



“Damp in bathroom. Damp in back room. It's very depressing!” exploring the relationship between perceived housing problems, energy affordability concerns, and health and well-being in UK social housing



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ABSTRACT

Social housing residents often struggle with achieving adequate levels of warmth in their home on a limited household budget. Additionally, other housing problems such as damp are common. Previous research has found a link between housing problems and poor health and reduced well-being, but this relationship is complex and poorly understood. A survey among UK social housing residents ($N=536$) investigated the association between cold and damp housing, as well as the role of energy affordability concerns in the relationship between housing problems and health. The findings indicated that struggles with keeping warm related to a cluster of damp and mould issues rather than any one specific issue. In describing these problems householders expressed a sense of frustration and helplessness. Support was found for an indirect effect on health whereby households experiencing cold, damp or mould issues reported more difficulty with affording their energy bills, these affordability concerns in turn related to poor health and well-being. The effects were found to be more consistent and stronger for men compared to women. Policies aimed at reducing housing problems should consider the important role of affordability concerns and the need for households to regain control of their energy bills.

1. Introduction

Social housing is provided by most European countries for vulnerable or low income households (European Parliament, 2013). Also referred to as affordable housing, it provides houses for people who would otherwise struggle to buy their own home or afford a privately rented home. A key concern in the social housing sector is the high proportion of people in fuel poverty (Healy and Clinch, 2004). Approximately 10% of the European population experience fuel poverty, this number increases to almost 25% for low income households (Pittini et al., 2015). A common European definition of fuel poverty is lacking, but it is often described as the inability to keep the home adequately warm – resulting mainly from low household income, high energy costs and poor energy efficiency of the house (Antanasiu et al., 2014). Consequently, many low income households live in damp and cold conditions as they are not able to afford heating their home comfortably and adequately in winter (Hills, 2012; Liddell, 2008). Indeed, social housing tenants tend to experience more housing problems (e.g. cold housing, damp, mould, condensation) than own-

er-occupiers (Pevalin et al., 2008). Preventing health impacts resulting from these housing problems is now part of the rationale to tackle fuel poverty (Liddell and Morris, 2010). Overall, fuel poverty and the effect it has on households is part of a complex relationship that encompasses not only income, but also dwelling characteristics, householder behaviour and health and well-being. Understanding this complex relationship is important in explaining and predicting the effect of measures targeting fuel poverty and housing problems. This paper discusses the findings from a survey conducted among social housing residents in the United Kingdom (UK). The research takes a two-part approach: first, the study examines householders' self-reported experiences with cold, condensation, damp and mould using both quantitative and qualitative responses, particularly focusing on the specific housing problems associated with cold housing. Second, it examines the relationship between housing problems (cold, condensation, damp and mould) and health and well-being reported. Importantly, the research investigates the role of energy affordability concerns within this relationship – it asks whether worries about energy costs may partly underlie the association between housing problems and low health and well-being.

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Before describing the aims of the study in more detail, we review the literature on housing problems and their proposed relationship with health and well-being.

1.1. The effect of cold and damp housing on physical health

Reducing exposure to cold housing, and especially providing access to affordable warmth, has been acknowledged as a priority in attempts to tackle health issues associated with poor housing (Pevalin et al., 2008). A cold house may affect health by increasing blood pressure, reducing resistance to infections associated with colds, and increasing the risk of influenza, asthma, seasonal mortality and heart attacks (see Evans et al., 2000; Liddell and Morris, 2010; and Maidment et al., 2014 for an overview). Furthermore, a cold home is associated with further housing problems such as damp, condensation and mould (Healy and Clinch, 2004). Indeed, fuel poverty has been linked to increased risk of mould contamination, this relationship was found even when controlling for differences in heating and ventilation behaviours (Sharpe et al., 2015b). Damp, condensation and mould present additional health risks; a damp home can increase the presence of house-dust mites and moulds, these are recognised as important environmental causes of asthma and other respiratory problems (Peat et al., 1998; Sharpe et al., 2015a). A wide range of health problems have been associated with damp housing, leading some to suggest that damp housing may increase susceptibility to poor health in general (Evans et al., 2000).

