epa Research

Toolkit for the proportionate and consistent consideration of health in Strategic Environmental Assessment (SEA)

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Rialtas na hÉireann
Government of Ireland

Environmental Protection Agency

The EPA is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

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- Publish Ireland's greenhouse gas emission inventories and projections
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2. Office of Environmental Enforcement
3. Office of Evidence and Assessment
4. Office of Radiation Protection and Environmental Monitoring
5. Office of Communications and Corporate Services

The EPA is assisted by advisory committees who meet regularly to discuss issues of concern and provide advice to the Board.

EPA RESEARCH PROGRAMME 2021–2030

Toolkit for the proportionate and consistent consideration of health in Strategic Environmental Assessment (SEA)

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Pro-Health SEA

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by
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1. Executive Summary

Strategic Environmental Assessment (SEA), a mandatory requirement under European Union Directive 2001/42/EC and its transposition into Irish Regulations, is a framework for the formal, systematic evaluation of the likely significant environmental effects of implementing a plan or programme, to ensure the integration of environmental considerations into decisions. It identifies likely significant effects on a range of environmental topics and the interrelationship among these. Importantly, it requires the consideration of the likely significant effects on human health.

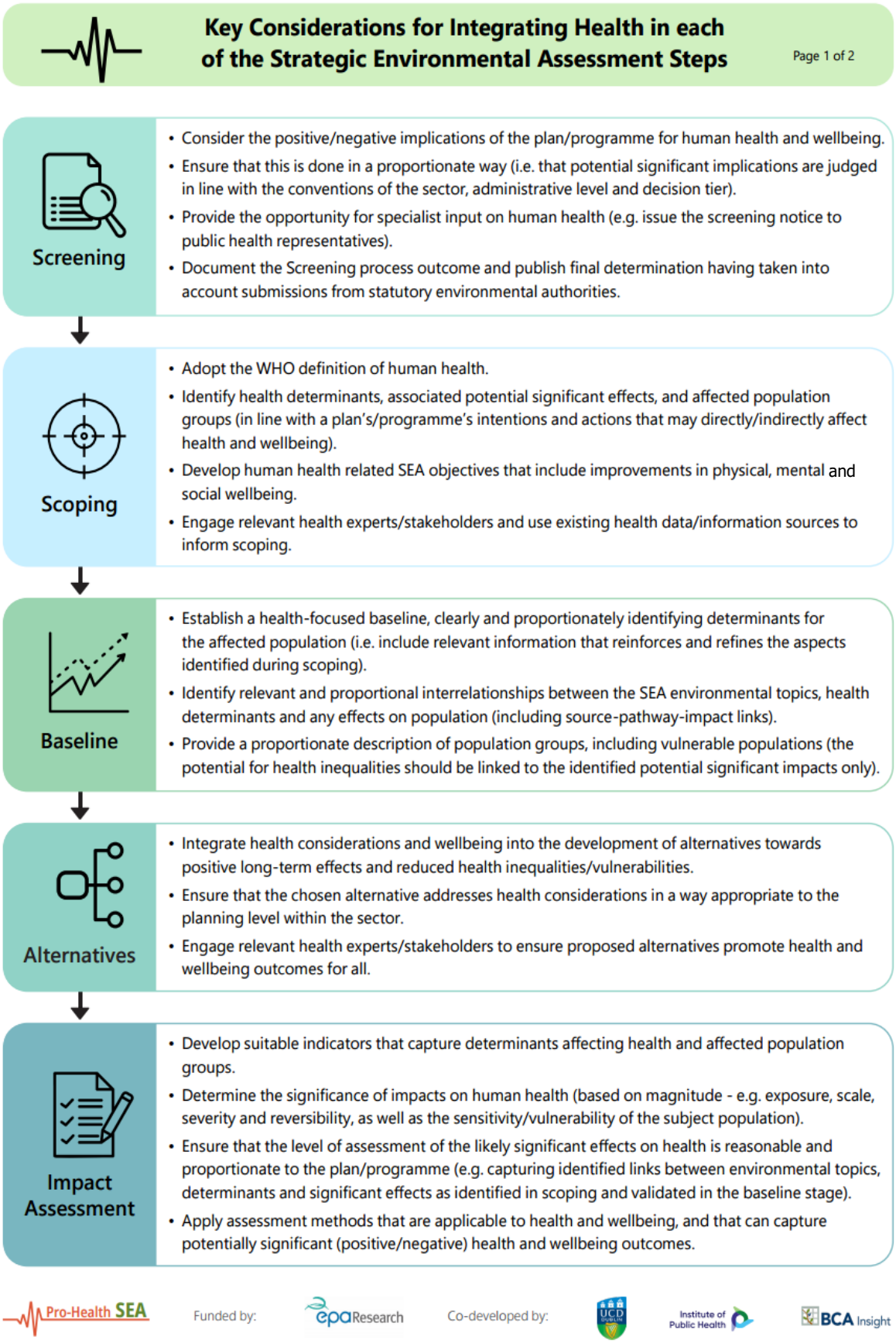
The World Health Organization (WHO) defines health as 'a state of complete physical, mental, and social wellbeing, and not merely the absence of disease or infirmity' (WHO, 1946, p. 1). This definition forms the foundation for public health policy in Ireland (i.e. the Healthy Ireland Framework). Social, economic and environmental factors play an important role in determining individual and population health. These factors are known as 'determinants of health'. Changes in 'determinants of health' lead to changes in 'health outcomes'. Health effects and outcomes manifest differently for different individuals and populations, given differing exposures to health determinants and sensitivities to change. Therefore, considering health equity or (in)equality in SEA is key. The EPA recommendations and resources for the SEA of land-use plans specifically note that 'in addressing human health and quality of life, the plan should consider the socioeconomic status of the population within the plan area and in particular should consider any socioeconomic inequalities. This is important to ensure that the plan does not exacerbate any existing inequalities and ideally promotes and supports the balancing of existing socioeconomic inequalities' (EPA, 2025, p. 14).

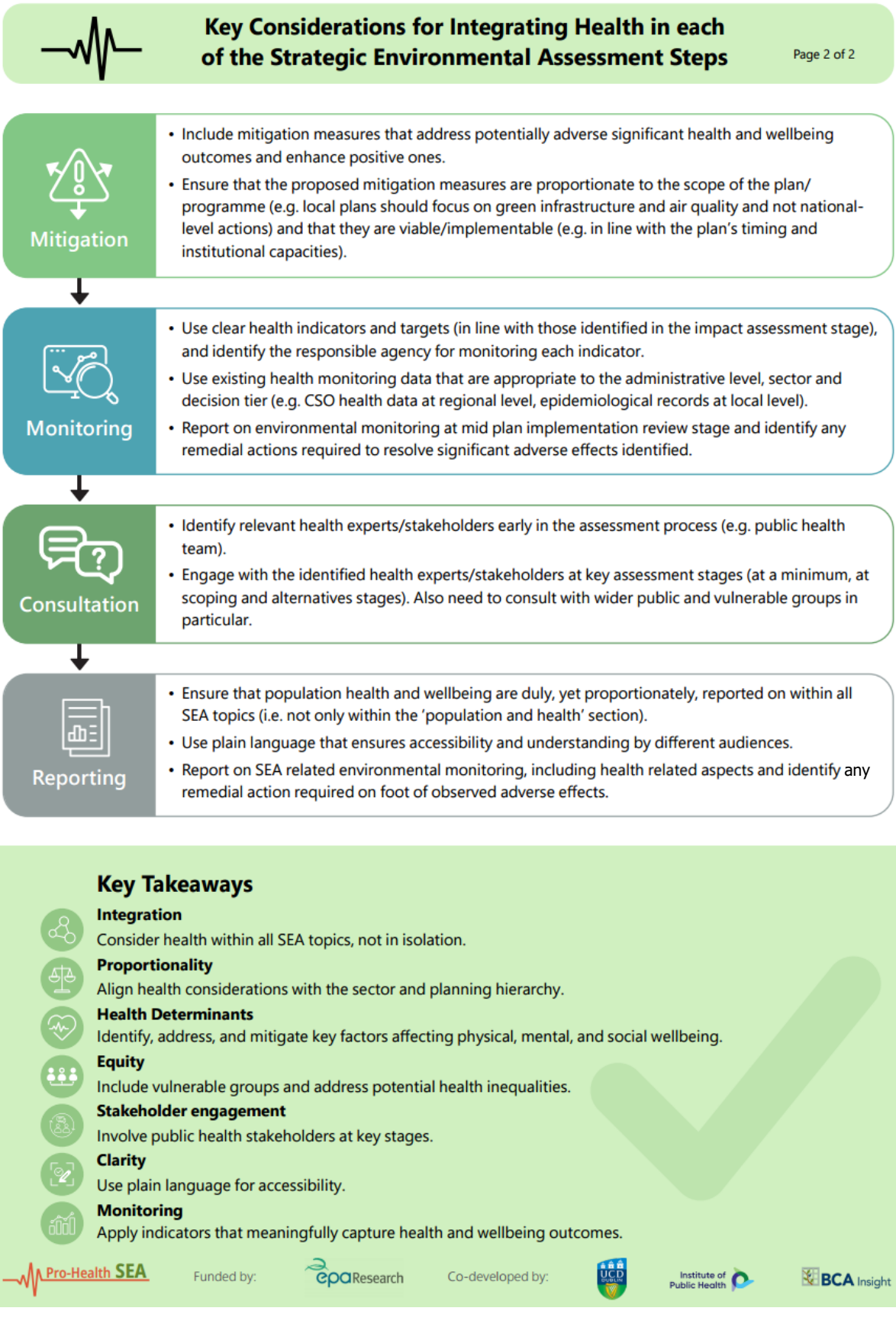
A proportionate approach to the assessment of significant impacts is imperative for SEA effectiveness. Proportionality means ensuring that assessment scope and detail are balanced with the issues being considered in the plan or programme. Thus, a proportionate consideration of health in SEA includes: focusing on whether the potential impacts are likely to be significant (i.e. during SEA scoping); aligning it to the relevant planning tier at which SEA is prepared (ensuring that significant health effects are addressed at the appropriate administrative level); applying existing baseline data (on existing health determinants and outcomes, patterns and trends); developing health-inclusive alternatives (e.g. identifying plan/programme changes to tackle adverse health effects and to enhance potential health benefits); and consulting stakeholders (to both enhance the evidence base and secure commitment to these changes and other SEA recommendations). In the consideration of the above aspects, it is important to duly consider all population groups, vulnerable groups in particular, and transboundary effects.

This Toolkit provides procedural and methodological recommendations for the proportionate consideration of human health, including both physical and mental health, in SEA. It is designed to provide options for the SEA practitioner in a 'pick and choose' format to customise the Toolkit for the subject plan or programme.

Figure 1 summarises the key good-practice recommendations for consistently and proportionately considering health at each SEA stage.

Figure 1. Summary of key good-practice recommendations for consistently and proportionately considering health at each SEA stage.




Key Considerations for Integrating Health in each of the Strategic Environmental Assessment Steps
Page 2 of 2
Mitigation
• Include mitigation measures that address potentially adverse significant health and wellbeing outcomes and enhance positive ones.
• Ensure that the proposed mitigation measures are proportionate to the scope of the plan/ programme (e.g. local plans should focus on green infrastructure and air quality and not national-level actions) and that they are viable/implementable (e.g. in line with the plan's timing and institutional capacities).
Monitoring
• Use clear health indicators and targets (in line with those identified in the impact assessment stage), and identify the responsible agency for monitoring each indicator.
• Use existing health monitoring data that are appropriate to the administrative level, sector and decision tier (e.g. CSO health data at regional level, epidemiological records at local level).
• Report on environmental monitoring at mid plan implementation review stage and identify any remedial actions required to resolve significant adverse effects identified.
Consultation
• Identify relevant health experts/stakeholders early in the assessment process (e.g. public health team).
• Engage with the identified health experts/stakeholders at key assessment stages (at a minimum, at scoping and alternatives stages). Also need to consult with wider public and vulnerable groups in particular.
Reporting
• Ensure that population health and wellbeing are duly, yet proportionately, reported on within all SEA topics (i.e. not only within the 'population and health' section).
• Use plain language that ensures accessibility and understanding by different audiences.
• Report on SEA related environmental monitoring, including health related aspects and identify any remedial action required on foot of observed adverse effects.
Key Takeaways
Integration
Consider health within all SEA topics, not in isolation.
Proportionality
Align health considerations with the sector and planning hierarchy.
Health Determinants
Identify, address, and mitigate key factors affecting physical, mental, and social wellbeing.
Equity
Include vulnerable groups and address potential health inequalities.
Stakeholder engagement
Involve public health stakeholders at key stages.
Clarity
Use plain language for accessibility.
Monitoring
Apply indicators that meaningfully capture health and wellbeing outcomes.
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BCA Insight

2. Introduction

2.1. Scope and purpose of the Toolkit

This Toolkit provides procedural and methodological recommendations for the proportionate consideration of human health, including both physical and mental health, in Strategic Environmental Assessment (SEA). It is designed to provide options for the SEA practitioner in a 'pick and choose' format to customise the Toolkit for the subject plan or programme.

It includes a conceptual model, legal frameworks, definitions, practical step-by-step recommendations, case studies, sample indicators and working templates. The advice provided is not statutory; rather, it represents good practice with the objective of contributing to better environmental and public health outcomes through SEA.

The Toolkit responds to key commitments in the National SEA Action Plan 2021–2025 (EPA, 2020) and focuses on improving SEA effectiveness in Ireland. It is based on the requirements of the European SEA Directive 2001/42/EC (EC, 2001) and, therefore, many of the recommendations may be transferable and applicable to other European Union member states.

2.2. Who is it for?

This Toolkit aims to improve public and stakeholder awareness and support the work of those involved in SEA practice in Ireland, including:

- Competent authorities, such as national, regional and local policy-making and plan-making authorities;
- Decision-makers and elected members;
- Environmental authorities and regulatory body professionals;
- Public health professionals and other stakeholders (see Appendix H for some examples); and
- SEA practitioners and, through tiering, Environmental Impact Assessment (EIA) practitioners.

2.3. How was it developed?

The Toolkit draws on evidence from relevant academic and professional literature, international case studies and expert consultations. The methodology informing the development of the Toolkit included a systematic review of policy, guidance and research, resulting in an analysis of good practices in the consideration of health in SEA from around the world, and engagement with health and SEA professionals and researchers through international surveys and workshops. Input from a project Steering Committee helped fine-tune its content. This approach has ensured that the Toolkit is

informed by both research and practice, and aims to provide clear and proportionate good practice recommendations for integrating health considerations into SEA.

3. Strategic Environmental Assessment and Other Assessment Tools

3.1. Strategic Environmental Assessment

Strategic Environmental Assessment (SEA) is a framework for the formal, systematic evaluation of the likely significant environmental effects of implementing a plan or programme (or, when applicable, a policy), before adoption. SEA aims to provide for a high level of protection of the environment as well as to contribute to the integration of environmental considerations into the preparation and adoption of plans, programmes and, when applicable, policies, with a view to promoting sustainable development (DHLGH, 2022). In the context of sustainable development towards positive health outcomes, the links between SEA and Sustainable Development Goal 3 on 'good health and wellbeing' are particularly relevant.

SEA identifies likely significant effects on a range of environmental topics and the interrelationships among these. Importantly, this includes the consideration of the likely significant effects on human health.

3.2. Policy framework for the consideration of human health in Strategic Environmental Assessment

3.2.1. UNECE SEA Protocol

The Protocol on SEA ('SEA Protocol' from here on) to the Convention on Environmental Impact Assessment in a Transboundary Context (UN, 1991) was adopted on 21 May 2003 (UNECE, 2003). Ireland is a signatory to it but has not yet ratified it, so it is not directly bound by it. The European Union approved the Protocol on 12 November 2008, stating that 'The European Community is responsible for the performance of those obligations resulting from the Protocol which are covered by Community law', i.e. EU legislation. The Protocol explicitly includes health, and mentions this every time reference is made to environmental considerations. For example, Article 1 outlines member states' responsibilities:

> *The objective of this Protocol is to provide for a high level of protection of the* ***environment, including health****, by*
>
> *(a) Ensuring that* ***environmental, including health****, considerations are thoroughly taken into account in the development of plans and programmes and, to the extent appropriate, policies and legislation;*
>
> *(b) Contributing to the consideration of* ***environmental, including health****, concerns in the preparation of policies and legislation [emphasis added].*

Article 2 of the SEA Protocol defines terms used within the Protocol, for example:

> *6. 'Strategic environmental assessment' means the evaluation of the likely environmental, including health, effects, which comprises the determination of the scope of an environmental report and its preparation, the carrying-out of public participation and consultations, and the taking into account of the environmental report and the results of the public participation and consultations in a plan or programme.*
>
> *7. 'Environmental, including health, effect' means any effect on the environment, including human health, flora, fauna, biodiversity, soil, climate, air, water, landscape, natural sites, material assets, cultural heritage and the interaction among these factors.*

In addition, Article 9 concerns consultation with environmental and health authorities and paragraph 1 requires parties to the Protocol to designate the authorities to be consulted. The Protocol also emphasises the importance of protecting and improving the health and wellbeing of present and future generations as integral components of SEA, aligning with initiatives led by the WHO.

3.2.2. European Union SEA Directive

The requirement to consider human health in SEA is established by European Union Directive 2001/42/EC (EC, 2001) on the assessment of the effects of certain plans and programmes on the environment. This is also known as the 'SEA Directive'. The Directive's requirements are compatible with the requirements under the SEA Protocol (see section 3.2.1).

Annex I of the SEA Directive sets out the information to be provided in the Environmental Report. Point (f) sets out what likely significant effects should be considered:

> *(f) the likely significant effects on the environment, including on issues such as biodiversity, population, **human health**, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape **and the interrelationship between the above factors** [emphasis added].*

Point (g) establishes that the Environmental Report should also set out:

> *(g) the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme.*

The SEA Directive contributes to the provisions concerning environmental actions in the Treaty on the Functioning of the European Union (EC, 2008). Paragraph 1 of the preamble to the SEA Directive cites Article 191 of this Treaty (EC, 2016):

> *1. Union policy on the environment shall contribute to pursuit of the following objectives:*
>
> - *preserving, protecting and improving the quality of the environment,*
> - ***protecting human health**,*

- *prudent and rational utilisation of natural resources, promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change [emphasis added].*

Article 10 of the SEA Directive also requires that significant environmental effects of the implementation of plans and programmes are monitored, in order to identify at an early stage unforeseen adverse effects and to be able to undertake appropriate remedial action. This also applies to significant health effects.

