energy standards in the private rented sector should be a priority and, as the empirical data illustrates, parallel action is needed to address the lack of security and limited affordability many private tenants face. Only 48% of private rented properties can be improved to EPC E within a cost cap of £3500 cap. The government's current proposals (July 2021) to require landlords to meet a minimum standard of B and C by 2028, subject to a price cap of £10,000, will make a significant contribution towards tackling the problem, assuming the proposals are implemented (BEIS, 2020c). However, the government needs to, in parallel, significantly improve and resource local authority enforcement of the regulations.

In Scotland, Wales and Northern Ireland private landlords are required by law to register their properties on a national register. The Chartered Institute of Housing, Chartered Institute of Environmental Health (CIEH), Committee on Fuel Poverty, British Property Federation and Generation Rent have all called for a national registration scheme in England (Committee on Fuel Poverty, 2019). Such a register would make it much easier for local authorities to enforce the minimum standard regulations since it would provide information on where properties are and who owns them. It would also allow authorities to provide information to landlords on their responsibilities to tenants.

Addressing debt

Given the 'gathering storm' of fuel debt, alongside many other forms of debt, many have called for a substantial debt relief programme to address low-income consumers' need for immediate help with paying fuel bills (NEA, 2020; End Fuel Poverty Coalition, 2020). This should sit alongside Ofgem's new licence condition requiring supplier to support prepayment meter consumers, minimise self-disconnection and take more heed of the 'ability to pay' principle for repaying debt⁷ (Ofgem, 2020).

The Government/Ofgem/supplier agreement to delay collection of debt from vulnerable consumers came to an end earlier this year on the grounds that it potentially made fuel debt even more unsurmountable. However, it remains the case that many low-income consumers simply do not have sufficient income to pay off debt or are forgoing other essential goods and services.

⁷ All fuel suppliers are regulated by an energy-specific regulator, Ofgem, and are required to adhere to licence conditions or rules as a condition of providing an energy supply.

NEA has called for the government to contribute to utility company payment matching schemes as a possible mechanism to reduce utility indebtedness (Cook, 2020).

Prioritising high quality public spaces

In one sense lockdown prompts a focus on the home by highlighting the inadequacies of the homes occupied by the fuel poor in providing comfort. The lockdown experience has, for example, surely been different for those with warm homes, expansive gardens, and fast WiFi. In another, it draws our attention to the ways in which the coping strategies of the fuel poor are not limited to the home (and garden), but play out in a wider sphere in which third places such as community facilities, greenspaces and transport play important roles. Reliance on these spaces means that the impact of lockdown is accentuated. Not only are homes inadequate at a time when more is expected and needed from them, but those essential coping mechanisms in the community are closed off too. The implication of this is that opening up community and outdoor spaces and ensuring they can be accessed and used without anxiety is an important part of the transition away from any lockdown and key to promoting wellbeing amongst our most vulnerable populations in a period of prolonged restrictions.

It is therefore suggested that, given that a major energy efficiency programme will take many years to implement, key third spaces such as libraries, community facilities, public parks and gardens and other nuclei of community life are either prioritised for re-opening over paid hospitality venues or given equal priority and supported to provide a safe space for those who rely on them for their wellbeing.

8. Conclusion

Repeated lockdowns in the UK and varying levels of restrictions in between have been a challenging time for many and the latest lockdown (January to April 2021) has coincided with winter and an exceptionally cold one at that. We can expect to see the impact of this in energy debt statistics and the excess winter death statistics for 2020/21, which will be published in 2022. It is not difficult to imagine the impact of this latest lockdown on people like Mo, Eadie and Sasha. These householder accounts reveal the extent to which the requirement for the whole family to spend more time at home has added to existing domestic stresses and affected health and wellbeing. The fuel poor live in the most poorly performing homes and these can be challenging to live in under normal circumstances. Spending more of their budget on energy than more affluent householders spend means that even apparently relatively small increases can have a profound effect.

However, a narrow focus risks obscuring the bigger picture. It is not solely about the home and nor is it only about energy. By considering only the home we risk forgetting that the spaces of coping are varied and dispersed. With access to libraries and cafes restricted, and public transport services limited and the safe use of them far from assured, those opportunities to seek out warmth in a public space are lost, and those opportunities for social warmth and companionship with family and friends are restricted. Even public areas and front yards become spaces of anxiety and coping strategies must be adapted or reinvented. With more time spent at home with the whole family, grocery costs must be added to the balance sheet as must the energy used for cooking, entertainment, schooling and perhaps home working. Eating food cold from the tin may save electricity but at a huge cost to wellbeing during an already difficult and isolated time. Being told that the average bill increase is (only) £32 a month is surely cold comfort.

