

The Context for Development of a National HSE Health Protection Strategy for Ireland for 2022-2027

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Version Control Table

Version	Date Commenced	Change from previous versions
1.1	04/03/22	Original (first) version
1.2	11/03/22	<p>First update:</p> <ul style="list-style-type: none"> • Added List of Abbreviations • Addition of Executive Summary in place of Purpose • Replaced Introduction with Background • Terms of Reference moved to Appendix A • Expansion of (original) Appendix C to include methodology • (original) Appendix D font increased and re-formatted • Changed Environmental Hazards paragraph to Environment Health (Climate Change and Air Pollution) • Minor revision of phrasing and formatting changes through Sections 1/2/3.
1.3	15/03/2022	<p>Second update</p> <ul style="list-style-type: none"> • Author and Contributors added to title page • Additional information on AMRIC added • Appendix A Steering Committee Membership list reformatted • Paragraph to define hazards and all hazards added to Background • Expanded Executive Summary to include current and future intention of use for this paper • References updated
1.4	04/04/2022	<p>Third update following first workshop of the National Health Protection Strategy Steering Committee (29/03/2022):</p> <ul style="list-style-type: none"> • Executive Summary revised • Addition of information on Health Threats Preparedness Programme, Research and Guideline Development Unit, Contact Management Programme and HSE Environmental Health. • Addition of further information on AMRIC role in relation to Irish National Action Plans for AMR. • Addition of summary of the Intra-Action Review Report. • Addition of new Appendix C summarising all recommendations from the Intra-Action Review Report. • Changed (original) Appendices C and D to Appendices D and E respectively, due to addition of new Appendix C. • Contextual issues section expanded following input from the National Health Protection Strategy Steering Committee at the workshop (29/03/2022). Re-formatted contextual issues into a new table (Table 1). • Addition of content and references to section on 'Strengthening Public Health Systems' within the rapid review of international public health/health protection policy documents. • Addition of brief information regarding current and proposed HSE Climate Change programme of work, in Context section (within Section 3.1.1).
1.5	10/05/2022	<p>Fourth update:</p> <ul style="list-style-type: none"> • Review of feedback provided by member of Strategy Steering Committee Ina Kelly, Specialist in Public Health Medicine. • Updates made in context of this feedback: <ul style="list-style-type: none"> ➔ New content added to existing text on Medical Officer of Health (MOH) Legislation ➔ New content and paragraph added on Data Protection

		<ul style="list-style-type: none"> ➔ MOH legislation and Data Protection content moved to beginning of Section 3.1 ➔ New content on the Climate Change Adaptation Plan for the Health Sector 2019-2024 added - additional paragraph to Section 3.1.3. ➔ Public Health leadership of the National Immunisation Office (NIO) clarified (within NIO paragraph). ➔ Expanded content in sub-section on Environmental Health to include description and work of the Public Health Medicine Environmental Health Group. Shortened section on the HSE Environmental Health Service. ➔ New content added to Core Functions of Health Protection in Section 3.1.2. ➔ Additional bullet point on data protection added to Table 1 'Public Health Leadership and Governance.' ➔ New content added to Section 3.2.2 on Environmental Health. ➔ Section 3.1.4 – additional lesson added.
1.6	10/06/2022	<p>Final update¹:</p> <ul style="list-style-type: none"> • Minor revision to Executive Summary. • Minor revision of Section 3.1.1 • Revision of content on HSE Environmental Health Service and removal of paragraph specifically on same at request of Steering Committee member Ann Marie Part, Assistant National Director for Environmental Health. • Minor addition to Table 1 'Workforce Resourcing and Planning'. • Moved paragraph on Climate Change in Section 3.1.1.2 to Section 3.1.3.

¹ Note: This represents the final updates made to this document on June 10th 2022. The document was reviewed by the Strategy Steering Committee and feedback was provided prior to any final updates being made.

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List of Abbreviations

Abbreviation	Term
AMR	Anti-Microbial Resistance
AMRIC	Anti-Microbial Resistance and Infection Control
AMS	Anti-Microbial Stewardship
CCO	Chief Clinical Officer (of Ireland)
CMP	Contact Management Programme
CSO	Chief Strategy Office
EAG	Expert Advisory Group
ECDC	European Centre for Disease Prevention and Control
EHO	Environmental Health Officer
EHS	Environmental Health Service
EU	European Union
GDPR	General Data Protection Regulations
HBV	Hepatitis B Virus
HCAI	Healthcare Acquired Infections
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
HPSC	Health Protection Surveillance Centre
HSE	Health Services Executive (of Ireland)
HTPP	Health Threats Preparedness Programme
IAR	Intra-Action Review
ID	Infectious Diseases
IDR	Infectious Disease Regulation
IDSi	Infectious Diseases Society of Ireland
IHR	International Health Regulations
IPC	Infection Prevention and Control
JA	Joint Action
MoH	Medical Officer of Health
NCD	Non-Communicable Disease
NIO	National Immunisation Office
NVRL	National Virus Reference Laboratory
OECD	Organisation for Economic Co-operation and Development
ONCDHP	Office of the National Clinical Director of Health Protection (of Ireland)
PH	Public Health
RHA	Regional Health Areas
RGDU	Research and Guidelines Development Unit
SDG	Sustainable Development Goal
STI	Sexually Transmitted Infection
TB	Tuberculosis
TOR	Terms of Reference
VPD	Vaccine Preventable Diseases
WHO	World Health Organisation

1. Executive Summary

This paper was originally prepared for the Health Service Executive's (HSE) National Health Protection Strategy Steering Committee, as a background document in advance of a strategy development workshop on March 29th 2022. The paper was then updated to incorporate the content of discussion at this workshop – specifically, contextual factors to be considered in the development of the strategy, as per the content of the workshop discussions – and additional feedback received by Steering Committee members. The paper was also shared with a broader range of stakeholders invited to attend a second strategy-focused consultative workshop on June 16th 2022. It ultimately acts as a stand-alone document which has set the scene for the development of a National Health Protection Strategy, the content of which can also be incorporated into the strategy itself as deemed appropriate.

This paper provides a high-level overview of several key areas relevant to the development of a National Health Protection Strategy for Ireland. It should be noted that the National Health Protection Strategy will be specifically for Public Health within the HSE, but will also highlight key linkages with relevant stakeholders for health protection.

In this paper, first, the current organisation of health protection activities in Ireland from the perspective of Public Health within the HSE is summarised. This is currently structured into two levels – national and regional. Core health protection functions are also presented. A summary of national public health reports relevant to health protection is then described. This is followed by a brief overview of the significant programme of reform underway for Public Healthⁱⁱ at present, which represents a changing landscape for Public Health in Ireland, and therefore an important national context to the development of a health protection strategy for Ireland. Relevant challenges and learning from the COVID-19 pandemic are then discussed. Key contextual factors that should be considered in the development of a National Health Protection Strategy are then presented.

Lastly, results of a rapid review of international public health and health protection strategy and similar publications are outlined, highlighting strategic priorities, objectives or goals identified in such documents according to specific themes.

ⁱⁱ Public Health in the italicised format is used in this paper to refer collectively to those working in Public Health in Ireland. Where this is not italicised, it refers to the concept/topic of public health e.g. a public health report.

Most of the included documents and public health priorities defined within them were published before the COVID-19 pandemic began in 2020. Nevertheless, many of these priorities remain highly relevant and important threats to population health today. This underscores the need for a National HSE Health Protection Strategy, as the COVID-19 pandemic response continues, to establish the functions and priorities for an all hazards health protection service for 2022-2027.

2. Background

Health protection is a core domain and function of Public Health medicine in Ireland.¹ Throughout 2020, 2021 and 2022 to date, there has been an enhanced and sustained focus on the health protection response to the COVID-19 pandemic. Responding to the pandemic has dominated the work of all Public Health professionals. There has been a significant expansion of the Public Health workforce as part of the pandemic operating model, and the Office of the National Clinical Director for Health Protection has been established in the Health Service Executive (HSE).ⁱⁱⁱ In addition, in January 2022 the Department of Health established a Public Health Reform Expert Advisory Group, whose remit firstly includes identification of learnings from the national public health response to the COVID-19 pandemic, with ‘a view towards strengthening health protection generally and future public health pandemic preparedness specifically.’²

To guide future developments, the HSE Office of the Chief Clinical Officer will develop a National Health Protection Strategy for 2022-2027. This strategy will address threats to population health from all hazards, and not solely those posed by communicable diseases. A hazard is defined as ‘*a potential source of harm of adverse health effect*’ on an individual or population.³ The World Health Organization (WHO) defines ‘all hazards’ as a concept which recognises that although hazards can vary in origin, they ‘*often challenge health systems in similar ways.*’^{4iv} As such, health protection activities such as risk reduction, emergency preparedness, response and recovery activities ‘*are usually implemented along the same model, regardless of the cause.*’ Hazards can include chemical, biological, radiological, nuclear and natural events.⁵

It is envisioned that this Strategy will provide a framework that clarifies the functions and priorities for Health Protection in the next five years, specifically for Public Health within the HSE, but highlighting key linkages with relevant stakeholders for health protection. The strategy will harvest learning from the COVID-19 pandemic, but is not a strategy to solely deal with same.

