

**RISE**

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# The hidden health costs of poor quality housing

**Case study**

March 2026

Funded by:



Department for  
Energy Security  
& Net Zero

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# Introduction

Substandard housing is a primary driver of poor physical and mental health. While often discussed in the context of climate targets, retrofitting serves as a vital health intervention by addressing structural deficiencies that compromise wellbeing. The importance of addressing the housing-health relationship through retrofit is highlighted in this case study.

We discussed this with Faye Sanders, a Doctoral Researcher at the University of Bath, who's focus it is to look at the "relationships between where people live and their health outcomes". With the support of published peer-reviewed academic papers shared by Faye, this case study will focus on the effects of inadequate housing on physical and mental health into practical, fundable retrofit actions for housing, that can provide reasoning to why retrofit of social housing is so important to the overall tenant's wellbeing.

Readers that would like this document in a more accessible format should contact [rise@turntown.co.uk](mailto:rise@turntown.co.uk).

## What is the relationship between house and health?

The housing-health relationship is complex and can be triggered by a range of housing issues that impact both physical and mental health. A range of different housing standards as well as local amenities can impact the resident's wellbeing. The key poor housing quality indicators used in the studies are shown here in Figure 1 Key housing quality .

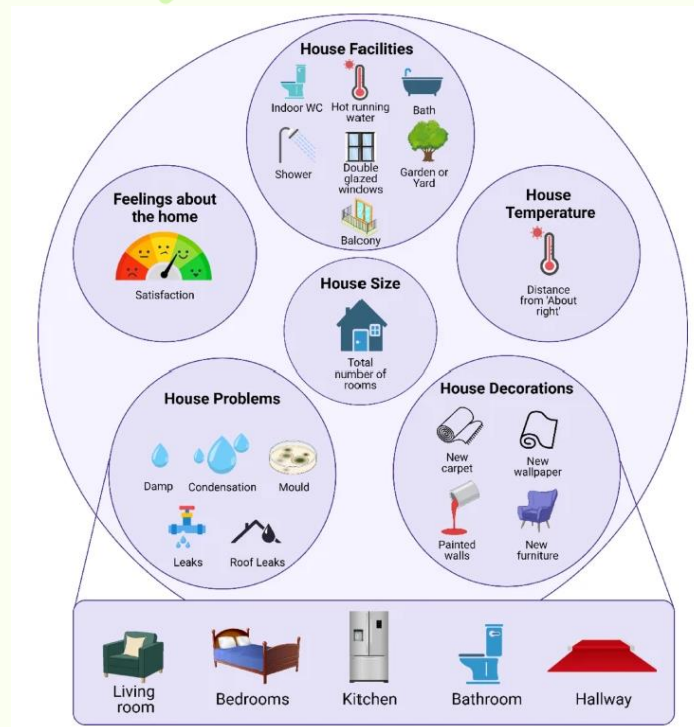


Figure 1 Key housing quality indicators

## What is the research showing?

When discussing the impact of these housing issues, Faye discussed that the identification of more and alarming conditions linked to housing quality of residents has shown how critical retrofit is for the population's health.

*"We know that poor housing quality is a huge predictor of both mental and physical health outcomes, and ultimately what retrofit is doing is trying to intervene on those poor housing quality factors and improve them in order to meet climate goals, but also actually to target population health outcomes"*

## Mental health impacts

Across several thousand adults, poor housing quality is consistently linked with higher depressive symptoms. A wide range of poor-quality housing features such as mould, leaks, lack of space, poor facilities, and negative feelings toward the home are all associated with worse mental health. Poor housing conditions predicted depression both currently and over ~2 years. Even after accounting for

<sup>1</sup> [A network analysis of housing quality indicators and depression in women](#)

socioeconomic status and past mental health, the relationship still holds, meaning the housing conditions themselves are an independent risk factor.

In a study of 9,669 women<sup>2</sup>, “feelings towards the home”, how comfortable, safe, or satisfied someone feels where they live, emerged as the strongest predictor of depression. This measure closely reflected underlying housing problems, highlighting how negative sentiment towards the home often aligns with issues that can be tackled through retrofit, as well as challenges such as overcrowding and poor-quality facilities.

## Accelerated Biological Ageing

Poor housing circumstances have been linked to faster epigenetic ageing - the process where chemical marks on your DNA change over time, revealing how fast or slow your body is truly ageing. It is associated with higher risk of disease and reduced life expectancy.

The commentary highlights that poor-quality housing can associate with DNA methylation- the body’s way of placing chemical “notes” on your DNA to control which genes are turned on or off - affecting genes related to ageing, mental health, and chronic disease. This adds biological evidence that housing is not just a social factor but can directly accelerate underlying health deterioration.

Faye commented further on this, stating that the “*effects are being noticed in children as young as seven*”. Faster aging may worsen with repeated exposure to poor quality housing especially at a younger age, where difference in biological aging can be evident 15 years later.

## Physical Health impacts

There is a clear impact on mental health from the research complete at the University of Bath. The research also shows the relationship between housing quality and physical health. Key physical health impacts mentioned in the research datasets:

- Respiratory health risks from damp, mould, and poor ventilation increase asthma and respiratory infections.
- Greater risk of chronic illnesses via biological ageing processes, meaning epigenetic changes linked to poor housing may predispose individuals to obesity, diabetes systemic inflammation, immune function and brain health
- Poor general physical health strongly associated with poor housing quality at area level.
- Increased hospital use, higher medical utilisation, and more days of poor physical health. Such as Cardiovascular strain from cold homes and thermal discomfort can elevate blood pressure and cardiovascular risk.

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<sup>2</sup> [A network analysis of housing quality indicators and depression in women](#)

This research provides insights into the role that biological pathways may play in relationships between poor housing quality and physical health.

## What does this mean for housing providers?

Faye touched on the research into the effects of poor quality housing “*advancing every day*” and that it is showing “*the importance of these retrofit projects*”. This research can support the further understanding of impacts on mental and physical health by:

- Strengthen the case for improving housing conditions as a mental health intervention.
- Suggests a need for policies specifically addressing housing quality.

There is an additional piece that is not generally captured in policy and by the UK Decent Homes Standard, which sets the minimum quality requirements for social housing. The research finds that when it comes to retrofit, the person-centred measures of housing quality are important to improve physical and mental health, this may mean exploring the more subjective feelings towards the homes quality that can be additional to retrofit measures.

## What are next steps?

Housing providers and retrofit assessors should consider not only the performance benefits of energy-efficiency and low-carbon heating measures, but also their broader impact on residents’ comfort and overall home quality. Actions include:

- **Assess comfort and internal quality** as part of pre and post-retrofit inspections.
- **Offer tailored measures** for long-term residents with specific needs.
- Ensure engagement sessions and surveys **include questions on comfort and home quality**.
- **Review aesthetic impacts** of insulation and building-fabric upgrades.
- **Confirm contractors fully complete all works** that affect internal finishes or living spaces.
- **Provide additional support** through social value initiatives that address mental and physical health needs.

**Links to resources referenced:**

[Home and epigenome: exploring the role of DNA methylation in the relationship between poor housing quality and depressive symptoms](#)

[Are housing circumstances associated with faster epigenetic ageing? A commentary on Clair et al](#)

[A network analysis of housing quality indicators and depression in women](#)

