

# FUEL POVERTY AND AFFORDABLE WARMTH

## Tackling fuel poverty offers dividends for public health and the environment

Fuel poverty and cold homes represent a major public health problem in the UK, resulting in an estimated 9,700 lives lost each year,<sup>1</sup> as well as wasting energy and money. Measures to improve home energy efficiency can help cut greenhouse gas emissions whilst leaving low-income families with more money left over for food and other essentials. It therefore offers a major opportunity to address health inequalities, deprivation and climate change at the same time.

### Fuel poverty: definitions and statistics

In 2013 the Government changed the definition of fuel poverty used in England to the low-income, high-costs (LHIC) measure; the devolved nations have, to date, retained the previous 10% definition:<sup>2</sup>

- The **10% definition** includes all households which would need to spend over 10% of household income to maintain an adequate standard of warmth.
- The **low-income high-costs definition** includes all households in which the fuel costs required to maintain an adequate standard of warmth are above the national median level and which, if spent, would result in a residual income below the 60% relative poverty threshold.

11.1% of households in England (2.55 million households) meet the LHIC definition, whilst 1.1 million households in Wales, Scotland and Northern Ireland meet the 10% definition (2016 data).<sup>3</sup> In England, the mean fuel poverty gap was £326/year in 2016, and was highest in multiple occupancy and privately rented dwellings.<sup>4</sup>

### Policy context

The UK has some of the least energy efficient housing stock and the highest excess winter mortality in Europe.<sup>5</sup> The Government has set a target of upgrading all fuel poor homes to Energy Performance Certificate (EPC) Grade C by 2030,<sup>6</sup> and the Energy Company Obligation (ECO) requires energy suppliers to provide insulation and heating improvements to qualifying households. The Green Deal, a major government scheme to improve energy efficiency, ended in 2015. The number of homes being insulated per year has fallen by 90% since 2012.<sup>7</sup>

### Health and social impacts

Cold homes have a wide range of impacts on both physical and mental health, and the health impacts of cold weather partially underlies the higher overall mortality rate seen in winter compared to other seasons.<sup>5</sup> Some of the most common physical health impacts include respiratory conditions, and an increased risk of hypertension, heart attacks and stroke. Fuel poverty is a driver of health inequalities in both rural and urban areas.<sup>8</sup>

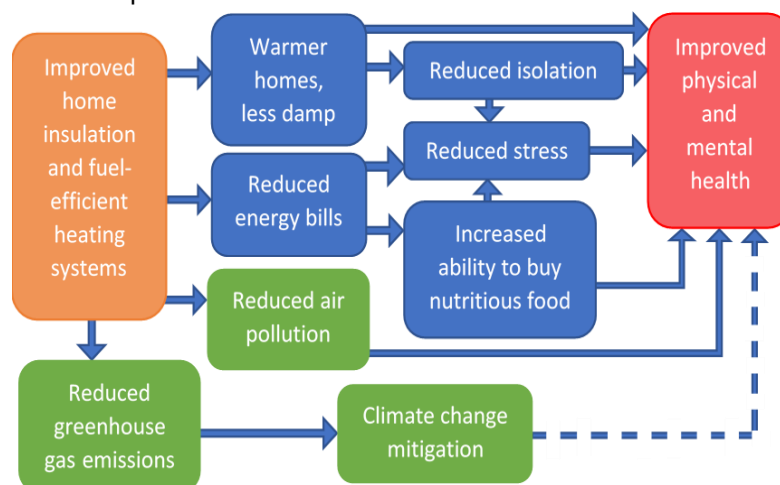


Figure 1: Mechanisms through which interventions to improve home energy efficiency can improve health

Cold homes are also associated with mental health problems in adolescents and adults,<sup>9,10</sup> slower weight gain in infants, and increased risk of asthma and hospital admissions in young children.<sup>11</sup> Fuel poverty has also been found to contribute to social isolation, and can restrict expenditure on food – the so-called ‘heat or eat’ dilemma.<sup>14</sup>

### How cold is too cold?

Public health risks increase when outside temperatures drop below around 6°C, so a majority of the health burden of cold weather is in fact caused by moderate as opposed to extreme cold.<sup>11</sup> A 2016 systematic review suggests that optimal minimum temperature for homes in the UK is 18°C,<sup>12</sup> with various health risks increasing as indoor temperatures fall below this.

