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**Scottish Public Health Network**

**Fuel Poverty and Income Poverty: A Commentary**

**Phil Mackie, Scottish Public Health Network (ScotPHN)**

**Martin Taulbut Scottish Public Health Observatory (ScotPHO)**

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## 1. Introduction

In the *Scottish House Condition Survey: Key Findings 2014*, the Scottish Government showed that many households in Scotland defined as “fuel poor” are not income poor.

One conclusion that might be drawn from this is that it might be more efficient and more equitable (especially given pressures on public finances) to refocus efforts to reduce fuel poverty on the estimated 16% of households who are **both** fuel poor and income poor. However, a narrow focus solely on those who are both fuel and income poor might have unintended, adverse consequences for population health and health inequalities. This is implicit in the further analysis presented in the SHCS report, which highlights the complexities of this situation (for example, the challenges faced by pensioners who are not income poor living in fuel-poor dwellings) as well as the associations between income and the risk of being in fuel poverty.

This short paper sets out the main areas of concern, and suggests questions that, if answered, might help broaden our understanding of what these data can tell us and help improve decisions in this area.

## 2. Why living in a warm, dry home is important for health

Living in a cold, damp home is associated with both physical and mental health problems, both direct and indirect. Box 1 (below) summarises some of the adverse health outcomes and the mechanism by which these occur.

### **Box 1: Selected health impacts of fuel poverty and living in cold, damp homes**

- Cold homes associated with respiratory problems (sudden changes in temperature between rooms).
- Increased dust mite population can increase risk of allergies and asthma.
- Damp housing promotes mould growth, which can lead to stigma and social isolation.
- Those who spend most time at home (e.g. very old, very young, those with disabilities) especially at risk.
- Inability to heat all rooms leads to overcrowding and increased risk of unintentional injury (e.g. scalds) among children.
- Fuel poverty can result in an inadequate or poor diet, as individuals forced to divert disposable income from food to fuel.
- Dissatisfaction with home, overcrowding and day-to-day experience of living with unpleasant surroundings lowers wellbeing and increases risk of mental health problems (e.g. depression).

Source: adapted from Beck et al. (2011) <http://www.scotland.gov.uk/Topics/Health/Healthy-Living/Good-Places-Better-Health/Findings-Recommendations/HCCR>

Ensuring as many people as possible live in warm, dry homes can make a positive contribution to health. Reducing fuel poverty is a key component of this.

### 3. How fuel poverty and income poverty are currently measured

The current indicators of fuel poverty and income poverty are important and useful indicators of need, but should be interpreted with care.

Income matters for health. Income poverty in Scotland can be measured in a number of ways, including before and after housing costs, in absolute or relative terms, and also by including or excluding markers of material deprivation. The measure of income poverty used in the SHCS – 60% of contemporary median household incomes before housing costs – is a useful and relevant indicator of economic need. However, it has a number of limitations. Most importantly, the 60% of median income threshold remains an arbitrary line which may not reflect actual economic need: it is possible for households and individuals to be above the poverty line but still be struggling financially, with adverse consequences for their mental and physical health. As shown in Table 1 below, official poverty thresholds (Before Housing Costs) are below the Minimum Income Standard defined by the public as the level necessary to achieve a “socially acceptable living standard”<sup>1</sup>. In addition, direct comparisons of fuel poverty and income poverty are imperfect because the only survey which collects information on both (the Scottish House Condition Survey) is not primarily designed as an income survey.

