Good Practice Guide 8: Combating the effects of cold weather

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Combating the effects of cold weather

The conditions in which people are born, grow, live, work and age can lead to health inequalities – the unfair and avoidable differences in health status. Actions to tackle health inequalities demand the efforts of government, statutory organisations, community, voluntary and private sectors. This Good Practice Guide to combating the effects of cold weather is one of a series designed to capture information about health inequalities and highlight evidence-based interventions and key actions for improvement across sectors.

Other Good Practice Guides in this series can be accessed at: www.publichealth.hscni.net/publications/good-practice-guides

Why do it?

In colder parts of the world, more people tend to die in winter than in summer. This is known as 'excess winter mortality'. Northern Ireland is no exception. Over a recent ten year period, in Northern Ireland an average of 875 more people died each winter than died each summer. In parts of the world where summer is short-lived, like Northern Ireland, cold weather can happen in spring and autumn too. In the same ten year period, deaths related to cold weather during spring and autumn contributed an additional 260 deaths a year to those of winter. Taken together, this means that there have probably been more than 1,100 cold weather related deaths in Northern Ireland each year over a recent ten-year period.[1]

While no one can control the weather, health scientists consider that many deaths related to cold weather are preventable, since the reasons why people die or become ill during cold weather are well understood and can be tackled.[2]

Health and social context

While cold can kill, it more often causes illnesses which are non-fatal. For every person who dies during the colder months of the year, another eight people are estimated to require treatment in hospital for an illness related to cold weather.[3] Taken together, this means an average of about 10,000 serious health incidents related to cold weather every year in Northern Ireland in the recent past.

A study by the World Health Organization compared cold-related deaths in 23 regions of the world. Northern Ireland had more health incidents related to cold weather than any other region, including parts of Finland and Iceland.[4]

This probably stems from two main factors. First, homes in Northern Ireland are poorly protected from cold in terms of their standards of heating and insulation. Second, people who live in Northern Ireland often ignore the cold, and so are not sufficiently protected from its effects.

Cold weather affects the circulatory and respiratory systems most. On a cold day in Northern Ireland, an average of 5% more people die of a circulatory or respiratory problem than die from these problems on a warm day.[1] The reasons for this are straightforward. To keep a stable temperature throughout the day and night the human body works hard, quickly losing heat if body temperature starts to rise a little, and reacting just as quickly if body temperature starts to fall.

When the temperature outdoors falls below 15.5°C, the human body begins its work, and the colder it gets the greater the body's workload. For example, blood thickens, arteries narrow, and blood pressure rises.

These place strain on the heart, which explains why cold days are associated with more coronary events such as heart attacks, and more clot-related events such as strokes.[5]

Studies have shown that exposure to cold temperatures is associated with an increased risk of:

- Deaths and illnesses related to cardiac functions, for example cardiac arrests;[4]
- Deaths and illnesses related to circulation and blood clotting, such as strokes;[5]
- Deaths and illnesses related to respiratory functions, such as pneumonia and influenza;[6]
- Deaths and illnesses related to falls and accidents, both inside and outside the home.[7]

The risks of cold weather in Northern Ireland are evident in people well before pensionable age, with the risks to health increasing with age.[4]

More children suffer from asthma, bronchitis, and nose and throat problems and also miss more days of school through being sick in cold weather than they do in warm weather.[8]

Very young babies are also affected by the cold. Infants are especially vulnerable because they rely on the vigilance of others to protect them from cold. A study in the USA found that babies in homes that received a winter fuel payment gained weight at a better pace, and had fewer illnesses in their early years.[9]

A recent UK study compared teenagers who were raised in homes that were cold and damp with teenagers who lived in homes that were efficiently heated in winter. The study found that teenagers from cold homes had more *mental* health problems, and were more likely to leave home at an early age.[10] For teens, the risks may be to their mental health and wellbeing, rather than to their physical health.

Mental health risks are also evident in adults who live in cold homes. Heating is increasingly expensive for all households, but especially for people on low incomes. The high costs of heating a cold and draughty house may also lead to debt, or worries about falling into debt, which can be a constant source of stress.[11]

Having a cold and damp home can force people into a lifestyle they would rather not have, such as going to bed in the early evening to prevent having to put the heating on. Grandparents report that they avoid asking grandchildren to stay, because the spare room has mildew on the walls and is unheated. For some senior citizens a cold day may mean they do not get up at all.[12]

The Chief Medical Officer's most recent Annual Report for England echoes these findings: "Persistent cold, together with the financial worry of being able (or unable) to afford adequate heating, can cause depression. People in fuel poverty are 2.5 times more likely to report high or moderate stress than those able to afford their heating." [13] In fact studies carried out all over the world confirm that people who live in cold and damp homes are more likely to experience both depression and anxiety.

