

Public Consultation

Climate Change Adaptation Plan for the Health Sector

Consultation closes 25th August 2019

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Introduction

Climate change is a globally pervasive phenomenon that represents a significant threat to human health. Climate changes observed in Ireland to date include a change in rainfall patterns, extremes of weather and an increase in average temperatures.

Models and simulations, including by Met Éireann and the Irish Centre for High End Computing, project Ireland's future climate as less dependable and less stable, with more frequent and intense weather events. Projections show an average increase in temperature of about 1.5 degrees by mid-century, with increases of up to 2 degrees in summer days and up to 3 degrees in winter nights. We can expect wetter winters (especially in the West), drier summers (especially in the South East), warmer winters and warmer summers, and more frequent heavy precipitation events during winter.

Climate change and health implications for Ireland

Six main climate scenarios with the most profound health implications have been identified as part of the present process and these are described in some detail below. Two of the six scenarios relate to longer term effects over time:

1. UV radiation from sun exposure and
2. air pollution

and four scenarios concern acute weather events:

3. windstorms
4. extreme heat and heatwaves
5. high precipitation and flooding and
6. cold snaps.

Without effective mitigation and adaptation action, climate change will have profound implications for the health and wellbeing of Ireland's population, for the smooth delivery of our health and social care services, and for critical infrastructure.

Even as we move towards being a low-carbon and environmentally sustainable country by 2050, we can expect that climate change will continue apace due to the impact of past and ongoing emissions. So effective adaptation planning and action will be imperative to protect the health and wellbeing of Irish people.

Development of a Plan for Ireland's Health Sector, 2019 – 2024

This first Climate Change Adaptation Plan for the Health Sector is currently being developed in line with the Climate Action and Low Carbon Development Act 2015 and the National Adaptation Framework.

The intention is that this plan will describe the main climate change-related risks and vulnerabilities we expect to face in the health sector in the next five years, and propose concrete, cost-effective adaptation measures we can take to help reduce our vulnerabilities.

The plan is being developed in a collaborative way:

- a sectoral adaptation team comprising relevant staff from the Department of Health and the HSE was established to develop and draft the plan;
- the views and input of relevant stakeholders were gathered at a consultation event, and written feedback from these stakeholders on the draft plan will be invited;
- because many health-related risks of climate change can originate in other sectors and because health impact is such a cross-cutting feature of climate change action, broader input from all sectors will proactively be sought on the draft plan;
- we are now seeking the valued input of those with interest or expertise in the form of this public consultation exercise.

The plan is based on evidence:

- two separate reviews of national and international literature have been conducted on the scientific evidence relating to the health impacts of climate change;
- additional information was considered from consideration of past climate events, specifically learning from Ireland's emergency response to severe weather events over the last number of years;
- the sectoral adaptation team held workshops to conduct the core, detailed risk assessment of the health impacts of climate change. This public health risk assessment considered the likelihood of each scenario, based on observed and projected climate change, as well as the magnitude of the potential health impact, informed by the particular health vulnerabilities in Ireland relating to our geography, environmental influences on health, and health behaviours.

Six Climate Scenarios with profound health implications

UV / Sun Exposure

Climate change may result in people living in Ireland having increased exposure to ultraviolet radiation (UVR) due to higher levels of ambient UVR as well as due to changes in human behaviour including more time spent outdoors in the warmer weather. As most Irish people have fair skin we are particularly vulnerable to UV damage and at a higher risk of skin cancer. The potential magnitude of climate change compounding this pre-existing vulnerability makes UV a pressing concern that has already arrived. Skin cancer is the most common form of cancer in Ireland and it is increasing rapidly. Currently over 11,000 cases of skin cancer are diagnosed each year, including over 1,000 people diagnosed with melanoma – this is double the number of 10 years ago and is projected to more than double again by 2045.

Air pollution

Older adults, individuals with chronic disease, children and those in deprived communities living near busy roads are particularly vulnerable to the health impacts of poor air quality. Climate change is expected to aggravate existing health risks through weather-driven increases in air pollutants such as ozone and particulate matter (PM). The current magnitude of premature mortality from air pollution and the potential of climate change to exacerbate this makes this scenario a very serious risk. In Ireland, it is estimated that 1,050 premature deaths occurred in 2014 secondary to PM_{2.5} and 20 premature deaths occurred secondary to ozone. Climate change impacts on aeroallergens such as the earlier onset in the pollen season

in the northern hemisphere - by about 15 days over the last three decades - which has likely had an impact on the patterns of allergenic disease caused by pollen.