Increasingly it is being recognised that energy-efficiency improvements, in addition to reducing carbon emissions, could also play an important role in tackling fuel poverty and health inequalities by reducing housing problems (Maidment et al., 2014). Evaluating the effect of these home upgrades (e.g. thermal upgrades and more efficient heating systems and controls) could provide further insight into the relationship between housing problems and health. In these evaluation studies, health is typically assessed before and after home upgrades have been made in an attempt to identify a causal pathway between the experience of housing problems and poor health. Two recent review papers have attempted to bring together the available evidence to provide clearer support for the link between reducing housing problems and improved health. Maidment et al. (2014) conducted a systematic review of 36 studies examining health impacts of energy efficiency interventions aimed at reducing housing problems. The interventions were found to have a small – but significant – positive effect on occupants' health. Similar positive effects were found for subgroups of the population, with only minor differences. They conclude that the “potential health benefits [are] inherent in improving energy efficiency” (p.590; Maidment et al., 2014). The effect was slightly greater for low income households, children and people in poor health, the most vulnerable groups. An earlier review paper by Liddell and Morris (2010) provides further insight into the specific health improvements found in response to reductions in cold and damp housing. The authors reviewed five core housing intervention studies conducted between 2000 and 2009 in the United Kingdom, New Zealand, and USA. Importantly, the review suggests that it can be difficult to detect improvements in physical health. For most studies in this review self-reported health improved, but other clinical health indicators (e.g. General practitioner (GP) visits, the occurrence of colds) did not show any changes. Liddell and Morris (2010) suggest that physical effects may take longer to emerge. Interestingly, positive effects tended to be more pronounced for mental health and well-being – this led the authors to suggest that mental health improvements may act as a ‘catalyst’ for improvements in physical health. The next section will discuss the proposed association between poor housing, mental health and well-being. Evaluating large housing interventions is ultimately a key method to investigate these associations, but opportunities for these types of studies are limited, and crucial insights are also gained from cross-sectional surveys.

1.2. The effect of cold and damp housing on mental health and well-being

The majority of studies in this area of research have focused on physical health. Only recently have empirical studies emerged that examine effects on mental health and well-being. Positive mental well-being or mental health is defined as “a state of well-being in which the individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (WHO, 2014). The absence of positive mental well-being does not imply the presence of mental disorder; people can already be at risk of poor outcomes if their mental health is unusually low without experiencing mental disorders such as anxiety or depression (Campion et al., 2012). In fact, cold and damp housing are found to relate more strongly with reduced quality of life rather than mental disorder, so measures of mental well-being are thought to be particularly relevant in this context (Liddell and Guiney, 2015).

Research has shown that maintaining a warm home is seen by many householders as a basic need (Harrington et al., 2005). Not being able to fulfil this basic need, and experiencing a cold house, can have a negative effect on mental health and well-being. A wide range of mental health issues have been associated with living in a cold or damp home, including: persistent worries about energy bills (Anderson et al., 2012), concern about physical health (Tod et al., 2012), higher levels of depression and worry (Khanom, 2000), and chronic thermal discomfort (Gilbertson et al., 2012; see Liddell and Guiney, 2015 for a full summary of well-being outcomes). Liddell and Morris (2010) suggest that stressors linking to mental health are often associated with the affordability of solutions to housing problems. For instance, this includes the affordability of solutions such as heating the home to a comfortable degree, or installing necessary insulation improvements. Affordability is a key concern and one that will be discussed further in Section 1.3.

Liddell and Guiney (2015) reviewed nine intervention studies which assessed the impact of heating and insulation improvements on well-being. They conclude that the relationship between installing energy efficiency measures and improved well-being is ‘moderately strong’. In their earlier research, health and well-being effects were found to be stronger for infants and children, thus they may be especially sensitive to fuel poverty (Liddell and Morris, 2010). Furthermore, in a longitudinal study by Pevalin et al. (2008) changes in housing problems were particularly found to affect mental health in men. Interestingly, on the other hand changes in housing problems influenced reported health problems in men and women – with the strongest effects found for women.

1.3. Establishing complex relationships: the role of affordability concerns

The relationship between housing conditions, health and well-being is complex, and it is difficult to assign causal relationships as many factors interact with each other. As noted by Hopton and Hunt (1996): “The issue of confounding variables which cluster together is one of the major methodological problems facing researchers in the field of social inequalities and health” (p.56). For instance, housing problems may lead to poor health, but individuals in poor health may also be more likely to live in poor quality housing (e.g. due to unemployment).

In addition, the occurrence of cold and damp housing is closely related, so their individual effects are difficult to disentangle. Hopton and Hunt (1996) examined the effect of damp and cold housing on health and well-being in a sample of householders from a local authority housing estate. Experiences with damp, rather than cold, were found to be an independent predictor of reduced well-being. But, in a large scale general population survey, Evans et al. (2000) found a stronger relationship between health and cold housing compared to

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