Although this paper has been firmly rooted in the context of the UK, many of the challenges discussed will resonate beyond

the UK and even beyond the Global North. Energy poverty (as it is known internationally) is increasingly recognised as an international issue which affects a proportion of households in most countries around the world, although the nature of the problem and its precise manifestations will vary. It is therefore important to acknowledge that many countries in the Global South have experienced even worse housing challenges in relation to Covid-19 as a result of overcrowding, financial hardship and lack of access to clean, safe energy sources. In those contexts informal coping strategies are even more important and represent a priority for energy poverty research.

A key contribution of this paper has been to develop the concept of energy poverty by considering the role of spaces outside the home as part of the overall experience of energy poverty and the range of ways in which policy makers can mitigate its impacts. As the climate changes; overheating will become increasingly prevalent and countries, including the UK, will see cases of heat related illness increase. In this context, understanding adaptive comfort practices and the significance of cool outdoor spaces, particularly wooded spaces where temperatures can be up to nine degrees celsius cooler than urban spaces (Wong et al., 2021), feels crucial and can help support the resistance of encroaching privatisation and the preservation of access to such crucial coping spaces for all (Nicholls and Strengers, 2018).

9. Limitations of the paper and areas for further research

This paper has several limitations that should be noted in the context of future research in this area, as follows.

Limited data and the importance of further research

We are relying, in part, on data gathered during a different time (pre-pandemic) to infer what fuel poor households may be experiencing during the pandemic, with a small number of in-depth case studies used to illustrate the ways in which coping strategies might be disrupted and adapted at a time of crisis. Whilst this is far from ideal in terms of methodological robustness, it has provided an emerging sense of how the fuel poor are responding to the challenges of the pandemic through the adaptation of previous coping strategies and the adoption of new ones.

Moreover, the qualitative, lived experience focus of the case studies also succeeds in putting a human face to the statistics on cold homes, rising energy debt levels, reducing incomes and excess winter deaths revealing both the anticipated (i.e. rationing food, family tensions) and unanticipated (i.e. using passive solar gain and exercise to keep warm) consequences and responses identified amongst this vastly under researched group. During the pandemic, studies of this nature have been notable by their absence with only a small number of (rapidly mobilised) studies having sought to understand the impacts of the pandemic on those living in fuel poverty and how they are coping by speaking to them, with Brown et al. (2020) being notable in this context. In this sense, this paper is intended as a challenge to the research community to prioritise fuel poverty research as we emerge from the crisis and start to unpick the multiplicity of ways in which it has exacerbated and altered the circumstances of the fuel poor and their responses to it. The impact of the pandemic is likely to cast a long shadow that will last many years if not decades, particularly if the impacts are not identified and understood through research.

Heterogeneity of the fuel poor

Whilst undoubtedly the fuel poor are under researched, it is more questionable whether they in fact constitute a group. Although certain characteristics and circumstances are undoubtedly disproportionately linked to fuel poverty such as living in

the private rented sector, being on a low income, and being a single parent (BEIS, 2017b), the households experiencing fuel poverty are highly heterogeneous and likely to become more so as the number and range of households experiencing it increases. Energy poor households in the Global South will have different characteristics again. We would therefore caution against generalised accounts of the impacts and coping strategies of the fuel poor and instead encourage a greater focus on exploring the varied manifestations and experiences of the problem and the diverse mitigation strategies employed as a basis for understanding what works best for whom under what circumstances. In this context, we highlight a further limitation of this paper in the sense that, in drawing heavily on a pre-pandemic study, it does not take account of the 'new fuel poor' created by the pandemic.

The longer-term implications of the pandemic for the fuel poor

Those we spoke to were clinging to the rented accommodation they had called home for years, having been thrown a life raft by fuel vouchers and forbearance around rent arrears and other debts, but as this forbearance comes to an end, how long will it be possible to hang on before these households' face eviction or are otherwise forced to move on? Alternatively, will their heightened appreciation of the impacts of spending more time in cold, damp homes that are expensive to heat (as identified by Brown et al. (2020)) lead them to move on in search of a better offer, if indeed this is something they can afford to do, especially in the context of continued housing shortages and rising rent levels? It seems most likely that those left depleted by income reduction, increased debt, poor health and the emotional stress of the last 18 months will remain at the mercy of their landlords, as Brown et al. (2020) suggest, but this must be explored more widely and laid bare through urgent research into the longer-term consequences of the trends set out in this paper as they take shape. Moreover, although this study has focused primarily on those living in privately rented accommodation, as the sector where fuel poverty is most prevalent, it should not be forgotten that fuel poverty also affects some homeowners (perhaps increasingly so considering widespread income reductions) and to a much lesser extent, some social housing occupants.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgment

The authors are grateful to the Eaga Charitable Trust and to the Fuel Poverty Research Network for supporting the research that forms the basis of this paper.