3.2.3. Transposition of the European SEA Directive to Ireland

The SEA Directive is transposed into Irish law by Statutory Instruments: S.I. No. 435 of 2004 (Government of Ireland, 2004a), amended by S.I. No. 200 of 2011 (Government of Ireland, 2011a), which implements the SEA Directive with regard to plans and programmes in specific sectors in Ireland, excluding land-use planning; and S.I. No. 436 of 2004 (Government of Ireland, 2004b), amended by S.I. No. 201 of 2011 (Government of Ireland, 2011b), which applies specifically to land-use planning and development.

Paragraphs (f) and (g) of S.I. No. 435 (Article 12) and S.I. No. 436 (Articles 13E, 13N, 14D, 15D and 179C) state that the information to be contained in an Environmental Report includes:

> *(f) the likely significant effects on the environment, including on issues such as biodiversity, population, **human health**, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors;*
>
> *(g) the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme, or modification to a plan or programme [emphasis added].*

Revised *SEA Guidelines for Regional Assemblies and Planning Authorities* (DHLGH, 2022) were issued under Section 28 of the Planning and Development Act 2000 (Government of Ireland, 2000), which requires that regard is given to these Guidelines.[1]

[1] Notwithstanding the phased replacement of the Planning and Development Act 2000 (as amended) with the Planning and Development Act, 2004, the current Section 28 Guidelines shall continue in force until they are replaced by a National Planning Statement (as per Section 27 of the Planning and Development Act 2024).

3.3. Links to other assessment tools

3.3.1. Health Impact Assessment

Health Impact Assessment (HIA) can be applied to policies, plans, programmes and projects. It focuses on the analysis of the potential impacts on the health and wellbeing of communities. HIA, as a standalone assessment, is not formally required in Ireland. There is no evidence to indicate the frequency with which HIAs are conducted. An HIA was conducted on the Core Strategy of the Cork City Development Plan (2022–2028) (O'Mullane et al., 2024).

When human health is given appropriate attention in an assessment, it will increase the overall value of the assessment. Increasing coverage of any given topic will also add to the volume of reporting and hence this toolkit focuses on proportionate approach to assessment. Recent non-statutory guidance and research on HIA and health in environmental assessment emphasises taking a proportionate approach to human health. In its guidance on HIA, the Institute of Public Health in Ireland (IPH) (Pyper et. al, 2021) covers HIA and health in environmental assessment at strategic (SEA) and project levels (EIA). The IPH states that an assessment can report on human health through a standalone HIA or through a health chapter within the SEA. It explains that the reporting of effects on human health may differ but that the principles (as per Winkler et al., 2021), the process (screening, scoping, etc.) and the approach (see below) are common across HIA and health in SEA. IPH summarises the approach as follows:

- Look at populations, as opposed to individuals;
- Make relevant links to changes in health outcomes;
- Consider effects on inequalities; and
- Keep the focus on those effects that are both likely and significant.

This Toolkit draws on relevant aspects of the IPH guidance, particularly in the context of HIA principles and approaches that are common to HIA and health in environmental assessment (e.g., screening and scoping for potential health effects).

3.3.2. Environmental Impact Assessment

The findings and recommendations of SEA are to inform Environmental Impact Assessments (EIAs) through tiering. EIA is the process of identifying, predicting, assessing and mitigating the biophysical, social and other relevant impacts of a development project before major decisions and commitments are made. The practice of EIA in Ireland (EPA, 2025) is governed by the EIA Directive 2011/92/EU as amended (EC, 2014), which governs the assessment of the environmental effects of public and private

projects. The Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (DHLGH, 2018) have a statutory basis and are complemented by the advisory Guidelines on the information to be contained in EIA Reports (EPA, 2022).

Both EIA and SEA consider impacts on human health and the environment, as required by the respective Directives. In the case of EIA, this is established through Article 3(1) of Directive 2011/92/EU as amended (EC, 2014). Both approaches analyse direct and indirect health effects, while SEA anticipates these effects at a strategic level, with EIA assessing them in the context of individual projects.

3.3.3. Appropriate Assessment

An Appropriate Assessment (AA) is a mandatory process under the European Union's Habitats Directive 92/43/EEC (EC, 1992), transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011 (DAHG, 2011) and through Part XAB of the Planning and Development Act 2000 (as amended), which specifically addresses the application of appropriate assessment to land-use plans and proposed developments requiring development consent. It is reflected in statutory provisions relating to planning, and supported by the Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities (DEHLG, 2010). AA evaluates the possible adverse effects of a plan or project (individually or in conjunction with others) on Special Areas of Conservation (SACs) – designated under the Habitats Directive, and Special Protection Areas (SPAs) – designated under the Birds Directive 79/409/EEC (EC, 2009). Together, SPAs and SACs are defined in the Habitats Directive as constituting the Natura 2000 network.

Although the sole focus of the Birds and Habitats Directives is on the conservation of habitats and species, Article 6(4) of the Habitats Directive makes specific provision for the prioritisation of human health over nature conservation using the clause for derogation 'in reasons of over-riding public interest', or the 'IROPI clause'. Furthermore, the application of the AA process overall may have indirect implications for, and act as a determinant of, human health and wellbeing. For example, the degradation of ecosystems can jeopardise essential ecosystem services such as water and air purification. In addition, it can lead to the loss and fragmentation of these habitats, which can increase vulnerability to extreme weather events and increase the risk of zoonoses, directly impacting public health.

3.3.4. Flood Risk Assessment

Strategic Flood Risk Assessment (SFRA) is an assessment of the risk of flooding associated with a particular plan or project, under the requirements of the EU Floods Directive 2007/60/EC (EC, 2007),

transposed into Irish law under S.I. No. 122 of 2010. The Floods Directive obliges EU member states to map risk areas and adopt management plans. SFRA identifies vulnerable areas, analyses possible causes and proposes measures to minimise impacts. In Ireland, SFRA is central to land-use planning, infrastructure construction and emergency management, enabling informed decisions on flood risks, impacts and mitigation. The Irish Flood Risk Management Guidelines (DEHLG, 2009) have a statutory basis in the planning legislation, so SFRAs are a requirement.

Flooding and the perceived risk of flooding can have serious impacts on the health and wellbeing of the population, including: water contamination and disease outbreaks; damage to urban infrastructure including water and waste water related, such as health and housing; risk of forced displacement of communities; and increased stress and mental health problems in advance of, during and following catastrophic events.

The SFRA process is often integrated with other environmental assessments, such as SEA (as SFRA), to help ensure that flood-related impacts on public health, infrastructure and vulnerable communities are duly considered in plan- and decision-making.

4. Addressing Human Health in SEA

This section outlines **definitions and concepts** of health that underpin this Toolkit. These definitions reflect Irish policy, international standards and their adaptation to specific socio-economic and regulatory contexts, which provide the framework to the consistent and proportionate consideration of health in SEA.

4.1. Defining health for SEA

Health is 'a state of complete physical, mental, and social wellbeing, and not merely the absence of disease or infirmity' (WHO, 1946). This definition forms the foundation for public health policy in Ireland – the Healthy Ireland Framework (Department of Health, 2019).

Social, economic and environmental factors play an important role in determining individual and population health (see Figure 2). These factors are known as 'determinants' of health. Changes in 'determinants of health' lead to changes in 'health outcomes'. Health effects and outcomes manifest differently for different individuals and populations, given differing exposures to health determinants and sensitivities to change. Therefore, considering health equity or (in)equality in SEA is key.

4.2. Key concepts and frameworks related to health

Within the overarching WHO definition there are different perspectives which capture the interplay between the environment and human health. These include both conceptual terms such as 'health determinants' and 'health outcomes' and global frameworks such as One Health and the Sustainable Development Goals (SDGs) – see Table 1.

Figure 2. Human health and the environment.

Table 1. Key concepts and frameworks related to health.

Concept	Description
Determinants of Health	**Determinants of health** are the underlying factors that influence health at individual and population levels. They include physical, social and economic environments, along with individual characteristics and behaviours. The physical environment is firmly connected with the social and economic context within which plans, programmes and policies are developed. Key determinants include: • Social and economic environments, physical environments, and individual characteristics and behaviours (WHO, 2024a), encompassing economic security and equality, social and community context, health and education systems, and markets, trade and commerce (WHO, 2024b). • Legal, political and commercial factors, cultural aspects, intergenerational equity and concepts like environmental health and planetary health. ***Determinants of health shape health impacts, which are measured using health indicators and ultimately result in health outcomes.***
Health Impacts	**Health impacts** refer to the effects or consequences of exposure to determinants of health or interventions, reflecting how these factors influence the physical, mental and social wellbeing of an individual's or population's health. These impacts can be direct or indirect: • Direct Impacts: Air and water pollution, noise and exposure to hazardous substances, for example, can directly affect health, leading to diseases like respiratory and cardiovascular conditions, cancer and mental health disorders. • Indirect Impacts: Plans, programmes and policies can influence behaviours (e.g. promoting active travel) that can mitigate health conditions (e.g. obesity and diabetes). ***Health impacts are the bridge between determinants of health and health outcomes, and they are often measured using health indicators.***
Health Indicators	**Health indicators** are measurable variables used to track and assess different aspects of health and the factors influencing it. They serve as tools to monitor progress, identify trends and guide decision-making, providing data that help assess health outcomes over time. Health indicators reflect the state of health in a population, the performance of health systems or the impact of interventions. Examples include life expectancy, air pollution levels, rates of diseases and mental health disorders, among others. ***Health indicators provide the data needed to understand health impacts and evaluate health outcomes.***
Health Outcomes	**Health outcomes** refer to the potential consequences of health determinants, impacts or interventions of the plan/programme on a population's health. They encompass a wide range of physical, mental, and social effects, including acute and chronic conditions (Department of Health, 2019). • Physical outcomes: all-cause mortality (i.e. from any cause), high blood pressure, cardiovascular and respiratory diseases, waterborne and vector-borne diseases and road traffic-related injuries. • Mental health outcomes: stress, anxiety and depression. • Social outcomes: social inclusion, community cohesion and the social value of residential areas. ***Health outcomes are the end results of the interplay between determinants, impacts, and interventions, and they are measured using health indicators.***
Health Equity	**Health equity** refers to the distribution of health outcomes, exposures, vulnerabilities and interventions within and between populations. Addressing health inequities involves ensuring that all individuals have equal opportunities to achieve optimal health, regardless of social or environmental factors.

Concept	Description
	Vulnerable populations are a key focus in the consideration of health equity. These populations include the elderly, children and individuals with disabilities, who are particularly susceptible to environmental health impacts. Their vulnerabilities may arise from physical, social or economic factors that heighten their exposure to health risks and reduce their ability to adapt to environmental changes.
Environmental Health	**Environmental health** addresses the interactions between people and their environment, including the impact of the environment on human health and vice versa (Moeller, 2005). The European Environment Agency (EEA, 1995) defines it as encompassing the direct pathological effects of chemicals, radiation and biological agents, as well as the broader impacts of physical, psychological, social and aesthetic environments, including housing, urban development, land use and transport. Key environmental health risks include pollution (e.g. air, water, noise and heavy metals) and climate-related events. The primary goals are to preserve natural, living and occupational environments and to recognise the dependency of human health on a healthy natural environment and ecosystem.
Wellbeing	**Wellbeing** is defined as 'a positive state experienced by individuals and societies, determined by social, economic, and environmental conditions' (WHO, 2021). It has three dimensions: personal wellbeing, which includes happiness and quality of life; social wellbeing, influenced by governance, social services and interpersonal relationships; and environmental factors, such as clean air, water and the aesthetic value of nature contribute to it. These environmental factors also contribute through the production and consumption of natural resources and the creation of wealth and jobs.
Frameworks	**Description**
One Health	**One Health** adopts an integrated approach to balance and optimise the health of people, animals and ecosystems (WHO, 2023). It emphasises the interconnectedness of human and animal health, particularly the role of human activities and stressed ecosystems in facilitating disease transmission. Focus areas include mitigating human–wildlife interactions (e.g. agriculture, forestry, urban sprawl), preventing zoonotic diseases through measures like buffer zones, preserving ecosystem services (provisioning, regulating, cultural and supporting) and minimising human-caused ecosystem disruptions. Ireland supports a One Health implementation through its role in the European Union and the European Centre for Disease Prevention and Control.
Sustainable Development Goals	The **Sustainable Development Goals** (SDGs) serve as a framework to guide the proportional inclusion of health in SEAs, emphasising significant health impacts. SDG 3 on 'Good Health and Wellbeing', in particular, aims to ensure healthy lives and promote wellbeing for all, at all ages.
Revision to the National Planning Framework	The first revision of Ireland's National Planning Framework (NPF) aims to address population growth, housing needs and climate commitments. It will guide regional strategies and local authority development plans, influencing housing targets, job growth and renewable energy allocations. The revised NPF includes several references to health, emphasising the importance of promoting healthy and safe communities through planning. Specifically, Section 8 focuses on this aspect, with policies designed to enable and support healthy lifestyles. This involves creating environments that encourage physical activity, access to healthy food and overall wellbeing. The NPF also encourages local planning authorities to consider health needs when developing plans/programmes.

See also Appendix A for a list of relevant guidelines and reports on health and SEA.

5. 'Proportionate' Consideration of Health in SEA

While there are no proportionality mandates in SEA legislation, a proportionate approach to the assessment of significant impacts is imperative for SEA effectiveness. Proportionality means ensuring that assessment scope and detail are balanced with the issues being considered in the plan or programme. The IAIA/European Public Health Association (EUPHA) reference paper for health in Environmental Impact Assessment (EIA) has proportionality as one of its key principles (Cave et al., 2020). The focus is on the scoping stage and then on identifying likely and significant impacts. It provides the following working definition of 'proportionate' in this context:

> *Human health is a broad topic so its assessment should be carefully scoped. Scoping should focus on whether the potential impacts are likely to be significant. [This should take into consideration the scope and scale of the plan/programme, ensuring that significant health effects are addressed at the relevant planning level.] Effort should then focus on identifying design changes to tackle adverse health effects and to enhance potential health benefits and to securing commitment to these changes. The assessment findings should be presented in a concise and precise manner, giving appropriate weight to health as a factor that influences the plan or programme*.

Aspects to be considered when aiming at a **proportionate consideration** of any given topic, including health, in SEA include the decision tier at which SEA is prepared; the administrative level at which SEA is considered; baseline data, alternatives and stakeholder consultation. Consultation with key relevant stakeholders in public health should enhance the process and contribute a proportionate approach to human health in SEA.

5.1. Tier at which SEA is prepared

Different issues, and associated impacts, are considered at different decision tiers, consisting of policies, plans, programmes and projects. For example, environmental policies may consider alternatives with impacts of global relevance (e.g. greenhouse gas emissions, biodiversity loss); plans and programmes consider alternatives of more regional relevance (e.g. particulate matter, spatial severance of wildlife corridors, landscape impacts); and projects consider alternatives of local relevance (e.g. noise, air quality, habitat removal/loss). Note that in the context of Ireland's legislative framework, SEA does not apply to policies unless they set a framework for development. Therefore, policies are not further referred to in this Toolkit; instead plans/programmes are referred to for simplicity, acknowledging that SEAs may also be undertaken for policies and policy statements, or for specific planning policy requirements (SPPRs) that set the framework for development.

5.2. Administrative level at which SEA is conducted

Each administrative level has different responsibilities. The national level usually focuses on the strategic policy direction/setting and their alternatives that underlie decision-making in a country, dealing with rules and regulations. Furthermore, infrastructure of national significance – strategic infrastructure (e.g., national railways, roads, waterways) – is often dealt with at a national level and so it is in this context that national plans or programmes and associated projects are prepared.

In the context of administrative levels of plan/programme-making decisions, what is proportionate is likely to be more complex than what has been established for the decision tier as, for example, national infrastructures may have implications for regional or local infrastructures. As this has important implications for resulting impacts, in a proportionate SEA, different hierarchies of plans need to carefully consider implications on other levels (Fischer, 2006).

5.3. Baseline data

SEA does not usually generate new data, unless through the SEA monitoring stage. This means that the starting point for a baseline for human health in SEA is to make use of existing data, which may derive from previous SEA monitoring processes. There may be important contextual data that are of relevance for a particular plan/programme but are not baseline data for the assessment of health impacts (e.g. population projections may provide context, but associated levels of deprivation or perceived health status would be required for a meaningful baseline). It is important to distinguish between these two types of data.

For SEA, a proportionate approach is to consider data that are valid for the assessment of relevant impacts. It is in this context that effective scoping is essential. Decisions on what aspects are scoped in and out may require consultation on contextual data. Using spatio-temporal data through the application of Geographic Information Systems (GIS) can facilitate scoping and the identification of relevant impacts, among other SEA stages (Appendix J).

5.4. Alternatives

A proportionate approach to the identification and assessment of alternatives means that only those that are realistic (in terms of potential implementation) and reasonable (in terms of what the underlying plan/programme is focusing on) are considered. In the case of a programme for a specific road route, for example, it is likely that the consideration of alternative modes of transport (e.g. rail) is not proportionate, as such alternatives should have been dealt with at a higher level of all-transport plan/programme prior to a road programme. The SEA of the road programme should consider, for

example, ways to reduce demand for road capacity by including active transport, park and ride facilities, public transport hubs, etc.

5.5. Consultation of public health bodies

It is good practice to consult with public health agencies when conducting SEA. While Ireland is not yet a party to the SEA Protocol (UNECE, 2003), it is a member state of the European Union, which has approved the Protocol (see Section 3.2.1). Article 6(3) of the SEA Directive requires designation by Member States of the authorities to be consulted, although in this case it specifies 'by reasons of their environmental responsibilities', but no specific mention is made of health. Section A1.9 of the Healthy Ireland Framework (2019) cites the EPA's role in protecting the environment and health, and notes the importance of supporting health and environmental sectors to integrate environmental and health issues in policy and decision-making at national, regional and local level.