A multi-disciplinary Strategy Steering Committee was established in January 2022. The first meeting of the group was held virtually on the 27th January 2022. The terms of reference for the group and the membership are given in Appendix A.

ⁱⁱⁱ Public Health Pandemic Operating Model and Workforce Plan, Office of the Chief Clinical Officer, HSE 2020 (unpublished)

^{iv} Cited March 16th 2022.

A workshop specifically for the Steering Committee was held on March 29th 2022, to inform further development of the strategy. This was followed by a second consultative workshop on June 16th 2022, with a broader range of key stakeholders in attendance, in addition to the Steering Committee.

3. Context for a National Health Protection Strategy

A review of published grey literature has informed this summary of the national and international context for the development of a National Health Protection Strategy for Ireland. First, the national context is outlined, followed by international context.

3.1 National Context

The scope of this section includes the following four areas:

- Public Health in Ireland – Health Protection
- Core Functions of Health Protection
- Relevant National Policy, Strategy, Plans and Other Publications
- The Public Health Reform Programme
- Challenges and Learning from the COVID-19 Pandemic for Public Health.

3.1.1 Public Health in Ireland – Health Protection

In this section, two main sections are presented from the perspective of Public Health. First, the key legislation underpinning Health Protection activities for Public Health are outlined, followed by a summary of the current organisation of such activities at national and regional level.

3.1.1.1 Legislation for Health Protection

Health protection in Ireland is a statutory service for Public Health. The Medical Officer of Health (MOH) legislation sets the requirements of the service and provides the legal basis for it to comply with data protection obligations under the General Data Protection Regulations (GDPR).^{6,7} Directors of Public Health and Consultants/Specialists in Public Health Medicine in each Public Health Area implement the MOH legislation, which is summarised below.

Medical Officer of Health Legislation

Under the Principal Acts Health Act 1947 and Health Act 1953, and Principal Regulation Infectious Disease Regulations (IDR) 1981 and subsequent amendments to these regulations, the MOH has responsibility for the investigation, prevention and control of notifiable infectious diseases and outbreaks, as follows:

*“On becoming aware, whether from a notification or intimation under these Regulations or otherwise, of a case or a suspected case of an infectious disease or of a probable source of infection with such disease, a medical officer of health, or a health officer on the advice of a medical officer of health, **shall** make such enquiries and take such steps as are necessary or desirable*

- *For investigation the nature and source of such infection,*
- *For preventing the spread of such infection,*
- *And for removing conditions favourable to such infection.”*

(Infectious Diseases Regulations, 1981 – Regulation 11)

Authority for the MOH function is provided by Regulation 19 of the IDR, 1981. All medical practitioners, including clinical directors of diagnostic laboratories, are required to notify the MOH of notifiable cases, outbreaks and clusters, and to comply with requests for information and direction. Authority for detention and isolation of a person who is a probable source of infection is given under Section 38 of the Health Act 1947 and Section 35 of the Health Act 1953.

In addition, the Health (Duties of Officers) Order 1949 requires MOHs to inform themselves ‘as respects the causes, origin and distribution of diseases in the county’ and ‘as respects all influences affecting or threatening to affect injuriously the public health in the county’, including public health risk assessment for all hazards. The MOH also has an advisory role to the relevant authorities in respect of all hazards – ‘shall advise the county council generally in relation to the health of the people and the provision of health services, sanitary services and housing accommodation.’ As some of the functions of county councils have been transferred to other authorities – for example, the HSE for health services and Irish Water for sanitary services – advice is given to the appropriate authorities. Collectively, these functions combine to provide a mandate for health intelligence (commonly defined as the capturing and utilisation of knowledge to support decision-making to improve the health of the population).

Data Protection

The interface between the MOH legislation and data protection regulations is also relevant to describe. The General Data Protection Regulations (GDPR) is a European regulation to protect personal data, and requires all data processing to be carried out lawfully, transparently, fairly, accurately and to high standards. Given the importance of health protection nationally and internationally, provisions within the GDPR allow for certain essential activities to be conducted in this context, including by Public Health. Specifically, Article 6 of the GDPR requires at least one of a number of provisions to apply for data processing to be lawful and the following apply to Public Health in Ireland, based on MOH laws:

- *(c) processing is necessary for compliance with a legal obligation to which the controller is subject*
- *(d) processing is necessary in order to protect the vital interests of the data subject or of another natural person*
- *(e) processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller*

Article 9, 2 (i) provides the public health exception to the prohibition on the processing of health data:

*"processing is necessary for reasons of **public interest in the area of public health**, such as protecting against serious cross-border threats to health or ensuring high standards of quality and safety of health care and of medicinal products or medical devices, on the basis of Union or **Member State law** which provides for suitable and specific measures to safeguard the rights and freedoms of the data subject, in particular professional secrecy."* The member state laws described refer to the Health Acts 1947 and 1953, and the Infectious Diseases Regulations 1981 as amended.

3.1.1.2 Organisational Levels for (Public Health) Health Protection in Ireland

There are two main organisational levels for health protection activities by Public Health in Ireland – national and regional, as described below. There are also international linkages between such activities in Ireland and other countries. For example, the Health Protection Surveillance Centre (HPSC, described in further detail below) is the designated Competent Body for liaison with the European Centre for Disease Prevention and Control (ECDC), as well as Ireland's national focal point for communicable diseases for the World Health Organization (WHO) International Health Regulations (IHR).⁸

National Level

The Office of the National Clinical Director for Health Protection

The Office of the National Clinical Director for Health Protection (ONCDHP) was established in March 2020, when the first National Clinical Director for Health Protection took up post. The remit of the ONCDHP includes system leadership, strategy development and enhanced national coordination of the clinical and operational health protection pandemic response, aligned to the agreed future model for health protection (discussed further in Section 3.1.3). It is envisaged that a national health protection function will promote an integrated, all hazards health protection service, with regional and national responsibilities for the provision of that service, embedded in a unified Public Health service for Ireland. This integrated health protection service is mandated by the MOH legislation. It will be integrated with services regionally and be delivered by Public Health Consultant-/Specialist-led multidisciplinary teams enabled to work to the top of their licence.

Within the ONCDHP, a **Health Threats Preparedness Programme (HTPP)** and **Research and Guidance Development Unit (RGDU)** were recently established as part of the ongoing COVID-19 pandemic response.

The HTPP was established within the ONCDHP in July 2021.^v The need for this programme was highlighted as Ireland continued to respond to COVID-19, a public health emergency of international concern. The focus of the HTPP is provide national leadership in preparing for, responding to and recovering from new and emerging health threats and emergencies with the overall aim of protecting public health. The programme is led by a Consultant in Public Health Medicine Clinical Lead, with a Programme Manager and Administrator on the team. Examples of the workstreams and responsibilities of this programme include:

- Advising the NCDHP and HSE senior management on all key areas related to health threats preparedness and emergency planning
- Development of a HSE Health Threats Preparedness Strategy
- Leading on the design, development and delivery of a range of emergency preparedness exercises
- Completion of an intra-action review of the Public Health response to the COVID-19 pandemic
- Development, maintenance and monitoring of an emerging health threats risk register.

^v Information kindly provided by HTPP team by email, 2022.

The programme team engages with internal and external stakeholders, including but not limited to the Public Health Areas, HPSC, HSE Emergency Management, HSE Environmental Health Service, National Ambulance Services, HSE senior management, government departments, port authorities, WHO and ECDC networks.

The RGDU focuses on development of Public Health and Health Protection guidance that incorporates current evidence-informed guideline methodologies and reflects the values and priorities of the HSE and of Government.^{vi} Founded upon a systematic and continuous process of prioritisation and evidence synthesis, the RGDU aims to establish and utilise both an evidence-informed guideline methodology and a 'living guidelines' approach to guideline development and update. This is in order to facilitate a prompt response to new and emerging evidence and the efficient and effective use of resources in producing normative guidance for a national Irish context.

