

Embedding Sustainability across our **Health Service**





Current context: the threat posed by **climate change**

Climate change is considered the biggest global challenge of our generation. Currently, we are witnessing more frequent and extreme variations in weather, with changes in rainfall patterns contributing to rising sea levels and next year forecast to be one of the hottest on record.¹ Research conducted by the Environmental Protection Agency and Met Éireann indicates that average temperatures have increased, in parallel with global trends by 0.8°C in Ireland since 1900. By 2050, average annual temperatures worldwide are expected to increase approximately by 1-1.6°C depending on carbon emission trajectories^{2, 3}.

While some countries have set ambitious emission reduction targets, many are not on course to achieve their national climate action plans.

According to António Guterres, the United Nations Secretary-General, several countries are “falling woefully short” and “are moving in the wrong direction”⁴. Moreover, the scale of the costs associated with implementing measures to combat climate threats continue to exceed the funding available^{5, 6}. Between 1980 and 2021, total economic losses from weather and climate related events within European Union Member States amounted to €560 billion.

As the majority of climate adaptation costs are supported by public funding, careful examination of the total investment and the essential resources required is needed to prevent further economic losses. Thus, highlighting the need for swift and collective action. Guterres also emphasises that there is an onus on leaders of governments and businesses to take “new, tangible and credible climate action” which results in an “accelerated pace of change,” and effectively confronts the “existential threat” presented by the climate crisis.

1 PA Media (2022).

2 EPA (2022).

3 Met Éireann (2022).

4 Carrington (2022).

5 The New Humanitarian (2022).

6 United Nations (2022).



The Impacts of climate Change on **Human Health**

Some of the biggest hazards for human health are directly associated with climate change. These “hazards” can be grouped into two distinct categories namely: direct and indirect exposures.

Direct exposures include:

- Heat-related conditions and deaths caused by sunstroke;
- Floods and storms (drowning), hypothermia, injuries and infectious diseases;
- Mental Health (anxiety and depression); and
- Ultraviolet radiation resulting in an increase in melanoma and non-melanoma skin cancers, and damage to the eyes (e.g. ocular cataracts causing loss of vision).

Indirect exposures include:

- Water quality (e.g. cholera and cryptosporidiosis due to bacterial and parasitic water borne infections);
- Air quality (asthma and chronic bronchitis);
- Change in land use;
- Ecological change;
- Weather-related property damage; and
- Homelessness and migration.^{7, 8, 9, 10}

Worldwide, it has been estimated that climate change accounts for approximately 150,000 deaths each year¹¹. However, the World Health Organisation suggests that the number of deaths due to climate change is likely to increase to 250,000 each year between 2030 and 2050¹².

7 MetOffice (2023).

8 Department of Health (2019).

9 Munich Re (2023)

10 Bezgrebelna et al. (2021).

11 Sherman, J, et al. (2020).

12 WHO (2021).



Government response

The impact of climate change is well recognised within Irish society and across the economy. Legally binding targets and commitments have been agreed upon nationally, at a pan-European level, and internationally. Within Ireland, domestic legislation surrounding climate action was first approved with the introduction of the **Climate Action and Low Carbon Development Act** (2015), which was subsequently amended in 2021¹³.

The revised **Climate Action and Low Carbon Development Act** (2021) outlines several government initiatives that are designed to achieve a climate-resilient and carbon-neutral economy¹⁴. The Government's "Our Shared Future Plan" and the "Climate Action Plan 2021" include details of plans to achieve a 51% reduction in greenhouse gas (GHG) emissions by 2030, with an overarching goal of having net zero emissions by 2050^{15, 16}.

The more recent **Climate Action Plan 2023** includes detailed economy-wide carbon budgets and sectoral emission ceilings. A 51% carbon emission reduction target has been set for all public sector buildings, inclusive of hospitals (and other healthcare settings), to reduce transport, waste and energy usage compared with the 2016-2018 baseline figures.

Project Ireland 2040 and Phase 2 of the revised **National Development Plan 2021-2030** include programmes designed to ensure widespread improvement across Ireland's economic, social, and environmental initiatives^{17, 18}. In particular, Phase 2 of the **National Development Plan** outlines in detail the long-term sustainable practices which all public sector organisations, including the HSE, are strongly encouraged to follow.

Climate change is considered the biggest global challenge of our generation.

¹³ ISB (2015).

¹⁴ ISB (2021).

¹⁵ Department of the Taoiseach (2020).

¹⁶ Department of the Environment, Climate and Communications (2021).

¹⁷ Department of Public Expenditure and Reform (2021a).

¹⁸ Department of Public Expenditure and Reform (2021b).



The **environmental impact** of the healthcare system

Ironically, the current healthcare system produces a significant amount of air pollutants that are hazardous to human health^{19, 20, 21}. As many healthcare services are critical and must remain operational at all times, they use tremendous amounts of energy. Hospitals consume the second-highest amount of energy per square foot, as indicated by data collected in a retrospective cross-sectoral industry research study^{22, 23}.



Food wastage is estimated to cost healthcare facilities in excess of €11 million per year.