## Resources

- NICE guidance [NG6] (2015) 'Excess winter deaths and illness and the health risks associated with cold homes' <https://www.nice.org.uk/guidance/nng6/> & Quality Standard [QS117] <https://www.nice.org.uk/guidance/qs117>
- Marmot review paper (2011) 'The Health Impacts of Cold Homes and Fuel Poverty' [https://friendsoftheearth.uk/sites/default/files/downloads/cold\\_homes\\_health.pdf](https://friendsoftheearth.uk/sites/default/files/downloads/cold_homes_health.pdf)
- Public Health England and NHS England - Cold Weather Action Plan for England [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/748492/the\\_cold\\_weather\\_plan\\_for\\_england\\_2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/748492/the_cold_weather_plan_for_england_2018.pdf)
- National Energy Action and E3G (2018) 'Cold Homes and Excess Winter Deaths' <https://www.nea.org.uk/wp-content/uploads/2018/02/E3G-NEA-Cold-homes-and-excess-winter-deaths.pdf>
- Improving Health and Care through the home: A National Memorandum of Understanding [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/691239/Health\\_Housing\\_MoU\\_18.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/691239/Health_Housing_MoU_18.pdf)

Older adults, people with pre-existing medical conditions (including severe mental health issues), pregnant women and under-5s are among those most vulnerable to the health impacts of cold weather.<sup>15</sup>

## Environmental impacts

Energy-inefficient homes are a major environmental problem: cost-effective investments in domestic energy efficiency alone could cut the average UK household's energy use by approximately 25% by 2035, equivalent to the output of 6 Hinkley Point C nuclear power stations per year.<sup>15</sup> Addressing these losses would therefore also reduce greenhouse gas emissions and local air pollution, as well as saving households an average of £270/year on energy bills.<sup>16</sup>

**Case Study:** Partnership work in Nottinghamshire and Nottingham between Public Health, third sector organisations, NHS and Local Authorities<sup>17</sup> resulted in the development of two complementary approaches to tackling fuel poverty and improving affordable warmth summarised below. They both offer bespoke interventions to residents in fuel poverty in private sector housing with long-term health conditions made worse by the cold. Services include; identifying the need for heating upgrades, temporary heating, home safety checks, debt advice & income maximization, assessment and/or support with energy tariff switching, falls advice and support with accessing Disabled Facilities Grants (DFG's) directly and via existing local pathways.

**1 Nottinghamshire Warm Homes on Prescription (WHOP)** targets residents through health referrals with savings of <£16K. In addition to the services mentioned above, they also offer Housing Options advice. In 2018-19 the programme worked with 234 households and delivered estimated savings to the NHS of around £272,942.<sup>18</sup>

**2 Nottinghamshire Healthy Housing Service**, initiated in 1997, has a delivery model centred on frontline staff training that outlines the impact of poor housing on health and affordable warmth solutions, resulting in 35% of referrals from trained staff. Self referrals are also generated through its community energy workshop programme for community groups. Through responding to the complex needs of fuel poor households, NHHS became an accredited home improvement agency and expanded its support to include home maintenance. Their partnership with Public Health is crucial.<sup>19</sup> and has resulted in £17.6 million of capital investment, > 21,000 energy saving installs, potential bill savings of £4.2m and more than > 285,000 lifetime tonnes of carbon dioxide emissions and > £25m estimated savings to the NHS.

## The role of public health

The public health response to fuel poverty is set in the wider context of the need to promote the adaptation of existing homes and the building of new accessible housing with support which is both environmentally sustainable and resilient to future climate change.<sup>20</sup> Public health can take action to reduce the negative health and environmental impacts of cold homes and fuel poverty in a number of ways. These include:

1. **Raising awareness** of the health impacts of cold and of vulnerable population groups amongst the public and key stakeholders (e.g. clinicians, housing teams)
2. **Developing and/or improving local services** to identify and address fuel poverty through an integrated and personalised approach – as per NICE guidance<sup>21</sup> - including targeted approaches for vulnerable populations.
3. **Ensuring that the Cold Weather Plan** (see Resources section) **is implemented effectively** in planning at local and regional levels and tailored according to the local context.
4. **Advocating for more ambitious national policy** on cold homes, as an investment in public health and climate mitigation.