Surveillance – The Health Protection Surveillance Centre (HPSC)

Formerly the National Disease Surveillance Centre (established in 1998), the HPSC is Ireland's specialist agency for surveillance of communicable diseases, as part of the HSE. S.I. No. 151/2000 Infectious Diseases (Amendment) Regulations 2000 established the HPSC, and notes six core areas of responsibility.⁹ These include surveillance of notifiable communicable diseases, operational support to departments of public health and hospitals, training, research, policy advice and public information.¹⁰ Surveillance is a statutory responsibility of the HPSC under the Infectious Disease Regulations 1981 and subsequent amendments.¹¹ Since the beginning of the COVID-19 pandemic, a number of new surveillance programmes have commenced in the HPSC, including establishment of a Sero-Epidemiology Unit (SEU) (as part of and to manage a National Serosurveillance Programme), a Whole Genome Sequencing Surveillance Programme, and SARS-CoV-2 Wastewater Surveillance Programme.

Immunisation – The National Immunisation Office

The National Immunisation Office (NIO) - as part of the HSE - is responsible for managing vaccine procurement and distribution, and developing training and communication materials for the public and health professionals for all national immunization programmes.¹² The NIO supports healthcare providers to maximise the uptake of all national immunisation programmes and provides strategic direction in support of a best practice-based, equitable and standardised delivery of publicly funded immunisation programmes. The NIO is led by the Director of the NIO, who is also a Director of Public Health.

^{vi} Description kindly provided by Evidence Synthesis Methodologist member of the RGDU by email, 2022.

The Antimicrobial Resistance and Infection Control Team

The Antimicrobial Resistance and Infection Control Team (AMRIC) team have worked closely with Health Protection since AMRIC was established in 2017/18. Surveillance of AMR and healthcare-associated infection (HCAI) is undertaken by both the AMRIC Team and the HPSC. The Clinical Lead for Antimicrobial Resistance and Infection Control reports to the Chief Clinical Officer (CCO). HSE and the CCO chairs the AMRIC Oversight Group. The AMRIC Team and Implementation Team provides guidance, education, training and specialist support to operational infection prevention and control (IPC) and anti-microbial stewardship (AMS) teams. The AMRIC team also lead on implementation of Ireland's National Action Plans on Antimicrobial Resistance (iNAP) (first plan 2017-2020, second plan 2021-2025).¹³ The five strategic objectives of iNAP include:

- Improve awareness and knowledge of antimicrobial resistance
- Enhance surveillance of antibiotic resistance and antibiotic use
- Reduce the spread of infection and disease
- Optimise the use of antibiotics in human and animal health
- Promote research and sustainable investment in new medicines, diagnostic tools, vaccines and other interventions

The COVID-19 Contact Management Programme

In March 2020, the HSE developed a national Contact Management Programme (CMP) for contact tracing of COVID-19 cases.¹⁴ The stated aim of the programme is 'to notify results to people tested (or their nominated person) and to identify and manage contacts of people who have COVID-19.' The stated purpose of the programme is three-fold:

- *'To identify and close down chains of transmission of COVID-19.'*
- *'To support eight Public Health Departments in undertaking key public health work including enhanced surveillance, outbreak management and complex control activity.'*
- *'To help slow the progress of the COVID-19 epidemic in Ireland.'*

The programme is led by a Public Health Medicine Clinical Lead for Contact Tracing. The work of contact tracers in the CMP is based on the COVID Care Tracker (CCT), an online platform which facilitates contact tracers and automatic notification of test results by SMS (text message), referral for testing and active follow up communication, as well as reporting. The CMP remains active at time of writing.^{vii}

^{vii} As of time of writing (May 2022).

Environment and Health

Public Health Medicine Environment and Health Group¹⁵

Consultants in Public Health Medicine/MOHs in Departments of Public Health provide expertise, leadership, support and advice on environment and health issues in Ireland, including risks from biological, chemical and radiological hazards. They formed the Public Health Medicine Environment and Health Group (PHMEHG) to assist them in the implementation of the MOH function at regional and national level by:

- Providing a forum for sharing of Public Health Medicine medical expertise on environmental public health hazards in Ireland between Consultants in Public Health Medicine in the Public Health Areas
- Supporting the provision of consistent evidence-based advice from Public Health Areas to national bodies and agencies as required.

The PHMEHG produces:

- Guidance on the public health management of environment and health incidents
- Submissions on behalf of the Public Health Areas on environmental matters that may affect health.
- Position papers on environment and health topics.
- Annual reports.

Regional Level

Regional Departments of Public Health

In May 2022, six Regional Health Areas (RHAs) were officially launched to replace the previous ten regional Departments of Public Health. This realignment was completed as part of geographical reform to reconfigure public health services to these areas, as envisioned by the Sláintecare programme (discussed further below). Public Health reform will be discussed further in Section 3.1.2. At regional level, multi-disciplinary Public Health teams in the six RHAs around Ireland deliver a regional health protection response, led by a Director of Public Health/MOH and the Consultants/Specialists in Public Health Medicine/MOHs under the MOH legislative functions.

3.1.2 Core Functions of Health Protection

As part of high-level design^{viii} to inform the HSE Public Health reform programme in relation to health protection, a draft list of key health protection functions in Ireland was outlined and is summarised below. This list highlights the breadth and diversity of work undertaken by Public Health. The functions were reviewed at an initial kick-off meeting of the Strategy Steering Committee in January 2022, and additions were made. The list includes:

- Surveillance, investigation and control of infectious diseases (including outbreak preparedness, detection and management) and epidemiological analysis and reporting.
- Prevention and control of healthcare-associated infections and AMR.
- Protection of the population against non-communicable environmental hazards, including surveillance of environmental hazards, public health risk assessment, and advice to stakeholders and public for all non-communicable disease hazards. This includes public health advocacy submissions to government departments on environmental threats to health.
- Public health emergency preparedness and response to all CBRN hazards, malicious and non-malicious, including relevant preparedness and response plans.
- Leadership and support of implementation of childhood and all other immunisation programmes.
- Collaborative working to protect health.
- Health protection communication to the population and stakeholders including advising on health protection hazards.

3.1.3 Relevant National Policy/Strategy/Plans and Public Health Reform Developments

Relevant national reviews and policy documents are listed in Appendix B and summarised below. These documents are ordered chronologically, beginning by year of publication with the oldest, then moving to more recent.

^{viii} Module 1 (Health Protection), HSE 2019 (unpublished)

National Policy and Plans

Healthy Ireland Framework 2013-2025

Protection of the population from threats to health and well-being is identified as one of four key goals of the Healthy Ireland Framework 2013-2025, published in 2013.¹⁶ Specific domains identified for this goal included prevention, control and surveillance of infectious diseases, with reference to immunisation; environment including air, water, noise and food; public health threats; and food-borne infections.

Sláintecare (2017)

In 2017, the Oireachtas Committee on the Future of Healthcare published the Sláintecare Report, setting out a ten-year vision and strategic plan for the transformation of healthcare services in Ireland towards universal healthcare.¹⁷ While this was not a health protection-focused report, it should be noted that relevant recommendations made included to strengthen mechanisms for full implementation of the Healthy Ireland Framework and to place a strong emphasis within patient care on prevention and public health.

Crowe Horwath Report (2018)

The need for a comprehensive, robust, multi-disciplinary public health response to health protection hazards in Ireland was identified in the Crowe Horwath Report, commissioned by the Department of Health in 2017 and published in December 2018.¹⁸ This review of the current and future role, training and career structures of public health physicians in Ireland recommended the development by the HSE of a new organisational model for Public Health. Specifically, it was recommended that this new model include a strong national Public Health function within the HSE 'which contributes effectively to major service design and policy implementation, to research and health intelligence activities, and to the achievement of the goals set out within the Healthy Ireland initiative.' It was recommended that public health physicians play a proactive key role across these areas, with national co-ordination and leadership of health protection with strong regional public health networks i.e. a 'hub and spoke' model.

Climate Change

HSE Climate Action

The HSE currently has climate action arrangements across climate mitigation and adaptation.^{ix} A proposal is in development at time of writing, led by the HSE Chief Strategy Office (CSO), to build on work undertaken to date within existing arrangements, strengthen leadership at HSE level, and broaden existing arrangements to deliver on climate action obligations, over an initial three-year period (2022-2024). There are several elements of this proposed work programme, which will be underpinned by legislative obligations, WHO recommendations, national policy and the national Climate Change Sectoral Adaptation Plan for the Health Sector 2019-2024 (discussed below).¹⁹ Within the proposed work programme, of particular relevance to the development of a National Health Protection Strategy is the planned development of a HSE Strategy for Climate Action. Approval of this proposal is expected during Quarter 2 2022.

Climate Change Adaptation Plan for the Health Sector 2019-2024

This publication represents Ireland's first Climate Change Adaptation Plan for the health sector.¹⁹ Published in 2019, it was developed by a sectoral adaptation with expertise from the Department of Health and HSE, under the National Adaptation Framework and Climate Action and Low Carbon Development Act 2015. It is one of twelve sectoral adaptation plans. It outlines the main climate change-related risks and vulnerabilities the health sector expects to face between 2019 and 2024, and identifies measures that can be taken to reduce such vulnerabilities. In the plan, six climate scenarios are described as those which would have the most significant public health implications. These are:

- Those with slow-climate mediated effects over time:
 - UV Radiation
 - Air Pollution
- Acute severe weather events:
 - Windstorms
 - Extreme heat and heatwaves
 - High precipitation and flooding
 - Extreme cold snaps.