It should be noted that no specific health authority is currently designated as an environmental authority under the SEA Regulations. Thus, the fact that the public health sector is not currently a statutory consultee to SEA in Ireland needs to be taken into account when preparing and conducting an SEA. Nevertheless, this Toolkit suggests expanding the SEA consultation process to engage health authorities. For example, the Public Health Department could be approached as the first point of contact for regional and county plans/programmes. There are six Departments of Public Health in Ireland, one in each HSE Health Region. Each one is led by an Area Director of Public Health who is also a regional Medical Officer of Health (see Appendix B for further information about the public health system in Ireland). The public health team could act as a guide to stakeholders within the health system, who may be consulted as part of the SEA: for example, it may be decided that a plan requires strategic advice on health service planning.

All in all, to foster best practice in the integration of health in SEA, consultation with public health representatives should take place during stakeholder consultation. It can be expected that public health teams will be interested in the plans or programmes that are subject to SEA as they are likely to influence the determinants of health and wellbeing; however, it is also possible that requests for input or advice to SEA are seen as additional to core public health work. Public health teams will not necessarily know about the stages of SEA and what they are expected to do, which should be borne in mind when approaching public health stakeholders.

Consultation with health experts should help with all stages of the SEA (except in screening, given that health authorities are not designated environmental authorities under the SEA Regulations). These include, for example, identifying a proportionate scope for the population and human health components of the assessment; identifying relevant data for the baseline; and reaching a conclusion

as to the likely significant effects on health as well as actions that can be taken to reduce adverse effects and to ensure beneficial effects. The primary focus should be better plan-making, but in the longer term this could also contribute to developing and strengthening a working relationship between the environmental authorities for SEA and the agencies that have competence in public health. This would improve and protect the environment and public health across Ireland. Section A1.4 of the Healthy Ireland Framework (2019) sets out the importance of a whole-systems approach to sustainable health and wellbeing.

6. Current Practice and Challenges

This section summarises **current practice and challenges** in the consideration of health in SEA. This includes general shortcomings in the inclusion of health in SEA, engagement of health stakeholders/professionals, effective consideration of population groups and health inequalities, and associated data gaps.

6.1. General inclusion of health

While there are non-EU examples of legislative frameworks (Environmental Assessment Code of Georgia (Government of Georgia, 2017), implemented in 2019 (Government of Georgia, 2019)) and guidance for the integration of health into SEA, its integration remains limited in current practice. Key challenges are presented in Table 2, some of which are further elaborated below. The evidence basis for these challenges and associated recommendations is drawn from the international literature, case studies and expert opinions (see Section 2.3).

Table 2. Key challenges and associated good practice recommendations when including health in Strategic Environmental Assessment.

Key challenges include lack of …
Active and consistent inclusion of the topic of human health. Solution: Consider the topic of human health throughout the SEA process and across different plan-making contexts.
Active and consistent inclusion of specialists in public health. Solution: Involving relevant public health stakeholders at each stage in the SEA can help identify a proportionate approach to health risks and opportunities.
Comprehensive data sources. Solution: Data, at different assessment scales, that allow for disaggregation can contribute to assessing the likely significant effects of a plan or programme on human health.
Proportionate consideration of human health across all stages of the SEA process. Solution: Identify the relevant health determinants and population groups when defining the SEA scope and baseline. In the impact assessment stage, show how likely significant health effects may occur by tracing the pathway between health determinants and health outcomes.
Inclusion of factors other than the physical environment when assessing human health. Solution: Consider how the proposed plan or programme is likely to affect critical aspects of human health such as mental health, wellbeing and inequalities in health.
Systematic methodologies. Solution: Adopting a systematic methodology for assessing health effects enables a consistent consideration of human health in SEA.
Guidelines and capacity building. Solution: Step-by-step recommendations, clear principles, methodologies and sources of data, specific to national planning systems and SEA contexts, supported by training for capacity building, are essential to ensure effective integration of health in SEA.

6.2. Engagement/involvement of health experts and professionals

The participation of health professionals, and/or those with suitable relevant experience, in SEA processes is widely recognised as essential to ensure integration of human health into plan-making. International guidelines, academic literature and practical experience show that the participation of public health experts, regional health authorities and government bodies can improve the identification of significant impacts and strengthen intersectoral collaboration. Similarly, the involvement of public health stakeholders (e.g. health authority representatives) enables identification of risks to health and opportunities for overall health improvement. This includes identifying health determinants, understanding causal links between environmental changes and health effects, and developing actions and strategies to mitigate adverse health impacts.

It has been challenging to involve public health stakeholders in SEA as they often have limited resources and experience. Formal arrangements (e.g. public health authorities being designated as statutory environmental authorities for SEA) between health and planning authorities, and/or relevant plan/programme-making government departments and agencies, can make this engagement easier. Furthermore, capacity building and training across all sectors are important.

6.3. Population stratification

The structure of the affected population, including factors such as age, gender and ethnicity as well as other socio-economic and environmental determinants (e.g. access to health care services, exposure to pollutants or noise), is an important factor influencing both health determinants and outcomes. As a result, health risks and impacts are not equally distributed across populations.

Vulnerable groups, such as those with pre-existing health conditions or lower overall health, often face more serious adverse health effects. Similarly, socio-economic inequalities can significantly influence health outcomes (e.g. certain population groups may be more exposed to radon by virtue of where they live, and others may have limited access to specialised health care services by virtue of transport accessibility issues or remoteness, resulting in delayed diagnosis and treatment). In addition, disadvantaged groups (e.g. some migrants, refugees or people in vulnerable situations) may face financial and social barriers that limit their access to quality health services, exacerbating existing inequalities.

SEA practice needs to recognise population stratification to meaningfully account for different groups in society, including vulnerable and minority groups, and thus promote health equity.

6.4. Physical and mental health

As noted in Section 4.1, the Healthy Ireland Framework sets out public health policy in Ireland (Department of Health, 2019). The overarching vision of this policy is :

> *A Healthy Ireland, where everyone can enjoy physical and mental health and wellbeing to their full potential, where wellbeing is valued and supported at every level of society and is everyone's responsibility.*

Physical health and mental health are interrelated, and the Healthy Ireland Framework also draws attention to wellbeing, describing it as integral to its definition of health. This encompasses:

> *quality of life and the various factors which can influence it over the course of a person's life. Wellbeing also reflects the concept of positive mental health, in which a person can realise his or her own abilities, cope with the normal stresses of life, work productively and fruitfully, and be able to make a contribution to his or her community. Consideration of health and wellbeing requires a shift in focus from what can go wrong in people's lives, to focusing on what makes their lives go well.*

Mental health problems have huge personal impacts on those who experience them, and result in significant costs related to loss of productivity, premature death and disability, and additional costs to the social, educational and justice systems.

In the National Planning Framework (NPF) – First Revision, Section 6.2 on healthy communities and Section 9.4 on creating a clean environment for a healthy society (DHLGH, 2025) state:

> *Our health and our environment are inextricably linked. Specific health risks that can be influenced by spatial planning include heart disease, respiratory disease, mental health, obesity and injuries. By taking a whole-system approach to addressing the many factors that impact on health and wellbeing and which contribute to health inequalities, and by empowering and enabling individuals and communities to make healthier choices, it will be possible to improve health outcomes, particularly for the next generation of citizens*.

6.5. Transboundary effects

Transboundary effects on health and wellbeing should be considered in the SEA Environmental Report and should be consulted upon with the relevant transboundary agencies as part of best practice. It should be noted that post-Brexit, there is no longer a legal requirement under the SEA Regulations to consult with Northern Ireland or UK authorities. For potential transboundary effects on other EU Member States, Article 7 of the SEA Directive (EC, 2001) relates to transboundary consultations and requires that:

> *Where a Member State considers that the implementation of a plan or programme being prepared in relation to its territory is likely to have significant effects on the environment in another Member State, or where a Member State likely to be significantly affected so requests, the Member State in whose territory the plan or programme is being prepared shall, before its adoption or submission to the legislative procedure, forward a copy of the draft*

> *plan or programme and the relevant environmental report to the other Member State. (para 1)*

Article 7 of the SEA Directive goes on to state that 'the Member States concerned shall enter into consultations concerning the likely transboundary environmental effects of implementing the plan or programme and the measures envisaged to reduce or eliminate such effects'. These requirements are transposed in Ireland under Article 14 of Statutory Instrument 200 of 2011 and Article 13F of Statutory Instrument 201 of 2011 (Government of Ireland, 2011a, 2011b).

Transboundary effects are also noted within public health policy in Ireland:

> *During the consultation for Healthy Ireland, the need to update and modernise public health legislation to meet 21st Century requirements was identified, i.e., move to risk-based, modulated responses, dealing with all threats and not just communicable disease threats, as is required under International Health Regulations (IHR) and the upcoming EU Cross Border threats decision. (Department of Health, 2019, section A1.10)*

6.5.1 Cross-border health services

The EU and North South Unit of the Health Service Executive (HSE) works on behalf of the HSE to promote cooperation with health providers, both North and South, to ensure better outcomes for people living in border areas and beyond (HSE, 2024). There are examples of collaborative service agreements for cross-border access to health services, as well as the Cooperation and Working Together (CAWT) partnership between the Health and Social Care Services in Northern Ireland and the Republic of Ireland. CAWT facilitates cross-border collaborative working in health and social care and has been established for over 25 years. CAWT's vision is to realise opportunities and develop new ways to improve health and social care services for the wellbeing of people through collaboration across borders and boundaries.

6.5.2 Transboundary climate risks

An assessment on prioritising transboundary climate risks for Ireland identified a social risk to the people of Ireland and the island's public health sectors from the interaction between the biophysical environment and human health (Mikaelsson et al., 2024, pp. 47–49), specifically from:

- Infectious diseases such as
    - tick-borne diseases: Lyme disease and tick-borne encephalitis;
    - mosquito-borne diseases: malaria, dengue and West Nile fever (as well as the potential for introduction of invasive mosquito species); and
    - waterborne diseases through climate-related impacts on water services.
- Cardiovascular and respiratory conditions from
    - increase in wildfires and decrease in air quality; and

- increase in asthma and hay fever due to change in distribution of aeroallergens.

6.6. From health determinants to health outcomes

People's health is strongly influenced by environmental (e.g. air and water quality) and socio-economic (e.g. income and access to services) conditions. In comparison, factors traditionally considered to be central, such as access to and the use of health services, tend to have a relatively small impact. The range of factors that influence individual and collective health are the health determinants. As outlined in Chapter 4, the WHO (1946) establishes that the determinants of health include:

- the social environment;
- the economic environment;
- the physical environment; and
- the individual characteristics and behaviours of individuals/the public.

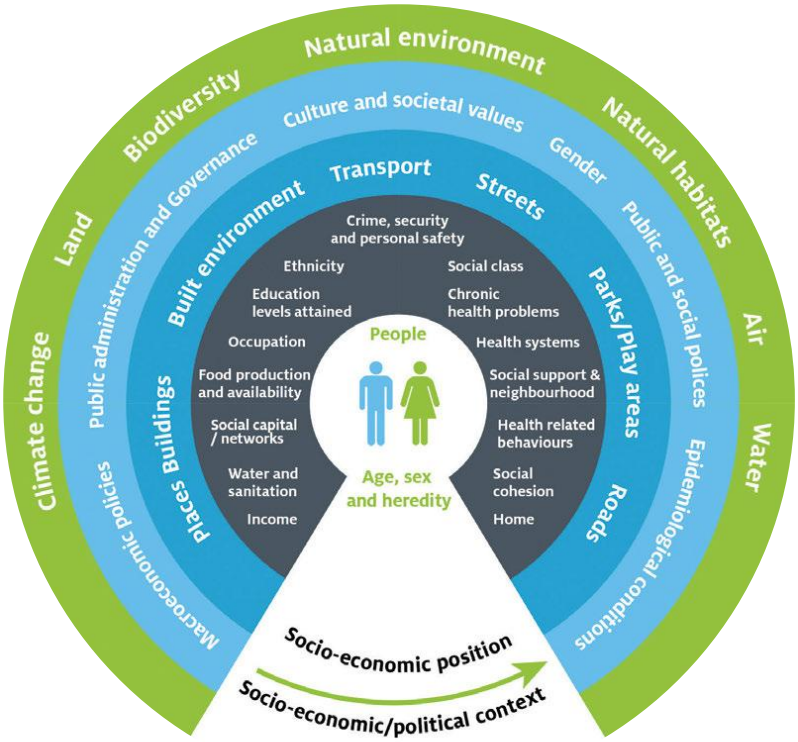
Some examples of categories of health determinants can be seen in Table 3.

Table 3. Main characteristics of health determinants. Source: WHO, 2024a, 2024b.

Health determinant	**Main characteristics**
Income and social status	Higher income and social status are linked to better health. The greater the gap between the richest and poorest people, the greater the differences in health.
Education	Low education levels are linked with poor health, more stress, and lower self-confidence.
Physical environment	Safe water and clean air, healthy workplaces, and safe houses, communities and roads all contribute to good health, as do employment and working conditions – people in employment are healthier, particularly those who have more control over their working conditions.
Social support networks	Greater support from families, friends and communities is linked to better health. Culture, customs and traditions, and the beliefs of the family and community, all affect health.
Genetics	Inheritance plays a part in determining lifespan, healthiness and the likelihood of developing certain illnesses. Personal behaviour and coping skills – balanced eating, levels of activity, smoking, drinking, and how we deal with life's stresses and challenges – all affect health.
Health services	Access to and use of services that prevent and treat disease influence health.
Gender	Men and women tend to have different behaviours and suffer from different types of diseases at different ages.

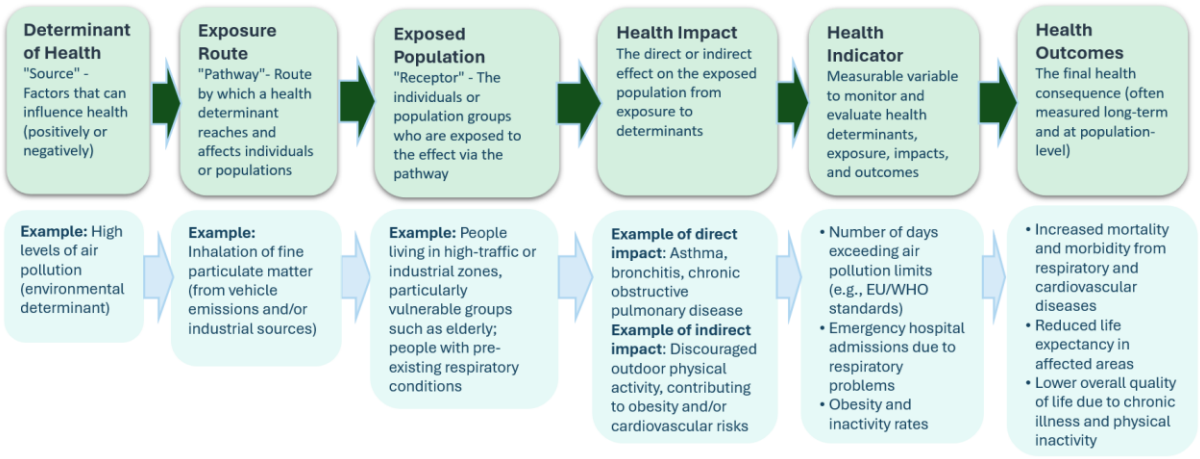
Models of human health and wellbeing determinants encompass a range of issues that depend on sectoral (e.g. land-use, waste management, river basin management) or geographic context (Figure 3). A plan or programme may have environmental, social and economic effects (i.e. determinants) that can influence human health and wellbeing. For example, an urban expansion plan may result in increased traffic and, consequently, increased air pollution – an environmental determinant of health.

Figure 3. Health and wellbeing determinants for Ireland (Department of Health, 2019).



Health determinants can largely determine health effects, while not necessarily being the direct cause. Environmental and socio-economic determinants driven by a plan or programme can lead to, amplify or reduce/offset effects on health. Figure 3 shows the health and wellbeing determinants for Ireland. An example for how determinants influence health impacts is a land-use plan that promotes the expansion of residential areas in peripheral regions without proper integration with public transport and essential services. This can lead to increased stress and reduced quality of life due to long commutes and social isolation, widening inequalities. In contrast, a transport plan that encourages public transport and active commuting will reduce the emission of air pollutants, which, in turn, will improve health outcomes. Figure 4 provides examples for this relationship.

Figure 4. Examples of the relationships between determinants of health and health outcomes.



6.7. Data

SEA practice often relies on available data and information from other plans and collected for a variety of purposes, including SEA monitoring of pervious plans/programmes. While a wide range of datasets is available in relation to population statistics, and on environmental factors associated with health and wellbeing (see Appendix K), health-specific datasets are not comprehensive in Ireland. This research found that certain data are not available or collected, or are incomplete.

Common data limitations that can affect the reliability of assessment outputs include:

- **Availability:** There is a dearth of health and wellbeing data for some key environmental considerations such as systematic exposure to pollutants, particularly for vulnerable groups or ethnic minorities.
- **Accessibility:** Even where data exist, access limitations resulting from patient confidentiality or sensitivity of the information are common. Many of the datasets are available for health authorities but not to environmental/planning consultants or the general public.
- **Accuracy:** Data accuracy is largely influenced by data collection methods. The variety of discrete health studies and the lack of a centralised data quality-check agency results in different levels of accuracy in existing data.
- **Completeness:** Health data are often collated for specific cohorts, time scales and geographical areas. This results in spatio-temporal gaps that can affect the comprehensiveness of assessments.
- **Temporality:** Longitudinal studies are available (e.g. on ageing) but are rare.
- **Data scale:** Census and population deprivation datasets are available at Small Area Level, but the majority of health data are aggregated at Electoral Area level. Local specificity is lacking.

