

Energy poverty as a national public health issue

Energy Poverty refers to a household that has a difficulty, or inability, to afford its basic energy needs for indoor activities, such as heating, cooling, cooking, and lighting.

Energy Poverty (also known more narrowly as ‘fuel poverty’) is a significant multidimensional socio-economic policy challenge. Energy Poverty is associated with increased adverse health outcomes particularly in vulnerable groups such as older people, children, and ethnic minorities.⁽¹⁾

The recommended minimum home temperature threshold for health in winter is 18°C. People with medical vulnerabilities may benefit from a slightly higher temperature.^(2,3) Residents of the 25% coldest homes have around a 20% greater risk of dying during the winter months than those in the warmest homes.⁽²⁾ Healthcare facilities are recommended to maintain indoor temperatures at between 20-24°C with a relative humidity of 20-60%.^(4,5,6)

In Ireland, households are currently defined as energy poor if they spend more than 10% of their disposable income on energy costs in any one year. Severe Energy Poverty refers to spending more than 15%,

and extreme Energy Poverty if spending is 20% or more.⁽⁷⁾

In 2021, one in four households in Ireland were in arrears with utility bills.⁽⁸⁾ In 2016, up to 28% of households in Ireland were in or at risk of Energy Poverty (equivalent to 475,000 households).

Based on average household consumption and current prices, households on incomes less than €39,000 will fit the definition for fuel poverty.^(9,10) In 2020, the median annual earnings in Ireland were €40,579.⁽¹¹⁾

Gas and electricity prices are increasing rapidly in Ireland. The ESRI estimated a prevalence of expenditure-based Energy Poverty of 29.4% earlier in 2022 and forecast a prevalence of 43% based on projected energy price increases this year.⁽¹²⁾

The following are the three major causes of Energy Poverty:

- High energy prices
- Low household income
- Poor energy efficiency of buildings and appliances

Populations vulnerable to Energy Poverty

In Ireland and the UK, Energy Poverty is more common among the following groups:^(13,14,15,16,17,18,19)

- Households living on low incomes
- Rented dwellings
- Households with dependent children and multigenerational occupancy
- Younger individuals, particularly those with children
- Those who live alone
- Lone parent families
- People living with disabilities
- Minority ethnic households
- People living in detached dwellings and dwellings with poor conditions such as leakage and mould
- Family carers
- Members of the Travelling community

Energy Poverty is linked with income poverty, unemployment and urban/rural disparities. Within Ireland, multiple policies target homes vulnerable to poverty but may overlook the energy poor who have high fuel expenditure relative to their income.

The ESRI identified certain profiles as energy poor:

1. Older people living in older, energy inefficient homes which are mainly in rural areas.
2. Larger households who live in mortgaged or rented urban homes, with higher education and higher incomes.
3. While many at-risk single parents are supported by social welfare schemes, a significant proportion of families with children are also vulnerable to fuel poverty, especially in urban areas.

It should be noted that there may be other at-risk groups, with little or no income, living in cold conditions who do not live in their own home (recommendation 3 under *Recommendations for Government*).

Adverse impacts of Energy Poverty on the population and on the health system

Health impacts on individuals

Cold indoor temperatures place thermal stress on the body and can affect the immune, circulatory and cardiovascular systems.

Cold homes generate mould, damp, and dust mites, which can affect respiratory and allergic conditions.

Energy Poverty adversely impacts people's ability to access essential services and it limits their socialising, internet access, healthy food options, attendance at education facilities and work.⁽¹⁴⁾ It acts as a driver to widen health inequalities and could have longer-term adverse impacts for our population.

Children and families

Children who are at risk of fuel poverty have been identified as a particularly vulnerable group for longer-term health implications.

The respiratory system develops in utero and during early childhood. This development is a key determinant of health and longevity.⁽²⁰⁾

Rates of respiratory illness are more than twice as high in children who live in cold, damp homes.⁽²¹⁾ Cold homes are also more prone to damp and mould.⁽¹⁴⁾ This contributes both to developing asthma⁽²²⁾ and to acute asthma attacks.⁽²³⁾ Living in cold temperatures can cause both upper and lower respiratory tract infections, including bronchiolitis.

Living in cold accommodation impacts upon sleep and development. Children living in cold homes can also experience negative mental health symptoms. Research also indicates that parents living in fuel and Energy Poverty are likely to experience maternal and paternal depression.⁽²⁴⁾

Adults – ageing and chronic diseases

Living in cold temperatures can trigger bronchospasm in those with asthma and COPD and can lower resistance to respiratory infections.