One-third of **healthcare risk waste** is incorrectly disposed of. This should otherwise be placed in either recyclable or general waste.



In acute settings, approximately 32% of **non-hazardous waste**, was found to be recyclable, potentially costing hospitals in excess €7,500 per year.



The HSE is estimated to spend approximately €10 million annually on **water** across its 2,500 sites²⁴.

19 Eckelman and Sherman (2016).

20 Eckelman and Sherman (2018).

21 Malik et al. (2018).

22 Bawaneh et al. (2019).

23 Liu et al. (2022).

24 Green Healthcare (2020). Available at <https://greenhealthcare.ie/topics/>

Recent improvements to healthcare facilities in Ireland have included ‘green retrofitting’ of buildings contributing to a reduction in GHG emissions and improved indoor environmental air quality. International healthcare organisations now consider sustainability as an indicator of the quality of care provided and as an operational objective. The HSE has pledged to reduce energy consumption and simultaneously prioritise sustainable efforts, in the following eight areas²⁵.

-  Climate Change and Health
-  Energy Efficiency
-  Water Conservation
-  Waste Prevention
-  Climate Change and Health
-  Sustainable Transport
-  Green Procurement
-  Designing the Built Environment

Additional investment is required to establish an effective long-term patient-centred sustainable health service in Ireland. Areas, which have been identified as having scope for targeted sustainable development, include equipment, infrastructure, operations, and IT²⁶. Existing resources and future improvements within these areas must be harnessed to achieve the desired future state.

The cumulative achievement of sustainability targets within healthcare organisations will be reliant on the day-to-day actions of individuals on the ground. Therefore, a cultural shift towards incorporating more sustainable behaviours is required. Increasing capital expenditure in sustainable initiatives will result in improvements in the environment for both

employees and patients alike. Hence, proactive approaches are required to achieve these goals.

A systemic change within healthcare is required to help Ireland deliver upon its climate action commitments and to secure the development of a robust healthcare system for generations to come.²⁷ Despite different services competing for additional funding, and the current financial constraints, implementing energy efficiency programmes and waste reduction measures will enable individual hospitals to make significant cost savings.

A systemic change within healthcare is required.

²⁵ Sustainability Strategy for Health, (2017).
²⁶ Department of the Environment, Climate and Communications (2021).
²⁷ Ergin and Tekce (2020).



Enhanced sustainability efforts within healthcare settings will:

Ensure a positive impact on patient care

Recent advances in digital technology have helped to revolutionise diagnosis, monitoring and evaluation of treatment resulting in more streamlined care pathways. The use of genetic phenotyping can facilitate more targeted, patient-specific drug treatments, and minimise waste of ineffective drugs. Moreover, recognition of the environmental impact of certain drugs and gases has led to their replacement by more environmentally friendly alternatives²⁸.

Recently international healthcare providers, have ceased using drugs such as ‘desflurane’ due to its global warming potential 2500 times higher than carbon dioxide²⁹. Additionally, educating patients on the correct use of inhalers, such as those that are typically used for optimising asthma control, to use of more effective “spacer-devices”, or switch where possible to dry powder inhalers can collectively reduce GHG emissions³⁰.

Improve administration and workflow performance

Successful integration of digital solutions will enhance workflow performance and administrative processes, thereby facilitating faster multidisciplinary team (MDT) decision-making. The use of electronic patient records can also help to minimise medication administration errors and ensure patient safety. By going ‘paperless’ more than one member of the MDT can review patients’ notes resulting in a more efficient patient management and workflow system.

28 Lancet Editorial (2023).

29 Mudasad (2023).

30 Lancet Editorial (2023)

Support compliance with environmental, social, and governance (ESG) requirements

Compliance with national and international standards is vital to achieving sustainable and environmental reform in healthcare. Implementation of emerging environmental initiatives will facilitate the performance of a more environmentally friendly health service³¹. Adherence to these standards will also help to mitigate the risks of future fines for failure to meet the agreed targets.

Fundamentally, the development of a sustainable healthcare system in Ireland that is capable of meeting the needs of a growing population for decades to come, will require a joint consensus between the government and national healthcare organisations. Successful delivery of the objectives outlined in Project Ireland 2040, and Phase 2 of the revised National Development Plan 2021-2030, will be reliant on Ireland having the necessary structures, processes, and resources in place.

Through an enhanced commitment and greater awareness from patients and staff, effective implementation of environmentally friendly day-to-day practices will be key to ensuring a long-term sustainable healthcare service. Hence, healthcare organisations must fulfil their duty, to support the generation, maintenance and future-proofing of an effective waste-reducing-circular economy. As António Guterres states: “we must not retreat, we must fight back”³².

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³¹ EPA (2023).

³² Carrington (2022).



Contact us

At Grant Thornton, we can meet with you to discuss tailored approaches that meet the needs of your healthcare organisation. We will work with you, to implement effective 'environmentally friendly solutions' that result in cost savings and contribute towards the achievement of a long-term sustainable health service. Please contact a member of our team if you would like to discuss your options further.



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