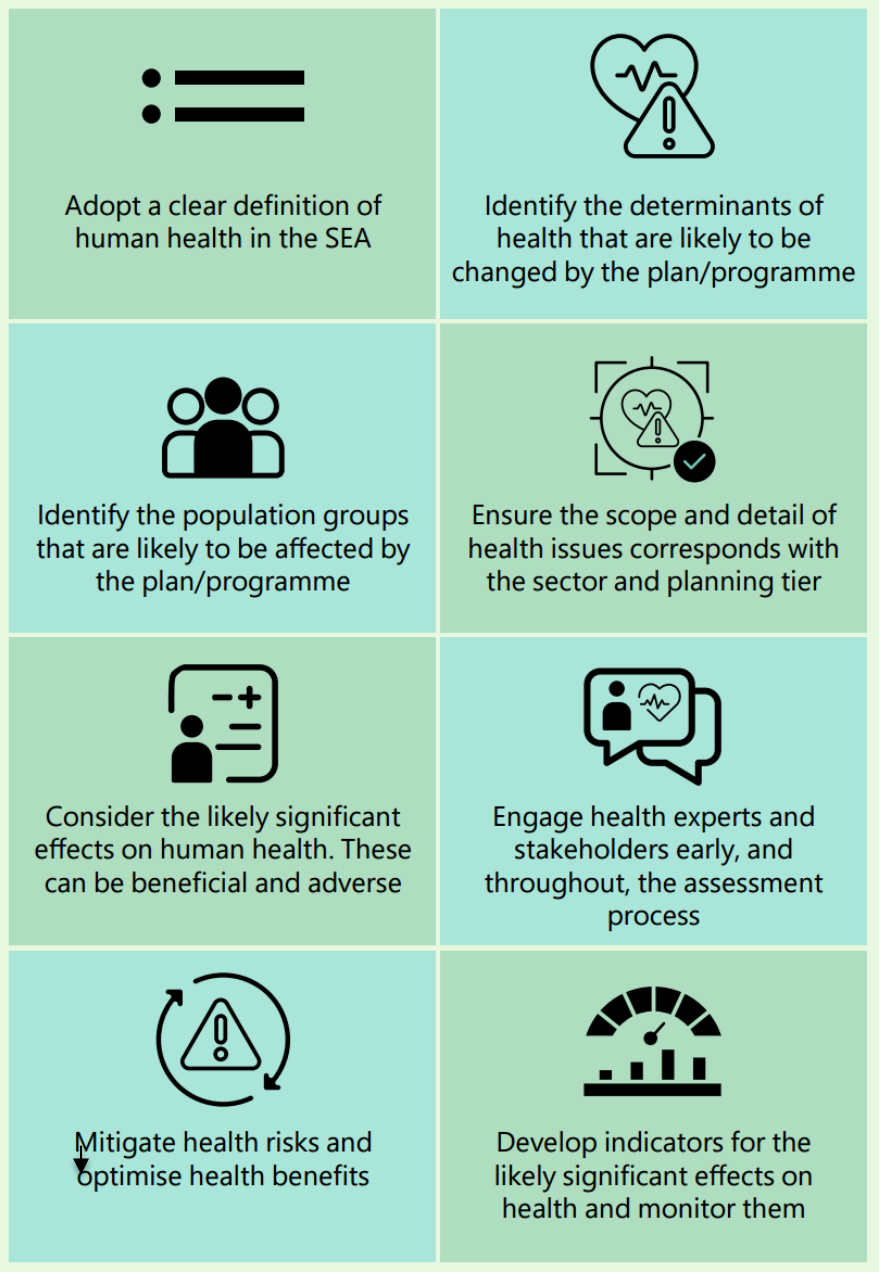
The above data issues pose some of the more significant challenges in local level SEAs (local area plans, masterplans, forestry plans, road programmes, etc.), where the level of assessment detail is

paramount for informed decisions. In contrast, certain data omissions and inaccuracies would not materially affect strategic decisions (i.e. in national or regional SEAs).

7. Good Practice Recommendations for the Consistent and Proportionate Consideration of Health in SEA

This chapter presents **key recommendations on important issues to consider when integrating health and wellbeing aspects into each SEA stage**. These are broadly applicable to all assessment tiers and sectors unless otherwise specified. Figure 5 summarises key good practice recommendations for consistently and proportionately considering health in SEA. These are further discussed in the related sections below. Adopting a GIS-based approach to the integration of health considerations into SEA can deliver a number of significant benefits, although challenges remain (see Appendix J). To effectively move forward good practice on the proportionate consideration of health in SEA, opportunities need to be explored further within the plan-making process and SEA and other systems of environmental assessment (e.g. through revision of statutory guidelines and legislation).

Figure 5. Key considerations for integrating health in each Strategic Environmental Assessment step.



7.1. Screening

'Screening' is the process for deciding whether a particular plan/programme, other than those for which SEA is mandatory, is likely to have significant environmental effects, and thus requires formal SEA to be undertaken. It precedes the further stages of the SEA process (DHLGH, 2022, p. 22).

7.1.1. Opportunities to address human health in SEA screening

Screening is commonly conducted by the competent authority making the plan/programme (e.g. governmental department, local authority). Where SEA is not mandatory, case-by-case screening should be applied, which requires that screening criteria are used to identify significant likely effects

on the environment.[2] Screening criteria fall into two categories: (a) characteristics of the plan or programme; and (b) characteristics of the environmental effects and of the area likely to be affected. This latter category includes the criterion 'risks to human health or the environment (for example, due to accidents)' (Government of Ireland, 2004a).

In case-by-case SEA screening, there is a legal requirement for the proponent to issue a screening notice to the relevant environmental authorities and to consult with them and other relevant stakeholders to determine whether significant effects on the environment are likely to arise and thus whether an SEA is required. A screening determination is then reached and issued by the competent authority.

7.1.2. Key recommendations

- **Consider the implications of the plan/programme for human health and wellbeing.** This should entail the consideration of particular plan/programme elements that may act as positive/negative health determinants (e.g. transport plan influencing air quality; land-use zoning affecting access to health services) and consider all population groups, including vulnerable populations (e.g. elderly, children, mobility impaired, socially deprived).

- **Ensure that such consideration is done in a proportionate way.** This entails focusing solely on the significant health and wellbeing implications relevant to the sector and the plan/programme tier, within the plan/programme's timeframe (e.g. potential for increase/decrease in the risk of cancer among the population associated with a hazardous waste management plan versus communities at risk of potential respiratory illnesses resulting from air pollution in a local transport plan).

- **Provide the opportunity for specialist input on human health.** This can be achieved through the involvement of health expertise in the SEA team (e.g. setting this as a requirement in the SEA procurement process – see Appendix I) or through targeted engagement of health stakeholders during SEA consultation. While public health teams and other health stakeholders are not currently statutory or formal consultees to the SEA process in Ireland, the plan/programme proponent is not precluded from engaging with them.

[2] The SEA Regulations (S.I. No. 436 of 2004, as amended by S.I. No. 201 of 2011) transpose the SEA Directive for the land use planning sector. The Planning and Development Act (2000), as amended, also transposes the SEA Directive for certain types of plans in land use planning. Under this Act, these screening criteria are set out in Schedule 2A to the Planning and Development Regulations of 2001, as amended by the Planning and Development (Amendment) Regulations of 2011 (S.I. No. 454/2011), as well as in Schedule 2 of the Planning and Development Act (2000) as amended in the Planning and Development Regulations of 2008 (S.I. No. 235/2008).

7.2. Scoping

Scoping aims at ensuring that the relevant and significant environmental issues are identified and that the level of detail to which they should be assessed is agreed, so that the relevant issues can be given the necessary emphasis in the assessment and subsequent Environmental Report (DHLGH, 2022, p. 30). Typically, the plan/programme proponent carries out preliminary environmental baseline data collection and interpretation; prepares a 'SEA Scoping Report' (though not mandatory, this has become good practice); and sends this to the relevant environmental authorities and/or planning authorities for consultation (DHLGH, 2022, p. 31). At the heart of scoping is the need to ensure that significant issues are systematically and proportionately considered.

7.2.1. Opportunities to address human health in SEA scoping

From a human health perspective, the scoping stage involves identifying the health baseline, the changes in determinants of health that may be caused by the plan/programme and the population groups that may experience such change(s). This should include the consideration of the significant health effects of the general population and that of vulnerable population groups. Health stakeholders can provide valuable/important insights at this stage of the SEA, ensuring that the relevant environmental and socio-economic issues with the potential to significantly affect human health and wellbeing are captured and adequately addressed.

7.2.2. Key recommendations

- **Adopt an explicit definition of human health.** Scoping should include consideration, and a clear definition, of human health. It is suggested that the definition used be that from WHO (1946): '*health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity*'. In SEA, this entails the consideration of health within a given population (e.g. potential population(s) likely to be affected by significant environmental effects) as well as the effects on the population as a whole (e.g. Irish citizens).

- **Identify health determinants** (plan/programme actions that may directly/indirectly significantly affect human health and wellbeing) **and the associated likely significant (health) effects** at the scoping stage. For this it is important to consider:
    - *The plan/programme's objectives and actions that act as health determinants. To address this, it would be helpful to consider which plan/programme's purpose and alternatives are most likely to result in:*
        - *an increase in healthy lifestyles;*
        - *healthier and safer communities;*

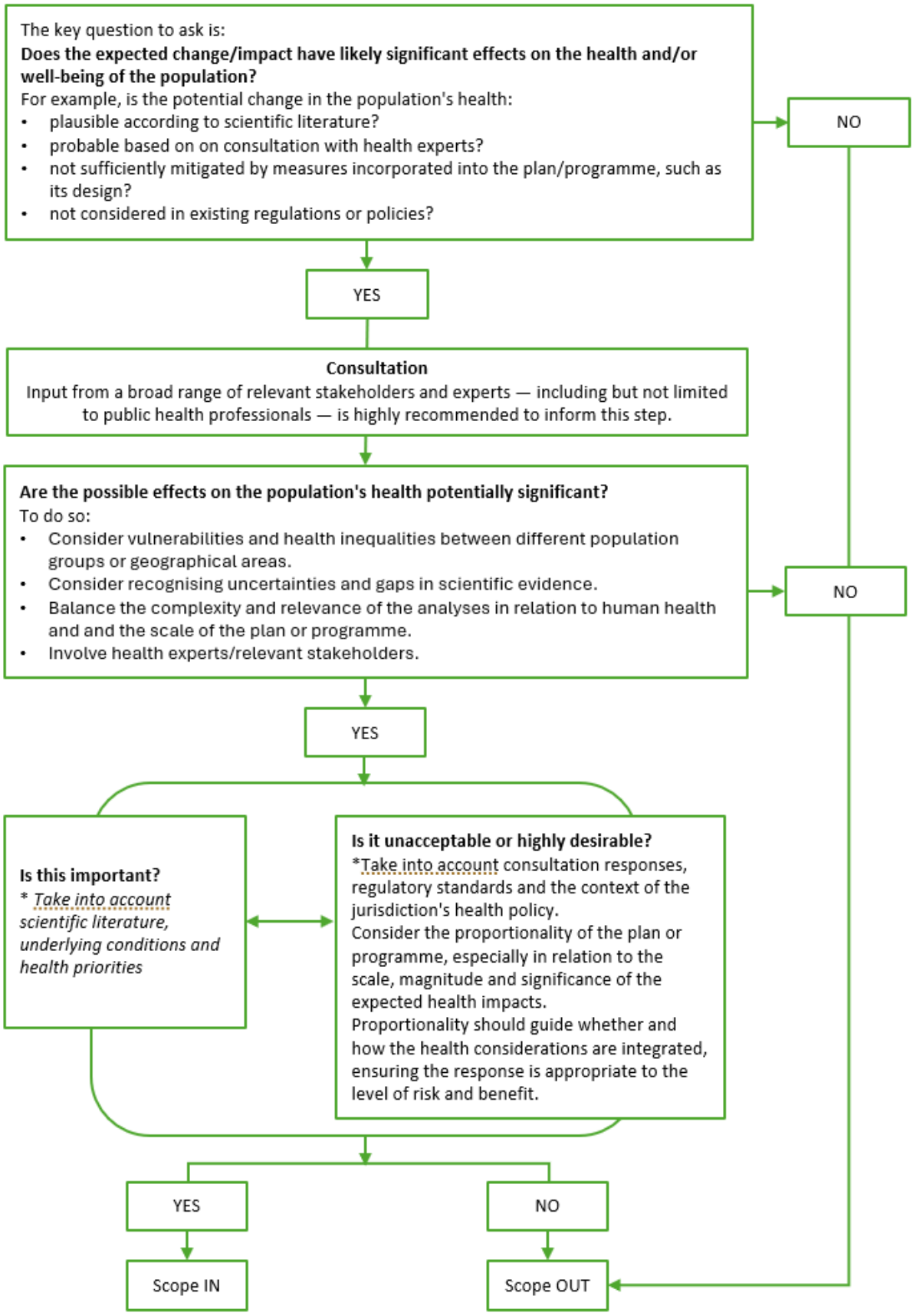
  - *an improvement of environmental conditions for the population;*
  - *an improvement of access to good-quality health and social care.*
- The extent to which these plan/programmes' health determinants will have (significant positive or negative) effects on health and who will experience these effects.
- *Which of all the identified potential human health effects are likely and significant. A determination of significance can be based on different types of evidence, such as population baseline (underlying health conditions), consultation responses, scientific literature, regulatory standards and policy context (including priorities set in public health policy).*
- Whether the potential effects of the plan/programme may lead to changes in the public health system and/or related agendas.

Figure 6 provides a health scoping decision-support flowchart to guide the identification of significant issues/effects that need to be considered in the scoping stage.

- **Identify source–pathway–receptor relationships for the expected changes in health and wellbeing** arising from the plan or programme (source) and the pathways by which these changes will significantly affect the receiving population (receptor). This should be undertaken for the health issues that have been identified (i.e. scoped in). The mitigation stage should seek to break or preserve this source–pathway–receptor relationship to either prevent or mitigate potential significant adverse effects, or to enhance beneficial effects.

Figure 6

Figure 1. Scoping health considerations: decision-support flowchart.



- **Include human health-related objectives** in the definition of the SEA objectives against which the draft plan or programme is to be assessed. These should express the desired direction of change, aligning them with the objectives defined for each relevant environmental receptor listed in the SEA Directive (see some examples in Table 4). The IPH cautions that if the health objective in an SEA does not capture the implications for the wider determinants of health, it runs the risk of missing key factors that could undermine population health and of missing opportunities to improve population health (Pyper et al., 2021, pp. 133–134).

- **Embed improvements in physical, mental and social wellbeing** as objectives of human health; this should be for current and future populations (including vulnerable groups) and have regard to some or all of the following (subject to relevance): health inequalities; healthy lifestyles; safety; socio-economic conditions; environmental conditions; health and social care services.

Table 4. Health objectives from sample SEA Environmental Reports.

Health-related objective: 'The reduction of environmental burdens is also crucially related to the objective of reducing the burden of diseases caused by inadequate transport which is pursued by the Ministry of Health. Therefore, the measures defined on the basis of this objective will also include health.' Source: Republic of Slovenia (2014).
Health-related objective: 'Integrated Sustainability Appraisal Objective 2: To contribute to an improvement in physical, mental and social health and wellbeing for all, including contributing towards a reduction in health inequalities across Wales.' Source: Welsh Government (2021).
Health-related objective: 'Promote the health and well-being amongst local residents.' Source: AECOM Infrastructure & Environment UK (2016).

- **Engage relevant health experts/stakeholders.** The scoping in/out of health-related issues, the identification of source–pathway–receptor relationships and the definition of health objectives should be undertaken in consultation with public health experts/stakeholders, insofar as practicable. These should also be invited and encouraged to provide comment on formal outputs such as a Scoping Report. The good practice promoted in this Toolkit would encourage plan/programme proponents to actively engage and afford public health teams the opportunity to contribute to the SEA process at the earliest opportunity. In practice, many government departments, agencies, regional and local-level authorities have wider networks for cross-cutting engagement that may assist in developing such informal/non-statutory consultation and developing networks (see also Appendix I).

- **Apply information sources and templates** provided in this Toolkit to support the scoping of human health and wellbeing issues. A number of information sources and templates are available within

the appendices to support the effective and proportionate consideration of health in SEA scoping. These include:

- Appendix B: Public health system structures, which can help identify health stakeholders.
- Appendix C: Current public health priorities.
- Appendix D: Template to support the identification and selection of health determinants for SEA and the associated identification of indicators to support monitoring.
- Appendix F: Template to support the identification and evaluation of key issues/alternatives.
- Appendix J: Geographic Information Systems (GIS) to support effective consideration of health in SEA – highlights the benefits and remaining challenges in the application of GIS in SEA.
- Appendix K: Data sources/sources of health information.

7.3. Baseline

The baseline describes the current state of the environment and social systems and serves as a reference for assessing the impacts of the proposed plan/programme. In addition to describing existing conditions, it needs to consider future trends in the absence of the proposed intentions and actions, thus supporting impact prediction and guiding the formulation of suitable and relevant mitigation and monitoring measures.

7.3.1. Opportunities to address human health in SEA baseline

The baseline should cover the mandatory factors of the European SEA Directive, including the relevant significant aspects of biodiversity, population, human health, fauna, flora, soil, water, air, climate, material assets, cultural heritage and landscape. Special attention should be placed on biophysical systems (e.g. water, air, climate, biodiversity), their resilience and vulnerability, as well as their interaction with human health and wellbeing. To ensure a comprehensive SEA, the identification of interrelationships between environmental factors and human health and wellbeing should be emphasised. Public health information sources and expert opinions are of significant value in establishing a robust baseline.

7.3.2. Key recommendations

- **Incorporate a proportional account of health determinants and their potential significant effects on the population**. A health-focused spatial baseline (using GIS to depict and examine geographical distributions and patterns) should be provided as part of the population and human health requirements of the SEA Directive. This should include only the relevant information that refines the priorities of the assessment and reinforces the definition of the aspects to be analysed as identified during scoping.