Windstorms

Immediate and visible climate change-related risks to Ireland are in the form of extreme weather events. We have experience of events in the recent past such as Storm Ophelia in 2017 when three people died, there was significant disruption in road infrastructure and power, and in the health service there was widespread disruption to outpatient services, hospital procedures and discharges. While deaths directly attributable to such events may be low (not least because of the effective national adaptation action of the population staying at home), the extent of injuries or illness and the health impacts of rescheduling elective procedures are not currently measured or assessed.

Heat / Heatwaves

While warmer weather may reduce the risk of cold-related illness and may potentially improve wellbeing and physical activity levels, extreme heat and heatwaves are also projected to increase in frequency. Extreme heat can cause heat exhaustion and heat stroke as well as aggravate pre-existing health conditions such as cardiovascular, respiratory and neurological disorders. Significant increases in Ireland's elderly population and a projected rise in the numbers living with chronic disease will amplify the health impact of more frequent extreme heat, which will place additional burden and higher utilisation of healthcare services. Most significantly, heat waves are responsible for excess deaths every year. 70,000 premature deaths were attributed to the particularly extreme heatwave across Europe in 2003. A recent study attributed 294 excess deaths to heatwaves in Ireland over the last three decades.

High Precipitation / Flooding

Ireland has experienced an increase in annual national rainfall (60mm) in recent decades, especially in the west of Ireland. Climate change projections foresee a possible notable increase in the frequency of heavy rainfall events for winter and autumn by mid-century. At the same time, Irish sea levels are expected to rise in all coastal areas by up to 0.8 metres by the year 2100.

Flooding has direct health impacts, through drownings or injury. Over 1,000 people in Europe are estimated to have lost their lives due to flooding in the past decade by drowning, heart attacks, hypothermia and trauma. There are also indirect health effects from flooding including impacts arising from damage to infrastructure; injuries during the clean-up phase following a flood (such as carbon monoxide poisoning from generators or other pumping equipment); risks from chemical contamination of water due to overloaded sewers, storm water floods and landfill sites; and possible negative impacts on short- and long-term mental health from the loss of personal belongings, potential loss of livelihood or from displacement.

There has been an observed increase in waterborne diseases such as leptospirosis in the aftermath of heavy flooding in European countries in recent decades. While outbreaks of infectious disease due to flooding are rare, private wells compromised by flood damage potentially could lead to an increase in water-borne illness. Verotoxigenic E. Coli (VTEC) outbreaks have consistently been associated with private wells in Ireland, where approximately 720,000 people obtain their drinking water from a private supply.

Flooding can also cause damage to healthcare infrastructure, a loss in electrical power, and can limit access to healthcare services. An example is the flooding at Letterkenny General Hospital in July 2014 where the hospital lost a reported 40% of its capacity causing significant disruption to healthcare service provision to the region, cancellation of surgeries and damage to medical records.

Population groups most vulnerable to the health effects of floods include the elderly, children, pregnant women, people with disabilities, farmers, tourists, members of ethnic minority groups and people who are homeless.

Extreme cold snaps

The island of Ireland has the highest levels of excess winter deaths in Europe with up to 2,800 excess deaths every winter (excess winter deaths are the number of deaths that take place during winter months compared with the rest of the year). While climate change projections see an increase in temperature and generally warmer winters that may reduce the risk of cold-related illness, significant health impacts and risks will continue from cold snaps and more frequent heavy precipitation events during winter (including snow, sleet or hail).

Evidence links sharp drops in temperature with higher rates of death and cardiovascular disease, while pneumonia, hypothermia and respiratory difficulties are among the other health impacts of severe winter weather. Older adults and people living in poorer communities are far more likely to be hospitalised due to the effects of cold weather. Winter 2018 saw some of the greatest snowfalls since 1982, together with extreme cold and blizzard-like conditions from Storm Emma coming from the Atlantic and the 'Beast from the East'. Met Éireann issued its first-ever Status Red warning for snow nationwide, with snowfalls leading to severe disruption for a prolonged period.

Adaptation Planning and Action

Climate change adaptation planning and action is an iterative process. The final Adaptation Plan will undoubtedly evolve over the coming years as our understanding improves, as the evidence base on climate impacts increases, and as additional appropriate actions are considered to manage health risks and impacts. A sectoral team will continue to collaborate to monitor and review implementation of the plan, including any unintended consequences which may arise.

Because many health-related risks of climate change can originate in other sectors - for example the impact of water quality on public health, or power or transport disruption during severe weather events affecting delivery of health services – and because adaptation and mitigation measures taken in other sectors can themselves have implications for public health, health impact should be considered a cross-cutting issue for climate change action in all sectors, and health sector adaptation in turn must be cognisant of adaptation measures in other sectors.