References

- All Party Parliamentary Group (AAPG) for Healthy Homes and Buildings, 2018. Building our future: laying the foundations for healthy homes and buildings. White Paper. House of Commons: London.
- Ambrose, A., McCarthy, L., Pinder, J., 2017. Energy (in)Efficiency: What Tenants Expect and Endure in Private Rented Housing. CRESR, Sheffield Hallam University, Sheffield.
- Amerio, A., Brambilla, A., Morganti, A., Aguglia, A., Bianchi, D., Santi, F., Costantini, L., Odone, A., Costanza, A., Signorelli, C., Serafini, G., Amore, M., Capolongo, S., 2020. Covid-19 lockdown: Housing built environment's effects on mental health. *Int. J. Environ. Res. Public Health* 17 (16), 5973.
- Bailey, A., Carney, M., Villeroy de Galhau, F., Elderson, F., 2020. The World Must Seize this Opportunity To Meet the Climate Challenge. *The Guardian*, 5/6/20, www.theguardian.com/commentisfree/2020/jun/05/world-climate-breakdown-pandemic.

- Baker, W., Ambrose, A., Brierley, J., Butler, D., Marchand, R., Sheriff, G., 2020. Stuck at home in a cold home: the implications of Covid-19 for the fuel poor. *People Place Policy* 14 (1), 2–5, 2020.
- Bamb, C., et al., 2020. The COVID-19 pandemic and health inequalities. *J. Epidemiol Commun. Health* (2020), 1–5.
- Bank of England, 2020. How has Covid-19 affected the finances of UK households? | Bank of England. Accessed 30th June 2021. Available from: Home | Bank of England.
- Beard, S., 2020. As lockdown eases, Britain faces an unfamiliar threat: mass unemployment. <http://www.marketplace.org/2020/06/17/britain-faces-mass-unemployment-covid-19-lockdowns-ease/>.
- BEIS, 2017a. Domestic Private Rented Property: Minimum Energy Efficiency Standard - Landlord Guidance. The Department of Business Energy and Industrial Strategy, London.
- BEIS, 2017b. Fuel poverty factsheet 2019 (2017 data). (Accessed on: 30th June 2021). Available at: Fuel poverty factsheet 2019 (2017 data) (publishing.service.gov.uk).
- BEIS, 2020a. Annual fuel poverty statistics in England, 2021. (2019 data).
- BEIS, 2020b. Government agrees measures with energy industry to support vulnerable consumers during COVID-19. Press release 19/3/20.
- BEIS, 2020c. Improving the Energy Performance of Privately Rented Homes in England and Wales. BEIS.
- BEIS, 2021a. Fuel poverty detailed tables, 2021. (2019 data).
- BEIS, 2021b. Sustainable Warmth: Protecting Vulnerable Households in England. BEIS.
- Brown, P., Newton, D., Armitage, R., Monchuk, L., 2020. Lockdown. Rundown. Breakdown. The COVID-19 lockdown and the impact of poor-quality housing on occupants in the North of England. In: Northern Housing Consortium.
- CAG Consultants & ACE, 2018. Warm Arm of the Law. Tackling Fuel Poverty in the Private Rented Sector. CAG Consultants.
- Citizens Advice, 2018. Improving support for prepay consumers self-disconnecting.
- Citizens Advice, 2020. Recovering or ruin? The role of accessible support in helping energy consumers through the crisis.
- Citizens Advice, 2020a. The end of the beginning. How the retail energy market needs to support people in the next phase of COVID-19.
- Citizens Advice, 2021. Half a million renters in arrears as evictions set to resume. (Accessed 22nd March 2021). Available at: <https://www.citizensadvice.org.uk/about-us/about-us1/media/press-releases/half-a-million-renters-in-arrears-as-evictions-set-to-resume/>.
- Citizens Advice, 2021a. Housing issues surge as end of eviction ban nears. (Accessed 23rd June 2021). Available at: <https://www.citizensadvice.org.uk/about-us/about-us1/media/press-releases/housing-issues-surge-as-end-of-the-eviction-ban-nears/>.
- Committee on Fuel Poverty, 2019. Committee on Fuel Poverty Recommendations on Enforcing the Enhancement of Energy Efficiency Regulations in the English Private Rented Sector. BEIS.
- Committee on Fuel Poverty, 2021. July 21 Interim Report. BEIS.
- Cook, J., 2020. Surviving the Wilderness. NEA.
- End Fuel Poverty Coalition, 2020. End fuel poverty coalition writes to prime minister. <http://www.endfuelpoverty.org.uk/end-fuel-poverty-coalition-writes-to-prime-minister/>.