- **Identify relevant and proportionate interrelationships between the environmental topics, health determinants and any effects on the population.** Any potential interrelationships that amplify or cancel out significant impacts on human health and wellbeing should be identified and appropriately considered. This should consider source–pathway–impact linkages and geographical overlaps/distributions. Some examples of this interrelationship can be found in Appendix E and data sources to support the identification of these links can be found in Appendix K.
- **Provide a detailed yet proportionate description of population groups, including not only demographic data but also their environmental, social and economic vulnerabilities** where available (e.g. from Census data). This involves identifying and understanding health inequalities and preventing vulnerable communities from being at risk or left without adequate protection against identified significant impacts.

7.4. Alternatives

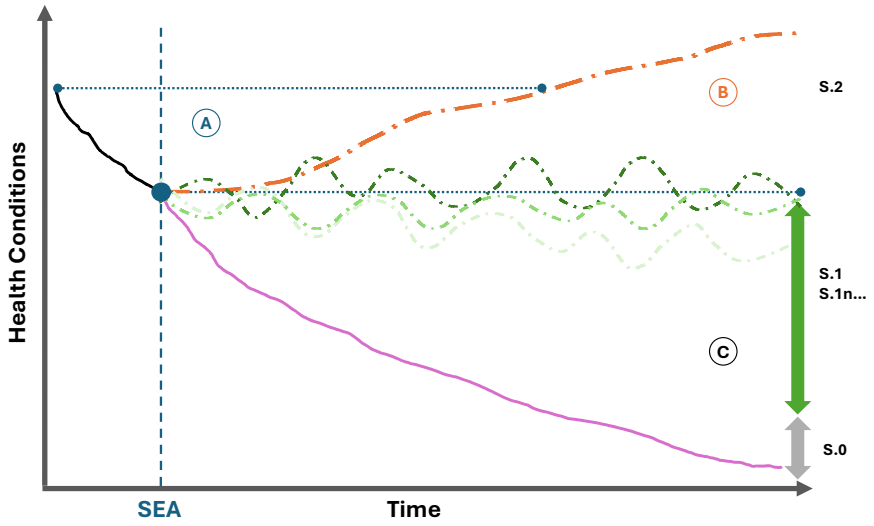
The assessment of reasonable and realistic alternatives is a fundamental requirement in SEA. The timely consideration of alternatives in SEA allows for the identification, evaluation and comparison of ways to accommodate the future needs of a plan or programme, taking account of intrinsic environmental conditions. An effective SEA process should include early consideration of realistic, reasonable, viable and implementable alternatives that promote sustainable development along with environmental benefits while fulfilling the plan's/programme's objectives (González et al., 2015, p. 1*).*

7.4.1. Opportunities to address human health in SEA alternatives

The integration of health into the development of alternatives needs to ensure that the objectives and spatial coverage of plans/programmes are consistently aligned with plan/programme-specific environmental and health challenges. Figure 7 shows that the lack of a plan (Scenario S.0) leads to worsening health conditions. A plan (or programme) without an SEA, or with one that poorly integrates health aspects (Scenario S.1/S.1n), creates instability and uncertainty. In contrast, when supported by a robust SEA that adequately considers health, environmental/health conditions tend to improve, potentially surpassing pre-action levels (Scenario S.2), and ensuring greater stability and effectiveness.

Figure 7

Figure 2. Development scenarios and their implications for health in SEA.



Legend: (A) Potential for health improvement beyond baseline; (B) Difference in outcomes with effective health integration in SEA; (C) Decline in health conditions without planning.

The integration of health considerations into the development of alternatives thus needs to consider the nature and scale of the plan or programme, as well as the importance of 'proportionality' attributed to the health aspects discussed in the SEA.

7.4.2. Key recommendations

- **Integrating health considerations in the development of alternatives (e.g. land-use zonings that promote social inclusion and equity) is essential.** The health-focused alternative scenario(s) should give proportionate consideration to **development options that favour strategic decisions with an overall positive long-term impact on health** (e.g. prioritising public transport over road expansion), and that also address specific impacts (e.g. reducing air pollution or improving access to essential services). **It is essential to prioritise alternatives that reduce health inequalities and vulnerabilities and promote equity and social inclusion.** This includes, for example, urban planning approaches inspired by the idea of the '10,15-minute city' and strengthening the implementation of green and blue infrastructure networks.

- **Choose alternatives that address health considerations appropriate to the planning level and sector for which the SEA is being conducted.** Health considerations should be relevant to the planning and decision-making levels (e.g. changes in the planning system may be considered in a national-level wellbeing plan, while delivery of specific health services may be done in a local land-use plan).

- **Engage relevant health experts/stakeholders** (see Appendix H for examples) **to ensure proposed alternatives promote health and wellbeing outcomes for all.** Ensuring a health-driven scenario

requires the engagement of experts with technical knowledge and critical capacity to comprehensively identify and analyse the potential environmental effects of plans/programmes on health and its determinants. To this end, the **integration of health professionals from the early stages of SEA,** including alternatives development, will optimise/ensure/promote a more robust, intersectoral analysis geared towards promoting equity and wellbeing.

Appendix F contains a template to support the identification and evaluation of key issues/alternatives.

7.5. Impact Assessment

In assessing the likely significant effects of a plan or programme, the range of environmental aspects likely to be significantly affected must be assessed and communicated, as set out in Annex I to the SEA Directive and its transposition in Ireland through primary and secondary legislation, including the SEA Regulations (S.I. No. 435 and S.I. No. 436 of 2004). This includes the assessment of secondary; cumulative; synergistic; short-, medium- and long-term; permanent; temporary; positive; and negative effects.

7.5.1. Opportunities to address human health in the SEA impact analysis

It is clear that opportunities exist to improve how health impacts are considered and assessed in SEA. The IPH (Pyper et al., 2021) advises that this should include the identification of the magnitude of effects on human health and the sensitivity of the exposed population. Taking this into account alongside contextual information (e.g. national health priorities, and health experts' feedback) can ensure that a robust evidence base is provided to support informed judgements on the likely significant effects on health from the plan or programme.

5.5.2. Key recommendations

- **Develop impact assessment indicators in line with a plan's/programme's overall objectives and actions that may directly/indirectly significantly affect health and wellbeing.** The indicators should capture determinants affecting both health and affected population groups. Identifying appropriate indicators helps assess and identify changes over time. The indicators also provide the basis for developing associated mitigation and monitoring measures.

- **Determine the magnitude of change or impact for human health**, with reference to the potential future significant effects of the plan/programme. This analysis **should consider exposure to health determinants** and **their intensity** (slight versus complete exposure), as well as the **scale** (local, regional, national), **duration** (short, medium or long term)**, severity** (minor, moderate, major and extreme) **and reversibility** (whether the impact can be mitigated or is permanent) **of effects**, especially in relation to population health, including health infrastructure and services. The

evidence used to determine these parameters needs to be supported by reliable sources, to inform and establish whether future changes are potentially significant and whether they are desirable, acceptable or unacceptable. These sources may include:

- Regulatory standards and thresholds (e.g. air, noise and water quality).
- Other policies, plans and programmes (e.g. information on health priorities in the plan/programme).
- Scientific literature (e.g. baseline information on environmental, social, economic and health conditions of exposed populations).
- Results from health experts and exposed population consultations about the proposal with stakeholders, including the population.

- **Consider the sensitivity of a population** in relation to both the general population and vulnerable groups (e.g. elderly, children, mobility impaired, socially deprived); this should take into consideration any relevant aspects related to a stage of life (e.g. health status, daily activities, adaptive capacity, inequalities, deprivation). An **evaluation on the sensitivity of a population** can be made with reference to:
  - Contextual and baseline information (from environmental and socioeconomic indicators) that determine a population's exposure to health determinants.
  - Information on the population's health conditions, aligned with their relationship with the baseline and health determinants.
  - Contributions from health stakeholders (e.g. health authorities and health professionals) by means of specialised insights into specific health determinants, risks and effects.

- **Determine the significance of impacts**, which refers to the likelihood, importance and severity of the consequences that a plan/programme may have on the population's health. This should be **based on the magnitude of the impact, the sensitivity of the affected population** and any cumulative effects (whether the impact adds to the effects from other plans and programmes).

- **Ensure that the level of assessment detail of the likely significant effects on health is reasonable and proportionate to the plan/programme**. To achieve this, the following steps could be considered:
  - *Apply assessment methods that capture and focus on the links between environmental, social and economic determinants and population health and wellbeing (as identified in Scoping). For example, by identifying the set of relevant health determinants at the scoping stage, it becomes possible to establish evaluation criteria based on these determinants – such as asking whether the plan/programme would worsen air quality, which would be directly linked to respiratory health. In addition, a cause-and-effect matrix (refer to Appendix G) can be used to link the*

proposed actions, the determinants affected and the possible health impacts, as well as to include measurable indicators that allow these effects to be monitored over time (see relevant information and templates available in Appendices D to G).

- *Adopt a spatio-temporal scale that aligns with that of the plan/programme.*
- *Use assessment methods that best reflect and address the key issues (e.g. Drivers, Pressure, State, Impact and Response – DPSIR model) to assess causal relationships versus Geographic Information Systems (GIS) to capture spatial correlations between identified health determinants and outcomes).*

- **Apply assessment methods that are inclusive of health and wellbeing, and capture (positive/negative) health and wellbeing outcomes.** To this end, it is essential to consider the use of quantitative and qualitative methods, such as indicators and workshops with local communities and vulnerable groups. These methods should encourage analysis of potential benefits (e.g. increased green space) and health risks (e.g. exposure to noise or air/water pollution), as well as the range of secondary; cumulative; synergistic; short-, medium- and long-term; permanent; temporary; positive; and negative effects.

7.6. Mitigation

Mitigation measures aim to avoid/prevent, minimise/reduce or, as fully as possible, offset/compensate for any significant adverse effects on the environment, as identified in the Environmental Report, as a result of implementing a plan or programme (EPA, 2024). These are a mandatory requirement of SEA processes in Ireland as established in primary and secondary legislation, including the SEA Regulations (S.I. No. 435 and S.I. No. 436 of 2004, as amended by S.I. No. 200 and S.I. No. 201 of 2011). Mitigation should be understood broadly, giving priority to integrated solutions in line with the strategic context of the plan/programme rather than isolated or short-term measures.

7.6.1. Opportunities to address human health in SEA mitigation

Mitigation measures should seek to balance different objectives, promoting integrated solutions that reconcile environmental, social, economic and, consequently, health aspects. In this context, adopting a win–win approach, focused on generating multiple benefits, contributes to a clearer and more explicit definition of potential health impacts. This approach favours the reduction of vulnerabilities and broadens the benefits for all those involved, by considering geographical and social inequalities in the mitigation process. It is therefore essential to take account of the most vulnerable population groups – such as those affected by age, gender, health conditions or socioeconomic status – ensuring

that the proposed mitigation measures are equitable, feasible and effective. By including integrated actions that mitigate identified adverse health and wellbeing effects and strengthen positive impacts, the SEA would adopt a logic of co-benefits, aligning itself with the principles of sustainable development and health equity.

7.6.2. Key recommendations

- **Include mitigation measures that address potentially adverse significant health outcomes and enhance positive ones.** It is essential to adopt a win–win approach to risk reduction, aiming to ensure multiple benefits – for example, actions that simultaneously reduce environmental risks and promote public health. This requires a comprehensive assessment of the negative and positive health impacts of a plan/programme. For example, if negative effects are identified, specific measures should be proposed to reduce or eliminate them (such as the creation of low-emission zones or the expansion of green spaces). Similarly, if positive effects are identified, consideration should be given to whether they can be strengthened and extended to ensure that they are realised and benefit the population as a whole – as in the case of promoting physical activity through cycle paths or improving air quality through the use of clean energy.
- **Ensure that the proposed mitigation measures are proportionate to the scope of the plan/programme and that they are viable/implementable.** Actions should be in line with the scope, complexity and potential impacts of the plan/programme. They need to be realistic, considering the scale of planning, the actors involved and the time and institutional capacities, as well as the specificities of the local context. Measures that are too ambitious, broad, expensive or technically unfeasible may end up being ignored, compromising the effectiveness of the SEA. For example, a plan or programme at the local level does not need to and cannot propose measures that overlap with national-level actions; a local transport or land use plan does not need to address all social determinants of health, but can focus on safe mobility, air quality or green and blue infrastructure.

7.7. Monitoring

The requirements for monitoring under Article 10 of the SEA Directive are transposed into Irish Regulations as follows: ‘The competent authority shall monitor the significant environmental effects of implementation of the plan or programme, or modification to a plan or programme in order, inter alia, to identify at an early stage unforeseen adverse effects and to be able to undertake appropriate remedial action’ (Article 17 of S.I. No. 435 of 2004, Government of Ireland, 2004a).

7.7.1. Opportunities to address human health in SEA monitoring

Monitoring in SEA is a continuous process of examining and evaluating the significant environmental and health impacts resulting from the implementation of a plan or programme. Its aim is to ensure that the predicted significant effects are controlled and that corrective/remedial measures are adopted if unforeseen impacts arise.

In general, monitoring should:

- Assess the compliance of the plan/programme with the commitments made in the SEA.
- Verify that the actual impacts detected correspond to the predictions made in the assessment.
- Detect unexpected significant adverse effects and enable the implementation of corrective/ remedial actions.
- Ensure transparency by making the results available to relevant authorities and stakeholders.

The monitoring programme should not aim to cover all possible environmental and health parameters but should concentrate on the significant environmental and health issues. For these, it is essential to define relevant indicators that allow the monitoring of determinants and impacts on health. Appendix D provides detailed guidance on identifying relevant indicators.

7.7.2. Key recommendations

- **Develop a monitoring programme with clear health indicators and targets, responsible agencies and agreed frequency of monitoring for each indicator.** This will provide a framework to objectively capture positive/negative and long/short-term effects of a plan/programme on the health of the population. For this, it is essential to use health data (Appendix K) to assess whether the expected impacts have occurred and whether it is necessary to review mitigation measures or reconsider aspects of the plan/programme. Without specific indicators and a clear definition of who monitors what and when monitoring is undertaken, potential health impacts may be overlooked or misinterpreted, especially in long-term situations found in plans/programmes where effects are cumulative and not always immediate. For example, land use plans that promote active transport can be monitored through population access to green spaces, and it is important to formally designate a public health authority responsible for tracking this indicator and proposing adjustments to the plan, if necessary. Defining institutional responsibilities allows specific health aspects to be systematically monitored, strengthens governance, promotes transparency and prevents gaps in implementation and monitoring.

- **Where possible, use existing health monitoring data that are appropriate to the administrative level, sector and decision tier.** This ensures that monitoring is appropriate to the needs and characteristics of each case (i.e. taking account of the scale of the plan or programme, the baseline

information, the relevant health authorities and institutions, and real and coherent development alternatives). In other words, it is recognised that each plan or programme will require a level of detail and monitoring effort commensurate with its scale. Using health data that already exist locally or are compatible with the plan/programme, such as epidemiological records, population data or regional indicators, avoids duplication of effort and ensures technical feasibility. For example, when someone is planning green corridors in an urban plan, regional data on respiratory diseases from the Central Statistics Office can be used to monitor health impacts in a proportionate manner without creating new data systems. This also promotes continuity of monitoring as existing data are frequent, historically comparable and institutionally recognised.

Appendix H provides a preliminary checklist, addressing the essential elements to be considered when planning /developing a monitoring programme. It guides the compilation of information that can help during this phase, such as the identification of potential significant impacts, the selection of appropriate indicators, related policies and plans, and the identification of stakeholders and mediation mechanisms. This ensures that monitoring is comprehensive, efficient and effective. Appendix K provides an inventory of health-related data in Ireland.

7.8. Public Consultation

According to the EPA, 'to promote best practice in SEA in the context of consultation, it is recommended that the public be given an opportunity to make submissions on the issues to be addressed in the process' (EPA, 2024, p. 5). Public consultation is also a mandatory requirement under the European SEA Directive and its transposition in Ireland. The Department of Housing, Local Government and Heritage reinforces that 'Both the SEA Directive and Irish planning legislation encourage public participation and the consultation of relevant environmental and other planning authorities in plan-making' (DHLGH, 2022, p. 54). 'The public' includes organisations as well as individuals, and the consultation process is a mandatory requirement under the European SEA Directive and its transposition in Ireland.

In SEA, consultation aims to gather input and feedback on environmental issues and concerns from the public and experts. Participation entails a two-way communication where stakeholders are proactively engaged in assessments and plan/programme-making. Public consultation and participation ensure transparency and enhance the evidence-base for informed environmental decisions.

7.8.1. Opportunities to address human health in SEA public consultation

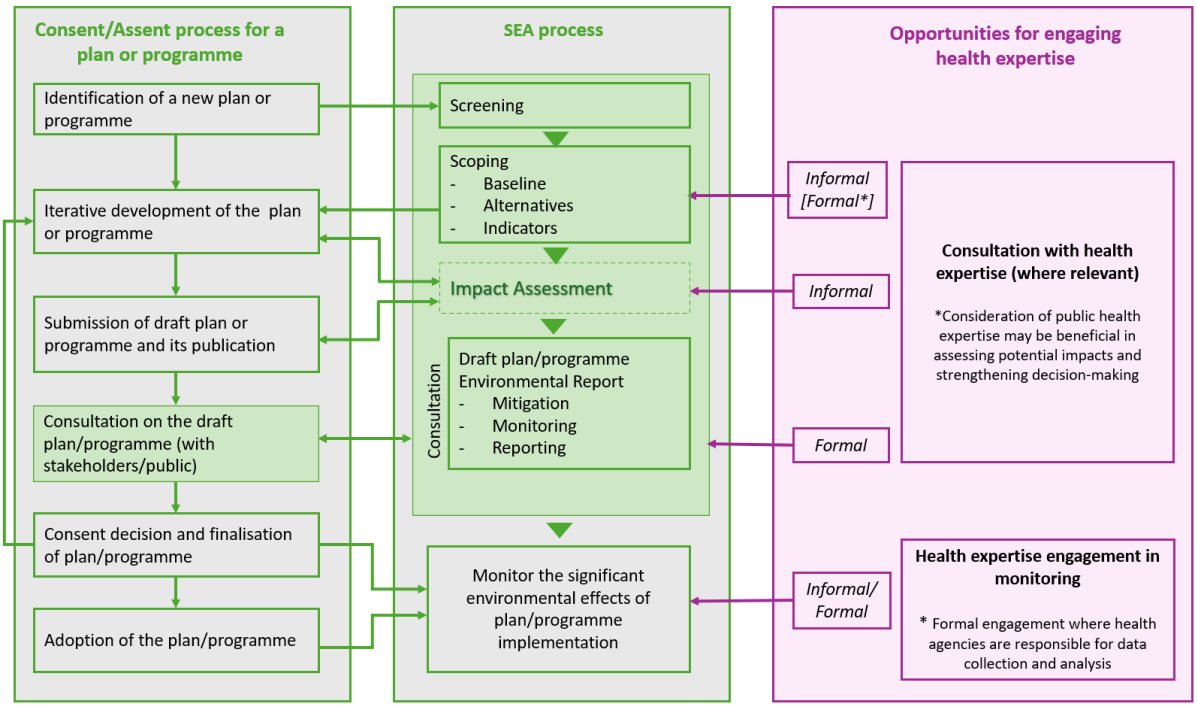
Consultation is a formal and defined phase within the SEA process. While health stakeholders are not statutory or formal consultees to the SEA process, the plan/programme proponent is not precluded from actively engaging with a wider range of authorities or experts when undertaking their public

consultation phases. The good/best practice espoused in this Toolkit would suggest plan/programme proponents to actively engage and afford public health teams the opportunity to contribute to the SEA process at the earliest opportunity and, where possible, throughout the process (Figure 8).

