# Evidence reviews – March 2015

Evidence review
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## Introduction

The evidence statements from 3 reviews are provided by the London School of Hygiene and Tropical Medicine.

## How the evidence and expert papers link to the recommendations

The evidence statements are short summaries of evidence, in a review, report or paper (provided by an expert in the topic area). Each statement has a short code indicating which document the evidence has come from.

**Evidence statement number 1.1** indicates that the linked statement is numbered 1 in evidence review 1. **Evidence statement number 2.1** indicates that the linked statement is numbered 1 in evidence review 2. **Evidence statement EP1** indicates that expert paper 1 is linked to a recommendation.

If a recommendation is not taken directly from the evidence statements, but is inferred from the evidence, this is indicated by inference derived from the evidence **IDE**.

**Recommendation 1:** evidence statements 1.1, 1.11, 1.13, 2.10, 3.5; EP1, EP3, EP4, EP6, EP7

**Recommendation 2:** evidence statements 1.1, 1.10, 1.11, 1.12, 1.13, 2.10, 3.5; EP3, EP4, EP6, EP8

**Recommendation 3:** evidence statements 1.1, 1.10, 1.11, 1.12, 1.13, 2.10; EP3, EP4, EP5, EP6, EP8

**Recommendation 4:** evidence statements 3.2, 3.5; EP3, EP4, EP6, EP7

**Recommendation 5:** evidence statements 1.3, 1.6, 1.9, 1.12, 1.14, 2.1, 2.3, 2.7; EP1, EP2, EP3, EP4

**Recommendation 6:** evidence statement 3.5; EP4, EP6, EP8

**Recommendation 7:** EP4, EP6

**Recommendation 8:** evidence statement 3.5; EP4, EP6

**Recommendation 9:** evidence statement 3.5; EP4, EP8

**Recommendation 10:** EP4

**Recommendation 11:** evidence statements 2.6, 3.5; EP3, EP4, EP5, EP6

**Recommendation 12:** evidence statement 2.10; IDE

# Economic modelling

Providing home heating and insulation interventions to households where someone has chronic obstructive pulmonary disease, heart disease or is older than 65 was found to be cost effective from the perspective of the health sector. (This assumes that the health sector does not bear the full costs of the physical changes to the building fabric.) In some cases, the full cost of the intervention could potentially be justified solely on the basis of the health benefits alone.

One of the key factors in determining cost effectiveness is whether the potential indoor air pollution caused by altering ventilation rates during energy efficiency upgrades can be avoided. (If ventilation is poor and this leads to health problems, the interventions will not necessarily be cost effective.)

The modelling compared programmes targeting low SAP homes where people were at risk of ill health with programmes aimed at all homes where people were at risk of ill health. The targeted approach was much more cost effective.

Fuel subsidies are less cost effective than home energy efficiency measures, but the former may be more suitable over shorter time frames. That's because they avoid a large capital investment cost for people who may have a comparatively short life expectancy, or who expect to move home in a comparatively short period.

Quantification of the risks and benefits associated with home energy efficiency and fuel subsidy interventions is based on a model involving a complex chain of assumed causal links. For some of those links, the evidence base is limited and the results should, therefore, be interpreted as indicative only. However, they do provide a guide to the relative merits of broad interventions.

The specific scenarios considered and the full results can be found in the economic modelling report.

## What evidence is the guideline based on?

The evidence that the PHAC considered included:

- Evidence reviews:
  - Review 1: Factors determining vulnerability to winter- and cold weather-related mortality/morbidity was carried out by the London School of Hygiene and Tropical Medicine. The principal authors were: James Milner, Zaid Chalabi and Paul Wilkinson.
  - Review 2: Interventions and economic studies was carried out by the London School of Hygiene and Tropical Medicine. The principal authors were: James Milner, Zaid Chalabi and Paul Wilkinson.
  - Review 3: Delivery and implementation of approaches for the prevention of excess winter deaths and morbidity was carried out by the London School of Hygiene and Tropical Medicine. The principal authors were: James Milner, Zaid Chalabi and Paul Wilkinson.

- Economic modelling:
  - Excess winter deaths: economic modelling report was carried out by the London School of Hygiene and Tropical Medicine. The principal authors were: James Milner, Ian Hamilton and Zaid Chalabi.

- Expert papers:
  - Expert paper 1: Alzheimer's and dementia in relation to cold homes and excess winter mortality and morbidity. The principal author was Christine Liddell, University of Ulster.
  - Expert paper 2: Children's health and wellbeing and cold homes by Christine Liddell, University of Ulster.
  - Expert paper 3: Benefit changes, fuel poverty and disability by Carolyn Snell, University of York.
  - Expert paper 4: Working in local partnerships to address the impact of cold homes by Martin Chadwick, Beat the Cold.
  - Expert paper 5: OFGEM's vulnerable consumer strategy and related initiatives by Phillip Cullum, OFGEM.
  - Expert paper 6: The role of CCGs in addressing the impact of cold homes by Tim Anfilogoff, Hertfordshire Valleys Clinical Commissioning Group and Neil Walker, Watford Borough Council.
  - Expert paper 7: Policy update and the ECO by Gareth Baynham-Hughes and Fern Leathers, DECC.
  - Expert paper 8: The role of energy companies in addressing the impact of cold homes by Maria Wardrobe, National Energy Action.

Note: the views expressed in the expert papers above are the views of the authors and not those of NICE.

In some cases, the evidence was insufficient and the PHAC has made recommendations for future research. See also the recommendations for research and gaps in the evidence.