^{ix} Information kindly provided by Programme Manager for HSE Research and Strategy, 2022.

Three main categories of adaptation actions were described to address these scenarios and associated vulnerabilities – population health and well-being, health and social care service continuity during acute events and infrastructural resilience to severe weather. The plan applies to the Department of Health, the HSE and external organisations which provide services on behalf of it, other agencies of the Department of Health, and non-HSE health sector services (e.g. private hospitals).

Department of Health Statement of Strategy 2021-2023

In March 2021, one year into the COVID-19 pandemic, the Department of Health published its Statement of Strategy for 2021-2023.²⁰ This sets out a strategic vision, mission and priorities for this three-year period.

The first stated strategic priority in the document is to ‘manage COVID-19 and promote public health.’ This priority includes leadership of the public health response to COVID-19, future preparedness for health protection, investment in and development of population health planning, and prevention of illness and promotion of health and well-being.

Initiatives suggested to be potentially most impactful within this priority included leadership on COVID-19 policy; oversight of the COVID-19 vaccination programme; oversight of service reconfiguration and streamlining of care pathways due to COVID-19; strengthening of public health systems planning and preparedness; leadership of implementation of Healthy Ireland Phase 2 2020-2025; and delivery of a citizen engagement and communications programme on public health and well-being.

HSE Corporate Plan 2021-2024

The HSE Corporate Plan, published in February 2021, includes six objectives. The first objective, similar to the Department of Health Statement of Strategy 2021-2023 as outlined above, is to manage the COVID-19 pandemic, while delivering a safe health service to the population.²¹

Actions identified under this objective include to ensure capacity for treatment of those diagnosed with COVID-19, continued work by Public Health teams to limit transmission of infection, implementation of a long-term operating model for COVID-19 testing and contact tracing, re-introduction of non-COVID-19 healthcare services in line with national guidance, the HSE Pandemic Plan and implementation of a comprehensive communications strategy.

HSE-HPSC Intra-Action Review (IAR) of the HSE Health Protection Response to the COVID-19 Pandemic (2021)^x

In Autumn 2021, during Ireland's fourth wave of COVID-19, the aforementioned HTPP led an IAR focusing on the HSE Health Protection Response to the pandemic through 2021.²² The key recommendations of this review described in this paper, as they present highly relevant learning to inform to the context for developing a National Health Protection Strategy. The IAR involved three three-hour long virtual interactive workshops, each attended by an average of 29 participants representing disciplines and groups from regional and national health protection. A online stakeholder survey was also distributed to over 300 persons working in health protection, seeking views on communications and governance. Using the (mostly qualitative) data gathered from the stakeholder workshops and survey, potential solutions were gathered, and categorised by the IAR team using thematic analysis into six overarching recommendations, with sub-recommendations made within each. These overarching recommendations were as follows:

1. Enhance the Public Health communications function to enable, support and promote the use of Public Health expertise.
2. Use enhanced and up-to-date information technologies to optimise Health Protection communications.
3. Capture organisational knowledge.
4. Clarify Public Health governance in the context of current Public Health reform programme.
5. Create a culture that supports and recognises the value of staff, and staff needs.
6. Run effective and efficient meetings.

These recommendations cover several key areas – in particular, Public Health communications, governance and organisational culture and staff well-being. A multidisciplinary implementation group, led by a member of the HSE Senior Management Team, was established in November 2021 to consider how to implement the IAR recommendations. Appendix C details the sub-recommendations across the six overarching recommendations.

^x Confidential draft of IAR report kindly shared by the HTPP team by email and permission given to quote aim, and key learning/recommendations, April 2022.

HSE Public Health Reform Programme^{xi}

An extensive Public Health Reform process is underway on a phased basis at time of writing. This represents a changing landscape for Public Health in Ireland and therefore an important national context to the development of a health protection strategy.

The programme for Public Health reform was mobilised in early 2019 following the publication of the Crowe Horwath report in December 2018. Phase 1 proceeded in 2019, followed by Phase 2 which commenced in January 2020. However, the programme was then put on hold due to the COVID-19 pandemic. It remobilised in June 2020 and again in June 2021 with a streamlined work programme. In December 2021, the HSE CCO confirmed the Public Health reform programme had completed re-mobilisation. Programme workstreams have been established, including for Information Communications Technology Enablers, Workforce Mobilisation, Training and Development, and Communications, People and Culture, reporting to an Implementation Steering Committee chaired by the reform programme Director. Current key priorities of the reform programme include:

- Geographical reconfiguration of the ten regional Departments of Public Health to six Public Health Areas (Regional Health Areas (RHAs)), aligned to Sláintecare (Areas officially launched May 2022)
- Completion of an options appraisal for an end-to-end Case and Incident Management System
- Delivery of a stakeholder management and communications plan
- Resourcing realignment for all disciplines using a Public Health Needs Analysis model
- Ensuring 34 Phase 1 Consultants are in post by the end of June 2022.

Public Health Reform Expert Advisory Group (2022)

In parallel to the ongoing Public Health reform programme, in January 2022 the Department of Health established a Public Health Reform Expert Advisory Group (EAG), chaired by Professor Hugh Brady, President-designate of Imperial College London, current Vice-Chancellor and President of the University of Bristol and former President of University College Dublin.² The stated focus of this group is two-fold; first, identification of learnings from the public health response to the COVID-19 pandemic in Ireland, 'with a view to strengthening of health protection and future pandemic preparedness.' This is to be followed by examination of 'key components of existing service delivery model(s) for public health in Ireland, with a view to recommending an appropriate operating model to develop and oversee the delivery of Public Health in Ireland into the future.'

^{xi} Sourced from the Public Health Reform Programme Engagement Event, March 1st 2022 (slides kindly provided).

3.1.4 Challenges and Learning from the COVID-19 Pandemic

COVID-19, caused by the SARS-CoV-2 virus, was declared a pandemic by the WHO on March 11th 2020.²³ In the two years since then, the pandemic has significantly challenged the capacity of the Irish health service. Indeed, the public health response to the COVID-19 pandemic has been the dominant focus of health protection activities in Ireland throughout. At time of writing, the vast majority of public health restrictions implemented to limit transmission of SARS-CoV-2 have ended.²⁴

In this new phase of the COVID-19 pandemic in Ireland, the challenges for health protection identified during the COVID-19 pandemic response should also be considered as context for the development of a national health protection strategy.^{xii} These include an urgent need for further development and upskilling of a multi-disciplinary resilient health protection workforce in Public Health. Technological challenges will also need to be addressed, including information technology (IT) systems for case, outbreak and incident management, and new systems for surveillance and immunisation. The increasing pace of communication, newer communication tools such as social media, and growing public demand for health information are also key considerations. In the context of an ongoing health protection response to COVID-19, adequate resources to build and maintain capacity for response to non-communicable disease health protection hazards, such as chemical and radiological hazards, will also be required. The need for consistent consideration of health inequalities in the health protection response and mitigation of impact of infectious disease on vulnerable populations is also an important lesson.

Strengths of the health protection pandemic response to COVID-19 also represent important lessons for learning, to inform the strategic direction of health protection activities and preparedness going forward. For example, new national leadership structures, regional Consultants/Specialists in Public Health Medicine acute response leadership (including outbreak management), rapid development and implementation of testing algorithms and guidance documents, and collaborative, cross-sectoral working with stakeholders such as Occupational Health, HSE Community Healthcare Organisation teams and acute hospital colleagues.

^{xii} The challenges and strengths described in this section are based on the work of the Office of the NCDHP and the outcomes of the Public Health Intra-Action Review.

3.1.5 National Context – Summary of National Contextual Factors

The key national contextual factors as outlined in this paper are summarised below. These were updated following input from the Strategy Steering Committee at the strategy development workshop on 29th March 2022.

Table 1. Key Contextual Factors for Consideration for the National Health Protection Strategy.

Contextual Factor	Explanation
Need for All Hazards Approach to Health Protection	<ul style="list-style-type: none"> • The all hazards approach requires consideration of health threats including and beyond communicable diseases. • The Strategy Steering Committee agreed that scope of practice for Health Protection within Public Health represents an important contextual factor, with a need to consider non-communicable disease hazards. • Examples provided included existing vulnerabilities such as water and air pollution, climate change and high radon levels, as well as extreme weather events, natural disasters, and chemical, radiological, biological and nuclear (CBRN) threats.
COVID-19	<ul style="list-style-type: none"> • The ongoing health protection response to COVID-19 pandemic.
Technological Challenges	<ul style="list-style-type: none"> • In the context of health protection, this refers to challenges exposed by pandemic response which need to be addressed. • For example, the need for new IT systems e.g. for case and incident management systems, surveillance and immunisation.