In practice, many government departments, agencies and regional and local level authorities have wider networks for cross-cutting engagement, which may assist in developing such informal/non-statutory consultation and developing networks.

Figure 8

Figure 3. Opportunities for stakeholder engagement as part of the assessment of human health in SEA.



Source: Adapted from Pyper et al. (2021).

7.8.2. Key recommendations

- **Identify relevant health experts/stakeholders to consult early in the assessment process.** This would help in identifying potential significant health impacts, assessing risks and proposing appropriate mitigation and monitoring measures. In this regard, the first point of contact for consultation on human health in SEA should be the relevant public health team. They can advise, considering the specific requirements of each case, whether consultation from other disciplines is required, for example:
    - Environmental health;
    - Environmental epidemiology;
    - Health promotion; and/or
    - Health protection.

Appendix I provides a non-exhaustive list of potential areas of expertise to be considered.

- **Explore additional/supplementary measures** when undertaking public consultation **to provide an opportunity for affected vulnerable communities to participate** and provide feedback/provide comments on health-related matters and concerns. It is acknowledged that this may require additional resources and may only be deemed proportional for certain plans or programmes or certain geographical areas.

- **Engage with the identified health experts/stakeholders/affected public at key assessment stages (at a minimum, at scoping and alternatives stages).** Actively engaging key health actors at the key stages of the assessment will allow health benefits to be considered in a proportional way. The engagement of these actors in the scoping, alternatives, impact analysis and mitigation phases is important, because it is at these stages that the environmental effects on health are determined, and that potential solutions can be explored. These include planning options that generate the least risk to health and wellbeing, the identification of indicators, and the formulation of measures to avoid, reduce or remedy significant environmental effects. Early involvement can avoid relevant effects being underestimated and ensure that relevant health criteria are not excluded in the plan/programme process. For example, involving health authorities early in a regional transport plan helps define key health indicators and identify alternatives – such as promoting active transport – that minimise negative health impacts.

Sections 5.5 and 6.2 provide details on the participation of health professionals and Appendix C provides additional information on public health in Ireland.

The SEA process requires active coordination between various areas of expertise, levels of government and interested/affected publics, balancing diverse interests throughout the assessment. As such, consultation (and participation) must promote transparency and clear communication. Depending on the complexity and needs of the decision-making context, different engagement strategies and interventions may be adopted to ensure that all relevant issues are adequately considered. The complexity of these strategies shapes the nature of the required actions, which can range from one-time information-sharing to more active and ongoing stakeholder involvement (Figure 9).

Figure 4. Spectrum of stakeholder engagement and knowledge mediation strategies.

Source: Adapted from Michaels (2009). A detailed description of these strategies can be found in Appendix I.

7.9. Environmental Report

The SEA Environmental Report is required to be prepared in accordance with the requirements of Article 12 of S.I. No. 435 of 2004 and Article 13N of S.I. No. 436 of 2004 (Government of Ireland, 2004a, 2004b). It captures the process and outcomes of the assessment (including the baseline environment, stakeholder input, alternatives and their assessment, mitigation and monitoring measures) and it should form part of the draft plan's documentation. There should be integration between the iterative procedures of preparing the Environmental Report and drafting of the plan, so that the plan is informed by environmental considerations from the outset (DHLGH, 2022, p. 34).

7.9.1. Opportunities to address human health in SEA Environmental Reports

The Environmental Report is a document that summarises the SEA process, offering a clear and structured analysis of the expected impacts to support decision-making. Hence, this is where the environmental and health aspects discussed throughout the evaluation process are highlighted. It must present the significant environmental and health impacts that should be considered, as well as addressing public participation, the alternatives evaluated and mitigation measures, describing the health outcomes and guaranteeing a more transparent and sustainable decision-making process.

Furthermore, the relevance of the Environmental Report in the decision-making process must be considered, including its role in consultations between stakeholders and consultants. Therefore, it is essential that the Environmental Report be well balanced, and proportional in terms of information volume, as too much or too little information can compromise its effectiveness.

7.9.2. Key recommendations

- **Ensure that population health and wellbeing are proportionately reported on within all relevant SEA topics (i.e. not just in the 'Population and Health' section).** Since people's health and wellbeing – which are influenced by multiple environmental, social, economic and institutional factors (health determinants) – are integrated across the SEA process, it is critical that they are not treated or presented solely within a specific section, such as 'Population and Health'. Instead, these considerations must be embedded throughout all SEA topics, including air quality, biodiversity, flora and fauna, and climate, among others, in order to capture environment–health interrelationships (i.e. consider the interactions between topics, while distinguishing each topic in its own right). The SEA Environmental Report needs to ensure that the health baseline, determinants, outcomes, proposed mitigation measures and indicators are proportionately included, using concise and clear language to communicate any significant health effects identified. The Environmental Report should ensure that any health effects identified are linked, as relevant, to the environmental topics

established in the SEA Directive, and that they are proportionate to the scope of the plan/programme.

- **Use plain language that ensures accessibility and understanding for different audiences.** This means that all information shared – especially through the Environmental Report – should be written in a clear, concise and inclusive manner, focusing on what is relevant to inform decisions. Complex technical terms should be avoided where possible or explained in more simple terms when necessary, and the inclusion of a glossary as appropriate, are strongly recommended – too many technical details can make it difficult to use, while too few can weaken its credibility and usefulness. The language should be tailored to non-specialist audiences, recognising that stakeholders involved in the process, such as community members, public authorities, planners, health professionals and decision-makers, may have different experiences and expertise. The Environmental Report should be seen as a document to support dialogue and transparency, helping to create a common understanding of potential significant health (and environmental) effects among stakeholders and to build trust in the SEA process.

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Appendices

A. Existing relevant guidelines and reports on health and SEA

Guideline or report	Description
Irish *Guidelines for Regional Assemblies and Planning Authorities* (DHLGH, 2022) URL: https://www.gov.ie/en/department-of-housing-local-government-and-heritage/publications/strategic-environmental-assessment-guidelines-for-regional-assemblies-and-planning-authorities/	These statutory Guidelines, issued under Section 28 of the Planning and Development Act 2000 (Government of Ireland, 2000), provide recommendations for SEA practice on the island of Ireland. The Guidelines highlight the need to consider human health risks in SEA, particularly those related to accidents. They include examples of good practice in the consideration of health risks, such as Box 5.2, which presents environmental issues from the Clare County Development Plan (2017–2023), and Figures 8.1 and 8.2, which present monitoring proposals from the Fingal County (2017–2023) and Dublin City (2016–2022) Development Plans, covering air quality, noise, population density and access to community and health facilities.
Health Impact Assessment Guidance (Pyper et al., 2021) URL: https://www.publichealth.ie/sites/default/files/resources/HIA%20Guidance%20The%20case%20for%20HIA_0.pdf	This document emphasises the integration of health into environmental assessments at both strategic and project levels. It advocates for a proportionate approach to human health, applicable in standalone HIAs or within SEAs/EIAs. It provides tools for identifying significant effects, with a focus on vulnerable groups and the general population, and highlights the role of health authorities in environmental assessments.
Support of the implementation of the Strategic Environmental Assessment Directive (EC, 2004, 2013) URLs: https://circabc.europa.eu/ui/group/3b48eff1-b955-423f-9086-0d85ad1c5879/library/7527027a-126a-49e2-92ef-3aac8159fbf6/details?download=true https://op.europa.eu/en/publication-detail/-/publication/41f79c6f-9d84-4b1d-b695-9e362f324a9b	Two guidance documents were published to support the implementation of the SEA Directive: one in 2004 for the original Directive and another in 2013 focusing on the integration of climate change and biodiversity into SEA. The 2004 guidance reaffirms that risks to human health should be considered in SEA and emphasises the need for a comprehensive and systematic assessment, although it does not define the scope of health risks in detail. The European Commission (2013) guidance links biodiversity and climate change to human health, highlighting ecosystem services that contribute to livelihoods, recreation and wellbeing. It also discusses health impacts of climate change, such as extreme weather events and their effects on infrastructure and food production. While not explicitly defining human health, it implies a broad scope that includes both physical and mental health, as well as the health of ecosystems that support human activities.
Resource Manual to Support Application of the Protocol on Strategic Environmental Assessment (UNECE, 2012) URL: https://unece.org/sea-protocol-resource-manual-0	This resource manual provides guidance on the application of the SEA Protocol. Annex A1.1 deals specifically with health, outlining its importance, practical considerations and assessment methods. It includes an example from the Czech Operational Programme (2007–2013), discusses consultation with environmental and health authorities, and provides recommendations for integrating health into SEA scoping and reporting.
Draft Guidance on Assessing Health Impacts in Strategic Environmental Assessment (UNECE, 2023) URL: https://unece.org/environment/documents/2023/03/session-	In 2023, UNECE and WHO published draft guidance on 'Assessing Health Impacts in Strategic Environmental Assessment', which reinforces the WHO definition of health and emphasises population health in SEA. It introduces a framework for assessing health impacts, focusing on health inequalities, lifestyles, communities, socio-economic conditions and health services. The document also presents the Driving Force, Pressure, State, Exposure, Effect, Action

Guideline or report	Description
documents/draft-guidance-assessing-health-impacts-strategic	(DPSEEA) framework to systematically link health impacts to broader environmental and social factors.

Other relevant guidelines/reports include:

- *Health Impact Assessment International Best Practice Principle* (Winkler et al., 2021), published by the IAIA – International Association for Impact Assessment.
- *Health Impact Assessment Guidelines in Georgia* (Roue Le Gall et al., 2024). Elaborated by Expertise France in 2024, it's a twinning project to support the implementation of HIA practice in the country.
- *Guidance on Consideration of Human Health in Strategic Environmental Assessment*, published by the Scottish Environment Protection Agency (2019).
- *Draft Guidance on Health in Strategic Environmental Assessment – Consultation Document*, circulated by the English Department of Health in 2007 (Department of Health, 2007).
- *Draft Guidance on Assessment Health Impacts in Strategic Environmental Assessment* (UNECE, 2021).

B. Public health system structures

The Health Service Executive (HSE) public health function works to protect and improve health for the people of Ireland. It focuses on preventing disease and injuries; responding to public health threats; promoting good physical, mental and social health; and improving health services. The public health service is delivered through the following departments, domains, programmes and offices:

- Regional Departments of Public Health
- Health Intelligence
- Health Protection
- Health Improvement
- Health Service Improvement
- Population based planning
- Child Health Public Health
- National Screening Service
- National Cancer Control Programme
- HSE Global Health Programme
- HSE Quality and Patient Safety Directorate
- National Social Inclusion Office

Reference: HSE Public Health

In Ireland, Public Health is delivered at national and regional levels. At the national level, there is the National Office for Public Health, led by the National Director for Public Health. The national teams within public health each have a National Director and a team of Consultants in Public Health Medicine (CPHMs) working in the following areas: Health Improvement, Health Service Improvement, Health Protection, Health Intelligence and National Child Health. There are other teams within the HSE that operate nationally and have CPHMs embedded as part of the team; these include the National Cancer Control Programme, National Screening Service, National Clinical Integration and Design, National Patient Safety, Global Health Programme and CPHM lead, and the National Social Inclusion Office.

There are six HSE health regions, each led by a Regional Executive Officer who is accountable for service planning, delivery and health outcomes within the defined population in their geography. Within each HSE health region, there is a Department of Public Health, led by the Regional Director for Population and Public Health, who reports to the Regional Executive Officer. The Regional Director of Population

and Public Health is supported by a CPHM (with the exception of HSE South West[3]). Across all Departments of Public Health in the HSE health regions, there are CPHMs with a special interest in Health Protection, Health Intelligence, Health Service Improvement and Health Improvement.[4]

The Regional Director of Population and Public Health is also a regional Medical Officer of Health (MOH). The MOHs have a mandated responsibility and authority to investigate and control notifiable infectious diseases and outbreaks, as outlined in the Health Acts 1947 and 1953, and the Infectious Disease Regulations 1981 (and amendments to these).

[3] This was due to a recruitment embargo within the HSE taking effect before a Public Health Medicine Consultant had been recruited (as opposed to any difference in structures regionally).
[4] Personal communication from the Health Service Executive National Health Improvement Team.

Figure B1. National public health system structures. Source: HSE Health Improvement Team.

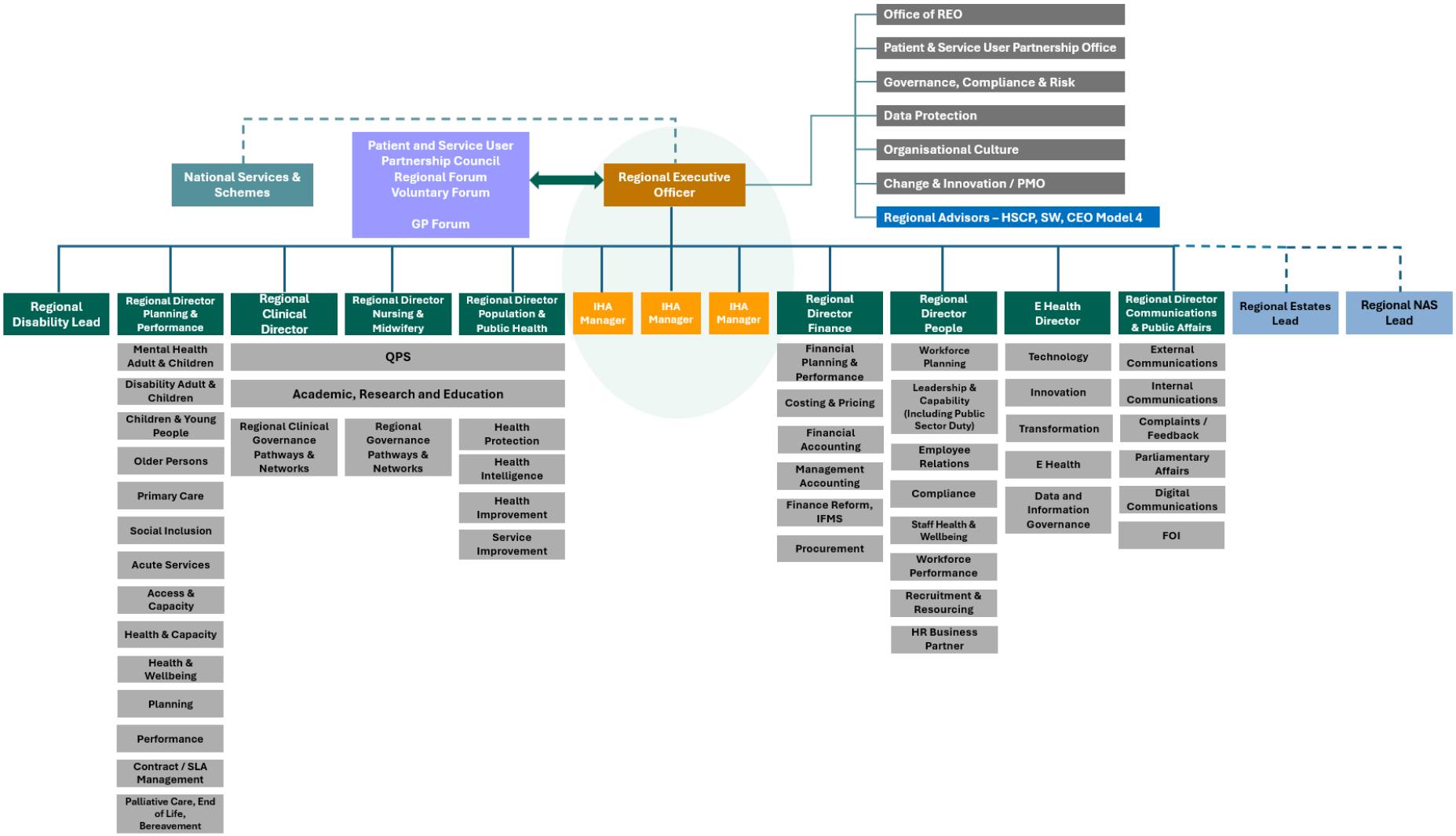
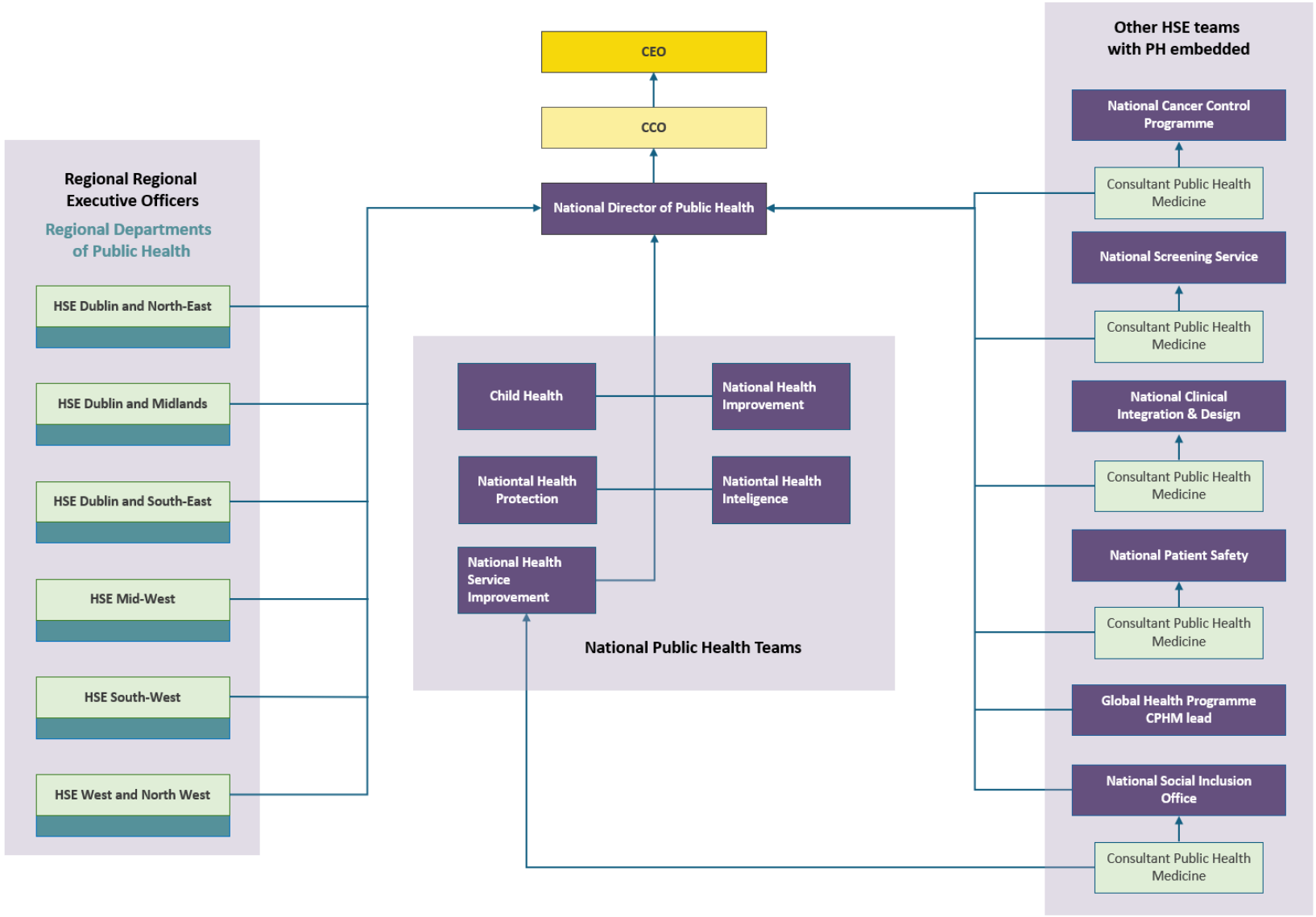