At this juncture, adaptation planning and action in the health sector falls into three main categories:

- population health and wellbeing: Ireland’s healthcare system will need to prevent avoidable illness where possible and, where this is not possible, be prepared for different volumes and patterns of demand.
- service continuity during acute events: effective emergency planning and preparedness will be essential to ensure operational continuity and service delivery during severe weather events.
- infrastructure resilience to severe weather: the system infrastructure including buildings, communications, emergency service vehicles and models of care, together with the supply chain including fuel, food and medical supplies, will need to be made more resilient to more frequent severe weather events and other impacts of climate change.

Adaptation actions to ensure service continuity and infrastructure resilience to extreme weather events relate to the four acute event scenarios: windstorms, extreme heat and heatwaves, high precipitation and flooding, and extreme cold snaps. Measures to ensure population health and wellbeing are relevant to all six climate scenarios.

Examples of Possible Adaptation Actions

This table includes some examples of possible adaptation actions, to cover the entire health sector or targeted at specific climate scenarios:

Category	Climate Scenario	Sample of some examples of possible Adaptation Actions
Sector-wide action	All scenarios	<p>Examples of sector-wide adaptation actions:</p> <ul style="list-style-type: none"> • Continue to advocate a Health in All Policies approach towards the prevention of avoidable health impacts, in acknowledging the wider determinants of health that arise outside the health sector • Ongoing public health risk assessment to encourage adaptation actions in health and other sectors based on health risk - this requires epidemiology, surveillance, research and learning about new health risks as they arise, e.g. during severe weather events • Public Awareness Campaigns, including through the media and social media, to encourage behavioural change and promote community engagement in adaptation action • Emergency management planning: develop and disseminate a severe weather plan to include windstorms, flooding, heatwaves and cold snaps • Surveys of health infrastructure to confirm appropriate levels of resilience • Monitor mental health effects of severe weather events • Update risk registers for vulnerable people and patients and prioritise continuity of care during severe weather events

		<ul style="list-style-type: none"> • Define data requirements to effectively monitor climate change impacts and adaptation actions
Longer Term Changes	UV / Sun Exposure	<ul style="list-style-type: none"> • Full implementation of recently launched National Skin Cancer Prevention Plan • Public education campaigns to highlight risks, targeting the elderly, children and those working outdoors • Stronger building regulations for temperature control within buildings and shading from UV
	Air Pollution	<ul style="list-style-type: none"> • Broader public education for vulnerable populations on the use of the EPA's Air Quality Index for Health • Research and monitor the impact of poor air quality on the health of the Irish population
Acute / Intense Events	Windstorms	<ul style="list-style-type: none"> • Health sector-wide emergency planning • Develop a communications strategy for acute events • Survey infrastructure for resilience including consideration of dependencies
	Heat and Heatwaves	<ul style="list-style-type: none"> • Develop a Heatwave Plan • Temperature monitoring within healthcare facilities • Survey infrastructure for heat resilience, adapt infrastructure to safe temperature ranges • Develop a Summer Ready Plan (to mirror the Winter Ready Plan)
	High Precipitation / Flooding	<ul style="list-style-type: none"> • Survey infrastructure for risk of flooding • Specific public health risk assessment relating to flooding events, including infectious disease and mental health risks • Public education and preparedness
	Cold Snaps	<ul style="list-style-type: none"> • Alert public to the risk of carbon monoxide poisoning

Public consultation

Your views are now sought, will be very welcome and will be considered carefully. Addressing climate change is a national challenge, and the need to protect your health and wellbeing from climate change, and the health and wellbeing of your family and friends, makes this consultation exercise relevant to the everyone.

To make a submission as part of this public consultation please send your submissions to CCAP@health.gov.ie before the deadline of 25th August 2019.

Alternatively, post your submissions to:
Climate Change Adaptation Plan Public Consultation
Department of Health (Room 417),
Miesian Plaza, 50-58 Lower Baggot St,
Dublin 2 D02 XW14

In particular we would welcome your views on the following:

- (1) Do the six climate scenarios identified represent the highest priority concerns and risks?
- (2) Are there climate change-related risks or vulnerabilities that do not feature and should be included, and why
- (3) Do you have additional suggestions for concrete and cost-effective adaptation actions?

Personal, confidential or commercially sensitive information should **not** be included in your submission. All submissions will be subject to Freedom of Information and to Data Protection legislation. Submissions may be made available on the Department's website.

Department of Health
22 July 2019