*Table 1: Thresholds for Minimum Income Standard and UK Poverty Line, £ per week (Before Housing Costs), for selected household types: 2013/14*

	<b>Minimum Income Standard</b>	<b>UK Poverty line</b>	<b>Poverty threshold as % of MIS</b>
<b>Single person no children</b>	271.5	182	67.0
<b>Working age couple, no children</b>	400.4	272	67.9
<b>Pensioner couple</b>	335.3	272	81.1

<sup>1</sup> [https://www.jrf.org.uk/report/minimum-income-standard-uk-2015#jl\\_downloads\\_0](https://www.jrf.org.uk/report/minimum-income-standard-uk-2015#jl_downloads_0)

<b>Lone parent plus one child of primary and one of secondary age</b>	392.7	326	83.0
<b>Couple plus one child of primary and one of secondary age</b>	484.6	416	85.9

Sources: [www.minimumincomestandard.org](http://www.minimumincomestandard.org); *Poverty and Income Inequality in Scotland: 2013/14, Table 1.*

Fuel poverty in Scotland is currently monitored by looking at trends in the level and percentage of people who would be required to spend more than 10% of their income to maintain an adequate heating regime (see Box 2 for more details).

### **Box 2: How fuel poverty is calculated in Scotland**

The number of households in fuel poverty is estimated from data collected from the Scottish House Condition Survey (from 2012, incorporated as a module into the Scottish Household Survey).

The process is as follows:

- **Household income** is collected from the Highest Income Householder, including their income and that of their spouse. Note that this approach does not taken into account any income from other members of the household, for which household income will be under-estimated and corresponding fuel poverty over-estimated. Income tax, national insurance, council tax, and some other costs, are deducted from this headline figure.
- Based on household occupancy, technical details on the layout of the house, efficiency and type of heating system, building materials in the home and external conditions (e.g. weather), **a model is then used to calculate how much the household would need to spend to meet all the fuel needs of their home.**
- Fuel needs include the costs of heating the home adequately plus an allowance for other fuel needs: cooking, lighting and heating water. Fuel poverty therefore is not synonymous with heat poverty.
- An **adequate heating regime** is defined as:
  - Nine hours per 24 hour period during the week, with two hours being in the morning and seven hours in the evening; 16 hours per 24 at the weekend.
  - Living-room heated to 21 degrees Celsius and the rest of the house heated to 18 degrees Celsius
  - For elderly and infirm households, the home is continuously heated for sixteen hours per day to a temperature of 23 degrees Celsius in the living-room and 18 degrees Celsius in other rooms.

Where the modelled spend on all household fuel use exceeds 10% of the household income, the household is defined as being in fuel poverty. Note that the process does not directly assess households' actual heating regime or collect data on room temperatures.

Source: *TECHNICAL NOTE: DEFINITION AND MEASUREMENT OF FUEL POVERTY IN SHCS REPORTS*  
<http://www.scotland.gov.uk/Resource/Doc/1125/0048118.pdf>

The current fuel poverty indicator has a number of important advantages. It focuses attention on making homes more fuel efficient, with positive consequences for climate change and potentially household incomes and population health. It recognises fuel poverty as an issue related to, but distinct from, income poverty, stemming from the interaction of household income, energy needs and fuel costs. It avoids excluding low spending households who cannot afford to heat their home and wrongly including high spending (presumably high income) households who are 'wasting' fuel by heating their homes in an inefficient way (Hills, 2011). It is also one of the few indicators that recognise disadvantage, poverty and exclusion in rural Scotland.

On the other hand, it has a number of disadvantages. The modelling of the prices paid by households may not reflect actual unit costs. In particular, poorer households are more likely to use pre-paid methods, which are more expensive than direct debit<sup>2</sup>.

Even more importantly, the current fuel poverty indicator does not directly measure the levels of 'thermal comfort' that households deem appropriate themselves, and whether they actually achieve these levels. There is also good evidence that certain groups (children, the elderly and groups who spend more time at home) may require a greater level of thermal comfort at home. Subjective measures of thermal comfort (self-report by households on whether their home is warm enough in winter) might be more appropriate indicators for measuring the consequences of fuel poverty on health.

In Scotland in 2012, a third of Scottish households were colder than they wanted to be in winter, 18% had to turn their heating down or off even though it was cold and 6% of households cannot afford to heat the living areas of their homes. Based on the Scottish Household Survey, around 16% of Scottish households experience thermal discomfort, similar to the proportion who are both fuel and income poor, but it is not clear to what extent the two groups overlap.