CBRN = Chemical, Radiological, Biological and Nuclear (threats); COVID-19 = Coronavirus Disease 2019; IT = Information Technology; HSE = Health Service Executive; HPSC = Health Protection Surveillance Centre; IAR = Intra-Action Review.

Table 1 (Continued). Key Contextual Factors for Consideration for the National Health Protection Strategy.

Contextual Factor	Explanation
Public Health Leadership and Governance	<ul style="list-style-type: none"> • The Strategy Steering Committee highlighted the need for clear roles and responsibilities in Public Health, including from a legislative and statutory role perspective, to facilitate strong leadership and robust governance structures. • The importance of data protection in this context was highlighted - governance must be in line with both the MOH legislation and the GDPR. • Note: This is consistent with a key recommendation area of the HSE-HPSC IAR report.
Public Health Preparedness and Planning	<ul style="list-style-type: none"> • The Strategy Steering Committee described in relation to this factor the need for horizon scanning for health threats, adequate health security resources, and the ability to scale up or down the health protection response to health threats.
Public Health Communications	<ul style="list-style-type: none"> • Within public health, and between public health and external stakeholders. • The Strategy Steering Committee highlighted the need to learn from the COVID-19 pandemic and use this opportunity presents to build strong Public Health communications for the future of Health Protection. • The need for strong information systems, and strong relationships to support communications was described. • It is also recognised that changes in public expectations and other societal changes are likely to pose communication challenges. • Communications was also identified as a key area in the HSE-HPSC IAR report.

COVID-19 = Coronavirus Disease 2019; HSE = Health Service Executive; HPSC = Health Protection Surveillance Centre; IAR = Intra-Action Review.

Table 1 (Continued). Key Contextual Factors for Consideration for the National Health Protection Strategy.

Contextual Factor	Explanation
Fiscal Challenges	<ul style="list-style-type: none"> The Strategy Steering Committee highlighted the need for adequate funding for Health Protection in Public Health to achieve the vision and statutory functions that the national strategy will ultimately set out.
Workforce Resourcing and Planning	<ul style="list-style-type: none"> The need for further development and upskilling of a multidisciplinary health protection workforce. The need to harness existing close working relationships between the HSE Environmental Health Service, Public Health and other internal and external partners and agencies.
Research Collaboration	<ul style="list-style-type: none"> The need for a strategic approach to forging stronger collaborative links on research between health protection and academic partners. The importance of distinguishing common elements and key differences between research and public health practice was highlighted.²⁵
Public Health Reform	<ul style="list-style-type: none"> An extensive Public Health reform programme is in progress at time of writing, with a strong focus on strengthening health protection.

3.2 International Context

3.2.1 Rapid Review of International Health Protection Strategies

A rapid review was undertaken of international public health and health protection strategy and related similar documents, to identify the strategic health protection priorities, objectives and/or goals established in these documents, and any strategic enablers identified. The rationale for the review was to inform an understanding of the international strategic context for the development of a national health protection strategy.

Appendix D details the search protocol and methodology for this search, which was focused to national or international grey literature publications including strategies, strategic plans, action plans or frameworks, published in the past 5-10 years. Regional publications below than state-level were not included for this rapid review. It should be noted that this search does not represent a systematic review. The review was conducted within a limited time period for the Strategy Steering Committee in advance of the first workshop for the group.

Appendix E summarises the documents included in the rapid review of grey literature, noting the country and organisation responsible for the document and any strategic priorities identified.

3.2.2 Brief Overview of Results

From the review, it was evident that most documents were published prior to the COVID-19 pandemic. As such, most strategic priorities/objectives/goals for health protection were not set out in the context of an ongoing pandemic response. Nevertheless, the health protection priorities established in these strategic reports include hazards which remain highly relevant and urgent threats to population health. In addition, the scope of the documents ranged from broad (public health, global health, health security), to a narrower focus on specific health protection issues (communicable disease control, immunisation, environmental health).

None of the documents included in this rapid review explicitly set out their strategic priorities/objectives from an all hazards perspective. Australia's National Action Plan for Health Security 2019-2023 does however highlight as a high priority recommendation the need to create an all hazards health protection framework (building on the existing national communicable disease control framework).²⁶ A small number of other publications, such as the USA Department of Health and Human Services National Security Strategy 2019-2022, and Northern Ireland's Public Health Agency Strategic Framework for Public Health 2013-2023, referenced non-communicable disease as well as communicable disease hazards.^{27,28}

Themes

Appendix E presents the public health and/or health protection priorities identified in each document included. Key themes for these priorities were identified as follows, and are summarised below:

- Non-COVID-19 Communicable Diseases
- COVID-19
- Antimicrobial Resistance
- Environment and Health – Climate Change, Air Quality and Air Pollution
- Emergency Preparedness and Response
- Strengthening Public Health Systems

Non-COVID-19 Communicable Diseases

Several of the strategic documents published prior to the COVID-19 pandemic identified control of communicable diseases within key priorities, with specific disease examples highlighted by some. For example, the Public Health England Infectious Diseases Strategy 2020-2025, diseases-specific priorities included elimination of Hepatitis B and C, Tuberculosis (TB) and Human Immunodeficiency Virus (HIV), and halting a rise in sexually transmitted infections (STIs) in the population.²⁹ Similarly, in France's Strategy for Global Health (2017) under the first strategic priority to '*Strengthen health systems while fighting diseases*', specific diseases highlighted hepatitis, HIV, TB and STIs as well as malaria and neglected tropical diseases.³⁰ The French National Health Strategy 2018-2022 also highlights STIs as an area of concern under the first strategic priority '*Implementing a policy of life-long health promotion, including prevention, in every living environment.*'³¹

Vaccine-preventable diseases (VPDs) were also specifically referenced by several countries. Public Health England's Infectious Diseases Strategy 2020-2025 identifies as its first priority the reduction of VPDs in England and optimisation of vaccine provision.²⁹ Public Health Wales, in their Strategic Plan 2019-2022 under the health protection-focused priority '*Protecting the public from infection and environmental threats to health*', one of the key themes for future action is to strengthen the public health response to risks such as VPDs.³² In Northern Ireland's Public Health Agency Corporate Plan 2017-2021, under the first strategic outcome '*All children and young people have the best start in life*', protecting the health of children and young people through vaccination and immunisation is identified as a key area for future work.³³

COVID-19

Very few of the strategic documents were published since the beginning of the COVID-19 pandemic in 2020. Public Health Scotland's Strategic Plan 2020-2023 was the only publication which specifically identified COVID-19 as a priority area.³⁴ The plan takes a broad public health perspective, with COVID-19 (*'Response, Renewal, Recovery'*) highlighted as one of four key areas of strategic focus and the only health protection area of the four. It should be noted that this was published during the first year of the pandemic. As such, the plan references the need to focus resources in the short-term on COVID-19 response.

In the more recently published Australian National Preventive Health Strategy 2021-2030, a key element of the strategic framework was 'Mobilising a prevention system.'³⁵ Within this area, the importance of learning lessons from the experience of the COVID-19 pandemic is highlighted. Specific examples listed include the importance of an adaptable, resilient health system; leadership, co-ordination and communication; a highly qualified workforce; and of partnership approaches to decision-making.

Antimicrobial Resistance

Antimicrobial resistance (AMR) was highlighted as a priority area by countries including England, Wales, Northern Ireland, France and Germany. Public Health England's Infectious Diseases Strategy 2020-2025 includes as its second strategic priority to '*be a world leader in tackling AMR*'.²⁹ In its broader strategy for 2020-2025, reducing AMR is also identified as a priority.³⁶ Public Health Wales, in its Strategic Plan 2019-2022 and Long-Term Strategy 2018-2030 states an intention to '*be recognised as system leaders for healthcare associated infections and antimicrobial resistance*'.^{32,37} Northern Ireland's Public Health Agency references the need to tackle AMR and healthcare-associated infections, and improve appropriate use of antibiotics, in its Corporate Plan 2017-2021 and earlier Making Life Better Strategic Framework for Public Health 2013-2023.^{28,33}

Environment and Health

Protection of the public from environment-specific threats to health was highlighted in several of the documents included in the rapid review. This is discussed under the headings of climate change and air pollution below, as these were the most common issues cited as priorities. However, it is important to note that identified environmental health priorities and issues are likely to differ between countries depending on local factors. For example, radon, a known environmental carcinogen, is a particular issue in Ireland due to the country's unique geological factors.³⁸ Therefore, it is recognised that not all potentially relevant environmental issues will have been captured in this review of international publications.