- Energy Efficiency Infrastructure Group, 2020. Rebuilding for resilience. In: Energy Efficiency's Offer for a Net Zero Compatible Stimulus and Recovery.
- Fuel Bank Association, 2020. Fuel crisis report. (Accessed 30th June 2021). Available at: <https://Fuel-Bank-Whitepaper-FINAL.pdf> (fuelbankfoundation.org).
- Guertler, P., Smith, P., 2018. Cold Homes and Excess Winter Deaths: A Preventable Public Health Epidemic that Can No Longer Be Tolerated. E3G.
- Kearns, A., Hiscock, R., Ellaway, A., Macintyre, S., 2000. Beyond four walls: the psycho-social benefits of home. Evidence from West Central Scotland. *Housing Stud.* 15 (3), 387–410.
- Kotak, M., Chappell, V., 2021. How Covid-19 Has Exacerbated Fuel Poverty in the UK. Charles River Associates.
- Lambie-Mumford, H., Snell, C., 2015. Heat or eat: food and austerity in rural England. In: Final Report. Working Papers of the Communities & Culture Network+, Vol. 6. (ISSN 2052-7268).
- Longhurst, N., Hargreaves, T., 2019. Emotions and Fuel Poverty: the lived experience of social housing tenants in the United Kingdom. *Energy Res. Soc. Sci.* (56).
- MHCLG, 2020a. English Housing Survey Live Tables (2017 Data). Ministry for Housing, Communities and Local Government.
- MHCLG, 2020b. Complete Ban on Evictions and Additional Protection for Renters. Ministry for Housing, Communities and Local Government, Press release, 18/3/20. www.gov.uk/government/news/complete-ban-on-evictions-and-additional-protection-for-renters.
- NEA, 2018. Under One Roof. Health & Housing Sectors Tackling Fuel Poverty and Cold-Related Ill Health Together. National Energy Action.
- NEA, 2020. The Gathering Storm: Utility Debt and COVID-19. National Energy Action/Ofgem (2019). Consumer Survey data tables, Ofgem.
- Nicholls, L., Strengers, Y., 2018. Heatwaves, cooling and young children at home: Integrating energy and health objectives. *Energy Res. Soc. Sci.* 39, 1–9. <http://dx.doi.org/10.1016/j.erss.2017.10.00>.
- Ofgem, 2020. Self-Disconnection and Self-Rationing: Decision. Ofgem.
- Ofgem, 2021a. Decision on the review of the energy industry voluntary redress scheme. (Accessed on: 30th June 2021). Available at: Redress Scheme Decision (<https://ofgem.gov.uk>).
- Ofgem, 2021b. Ofgem raises price cap on UK energy bills to cover covid-19 costs. (Accessed 22 March 21) available at: <https://www.power-technology.com/news/ofgem-raises-price-cap-on-uk-energy-bills-to-cover-covid-19-costs/>.
- Oldenberg, R., Brissett, D., 1982. The Third Place in Qualitative Sociology. pp. 265–284.
- ONS, 2021. Labour market overview, UK. (Accessed February 2021).
- Partridge, J., 2020. UK Household Energy Bills To Soar By £32 Per Month. The Guardian, (Accessed on 24th July 2020) at: <https://www.theguardian.com/money/2020/may/04/uk-household-energy-bills-to-soar-by-32-per-month>.
- Sherriff, G., 2016. I was frightened to put the heating on. In: Evaluating the Changes4Warmth Approach To Cold Homes and Mental Health. University of Salford, <http://usir.salford.ac.uk/salford.idm.oclc.org/id/eprint/38769/>.
- Tod, A.M., Nelson, P., Cronin de Chavez, A., Homer, C., Powell-Hoyland, V., Stocks, A., 2016. Understanding influences and decisions of households with children with asthma regarding temperature and humidity in the home in winter: a qualitative study. *BMJ Open* 6 (1), e009636. <http://dx.doi.org/10.1136/bmjopen-2015-009636>.
- VEIC, 2019. The State of Equity Measurement: A Review of Practices in the Clean Energy Industry. Vermont Energy Investment Corporation, USA, p. 33.
- Wong, N.H., Tan, C.L., Kolokotsa, D.D., et al., 2021. Greenery as a mitigation and adaptation strategy to urban heat. *Nat. Rev. Earth Environ.* 2, 166–181. <http://dx.doi.org/10.1038/s43017-020-00129-5>.
- Wood, E., 2020. Libraries Full Circle: The Cross Section of Community, the Public Sphere, and Third Place. *Public Library Quarterly*, pp. 1–23. <http://dx.doi.org/10.1080/01616846.2020.1737491>.