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## References

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1. Guertler P and Smith P (2018) National Energy Action and E3G Briefing Paper: 'Cold Homes and Excess Winter Deaths' <https://www.nea.org.uk/wp-content/uploads/2018/02/E3G-NEA-Cold-homes-and-excess-winter-deaths.pdf>
2. Department of Energy and Climate Change (2013) 'Fuel Poverty: changing the framework for measurement. Government response' Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/211135/government\\_response\\_fuel\\_poverty\\_consultation.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/211135/government_response_fuel_poverty_consultation.pdf)
3. National Energy Action (2018) 'Fuel Poverty Statistics'. Accessed 17/1/2019. Available at <https://www.nea.org.uk/about-nea/fuel-poverty-statistics/>
4. Department for Business, Energy and Industrial Strategy (2018). Annual Fuel Poverty Statistics Report for England (2016 Data). Accessed 11/1/2019. Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/719106/Fuel\\_Poverty\\_Statistics\\_Report\\_2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/719106/Fuel_Poverty_Statistics_Report_2018.pdf)
5. Liddell C, Morris C, Thomson H, Guiney C. Excess winter deaths in 30 European countries 1980–2013: a critical review of methods. *Journal of Public Health*. 2016 Dec 2;38(4):806-14.
6. Cutting the cost of keeping warm: a fuel poverty strategy for England
7. Committee on Climate Change (2018) An independent assessment of the UK's Clean Growth Strategy - From ambition to action. [Online]. Available from: <https://www.theccc.org.uk/wp-content/uploads/2018/01/CCC-Independent-Assessment-of-UKs-Clean-Growth-Strategy-2018.pdf>
8. Roberts D, Vera-Toscano E, Phimister E. Fuel poverty in the UK: Is there a difference between rural and urban areas? *Energy Policy*. 2015 Dec 1;87:216-23.
9. Marmot review paper (2011) 'The Health Impacts of Cold Homes and Fuel Poverty' [https://friendsoftheearth.uk/sites/default/files/downloads/cold\\_homes\\_health.pdf](https://friendsoftheearth.uk/sites/default/files/downloads/cold_homes_health.pdf)
10. Liddell C, Morris C. Fuel poverty and human health: a review of recent evidence. *Energy policy*. 2010 Jun 1;38(6):2987-97.
11. National Children's Bureau (2016) 'Housing and the Health of Young Children'. Available at: <https://www.ncb.org.uk/sites/default/files/field/attachment/Housing%20and%20the%20Health%20of%20Young%20Children.pdf>
12. Gasparrini A, Guo Y, Hashizume M, Lavigne E, Zanobetti A, Schwartz J, Tobias A, Tong S, Rocklöv J, Forsberg B, Leone M. Mortality risk attributable to high and low ambient temperature: a multicountry observational study. *The Lancet*. 2015 Jul 25;386(9991):369-75.
13. Jevons R, Carmichael C, Crossley A, Bone A. Minimum indoor temperature threshold recommendations for English homes in winter—a systematic review. *Public Health*. 2016 Jul 1;136:4-12.
14. Beatty TK, Blow L, Crossley TF. Is there a 'heat-or-eat' trade-off in the UK?. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*. 2014 Jan;177(1):281-94.
15. NICE guidance [NG6] (2015) 'Excess winter deaths and illness and the health risks associated with cold homes' Available at <https://www.nice.org.uk/guidance/ng6/>
16. Centre for Sustainable Energy (CSE, 2017) - 'Assessing the Health Impact of Cold Homes' <https://www.cse.org.uk/downloads/reports-and-publications/fuel-poverty/energy-advice/insulation-and-heating/Assessing-the-health-impacts-of-cold-homes.pdf>
17. Thompson H "Promoting Partnership the Nottingham Example" in Rudge J and Nicol F "Cutting the Cost of Cold – Affordable Warmth for Healthier Homes" page 181. 2000 Published by E & FN Spon
18. Nottinghamshire Warm Homes on Prescription Programme <https://www.nottshelpyourself.org.uk/kb5/nottinghamshire/directory/service.page?id=KSnsjjDylcU>
19. <https://nottenergy.com/our-services/healthy-housing/> accessed 11 July 2019
20. Improving Health and Care through the home: A National Memorandum of Understanding [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/691239/Health\\_Housing\\_MoU\\_18.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/691239/Health_Housing_MoU_18.pdf)
21. NICE Quality Standard [QS117] Available at: <https://www.nice.org.uk/guidance/qs117>

## Professional Development Questions

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1. What advice would you give a member of the public who was concerned about the impact of cold on their own or their family's health? (3 key points)
2. What do you think may be added difficulties in tackling fuel poverty in rural areas? What strategies, interventions and resources could be implement to reduce the rate of fuel poverty in rural areas?
3. List some of the key factors would you want to take into account in designing a local scheme to address fuel poverty and cold homes
4. What do you think are likely to be some of the main advantages and disadvantages of the move towards the low-income, high-cost definition of fuel poverty adopted in England?
5. If you were planning an evaluation of a local fuel poverty reduction programme, outline some of the qualitative and quantitative dimensions you would wish to include in an (ideal) programme evaluation?

For suggested answers, see file "Model Answers to CPD Questions"