Discussion and identification of such factors relevant to Ireland is a key aspect of development of the National Health Protection Strategy. In addition, the Strategy Steering Committee highlighted the importance of environmentally sustainable health systems. In 2017, the WHO published a strategic document on '*Environmentally sustainable health systems*.'³⁹ This document recognised the health sector as one that consumes substantial amounts of energy and resources, in turn producing significant emissions and waste streams. Suggested and relevant actions for Member States to consider in planning environmental sustainability policies for health systems included '*prioritizing disease prevention, health promotion and public health services*.'

Climate Change

One document focused specifically on climate change and public health - the WHO Global Strategy on Health, Environment and Climate Change.⁴⁰ Strategic objectives included primary prevention; cross-sectoral action; strengthening health sectors; building political and social support; enhancing evidence and communication; and monitoring progress towards the Sustainable Development Goals (SDGs). The German Government's Global Health Strategy (2020) included '*Holistic approaches to the environment, climate change and public health*' as one of five strategic priorities.⁴¹ The potential impacts of climate change on public health were highlighted, including changes in the epidemiology of zoonotic diseases and vector-borne diseases, extreme weather events and increases in non-communicable diseases. South Australia's State Public Health Plan 2019-2024, under its second priority '*Protect: against public and environmental health risks and respond to climate change*' similarly describes the importance of protecting the public against climate change-related hazards such as zoonoses and extreme weather events.⁴² Public Health Wales, in its Strategic Plan 2019-2022 committed to supporting the country to prepare for and deal with anticipated effects of climate change.³²

Air Quality and Air Pollution

Several countries included referenced air pollution and/or air quality as part of their strategic priorities. Public Health England's Strategy 2020-2025 identified poor air quality as the biggest environmental risk to public health, and included as a strategic priority to improve air quality through addressing air pollution.³⁶ Public Health Wales, in its Long-Term Strategy 2018-2030, under its strategic priority to '*Protecting the population from infection and environmental threats to health*' included as an intention for 2030 to work with partners to reduce morbidity and mortality attributed to the impact of air pollution (as well as climate change).³⁷ In France's Strategy for Global Health 2017, under the strategic priority '*Promote public health for all populations*', the first objective identified was to address the '*main determinants*' of health.³⁰

This included environmental determinants such as air pollution – as well as water and soil pollution, climate change and sanitation.

Emergency Preparedness and Response

Preparing for and responding to public health emergencies and major incidents was highlighted by countries including England, Northern Ireland, Australia, the USA and Qatar.^{26,27,28,29,43} Australia's National Action Plan for Health Security 2019-2023 for example, includes in its objectives to '*strengthen and maintain capacity to prepare for public health events*' – through review, updates to and testing emergency response plans to chemical, biological, radiological and nuclear (CBRN) hazards, among other actions.²⁶ This is echoed in Public Health England's Infectious Disease Strategy 2020-2025, which identifies as a priority to strengthen the response '*to major incidents and emergencies, including pandemic influenza*.'²⁹ The USA Department of Health and Human Services National Health Security Strategy 2019-2022 similarly describes as part of its strategic objectives the need to prepare for and protect the population from public health emergencies and threats including emerging and pandemic infectious diseases, and CBRN hazards.²⁷

Strengthening Public Health Systems

Many of the documents reviewed for this paper referenced a need for strengthening of public health systems, although the aspect(s) of systems this need referred to varied between countries (e.g. detection of hazards, surveillance, response, workforce, partnerships and others). Public Health England's Infectious Disease Strategy 2020-2025 identified the integration and strengthening of England's health protection systems, and global health activities, as priorities under their '*Advise and Collaborate*' core function.²⁹ In their broader Strategy 2020-2025, Public Health England identified three priorities under the theme of strengthening the public health system – so-called '*predictive prevention*', enhanced data and surveillance and establishment of a new national public health campus.³⁶ Public Health Wales, in its Long-Term Strategy 2018-2030, under the health protection-focused priority '*Protecting the population from infection and environmental threats to health*' highlighted an intention for 2030 to strengthen capacity in Wales for '*early warning, detection and management of national and global health risks*', as well as collaboration internationally on biosecurity.³⁷ All objectives stated in Australia's National Action Plan for Health Security 2019-2023 focused on strengthening and maintain capacity within a health protection context, with reference to prevention, preparation, detection and assessment of and response to public health events, as well as strategic partnerships and leadership in implementation of the International Health Regulations (IHR).²⁶

At European level, two of the five strategic goals of ECDC's Strategy for 2021-2027 are relevant to mention within this theme.⁴⁴ Goal 2 states '*By 2027, ECDC has improved its knowledge of countries, thus, by enhancing disease-specific work, surveillance, training and emergency preparedness, is able to equip/empower partners to drive public health policy and practice.*' Within this goal, ECDC highlights a key strategic objective to support countries to '*strengthen their capacities and capabilities to make evidence-based decisions on public health policies and practice.*' Goal 4 focuses on health security – '*By 2027, ECDC contributes to increased health security in the EU through international collaboration and alignment regarding infectious disease policies and practice*', with a strategic objective to '*increase health security in the EU through strengthened cooperation and coordination between ECDC and partners in non-EU countries.*' This strategy, published in the context of the ongoing COVID-19 pandemic, highlights that strengthening health protection systems is a focus at European level.

EU4Health 2021-2027, as the European Union (EU)'s response to COVID-19, should also be mentioned here.⁴⁵ The programme, established by Regulation (EU) 2021/522, provides funding to entities, health-related organisations and non-governmental organisations, if eligible, from EU countries, or non-EU countries associated with the programme. There are four broad goals of the EU4Health programme. Two of these four goals have relevance to this paper - to '*tackle cross-border threats to health*' and to '*strengthen health systems, their resilience and resource efficiency.*' As part of implementation of these goals, the 2021 work programme of EU4Health included a Joint Action (JA) on integrated surveillance, acknowledging the need for strengthening of such systems across Member States (MS).⁴⁶ The aim of this JA is, as stated, '*to support Member States and the Union in the implementation of digitalised, integrated surveillance systems at Union and national level, to ensure better detection of early signals for accurate risk assessment and response.*' It is envisioned that this JA will contribute towards building surveillance capacity for improved global health security, across MS and non-MS participating in EU4Health.

Limitations

This brief overview of international public health and health protection strategy and related policy documents is limited by the rapid scoping search undertaken and short time-frame for document review and identification of key strategic priorities/objectives/goals. Although not a limitation of the search strategy per se, it is important to note that most documents were published prior to the beginning of the COVID-19 pandemic. As such, while the priorities identified remain highly relevant today, they were not set out in the context of an ongoing pandemic response, unlike the proposed National HSE Health Protection Strategy for Ireland.

4. Conclusion

The purpose of this paper was to provide a brief high-level overview of the national public health context, and public health priorities identified in international health protection strategies and similar policy documents, to inform development of a national health protection strategy for public health within the Irish health service (HSE) for 2022-2027. This paper also incorporates the contributions of the Strategy Steering Committee as provided at a strategy development workshop on March 29th 2022 and in subsequent follow-up correspondence.

This paper has presented a high-level overview the current organisation of health protection activities in Ireland from the public health perspective within the HSE, and highlighted the significant programme of reform underway for Public Health at present. The rapid review of international public health and health protection strategy and similar publications has identified themes with key priorities, most of which were described before the COVID-19 pandemic began in 2020. Nevertheless, many of these priorities remain highly relevant and important threats to population health today. This underscores the need for a national HSE health protection strategy, as the COVID-19 pandemic response continues, to establish the functions and priorities for an all hazards Health Protection service for 2022-2027.

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Appendices

Appendix A: Terms of Reference and Draft Membership of the National Health Protection Strategy Steering Committee.

The terms of reference for the Strategy Steering Committee are as follows:

- To review need and context for a Health Protection Strategy.
- To consider and agree the core priorities for Health Protection for the period 2022-2027.
- To develop a Health Protection Strategy for Ireland.
- To identify the key enablers for effective delivery of strong health protection functions.
- To agree an engagement and consultation process for strategy agreement and finalisation.
- To deliver a Health Protection Strategy to the CCO by July 31st 2022 (to be confirmed).

