Advisors Toolkit
Factsheet No 7.a
Revised 26 July 2024

The Impact of Cold Temperatures on Health

A World Health Organisation (WHO) Report in 1985 established that there is a link between poor health and low indoor temperatures.

Some existing conditions can be affected badly by cold and others can be brought on as a result of prolonged exposure to the cold.

Respiratory disorders can be worsened by prolonged exposure to low indoor temperatures. People living in cold homes have an increased tendency to suffer colds, flu, bronchitis and pneumonia.

At temperatures below 12ºC blood tends to thicken, leading to an increase in blood pressure and increased risk of heart attack and stroke as the heart works harder to pump blood round the body.

Hypothermia is caused by longer-term exposure to the cold (though longer-term may only be a matter of a couple of hours). The chronically sick, disabled and those with lower mobility levels are particularly at risk from hypothermia.

In addition, cold conditions in a home can contribute to condensation dampness and mould growth. These have a detrimental effect on some allergies. Mould spores and dust mites in the air can cause allergic reactions, which in turn can cause problems for people with respiratory illnesses such as asthma.

In Britain, a cold spell during an otherwise mild winter can see the following depending on its duration:

- after two days a sudden rise in heart attacks, by up to a third;
- after five days there is a big rise in the number of strokes;
- twelve days into a cold spell there is a rise in respiratory illnesses.

Increased Winter Mortality

In most north European countries more people die in the four months from December to March than during the rest of the year.

There were 4,330 excess deaths in Scotland during the winter of 2020/21.

Coronavirus (COVID-19) was the underlying cause of nearly two-thirds (2,850) of the 4,330 ‘additional’ deaths in winter 2020/21

The full report can be found here:
https://www.nrscotland.gov.uk/files//statistics/winter-mortality/2021/winter-mortality-20-21-pub.pdf

There were 24,427 deaths registered in Scotland in the four months of winter 2022/23 (December 2022 to March 2023). This is 11 per cent higher than the previous winter and is the highest number in over thirty years. Winter 1989/90 had 25,497 deaths. • The seasonal increase in mortality of 4,137 for winter 2022/23 is considerably higher than the previous winter but lower than the recent winters of 2017/18 (4,813) and 2020/21 (4,329). Excess winter deaths in 2022/23 averaged 2800 in Scotland. (Winter Mortality Report Published Oct 2023).

The causes of death with the largest seasonal increases in winter 2022/23 were dementia and Alzheimer's disease (640 additional deaths), coronary (ischaemic) heart disease (490 additional deaths), chronic lower respiratory disease (400 additional deaths), influenza (340 additional deaths), coronavirus (COVID-19) (310 additional deaths) and, other circulatory system diseases and (270 additional deaths). Very few deaths are directly due to cold weather (e.g. hypothermia); in each full calendar year since 2019 there have been fewer than ten deaths from 'exposure to extreme natural cold'.

Winter cold kills 300 people per day (in the UK) on average, most of them elderly.

Contributing factors include low income, inefficient heating systems, external temperature fluctuations, and excessive dampness and mould growth associated with poor housing stock.

In Scotland we have long and damp winters which are worse for health.

Factors affecting excess winter mortality are varied and complex, but there is a strong relationship between thermal standards in housing and excess winter deaths.

The UK has much higher winter deaths rates than other countries with more severe winter climates, implying that it is not outdoor exposure to cold that is the key determinant.

It is generally accepted that the majority of excess winter deaths could be prevented if everyone could be kept warm in their homes during the winter months.

Asthma and damp homes

Children are more likely to stay asthmatic if they live in a damp home, according to new research.

A German study, published in the journal Thorax, has found that dampness - long associated with wheezing and coughing - is also a risk factor for asthma, partly because it helps the growth of the house dust mites which irritate asthmatics' airways.

Night-time wheezing and shortness of breath was strongly linked to dampness in the home.

- the UK has one of the highest rates of asthma symptoms in the world
- around 5.4 million people are currently receiving treatment for asthma in the UK – 1 in 11 people https://www.asthma.org.uk/support-us/campaigns/data-visualisations/#Prevalence
- the NHS spends £1 billion per year treating asthma
- on average, 3 people per day die from asthma. As many as 90% of asthma deaths are preventable