Again, it is important to distinguish here between the **concept** of fuel poverty and its consequences (which are clearly associated with poorer physical and mental health) from the value of the current fuel poverty **indicator** as a tool for monitoring the level and change in the number of households living in cold, damp homes. In effect, the

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<sup>2</sup> In 2012, the average annual domestic gas bill was £47 higher for Scottish households using prepayment methods, compared with those using direct debit:

<http://www.decc.gov.uk/assets/decc/statistics/source/prices/gep232.xls>.

current indicator of fuel poverty might be better understood as a measure of “fuel efficient homes” rather than a measure of fuel poverty as it affects health.

NHS Health Scotland’s concern is driven by a concern for the health risks of withdrawing support for those households classified at ‘lower risk’, on the basis of a simple fuel poor/income poor matrix. In the next section, we set out some questions that might help inform the debate on this.

#### **4. The income poor, fuel poverty matrix: four groups**

As the original paper implies, households in Scotland can be divided into four categories according to their relative income poverty and fuel poverty. While it might seem reasonable to focus resources on those who are **both income and fuel poor**, it may be useful to consider the implications of those for people living in households outside this category (Box 3).

##### **Fuel poor, but not income poor**

It would be helpful to check how many households in this group are experiencing low thermal comfort and also to consider the long-term implications of shifting support away from this group. Questions to consider might include:

- Are their incomes high enough to make their homes energy efficient without reducing their overall financial position and current living standards, and in some cases moving them into relative poverty?
- What about those households that are asset-rich, but still on low income?
- What about private renters in this group? They may be vulnerable to unexpected rent increases and/or required to use landlord’s fuel-inefficient system or more expensive payment system

As noted in the SHCS 2014, almost half of the fuel poor are pensioner households (a group which require higher levels of thermal comfort) and they are also more likely to be living in less fuel inefficient homes. It is true that pensioners are currently a (relatively) favoured group, relatively protected from changes to the tax and benefits system<sup>3</sup> and through the triple lock to the state pension. If they claim all the benefits they are entitled to, pensioners are able to (just) attain the ‘Minimum Income Standard’ suggested by the Joseph Rowntree Foundation. Median pensioner incomes in the UK 2013/14 (after housing costs) were £197 for a single pensioner and £422 for couples. However, this also assumes they are not using part of their income to subsidise other members of their household or wider families, their children or grandchildren for example? This will be particularly true if they are being affected by low wages and changes to the social security system. Looking to the

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<sup>3</sup> <http://www.scottish.parliament.uk/parliamentarybusiness/CurrentCommittees/87136.aspx>

future, the next cohort of pensioners may not be as well-placed financially<sup>4</sup> as this one.

In addition, working-age adults and children who are fuel (but not income) poor may be vulnerable to being pushed into the fuel and income poor group in the next five years through changes to the tax and social security system<sup>5</sup>. Even where ‘fuel poor’ households are not income poor and report no problems keeping warm, improving the quality of their housing stock will be beneficial in the long-term, by meeting future residents’ thermal comfort needs and reducing the carbon footprint of Scotland’s housing stock.

**Income poor but not fuel poor**

Households in this category may live in efficient homes, but still be unable to heat them to achieve thermal comfort. It would be odd to exclude them.

**Income poor nor fuel poor**

Individuals living in these households might be considered at lower risk, and support might be through universal services. Improved monitoring might help identify whether additional support might be required for sub-groups within this category e.g. households which are neither income poor nor fuel poor but have at least one disabled person living in the household.