Health Protection Strategy Development Steering Committee Membership

Name	Job Title	Affiliations
Lorraine Doherty	National Clinical Director for Health Protection, HSE HPSC	Chair
John Cuddihy	Consultant in Public Health Medicine Area Director of Public Health	Public Health Area C (East and South East).
Anne Sheehan	Consultant in Public Health Medicine Area Director of Public Health	Public Health Area D (South)
Mai Mannix	Consultant in Public Health Medicine Area Director of Public Health	Public Health Area E (Midwest)
Aine McNamara	Consultant in Public Health Medicine Area Director of Public Health	Public Health Area F (West and Northwest)
Aileen Kitching	Consultant in Public Health Medicine with special interest in Health Protection.	Public Health Area F
Anne Marie Part	Assistant National Director for Environmental Health	HSE
Anthony Breslin	Consultant in Public Health Medicine with special interest in Health Protection	Public Health Area F Chair of the Water Group
Ciara Kelly	Specialist Registrar in Public Health Medicine, HPSC (January to July 2022)	HPSC
Cillian De Gascun	Consultant Virologist & NVRL Director	National Virus Reference Laboratory (NVRL)
Derval Igoe	Specialist in Public Health Medicine Seroepidemiology Programme Lead	HPSC
Eimear Brannigan	National Clinical Lead Infectious Diseases Consultant	AMRIC Programme

Greg Martin	Consultant, Public Health Medicine & Interim Director HPSC	HPSC
David Hanlon	National Clinical Advisor and Group Lead Primary Care, HSE	Clinical Design, HSE Primary Care
Ina Kelly	Consultant in Public Health Medicine with special interest in Health Protection.	Public Health Area B Chair of HSE Environment and Health Group
Keith Ian Quintyne	Consultant in Public Health Medicine with special interest in Health Protection	Public Health Area A
Lisa Domegan	Principal Epidemiologist	HPSC
Lucy Jessop	Consultant in Public Health Medicine National Health Protection Clinical Lead - Immunisation and Director NIO	National Health Protection, National Immunisation Office (NIO), HSE
Mairin Boland	Consultant in Public Health Medicine National Clinical Lead, Health Threats Emergency Preparedness Programme.	National Health Protection, HSE
Margaret Fitzgerald	Principal Epidemiologist	HPSC
Noel Mc Carthy	Professor of Population Health Medicine, Public Health and Primary Care.	Institute of Public Health, Trinity College Dublin
Philip Crowley	National Director of Strategy and Research	HSE
Toney Thomas	Director of Nursing, National Health Protection	National Health Protection, HSE
Una Fallon	National Clinical Lead, Health Protection Clinical Lead Acute Operations Response	National Health Protection, HSE
Joan Gallagher	Programme Manager	National Health Protection, HSE
Kristin Concannon	Business Manager	National Health Protection, HSE
Lola Odewumi	Assistant Staff Officer	National Health Protection, HSE.

2.

Appendix B. National Reviews, Strategies and Reports.

Description	Dates	Notes
Public Health Reform Expert Advisory Group ²	Convened in January 2022. First report expected mid-2022.	Group established by Department of Health to identify of learnings from the public health response to the COVID-19 pandemic in Ireland and review key components of existing service delivery model(s) for public health.
HSE-HPSC Intra-Action Review of the HSE Health Protection response to the COVID-19 pandemic ²²	Report Published April 2022.	Led by the Health Threats Preparedness Programme – examined response in 2021.
HSE Corporate Plan 2021-2024 ²¹	Plan Published in February 2021	First stated objective is to 'manage the COVID-19 pandemic while delivering health services safely to the public'
Department of Health Statement of Strategy 2021-2023 ²⁰	Strategy Published in March 2021	First strategic priority is to manage COVID-19 and promote public health, including leading the public health response to COVID-19 and future preparedness for health protection.
Climate Change Adaptation Plan for the Health Sector 2019-2024 ¹⁹	Published October 2019	First climate change adaptation plan for the health sector in Ireland.
Crowe-Horwath Review ¹⁸	Final report published in December 2018	Review of current and future role, training and career structures of public health physicians in Ireland.
Sláintecare Report by the Committee on the Future of Healthcare ¹⁷	Final report published in May 2017	Programme of reform for healthcare services in Ireland, towards universal healthcare.
Healthy Ireland: A Framework for Improved Health and Well-Being 2013-2025 ¹⁶	Final report published in 2013 (month unknown)	Goal 3 of the Framework is to protect the public from threats to health and well-being.

Appendix C. Recommendations of the HSE-HPSC Intra-Action Review of the HSE Health Protection Response to the COVID-19 Pandemic (2021).²²

1. Enhance the Public Health communications function to enable, support and promote the use of Public Health expertise.
 - Develop a Public Health communications operating model.
 - Establish a network of communications officers for Health Protection working across regional and national levels.
 - Promote and enable increased visibility of Public Health subject matter experts across various platforms including media.
 - Strengthen risk communication capabilities including training, education and support for staff.
 - Develop a central resource of standardised communications resources tailored to specific vulnerable groups.

2. Use enhanced and up-to-date information technologies to optimise Health Protection communications.
 - Identify opportunities to integrate data systems and streamline information flow between departments (regionally and nationally) so the systems are capable of fully supporting staff to manage routine and ad hoc events.
 - Provide a dedicated case and incident management system.
 - Strengthen general IT support and resources for staff.
 - Harness up-to-date IT capabilities to enable timely and appropriate dissemination of information.

3. Capture organisational knowledge.
 - Develop, review and maintain an inventory of committees; terms of reference, governance and reporting structures including for emergency events.
 - Develop and maintain an overview of organisational details; organogram(s), staff roles, responsibilities, reporting relationships, contact details and communication pathways including for emergency events.
 - Strengthen the production and structured dissemination of standardised operating procedures and evidence based clinical guidance.
 - Use organisational knowledge to inform preparedness and planning strategy

4. Clarify Public Health governance in the context of current Public Health reform programme.
 - Review and clarify leadership and co-ordination in health protection.
 - Provide training and regular updates on governance for staff.
 - Incorporate a quality improvement programme.

5. Create a culture that supports and recognises the value of staff, and staff needs.
 - Proactive planning regarding staff health and wellbeing as part of pandemic response protocols including pacing, task allocation, rest periods, psycho-social supports.
 - Specifically incorporate surge capacity planning into preparedness plans which are to be reviewed annually.
 - Undertake formalised, structured situation de-briefs with a focus on staff wellbeing.
 - Monitor and mitigate the impact of sustained response on staff wellbeing
 - Promote gender balance at senior level decision making fora.

6. Run effective and efficient meetings.
 - Provide training for chairing and administration of meetings including agenda setting, appropriate duration, condensed action points and appropriate dissemination of information.
 - Ensure correct multidisciplinary representation at meetings as required.
 - Provide administrative support for all meetings.
 - Listen to all representatives; respect and value contributions.
 - Audit meeting effectiveness

Appendix D. Search Protocol and Methodology for Rapid Review of International Health Policy Documents.

Search Protocol

Search #1:

- Request submitted to the HSE Library Team in February 2022 for '*health policy documents available/involved in developing a Health Service Executive health protection strategy.*'
 - Specifically, health policy in the following areas:
 - Health protection literatures from advanced/developed countries
 - OECD countries
 - WHO/EU Region
- Search conducted by the HSE Library Team using the Advanced Google Search function
- Time period: 2015 onwards (i.e. five years prior to COVID-19 pandemic)
- Key words and terms specified included:
 - All Hazards; Health Protection; ICT; Technological Challenges; Policy in Health Protection; Globalisation; Climate Change; Air Pollution; Net Zero Targets; Sustainable Development Goals; Non-Communicable Environmental Hazards; Water Quality/Safety; Air Quality/Pollution; Public Health Reform; Strengthening Health Protection; Communicable Diseases Frameworks for Surveillance; Investigation and Control of Infectious Diseases; Outbreak Preparedness, Detection and Management; Epidemiological Analysis and Reporting; Public Health Emergency Preparedness and Response to All Hazards; Preparedness and Response; Childhood and all other Immunisation Programmes; Partnership working to Protect Health; Communications on Health Protection Issues.
- Total results as of 10/03/2022: 48
- Results included following review: 9

Search #2:

- Conducted by Dr. Ciara Kelly, Specialist Registrar in Public Health Medicine in March 2022
- Search question: '*What public health priorities have been identified in international public health or health protection strategies?*'
- Search term 1: <health protection strategy>
- Search term 2: <public health strategy>
- First 100 results reviewed for all searches
- Time period: Past decade i.e. from 2012 onwards
- Search 2a: Using Google Scholar
 - Using <health protection strategy>: 221 results – nil relevant in first 100
 - Using <public health strategy>: 15,200 results – nil relevant in first 100
- Search 2b: Using Google search engine
 - Same search terms used alone and also with specific countries added – USA, UK (and countries within it), Canada, Australia, New Zealand, and all EU-27 countries (first 10 results reviewed per country)
 - Using <health protection strategy>: 7 results included
 - Using <public health strategy>: 6 results included
 - Using search terms 1 and 2 with name of countries added: 4 results included

Total Publications Included:

- Search #1: 9
- Search #2: 17
- Total: 26 (includes one national strategy document (Department of Health Statement of Strategy 2021-2023 - not included in Appendix E, but included in Appendix B).