Figure B2. Regional public health system structures. Source: HSE Health Improvement Team.



C. Current public health priorities

The main public health strategies and/or action plans for Ireland that are relevant to the SEA context include: *Healthy Ireland 2013–2025* (and associated action plans), *Sláintecare Implementation Strategy 2018* (and its implementation plans) and the current HSE *National Service Plan 202*5. Each of these is discussed in more detail below.

Healthy Ireland 2013–2025

In 2013, the Government of Ireland published *Healthy Ireland 2013–2025*, a collective response to the risks that threatened Ireland's future health and wellbeing, as well as its economic recovery. The vision is for 'A Healthy Ireland, where everyone can enjoy physical and mental health and wellbeing to their full potential, where wellbeing is valued and supported at every level of society and is everyone's responsibility'. Within the Healthy Ireland Framework there are four central goals for improved health and wellbeing, which are interlinked, interdependent and mutually supportive:

- Goal 1: Increase the proportion of people who are healthy at all stages of life;
- Goal 2: Reduce health inequalities;
- Goal 3: Protect the public from threats to health and wellbeing; and
- Goal 4: Create an environment where every sector of society can play its part.

The Healthy Ireland Framework draws on existing policies but proposes new arrangements to ensure effective cooperation and collaboration and to implement evidence-based policies at government, sectoral, community and local levels. It is about each individual sector helping to improve health and wellbeing, multiplying all efforts and delivering better results.

The Healthy Ireland Strategic Plan 2012–2025 presented updated themes following stakeholder consultation. The revised themes include a focus on health inequalities and are aligned to the Sláintecare Fundamental Principles and Reform Programme 2 – Addressing Health Inequalities:

- Theme 1: Governance and policy
- Theme 2: Partnerships and cross-sectoral work
- Theme 3: Empowering people and communities
- Theme 4: Sláintecare health reform
- Theme 5: Research, evidence, monitoring, reporting and evaluation
- Theme 6: Reducing health inequalities

Healthy Ireland is approaching the end of its term, but it is unclear at this stage what plans are in place for a successor strategy or plan.

References: Healthy Ireland 2013-2025 and Healthy Ireland Strategic Plan 2012-2025

Sláintecare Progress Report 2021–2023

The Sláintecare 10-year programme of healthcare reform is currently being implemented to achieve the vision of one universal health service for all, which provides the right care, in the right place, at the right time, by the right team. The aims of Sláintecare include:

- Promoting the health of our population to prevent illness;
- Bringing most of care into the community; and
- Creating an integrated system of care with healthcare professionals working closely together and delivering a health service that has the capacity and ability to plan for, and manage, changing needs.

This reform was set out in the Sláintecare Implementation Strategy 2018. Building on the first three years of progress, and the learnings and response to the COVID-19 pandemic, the Sláintecare Implementation Strategy and Action Plan 2021–2023, identified two high-level priority areas:

- Improving safe, timely access to care, and promoting health and wellbeing; and
- Addressing health inequalities – towards universal healthcare.

These priority programmes had 11 associated projects to deliver on tangible outcomes for patients over the three-year period. The progress report of the most recent Sláintecare Implementation Strategy and Action Plan 2021–2023 was published in 2024. It is unclear what the next steps are in terms of delivery on Sláintecare.

HSE National Service Plan 2025

According to the HSE, the goal of public health is to promote health, prevent disease and prolong life through organised efforts and informed choices. In 2025, the HSE focused on the following key areas:

- Child health;
- Immunisation;
- Health protection;
- Health improvement;
- Health information and evidence; and
- Health service improvement.

The HSE is developing its first Public Health Strategy (2025–2030), which aims to provide a clear roadmap for public health over the next five years. This strategy development coincides with the reform processes that have been implemented both within public health, and across the wider HSE as part of Sláintecare (Reference: HSE website).

D. Template to support the identification and selection of health determinants for SEA

This template[5] aims to support the identification of relevant health determinants in SEA processes, particularly during the SEA scoping stage. The table is intended to help determine the likelihood and significance of health effects. The template enables reflection on indicators associated with the determinants and likely (potential) health effects. This can then be used to inform the identification of SEA monitoring indicators.

SEA topic [health determinant] (A)	**Are the identified impacts (for a given SEA topic) likely to cause health effects?** (B)	**Are health effects likely to be significant?** (C)	**Should the identified health determinant(s) be considered in the SEA?** (D)		**Can it be monitored using an indicator?** (E)	
			YES/NO		YES/NO	Which one(s)?
Air quality						
Biodiversity						
Climatic factors						
Cultural heritage						
Fauna						
Flora						
Human health						
Landscape						
Noise						
Population (including demographics)						
Seveso sites and radiation						
Soils and geology						
Material assets (including housing and transport)						
Water						

[5] The development of this table was informed by the following guidelines: (1) Roue Le Gall et al. (2024); (2) UNECE (2023).

Notes:

A. SEA topics can be statutory and/or defined according to the key concerns and/or environmental issues associated with the plan/programme. The ways in which changes in health determinants lead to changes in health can be identified from scientific literature and with the help of health experts/professionals.

B. The effects can be categorised as 'probable' or 'not probable'. Comments on how and/or why this is the case would be helpful, particularly when in consultation with health experts/professionals.

C. The significant and/or long-term impact can be classified as 'significant', 'possibly significant' or 'not significant'. Comments on how and/or why this is the case would be helpful, particularly from health experts/professionals.

D. Provide comments that support the decision taken.

E. Most impacts should be represented by an associated indicator. However, some issues are complex and require more in-depth analysis. In these cases, the involvement of public health experts/professionals is recommended. Availability of data appropriate to the assessment scale is important, but should not a reason to disregard a particular health determinant.

E. Examples of sources, pathways and outcomes for SEA topics

The table below provides some examples of source–pathway–outcome links for each SEA topic. It also includes examples of representative vulnerable groups.

SEA topic	Sources	Pathways	Outcomes	Vulnerable groups
Air quality	• Vehicle emissions • Industrial pollution • Domestic heating • Decreased air quality due to climate change	• Inhalation of air pollutants (e.g. particulates, NO_2)	Non-communicable diseases: ○ Cardiovascular diseases ○ Respiratory diseases ○ Neonatal diseases / unfavourable birth outcomes ○ Mental health (e.g. depression and anxiety) ○ Development of obesity in children	• Children • Pregnant women • Older persons • Persons with pre-existing conditions (in particular respiratory-related)
Biodiversity, flora and fauna	• Habitat loss • Ecosystem degradation • Invasive species • Species loss • Decreased breeding success	• Reduced access to and loss of ecosystem services • Increased contact with vectors	• Impact on wellbeing due to changes in ecosystem services • Immune and digestive system affected by microbial resistance • Zoonotic diseases	• Children • Pregnant women • Persons with pre-existing conditions
Climate	• Greenhouse gas emissions • Flooding • Longer pollination season	• Exposure to extreme weather (e.g. heatwaves, floods, wildfires) • Food and water insecurity • Contact with flood water • Exposure to pollen for longer duration	Extreme climate events leading to: ○ Injuries ○ Poor mental health ○ Exacerbation of existing health conditions ○ Stress-related illnesses	• Pregnant women • Older persons • Persons with pre-existing conditions
Cultural heritage	• Urbanisation • Infrastructure development	• Disruption of community identity and social connection	• Wellbeing affected by changing social and community context	• Ethnic and other minority groups
Landscape	• Urban development (and natural land take) • Landform changes	• Altered visual and physical environment • Loss of access to green/blue spaces	• Changes to the physical environment can impact wellbeing • Changes to physical environment can Influence climatic factors (e.g. funnel position, fresh air corridors, hillside location) and can be	• Older persons • Persons with pre-existing conditions

SEA topic	Sources	Pathways	Outcomes	Vulnerable groups
			important for heat mitigation, flooding, landslides, etc.	
Land use	• Urban sprawl • Infrastructure expansion • Poor land-use planning	• Increased distance to services; reduced walkability; increased traffic and injuries; reduced access to care	• Can influence health and social care provision • Can influence non-communicable diseases (e.g. by encouraging non-active travel) • Can influence risk of injuries (e.g. transport-related) • Can lead to greater inequity • Can influence human–wildlife interactions and risk of zoonotic diseases	• Children • Older persons • Persons with disabilities • Women • Persons with pre-existing conditions
Material assets	• Economic decline • Damage to infrastructure	• Economic insecurity • Reduced access to employment and housing	• Wellbeing and mental health affected by economic loss and increasing inequity	• Economically disadvantaged persons
Natural sites	• Ecosystem degradation • Loss of protected areas	• Loss of natural regulation (e.g. air and water filtration) • Increased exposure to vectors	• Impact on wellbeing due to changes in ecosystem services • Zoonotic diseases	• Persons with pre-existing conditions
Noise	• Traffic • Construction • Industrial activities	• Continuous exposure to elevated noise levels	• Sleep disturbance leading to non-communicable diseases (e.g. heart disease, depression, type 2 diabetes) • Cognitive functions • Impact on central nervous system and brain	• Children • Persons with pre-existing conditions
Population and human health	• Urban planning and transport systems • Unhealthy built environments	• Promotion of unhealthy behaviours (e.g. inactivity); stress-related exposures	• Impact on non-communicable diseases based on proposed plan content influencing health damaging behaviours	• Children • Older persons • Pregnant women • Persons with pre-existing conditions
Seveso sites and radiation	• Industrial accidents • Nuclear facilities • Chemical storage	• Accidental release of hazardous substances; chronic low-dose exposure	• Cancer risks, especially lung cancer	• All populations • Certain uses (e.g. schools, nursing homes) may

SEA topic	Sources	Pathways	Outcomes	Vulnerable groups
				require emergency plans depending on proximity

Soils and geology	• Soil contamination (e.g. heavy metals, chemicals)
	• Land instability (e.g. landslide risk)
		• Ingestion or dermal contact with contaminants; exposure through food grown in contaminated soil; risk of landslides or subsidence	• Contaminated soils potentially leading to:
			  ○ Dermatological conditions
			  ○ Respiratory disorders
			  ○ Cancers
				• Children
				• Pregnant women
				• Persons with pre-existing conditions

Water	• Contaminated drinking water • Wastewater discharge • Micro-plastics pollution	• Ingestion of contaminated water • Disruption of sanitation • Chronic exposure to micro-pollutants	• Waterborne diseases (e.g. cryptosporidiosis and *E. coli*) • Reproductive disorders, diabetes and cancers (due to micro-plastics affecting endocrine system) • Immune and digestive system affected by microbial resistance	• Children • Pregnant women • Older persons • Persons with disabilities • Persons with pre-existing conditions

F. Template to support the identification and evaluation of key issues/alternatives

Environmental, health and wellbeing issues	**Why was this selected?**	**Negative effects**	**Positive effects**	**Opportunities of development**	**Possible options / alternatives**
(A)	**Comments (B)**	**Comments (C)**	**Comments (D)**	**Comments (E)**	**Comments (F)**
Air quality					
Biodiversity, flora and fauna					
Climate					
Cultural heritage					
Landscape					
Land use					
Material assets					
Natural sites					
Noise					
Population & human health					
Seveso sites and radiation					
Soils and geology					
Water					

Notes:

A. These are generic examples and should be considered based on the relevance of each case.

B. Explain why this issue was considered relevant to the evaluation. Base it on data, scientific evidence or community needs and recommendations from experts and health authorities.

C. List the possible adverse impacts of the proposal on health and wellbeing (see Appendix E). Examples: increased pollution, greater risk of respiratory diseases, worsening urban mobility.

D. Record the positive impacts of the proposal. Examples: improving air quality, expanding leisure spaces, encouraging active transport.

E. Identify opportunities associated with this issue that can be used to optimise positive impacts and mitigate negative ones.

F. List possible feasible alternatives or adjustments to the proposal to reduce negative impacts and maximise the benefits for health and wellbeing.

G. Template supports the establishment of a cause-and-effect matrix on health in SEA

Causes		**Effects**				
SEA topic	**Proposed action**	**Determinant of health and exposure route**	**Possible health impact**	**Health indicator**	**Affected groups**	**Health outcomes**
(A)	**(B)**	**(C)**	**(D)**	**(E)**	**(F)**	**(G)**
Air quality						
Biodiversity, flora and fauna						
Climate						
Cultural heritage						
Landscape						
Land use						
Material assets						
Natural sites						
Noise						
Population and human health						
Seveso sites and radiation						
Soils and geology						
Water						

Notes:

A. Environmental issue deemed relevant by SEA. Examples: air quality, water, soil, noise, biodiversity, etc. This column defines the starting point for cause-and-effect analysis.
B. Actions in future plans or programmes that may alter the environmental issue listed in Column A. Examples: road construction, urban expansion, industrial installation, change in land use, etc.
C. The health determinant affected by the proposed action and the population's exposure pathway. Examples: air quality (inhalation of pollutants), contaminated water (ingestion), noise (hearing exposure), lack of green areas (mental health/climate).
D. The potential health effects resulting from changes in determinants. These can be negative or positive. Examples include an increase in respiratory diseases, reduced stress, increased risk of accidents, other non-communicable diseases, etc.

E. A measurable indicator that allows the impact on health to be monitored over time. It may include environmental or epidemiological data. Examples: PM2.5 concentration, asthma hospitalisation rates, noise levels in dB, number of accessible healthcare facilities. Note also that relevant health indicators are included in the European 8th Environmental Action Programme (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022DC0357), such as the number of premature deaths due to exposure to fine particulate matter (PM2.5) in population groups that are more susceptible or disproportionately affected. Examples: children, the elderly, people with disabilities, workers, residents of densely populated urban areas, illegal migrants, ethnic groups.
F. Expected or observed effects on population health, considering exposure and impacts (positive or negative). Examples: prevalence of diseases, preventable mortality, improved active mobility, reduction in obesity, etc.

H. Template for supporting the establishment of a preliminary monitoring framework

The following table is intended to help develop an SEA monitoring framework (see also Appendices D and E for relevant templates and supporting information) and prioritise key monitoring indicators, taking account of key environment–health interrelationships and vulnerable groups.