<b>Box 3: The fuel-poor, income-poor matrix reconsidered</b>		
<i>Fuel poor</i>	<b>Both fuel and income poor</b> At highest risk.	<b>Fuel poor, not income poor</b> May still be on very low incomes and/or vulnerable to moving below the poverty line.  Private renters may be vulnerable to unexpected rent increases and/or required to use landlord’s fuel-inefficient system or more expensive payment system.  Assumes they are not subsidising family members not living with them (e.g. “relatively protected” pensioners subsidising children & grandchildren).  Housing stock may still be fuel inefficient, with implications for climate change & <u>future</u> owners/renters of property (who may be income-poor).  Not currently income poor but may become so due to changes to social

<sup>4</sup> <http://www.ifs.org.uk/publications/7963>

<sup>5</sup> <http://www.ifs.org.uk/uploads/publications/comms/R114.pdf>



		security system due to changes to labour market and/or social security system.
<i>Not fuel poor</i>	<b>Income poor, not fuel poor</b> May be unable to heat home to achieve thermal comfort, either now or in future (due to changes to labour market and/or social security system).	<b>Neither income poor nor fuel poor</b> At lower risk, though improved monitoring of household characteristics, thermal comfort and health outcomes would help here. Some types of household and individuals within them may require more than simply universal services.
	<i>Income poor</i>	<i>Not income poor</i>

## 5. What we don't know

Using households rather than individuals as the unit of comparison may hide specific health inequalities arising from thermal discomfort. It may also be useful to explore the positive and negative consequences of responses to thermal discomfort on health, and how these vary between groups.

The Scottish House Condition Survey provides some illustrative points for discussion on this. In absolute terms in 2014, there were almost as many non-fuel poor households as fuel poor-households reporting inadequate heating during the winter months was a serious problem (64,000 vs, 68,000). And while fuel-poor households are more likely to report they cannot afford to heat their home (13% vs. 5%), this still leaves 83,000 non-fuel poor households in this position.

In addition, it may be worth considering whether an exclusive focus on problems heating the home during *winter* months is appropriate, given that health problems relating to cold are not confined to this season<sup>6</sup>.

Finally, neither rurality nor those in marginal fuel poverty are discussed. It may be useful to consider the characteristics of these two groups, in terms of thermal comfort, vulnerability and housing tenure and energy efficiency. For those in rural Scotland, a key question is access to the gas grid, which provides access to

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<sup>6</sup> Hajat, Shakoor; Gasparrini, Antonio. The Excess Winter Deaths Measure: Why Its Use Is Misleading for Public Health Understanding of Cold-related Health Impacts. *Epidemiology*, July 2016 - Volume 27 - Issue 4 - p 486–491.

relatively lower cost heating fuels/infrastructure. Of the 371,000 households in Scotland not currently connected to the gas grid, 246,000 are located in rural Scotland<sup>7</sup>.

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<sup>7</sup> <http://www.gov.scot/Publications/2015/12/8460/322110>

## 6. Conclusions

- The *Scottish House Condition Survey: Key Findings 2014* is an extremely useful piece of analyses, not least in provoking greater clarity when thinking about fuel poverty and its consequences in Scotland.
- Health, housing quality, financial circumstances, and warmth are linked in a complex way.
- Current measures of income poverty and fuel poverty are useful indicators of need, but should be interpreted with care.
- Ensuring as many people as possible live in warm, dry homes can make a positive contribution to health. Reducing fuel poverty is a key component of this.
- On the basis of the analysis offered, it is not possible to determine what the health consequences for individuals within households are likely to be currently.
- Targeting changes in eligibility on the basis of a simple “fuel-poor, income-poor” matrix may have the potential to have unintended consequences on the health of individuals, especially people living in households which are income poor or fuel poor only. This could simply transfer the financial burden to other areas of the public purse (notably the social care system).
- It may be useful to explore the value of a health inequalities impact assessment on health benefits of reducing fuel poverty – the concept, the indicator or both.



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**For further information contact:**

**ScotPHN**

**c/o NHS Health Scotland**

**Meridian Court**

**5 Cadogan Street**

**Glasgow**

**G2 6QE**

**Email: [nhs.healthscotland-scotphn@nhs.net](mailto:nhs.healthscotland-scotphn@nhs.net)**

**Web: [www.scotphn.net](http://www.scotphn.net)**

**Twitter: [@NHS\\_ScotPHN](https://twitter.com/NHS_ScotPHN)**