Policy context

The *UK Fuel Poverty Strategy* delivers subsidised heating and insulation to the homes of people in fuel poverty, focusing on the elderly, people who have a long-term illness or disability, and families with children.[14] People are in fuel poverty if they need to spend 10% or more of their income on the heating and lighting they need for a reasonable and safe standard of comfort.

Northern Ireland's regional *Fuel Poverty Strategy* has as its vision "a society in which people live in a warm, comfortable home and need not worry about the effect of the cold on their health."[15] It delivers many levels of assistance, most notably through the Warm Homes Scheme. This is administered by the Department for Social Development in Northern Ireland (DSDNI). Between 2001 and 2008, DSDNI invested £100m in installing better insulation and heating in more than 60,000 homes.[16]

What works?

For individuals/families

It is vital that individuals and families should be able to live in a home which is adequately heated, well ventilated, and free from damp and severe draughts. Here, policies related to housing and energy affordability, such as the Warm Homes Scheme outlined above, are important.

In addition, ensuring that people keep warmly dressed in cold weather is vital, not only when they are going out, but also when they are at home.

Keeping an eye on room temperatures indoors is also essential, especially for older people who may not notice that their hands and feet have become cold. The World Health Organization recommends that living rooms are heated to 21°C, and all other rooms to 18°C.[17] For people who are unable to move around because of disability or illness, keeping their homes slightly warmer if they feel better that way, is also recommended. Midwives can provide the best advice about temperatures that are safest for babies.

In communities/settings

A community which is aware of cold and its dangers can help protect its more vulnerable citizens from it. Calling in with elderly or sick neighbours when the

first cold snap of the year hits, to make sure their heating is working and they are warmly dressed, is a simple neighbourly act. It also reminds them that they live amongst people who respect the importance of staying warm. Giving a cotton vest or a pair of warm socks for Christmas, rather than a box of chocolates, is always an option, as is the gift of a £5 or £10 oil stamp.

No evidence is available at present for **schools and workplaces**

At policy level

Evaluations have shown that policies such as Northern Ireland's Warm Homes scheme, which deliver free or subsidised heating and insulation to vulnerable households, have improved the health and wellbeing of people who received assistance through them.[8]

Many similar privately run schemes, such as Cosy Homes and the Northern Ireland Sustainable Energy Programme were launched as a result of these findings.

Evidence from all over the world shows that heating improvement schemes have greatly enhanced people's sense of wellbeing. Children spend less time at home with minor illnesses. Parents who have children with asthma report a notable improvement in the severity of their symptoms. Many elderly people report feeling more interested in life and more positive about their homes.

The impacts on mental wellbeing are often immediate, and are what householders notice most when work is completed.[8]

Measures for which evidence is lacking or unclear

- Evidence is still unclear as to whether a warmer and better insulated home can improve the *physical* health of elderly people, although it has proven benefits for their *mental* health and wellbeing.
- Evidence is lacking regarding how we can best persuade people who can afford it to invest in protecting their homes from cold and damp.
- Some of the most vulnerable members of our society, who may be eligible for a fully subsidised upgrade of their heating and insulation systems, are unwilling to accept what they see as 'charity'. They may also be unwilling to face the disruption of a home improvement. We do not have sufficient understanding of how to make a heating and insulation upgrade both tolerable and desirable for them.

What can we do?

Key actions for health improvement

Making sure people are protected from cold involves actions in housing and in energy policy in order to shield the most vulnerable.

Where people can afford it, programmes which provide them with easy and fair ways of getting better heating and insulation installed are important

Communities in partnership with statutory agencies

The Warm Homes Scheme is delivered in partnership with many agencies throughout Northern Ireland. These include the Public Health Agency, District and Borough Councils, and other statutory, community and voluntary sector bodies. Together, these agencies can combine what is on offer through the Warm Homes Scheme with a range of additional services. These include

- giving people practical energy advice;
- providing people with information on savings schemes that can make heating seem more affordable, such as the oil stamp scheme and the pay as you go scheme for gas heating systems;
- giving information about how to cope with cold weather both inside the home and outside.

Many agencies also arrange benefit entitlement checks for individuals and families.

Health education, research and information

Northern Ireland remains a region of the world where cold weather causes more than the average number of health problems. Health education can help tackle this inequity by encouraging people to:

- check on elderly relatives or friends in cold weather;
- check room temperatures regularly to ensure they remain in the 'safe' band (usually 21°C in living rooms and 18°C in all other rooms);
- Talk with older and more vulnerable relatives about home improvements that can benefit their health and wellbeing.

Continued research and monitoring of home heating and insulation schemes is also vital.

The media has an important role in reporting annual statistics on winter deaths and in supporting campaigns which reinforce the public health message that **cold kills**.

In addition, public health and information campaigns make sure that people are regularly informed and reminded of the need to keep warm indoors and outdoors, especially at the start of the colder seasons.

References

A full list of references is available at: www.publichealth.hscni.net/publications/good-practice-guides

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