Question	***Answer (yes/no)***	***Description***
1. Are there any potential significant impacts on health and wellbeing?	[ ] Yes [ ] No	***If yes, describe the expected impact.*** *For example: Increase in respiratory diseases due to air pollution.*
2. Are there any indicators that can be used to monitor these impacts?	[ ] Yes [ ] No	***If yes, indicate which indicators were identified in the evaluation.*** *For example:* • *Rate of hospitalisations due to respiratory diseases.* • *Air quality.* • *Contaminants in water.*
3. Are specific agencies responsible for monitoring the identified indicators?	[ ] Yes [ ] No	***If yes, indicate which agencies.*** *For example:* • *World Health Organization* • *Central Statistics Office* • *Health Service Executive*
4. Are there historical data on these indicators?	[ ] Yes [ ] No	***If yes, indicate the source and frequency of data collection.*** *For example: Annual, quarterly, monthly or daily, and the respective data source.*
5. Is it possible to identify which population groups are potentially most vulnerable?	[ ] Yes [ ] No	***If yes, which population groups are most vulnerable?*** *For example: Children, the elderly, rural workers, migrants …*
6. Is the population's health and wellbeing being significantly impacted?	[ ] Yes [ ] No	***If yes, what level of risk?*** *For example: Low, moderate, high, and describe why.*
7. Are there any policies, plans or programmes already in place that could help mitigate the impacts?	[ ] Yes [ ] No	***If yes, which ones?*** *For example:* • *National Planning Framework* • *Healthy Ireland Framework* • *Climate Action Plan*
8. Are there involvement mechanisms or a network of actors/mediators with health stakeholders?	[ ] Yes [ ] No	***If yes, which ones? If not, consider ways to ensure participation.*** *For example:*

Question	***Answer (yes/no)***	***Description***
		• *Community meetings* • *Participation of health bodies* • *Public consultations, advice to authorities*

I. Examples of health-related domains of expertise to consider in SEA

This is a non-exhaustive list of potential domains of health expertise to be considered to facilitate an effective consideration of health in SEA. The expertise to be consulted/engaged in an SEA process will depend on the plan/programme and the key areas of concern. A range of organisations exists in Ireland concerning these (e.g. Health Protection Surveillance Centre on 'migration and health'; Health Research Board on 'chemical safety' and 'illicit drugs'; Pobal on 'housing and health'; Irish Wheelchair Association on 'mobility and health'; Irish Nutrition and Dietetic Institute on 'nutrition' and 'disease prevention'). See also Appendix B for information on public health system structures and domains.

Specific domains of expertise (general)	**Other specific domains of expertise (specific)**
• Air quality • Climate change and health • Environmental risk assessment and management • Health policies • Housing and health • Mental health • Migration and health • Natural hazards and risks • Noise • Physical health • Green/blue infrastructure and health • Public health services • Sanitation • Soil contamination • Mobility and health • Urban development • Water quality • Biodiversity and health	• Alcohol • Cancer • Cardiovascular disease • Chemical safety • Child and adolescent health • Chronic respiratory diseases • Communicable diseases • Diabetes • Disease prevention • eHealth • Food safety • HIV/AIDS • Illicit drugs • Malaria • Maternal, newborn and child health • Non-communicable diseases • Nursing and obstetrics • Nutrition • Oral health • Primary health care • Sexual and reproductive health • Technological innovations • Tobacco use • Tuberculosis • Violence and trauma

Adapted from Roue Le Gall et al. (2024).

Knowledge Mediation Strategies

Different approaches can be used to ensure effective participation and consultation with health experts/professionals, promoting a structured and effective engagement in SEA processes.

Knowledge mediation strategies	***Intention***	***Example of mediation strategies***	***Examples of how mediators can intervene***	***Level of engagement***
Inform	Disseminate key information	Technical sheets; Websites.	Target decision-makers; Disseminate technical	Low

Knowledge mediation strategies	***Intention***	***Example of mediation strategies***	***Examples of how mediators can intervene***	***Level of engagement***
			sheets, circulate information on the web; Conduct internal communications via phone or email.	
Consult	Seek out known experts for advice on problems outlined by the parties seeking guidance.	Meetings; Requested evaluations.	Identify which decision-makers would benefit from speaking with experts and facilitate communication; Work with decision-makers and those with substantive experience to frame what should be included in the decision.	
Match-make	Identify which specialised knowledge is needed, who can provide it, and the best ways to make connections.	Introduce people to one another.	Identify sources of information, locate or create useful materials for decision-making, and transmit them.	
Engage	Motivate all necessary parties to take part in the decision-making process; involve other parties in the substantive aspects of the problem as needed.	Identification of relevant people, such as committees and technical working groups.	Identify who needs to be involved and how they should be engaged.	Medium
Collaborate	Jointly organize the interaction process with the involved parties and negotiate substantive issues to resolve a distinct political issue.	Common agreements.	Facilitate collaboration.	
Build Capacity	The parties jointly organize the interaction process and negotiate their issues with the intention of addressing multiple dimensions of a political problem. While considering what needs to be learned, they also reflect on the long-term implications of these issues.	Co-management of problems; Joint fact-finding; Co-production of knowledge and long-term institutional collaboration.	Establish and maintain long-term professional relationships; Ensure institutional relationships.	High

Adapted from Michaels (2009).

J. GIS to support effective consideration of health in SEA

The application of Geographic Information Systems (GIS) in SEA facilitates a systematic and comprehensive assessment process by:

- providing key information in a spatially specific, transparent and graphic manner;
- combining and spatially assessing multiple environmental and health considerations and addressing their potential commonalities, interrelationship and cumulative effects;
- facilitating the visual identification of existing health sensitivities in the context of proposed land uses; and
- allowing for the integration of public perceptions into the assessment.

SEA Stage	Benefits	Limitations
Screening	• Rapid and spatial identification of significant health issues in the plan/programme area.	• Time restrictions affecting data access and gathering.
Scoping	• Systematic/replicable approach. • Rapid and spatial identification of significant health issues. • Better understanding of potential issues (e.g. location, extent, cumulative effects). • Time and resource optimisation in assessments.	• Time restrictions affecting data gathering. • Currency and accuracy issues in datasets affecting their usability. • Data management tasks to ensure data are fit for use.
Baseline Environment	• Visual representation of the spatial distribution of health information. • Improved information delivery. • Time and resource optimisation.	• Licensing/copyright impeding access to certain data. • Lack of availability of certain datasets affecting their consideration in GIS-based assessments. • Data format/compatibility issues. • Data management tasks to ensure data are fit for use. • Temporality and accuracy issues in datasets affecting their usability.
Strategic Environmental Objectives	• Provision of spatially specific targets and indicators.	• Broad and non-spatial nature of health objectives in other plans/programmes impeding their effective consideration and integration into the GIS analysis.
Alternatives	• Spatial definition and graphic representation of alternatives. • Improved information delivery.	• Inability to spatially interpret non-spatial strategic health objectives.
Assessment of Alternatives	• Systematic, replicable and transparent spatial assessment of multiple environmental and health factors. • Visual and quantitative comparison of alternatives.	• Time constraints. • Currency and accuracy issues in datasets. • Inability to tackle non-spatial planning considerations (e.g. broad health policies).
Mitigation Measures	• Explicit implementation of mitigation measures.	• Non-spatial nature of policy-level impact mitigation.
Monitoring Measures	• Definition of precise and spatially specific measures.	• Lack of enforcement of spatially specific monitoring.
Environmental Report	• Improved quality, accuracy and transparency of the assessment.	• Delayed GIS incorporation in the initial SEA stages affecting spatial analysis outcomes.

SEA Stage	Benefits	Limitations
	• Enhanced information delivery.	• Data quality issues (e.g. currency, scale, accuracy) affecting reliability of outcomes.
Public Consultation and Participation	• Complementary participative method (participatory GIS). • Enhanced transparency. • Improved legitimacy of participation.	• Restricted public GIS knowledge/spatial literacy. • Time constraints affecting efficiency of public involvement. • Data confidentiality/copyright issues.
Decision-Making	• Evidence-informed decision-making. • Enhanced transparency, quantity and quality of the environmental and health information provided.	• Restricted spatial literacy among decision-makers.
Monitoring	• Rapid updating of monitored values. • Systematic spatial analysis of monitoring results by applying previously established procedures. • Visual comparison of changes over time. • Reuse of health datasets in the plan/programme review and associated SEA.	• Limitations in spatial context of health indicators. • Lack of resources impacting on the effectiveness of monitoring and availability of systematic health monitoring data.

For more information and step-by-step guidance on how to apply GIS to support SEA processes refer to González Del Campo (2017).

K. Data sources/sources of health information

Compiled from: https://hseresearch.ie/data-sources/

See also SEA Spatial Data Sources Inventory: https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/sea-spatial-information-sources-inventory-.php

Data/Information	Source	URL	Access
Health Atlas Ireland	Health Services Executive (HSE)	https://www.healthatlasireland.ie/	Access credentials required
Census Population Statistics (including perceived health status)	Central Statistics Office (CSO)	https://www.cso.ie/en/statistics/population/censusofpopulation2022/	Publicly accessible data
eHealth Ireland Open Data Portal	Multiple sources	https://data.gov.ie/dataset?theme=Health	Publicly accessible data
Irish Social Science Data Archive	Multiple sources	https://www.ucd.ie/issda/data/	Formal application required to access health data
Computerised Infectious Disease Reporting	Health Protection Surveillance Centre, the Food Safety Authority of Ireland, the Food Safety Promotion Board and the Department of Health	https://www.hpsc.ie/cidr/	Access credentials required
Catalogue of National Health and Social Care Data Collections in Ireland	National Health and Social Care Data Collections in Ireland	https://www.hiqa.ie/reports-and-publications/health-information/catalogue-national-health-and-social-care-data	Publicly accessible reports
COVID-19 Data Research Hub	Central Statistics Office	https://www.cso.ie/en/aboutus/lgdp/csodatapolicies/dataforresearchers/covid-19dataresearchhub/	Publicly accessible report
Irish Longitudinal Study on Ageing	Irish Longitudinal Study on Ageing (TILDA)	https://tilda.tcd.ie/	
National Longitudinal Study of Children	Growing Up in Ireland	https://www.growingup.gov.ie/	Publicly accessible report
The Healthy Ireland Survey	Department of Health	https://www.gov.ie/en/healthy-ireland/publications/healthy-ireland-survey-2025/	Formal application required to access health data

Data/Information	Source	URL	Access
National Drug Treatment Reporting System	Health Research Board	https://www.hrb.ie/publications/	Formal application required to access health data
National Drug-Related Deaths Index	Health Research Board	https://www.hrb.ie/publications/	Formal application required to access health data
National Ability Supports System	Health Research Board	https://www.hrb.ie/publications/	Formal application required to access health data
National Psychiatric In-patient Reporting System	Health Research Board	https://www.hiqa.ie/areas-we-work/health-information/data-collections/national-psychiatric-inpatient-reporting-system	Formal application required to access health data
The National Cancer Registry	The National Cancer Registry Ireland	https://www.ncri.ie/data	Formal application required to access health data

Other Irish sources of health information:

- **Health Protection Surveillance Centre (HPSC)** – https://www.hpsc.ie/topicsa-z/
- **Health Information and Quality Authority** – https://www.hiqa.ie/areas-we-work/health-information/data-collections
- **The Institute of Public Health in Ireland (IPH)** – https://www.publichealth.ie/

European sources of health information:

- **European Environment Agency's Health Atlas** – https://discomap.eea.europa.eu/atlas/
- **European Health Information Portal** – https://www.healthinformationportal.eu/

An Ghníomhaireacht Um Chaomhnú Comhshaoil

Tá an GCC freagrach as an gcomhshaol a chosaint agus a fheabhsú, mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaol a chosaint ar thionchar díobhálach na radaíochta agus an truaillithe.

Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

Rialáil: Rialáil agus córais chomhlíonta comhshaoil éifeachtacha a chur i bhfeidhm, chun dea-thorthaí comhshaoil a bhaint amach agus díriú orthu siúd nach mbíonn ag cloí leo.

Eolas: Sonraí, eolas agus measúnú ardchaighdeáin, spriocdhírithe agus tráthúil a chur ar fáil i leith an chomhshaoil chun bonn eolais a chur faoin gcinnteoireacht.

Abhcóideacht: Ag obair le daoine eile ar son timpeallachta glaine, táirgiúla agus dea-chosanta agus ar son cleachtas inbhuanaithe i dtaobh an chomhshaoil.

I measc ár gcuid freagrachtaí tá:

Ceadúnú

- Gníomhaíochtaí tionscail, dramhaíola agus stórála peitril ar scála mór;
- Sceitheadh fuíolluisce uirbigh;
- Úsáid shrianta agus scaoileadh rialaithe Orgánach Géinmhodhnaithe;
- Foinsí radaíochta ianúcháin;
- Astaíochtaí gás ceaptha teasa ó thionscal agus ón eitlíocht trí Scéim an AE um Thrádáil Astaíochtaí.

Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil

- Iniúchadh agus cigireacht ar shaoráidí a bhfuil ceadúnas acu ón GCC;
- Cur i bhfeidhm an dea-chleachtais a stiúradh i ngníomhaíochtaí agus i saoráidí rialáilte;
- Maoirseacht a dhéanamh ar fhreagrachtaí an údaráis áitiúil as cosaint an chomhshaoil;
- Caighdeán an uisce óil phoiblí a rialáil agus údaruithe um sceitheadh fuíolluisce uirbigh a fhorfheidhmiú
- Caighdeán an uisce óil phoiblí agus phríobháidigh a mheasúnú agus tuairisciú air;
- Comhordú a dhéanamh ar líonra d'eagraíochtaí seirbhíse poiblí chun tacú le gníomhú i gcoinne coireachta comhshaoil;
- An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaol.

Bainistíocht Dramhaíola agus Ceimiceáin sa Chomhshaol

- Rialacháin dramhaíola a chur i bhfeidhm agus a fhorfheidhmiú lena n-áirítear saincheisteanna forfheidhmithe náisiúnta;
- Staitisticí dramhaíola náisiúnta a ullmhú agus a fhoilsiú chomh maith leis an bPlean Náisiúnta um Bainistíocht Dramhaíola Guaisí;
- An Clár Náisiúnta um Chosc Dramhaíola a fhorbairt agus a chur i bhfeidhm;
- Reachtaíocht ar rialú ceimiceán sa timpeallacht a chur i bhfeidhm agus tuairisciú ar an reachtaíocht sin.

Bainistíocht Uisce

- Plé le struchtúir náisiúnta agus réigiúnacha rialachais agus oibriúcháin chun an Chreat-treoir Uisce a chur i bhfeidhm;
- Monatóireacht, measúnú agus tuairisciú a dhéanamh ar chaighdeán aibhneacha, lochanna, uiscí idirchreasa agus cósta, uiscí snámha agus screamhuisce chomh maith le tomhas ar leibhéil uisce agus sreabhadh abhann.

Eolaíocht Aeráide & Athrú Aeráide

- Fardail agus réamh-mheastacháin a fhoilsiú um astaíochtaí gás ceaptha teasa na hÉireann;
- Rúnaíocht a chur ar fáil don Chomhairle Chomhairleach ar Athrú Aeráide agus tacaíocht a thabhairt don Idirphlé Náisiúnta ar Ghníomhú ar son na hAeráide;
- Tacú le gníomhaíochtaí forbartha Náisiúnta, AE agus NA um Eolaíocht agus Beartas Aeráide.

Monatóireacht & Measúnú ar an gComhshaol

- Córais náisiúnta um monatóireacht an chomhshaoil a cheapadh agus a chur i bhfeidhm: teicneolaíocht, bainistíocht sonraí, anailís agus réamhaisnéisiú;
- Tuairiscí ar Staid Thimpeallacht na hÉireann agus ar Tháscairí a chur ar fáil;
- Monatóireacht a dhéanamh ar chaighdeán an aeir agus Treoir an AE i leith Aeir Ghlain don Eoraip a chur i bhfeidhm chomh maith leis an gCoinbhinsiún ar Aerthruailliú Fadraoin Trasteorann, agus an Treoir i leith na Teorann Náisiúnta Astaíochtaí;
- Maoirseacht a dhéanamh ar chur i bhfeidhm na Treorach i leith Torainn Timpeallachta;
- Measúnú a dhéanamh ar thionchar pleananna agus clár beartaithe ar chomhshaol na hÉireann.

Taighde agus Forbairt Comhshaoil

- Comhordú a dhéanamh ar ghníomhaíochtaí taighde comhshaoil agus iad a mhaoiniú chun brú a aithint, bonn eolais a chur faoin mbeartas agus réitigh a chur ar fáil;
- Comhoibriú le gníomhaíocht náisiúnta agus AE um thaighde comhshaoil.

Cosaint Raideolaíoch

- Monatóireacht a dhéanamh ar leibhéil radaíochta agus nochtadh an phobail do radaíocht ianúcháin agus do réimsí leictreamaighnéadacha a mheas;
- Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as taismí núicléacha;
- Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta;
- Sainseirbhísí um chosaint ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

Treoir, Ardú Feasachta agus Faisnéis Inrochtana

- Tuairisciú, comhairle agus treoir neamhspleách, fianaise-bhunaithe a chur ar fáil don Rialtas, don tionscal agus don phobal ar ábhair maidir le cosaint comhshaoil agus raideolaíoch;
- An nasc idir sláinte agus folláine, an geilleagar agus timpeallacht ghlan a chur chun cinn;
- Feasacht comhshaoil a chur chun cinn lena n-áirítear tacú le hiompraíocht um éifeachtúlacht acmhainní agus aistriú aeráide;
- Tástáil radóin a chur chun cinn i dtithe agus in ionaid oibre agus feabhsúchán a mholadh áit is gá.

Comhpháirtíocht agus Líonrú

- Oibriú le gníomhaireachtaí idirnáisiúnta agus náisiúnta, údaráis réigiúnacha agus áitiúla, eagraíochtaí neamhrialtais, comhlachtaí ionadaíocha agus ranna rialtais chun cosaint chomhshaoil agus raideolaíoch a chur ar fáil, chomh maith le taighde, comhordú agus cinnteoireacht bunaithe ar an eolaíocht.

Bainistíocht agus struchtúr na Gníomhaireachta um Chaomhnú Comhshaoil

Tá an GCC á bainistiú ag Bord lánaimseartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóir. Déantar an obair ar fud cúig cinn d'Oifigí:

1. An Oifig um Inbhunaitheacht i leith Cúrsaí Comhshaoil
2. An Oifig Forfheidhmithe i leith Cúrsaí Comhshaoil
3. An Oifig um Fhianaise agus Measúnú
4. An Oifig um Chosaint ar Radaíocht agus Monatóireacht Comhshaoil
5. An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tugann coistí comhairleacha cabhair don Ghníomhaireacht agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair imní agus le comhairle a chur ar an mBord.

epaResearch

Toolkit for the proportionate and consistent consideration of health in Strategic Environmental Assessment (SEA)

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