Studies examining the effects of colder conditions have also identified increased winter mortality in women over 85,⁽²⁵⁾ reduced respiratory health and increase in depressive symptoms in older people,⁽²⁶⁾ increase in mortality from all-causes, but most specifically cardiovascular, respiratory, and non-cardio-respiratory causes.⁽²⁷⁾

A drop in indoor temperature below 12°C can raise blood pressure. Coupled with increased blood viscosity the risk of stroke and myocardial infarction rises. Coronary events in younger age groups (35 to 64 years) are more likely to be fatal in colder periods.

In addition, cold conditions can exacerbate diabetes, musculoskeletal and rheumatological conditions.

Decreased body temperature is associated with a build-up of neuro-markers for dementia and Alzheimer's. Those with dementia experiencing Energy Poverty may be at an additional risk due to difficulties self-managing indoor temperatures.

In addition to the above chronic diseases, as we age, body temperature lowers and physiological thermoregulation becomes less effective. Cold homes are also associated with lower strength and dexterity and exacerbated symptoms of arthritis, which can increase the risk of unintentional injury and falls.⁽²⁸⁾

Mortality

Ireland has relatively high levels of winter deaths, with a strong relationship between Energy Poverty, social class, geographic and demographic patterns.

In England 10% of excess winter deaths are directly attributed to fuel poverty. WHO⁽²⁹⁾ reports there are about a quarter of a million excess deaths each year in Europe attributable to cold weather.

Impact on the health system

Energy Poverty can increase system wide health service use:

- Visits to GPs for respiratory infections increase by up to 19% for every 1°C drop in mean outdoor temperature below 5°C.⁽²⁷⁾
- Increased impact on wider health system, including community care health services and supports, due to decline in general health, including mental health, increased medicine use and health needs.⁽³⁰⁾
- Increased demand for hospital ED services and admissions, due to exacerbation of health conditions, increased hospital admissions for older persons for hypothermia.

High energy cost impacts on the wider health system

The requirement and ability to maintain healthy ambient temperature in the context of rising energy prices may result in increased energy requirements and costs across the health service, including Section 38 and Section 39 services. There is a potential risk that some services may struggle to meet this requirement.

Positive outcomes from appropriate interventions to address Energy Poverty

In Ireland, initiatives to improve energy efficiency in homes have reduced health service utilisation, including visits to GP and EDs, and hospital admissions for respiratory illness. They also reduced the burden of physical and mental symptoms, ill health, PCRS prescriptions, and had social benefits. ⁽³¹⁾

Green build retrofits are shown to reduce GP visits ⁽³²⁾ and retrofitting low-income homes resulted in a 15% reduction in school absences.

Infants living in low-income and food-insecure families who receive a winter fuel subsidy, have statistically better carer-reported development, higher weight-for-age scores and are less likely to attend emergency paediatric services. ⁽²¹⁾

Recommendations

Energy Poverty is a complex issue that can only be effectively addressed through a co-ordinated multi-sectoral response. This paper outlines recommendations for the health sector appreciating that work within health is co-dependent on action in the other sectors, particularly those covering housing and social welfare. On this basis, we also include recommendations for Government to enable a collaborative approach.

Recommendations for the health sector

While the following recommendations are mainly for health services, including HSE supported Section 38 and 39 facilities, they are also relevant for other services dealing with people at risk (including TUSLA, social services, community welfare officers etc).

Short-term recommendations for the health sector

1. Increase awareness among all staff about the issue of Energy Poverty, with information on populations at risk, the adverse health impact and available interventions. (*see priority recommendations for Government and Communications*)
2. Devise a national HSE policy response on Energy Poverty informed by Public Health, based on the national government multi-sectoral policy on combating this issue.
3. Develop a HSE Implementation Plan around the Energy Poverty Policy including targets and an evaluation framework, with input and strategic leadership from Public Health. To support implementation, ensure the following supports and services are in place at national level:
 - Update the current HSE training modules to include Energy Poverty where relevant, or develop a separate module on Energy Poverty within the HSE Land education programme.
4. To execute the implementation plan, Public Health Area teams will lead with the relevant HSE services to devise regional multi-sectoral Action Plans for those most at risk of adverse health impact from Energy Poverty, working across sectors including local authorities, TUSLA and social welfare.
5. Public Health Area teams, working with the other relevant HSE services, will convene new local groups or build upon established groups, to identify networks through which the agreed regional Action Plans can be enabled and delivered within the health service. These channels may include:
 - Primary Care networks, Enhanced Community Care teams, Integrated Care Programme for Older Persons and the community support teams, Healthy Age Friendly Homes Programme, as well as Day Services, Hospital Emergency Departments and organisations and community groups working with at risk populations.
6. The evaluation framework should be a component within the national Implementation Plan as well as the regional Action Plans and may include the following process indicators:
 - Number of downloads of the tool or guidance document during a specified period.

