

A rapid review of the effectiveness and cost effectiveness of interventions that make homes warmer and cheaper to heat for households in fuel poverty in rural and remote areas

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Background

The cost of living crisis has been apparent in the UK since early 2021. Living in a rural area is often associated with additional costs compared to urban areas.

Reasons for this include:

- Homes not connected to a mains gas supply
- Use of expensive oil or petroleum gas for heating
- Old housing stock in rural areas
- Poorly insulated buildings, and less efficient heating systems

Fuel poverty can be defined as a household spending more than 10% of their income on fuel for satisfactory heating and comfort and to sustain all energy services.

Study Aim

To determine the effectiveness of interventions that make homes warmer and cheaper to heat for households in fuel poverty in rural and remote areas.

Method

Fourteen studies and eight sources of grey literature were included in the review, published between 2007 and 2022.

Results

		Main outcomes					
		Energy efficiency (e.g. SAP rating*, star rating)	Temperature or thermal comfort	Energy bills/costs	Energy consumption	Change in energy-related behaviour	Fuel poverty
Interventions	Home improvements / retrofitting	Improved	Increased	No change			
	Replacing lightbulbs and electric heaters	Improved			Electricity: Reduced / Gas: No change		
	Installing central heating		No change	Reduced			
	Advice			Reduced			
	Advice with monitoring equipment			Reduced		Improved	
	Advice and referral for home improvements		Increased	Reduced			
	Arbed (home improvements)		Increased	Reduced	Gas: Reduced		
	Nest (home improvements and advice)			Reduced			
	Subsidies						No change

Interpretation

Most interventions focusing on home improvements (external, cavity wall or loft insulation, draught proofing) or energy related advice resulted in some improvement in outcomes, such as increased indoor temperature, reduced energy costs or improved energy efficiency. However, the results should be interpreted with caution, as the certainty in the evidence is very low due to the quality of included studies. It is possible that with new research studies, findings of this rapid review might change.

Implications for policy and practice

- There is a need for high quality, well-developed randomised controlled trials to investigate the effectiveness and cost-effectiveness of energy efficiency measures and advice.
- Future research should investigate which interventions are the most effective in what types of housing in rural areas to help the targeting of interventions better.
- Policy makers and funding bodies need to make further investments into research focusing on measures to alleviate fuel poverty, with particular focus on economic analysis.

A copy of the full report can be found via the following link:

<https://doi.org/10.1101/2023.04.18.23288747>