- Number of people referred to Energy Poverty support services, number seen, and number deemed ineligible.
7. Consider co-location of Energy Poverty support services and/or community welfare officer services within health centres in specified communities.
 8. In health facilities, appropriate levels of ambient temperatures should be maintained and all staff made aware of the priority areas in which they can apply measures to improve energy use and conservation.
 9. Advocate for and provide support to facilities delivering services to those most at risk and report on non-compliance (see recommendation 3 under *Recommendations for Government*). These include:
 - State-funded congregate settings such as residential care facilities; mental health services and services for people with physical disability and intellectual disability; services for those affected by homelessness (homeless hubs, hostels, B&Bs).
 - Support also the Non-Government Organisations which provide services such as day care centres, community and social centres, as well as services such as Meals on Wheels, Age Action Ireland and family resource centres.
 10. Advocate for action in other sectors to include adequate ambient temperature in educational settings, expert advice to guide policy on balance between heating and ventilation in educational facilities, consideration of extension of school hours for specified communities, supports for Community Resilience Networks, religious groups etc., improved access to hot meals, support the provision of heated public spaces with extended opening hours (libraries, public buildings).

Longer-term recommendations for the health sector

11. Continue to improve energy utilisation and efficiency in all health facilities.
12. Upscale ongoing work within the health sector and HSE on buildings and appliances to improve energy efficiency and conservation.
13. Develop information systems to monitor the impact of Energy Poverty on health and processes so that interventions can be evaluated. This can include development of national information repositories as well as inclusion of Energy Poverty as a priority issue for research.

Recommendations for Government and all departments (multi-sectoral)

In keeping with the *Healthy Ireland* approach, we recommend there be a whole-government approach in addressing Energy Poverty in Ireland.

Learnings can be taken from the Department of the Environment, Climate and Communications' progress review of the previous government policy, "A Strategy to Combat Energy Poverty; 2016-2019"⁽³⁰⁾, published earlier this year.

The continuation of this cross-departmental work with Public Health representation will allow for the ongoing monitoring of the issue.

This should include consideration as to the appropriate methods for measuring the impact of Energy Poverty on health and wellbeing, as well as the effectiveness of interventions taken to mitigate health effects.

Short-term recommendations for Government

1. Develop and implement an evidence-informed, population-wide communication strategy focussed on energy use and conservation.
2. Continue to protect the population from Energy Poverty, through fiscal policy measures.
3. For accommodation for homeless and displaced people, establish standards in relation to energy efficiency of such buildings, communicate on the minimum standards for ambient temperatures in congregate settings and establish a monitoring process for compliance to these standards.
4. Work to ensure energy prices are reasonable for homes, but not necessarily implement a price cap due to unintended environmental consequences.
5. Align with the European Union agreement to cap market revenue for energy providers and introduce a levy on surplus profits.
6. Implement consumer protection regulations, along with the planned pause on disconnections, and implement regulations for those most at risk, such as homes with children under six years of age and congregate settings for vulnerable populations.
7. In line with the National Just Transition Fund, provide targeted information and awareness campaigns for people who rely on turf and other solid fuels for home heating.
8. Provide state-supported, locally provided and adequately resourced "one-stop-shop" energy services. These could be provided by local

authorities and should be readily accessible by those at most risk of Energy Poverty. They should cover people's needs around information practical help and access to services in relation to energy use and conservation. The service could be similar to the UK's Seasonal Health Intervention Network (SHINE).⁽³⁴⁾

Longer-term recommendations for Government

9. Focus on development of sustainable, renewable energy sources, moving demand from gas and solid fuel, in line with national and EU Climate law.
10. Increase home energy efficiency and continue to roll out retrofit schemes, prioritising people who may be vulnerable to Energy Poverty. All efforts should be put in place to avoid delays in implementation.
11. Legislate for regulations for rental homes to ensure their energy efficiency.
12. Implement data collection, research and energy audits to guide policy formulation, implementation and monitoring.

Communicating with all

In order to tackle this complex health challenge an extremely powerful tool is the use of targeted, evidence-informed strategic communication based on the public and health system's needs and preferences.⁽³⁵⁾

A priority for Government and all sectors is to immediately develop and implement a consistent, cohesive, multifaceted communication strategy in relation to energy options and efficiency. This should be targeted at the whole population, all industries and all sectors.

All communications should

- Be inclusive and accessible for all
- Include consultation with the National Adult Literacy Agency (NALA) to ensure the use of clear and simple language
- Use infographics and appropriate images
- Be translated into relevant languages
- Use both electronic and hard copy materials

It is important to also maximise the use of the material and resources currently available such as

- *The Keep Well and Warm booklet*⁽³⁶⁾
- Better Energy Warmer Home Schemes

References included in this paper are available by clicking [here](#)