Methodology

The screening and selection process for publications identified in the rapid review is summarised below:

- Search #1:
 - Results returned via Search #1 (HSE Library search) were divided between three team members for screening.
 - Publications for inclusion were added to an Excel spreadsheet capturing the title, year of publication, country/organisation, strategic priorities and enablers identified.

- If no strategic priorities were identified, strategic objectives or goals were considered for inclusion.
- Criteria for inclusion of publications were: national or state-level documents which were public health or health protection focused and which identified strategic priorities/objectives/goals.
- Regional level publications below state level were excluded.
- If documents did not specify strategic priorities/objectives/goals, they were excluded.
- Search #2
 - Results were first screened by title - potentially relevant titles were downloaded in full-text for review by a single reviewer
 - The same inclusion and exclusion criteria applied for Search #2 as for Search #1.
 - The included publications were compiled into a single Word table capturing the title, year of publication, country/organisation, strategic priorities and enablers identified.
- Publications were identified from countries including England, Wales, Scotland, Northern Ireland, France, Germany, Australia, New Zealand, United States of America and Qatar, and from international public health organisations including the European Centre for Disease Prevention and Control (ECDC) and the World Health Organization (WHO).
- The documents were mostly national strategies, with a smaller number of strategic and action plans, and frameworks.
- Following completion of this process, all included publications were summarised chronologically in the Word table presented as Appendix E.

Note: Additional documents were added to this section after recommendation by a member of the Strategy Steering Committee.^{38,45,46}

Appendix E: International Public Health and/or Health Protection Strategies.

Country/Organisation and Strategic Document	Strategic Priorities/Objectives/Goals/Themes Identified	Notes
<p>Australia National Preventive Health Strategy 2021-2030³⁵</p>	<p>In relation to health protection, highlights a need to build infrastructure and establish policy direction to ‘mobilise a prevention system’ - includes focus on preparedness, and calls out:</p> <ul style="list-style-type: none"> • Climate change • Lessons from COVID-19 • Building workforce capacity • Partnership working • Inequalities in vulnerability to illness 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic • Includes health protection priorities but is not specifically a health protection strategy – more broad focus on prevention

COVID-19 = Coronavirus Disease 2019

Country/Organisation and Strategic Document	Strategic Priorities/Objectives/Goals/Themes Identified	Notes
<p>Australia Australia’s National Action Plan for Health Security 2019-2023 Implementation of the recommendations from the Joint External Evaluation of IHR Core Capacities²⁶</p>	<p>Objectives:</p> <ul style="list-style-type: none"> • To strengthen and maintain capacity to prevent and reduce the likelihood of disease outbreaks and other public health events through regulation; activities at points of entry; immunisation; surveillance; biosafety; and other activities. • To strengthen and maintain capacity to prepare for public health events by reviewing, updating and testing emergency response plans for relevant biological, chemical, radiological and nuclear hazards; mapping of potential hazards, resources and capacities; and provision of medical countermeasures. • To strengthen and maintain capacity to rapidly and accurately detect and assess disease outbreaks and public health events through surveillance; laboratory testing; communication; and risk assessment. • To strengthen and maintain capacity to rapidly and appropriately respond to and recover from emerging diseases and public health events through comprehensive preparedness and coordination mechanisms; and personnel deployment. • To build, strengthen and maintain strategic partnerships under a One Health, all-hazards, whole of government and whole of society approach. This includes sharing and incorporating lessons learnt into multisectoral coordination and communication mechanisms and national plans to continuously improve systems. • To practise leadership in implementation of the International Health Regulations (IHR) at the regional and global levels. This includes leading by example and actively supporting other Member States in achieving their core capacities under IHR. 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic • References priority recommendation of creating an all hazards health protection framework, use of full genome microbial data for surveillance, and strengthening animal and human health linkages through improvement of co-ordination of activities including AMR-related assessment

COVID-19 = Coronavirus Disease 2019; IHR = International Health Regulations; AMR = Anti-microbial Resistance

Country/Organisation and Strategic Document	Strategic Priorities/Objectives/Goals/Themes Identified	Notes
<p><u>Australia (South)</u> State Public Health Plan 2014-2024⁴²</p>	<p>Priorities:</p> <ul style="list-style-type: none"> • Promote <ul style="list-style-type: none"> - Build stronger communities and healthier environments - References environmental hazards and air pollution • Prevent <ul style="list-style-type: none"> - Protect against public and environmental health risks and respond to climate change - References climate change, extreme weather events, and zoonoses • Protect <ul style="list-style-type: none"> - Prevent chronic disease, communicable disease and injury - References vaccine preventable diseases • Progress <ul style="list-style-type: none"> - Strengthen the systems that support public health and well-being - References partnerships, collaboration, governance, workforce capacity, surveillance, evaluation, research, reporting and communications 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic
<p><u>Australia (Western Australia)</u> Immunisation Strategy 2017-2022⁴⁷</p>	<p>Focus areas:</p> <ul style="list-style-type: none"> • Childhood immunisation • Adolescents • People with specific vaccination needs • Communication and education • Monitoring, surveillance and research 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic • Not 'All Hazards' focused – specifically a strategy for immunisation

COVID-19 = Coronavirus Disease 2019

Country/Organisation and Strategic Document	Strategic Priorities/Objectives/Goals/Themes Identified	Notes
<p><u>Australia (Queensland)</u> Queensland Immunisation Strategy 2016-2023⁴⁸</p>	<p>Objectives:</p> <ul style="list-style-type: none"> • Increase vaccination coverage for young children • Increase vaccination coverage for Aboriginal people • Increase vaccination coverage for adolescents • Increase vaccination coverage for adults • Improve support for immunisation providers • Increase immunisation workforce capacity • Improve vaccine preventable disease (VPD) surveillance and outbreak response • Improve vaccine safety monitoring • Improve communication with stakeholders and the community • Encourage and support applied immunisation research 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic • Not 'All Hazards' focused – specifically a strategy for immunisation
<p><u>Australia</u> National Framework for Communicable Disease Control (2014)⁴⁹</p>	<p>Objectives:</p> <ul style="list-style-type: none"> • Improved national communicable disease prevention, detection and response <ul style="list-style-type: none"> ○ Outcomes include: <ul style="list-style-type: none"> - Surveillance and testing - Preparedness and response capacity - Evidence-based prevention policies - Effective communications • Improved organisation and delivery of communicable disease control <ul style="list-style-type: none"> ○ Outcomes include: <ul style="list-style-type: none"> - Leadership and governance - Skilled people - Information systems and research capacity - Financing and infrastructure - Partnerships and networks - International engagement 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic • Not 'All Hazards' focused

COVID-19 = Coronavirus Disease 2019; VPDs = Vaccine Preventable Diseases

Country/Organisation and Strategic Document	Strategic Priorities/Objectives/Goals/Themes Identified	Notes
<p>England Public Health England Policy Paper: Transforming the public health system: reforming the public health system for the challenges of our times, 2021⁵⁰</p>	<p>Sets out areas of reform for public health with invitation for consultation. Calls out the need to build world-class health protection capability for the future, specifically:</p> <ul style="list-style-type: none"> • Establishing the UK Health Security Agency in April 2021 • Enhancing disease surveillance capability for responding to new and evolving infectious disease threats • Optimising provision of vaccines • Helping to lead global fight against antimicrobial resistance (AMR) • Mitigation of public health impacts of climate change and other environmental risks such as air quality 	<ul style="list-style-type: none"> • Published in the context of COVID-19 pandemic
<p>England Public Health England Infectious Diseases Strategy 2020-2025²⁹</p>	<p>Priorities:</p> <ul style="list-style-type: none"> • Reduce VPDs • Tackle AMR • Enhance data & infectious disease surveillance • Eliminate Hepatitis B (HBV), Hepatitis C (HCV), Tuberculosis (TB), Human Immunodeficiency Virus (HIV) and halt the rise in sexually transmitted infections (STIs) • Strengthen response to major incidents & emergencies • Build evidence to address infectious diseases linked with health inequalities • Embed whole genome sequencing in laboratories and optimise use • Integrate and strengthen health protection system • Strengthen global health activities • Define value generated by delivering strategy 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic • Identifies enablers as ‘people’, ‘ways of working’ and ‘technology and research’ • Not ‘All Hazards’ focused

COVID-19 = Coronavirus Disease 2019; UK = United Kingdom; HBV = Hepatitis B Virus; HCV = Hepatitis C Virus; TB = Tuberculosis; HIV = Human Immunodeficiency Virus; STIs = Sexually Transmitted Infections

Country/Organisation and Strategic Document	Strategic Priorities/Objectives/Goals/Themes Identified	Notes
<p>England Public Health England Strategy 2020-2025³⁶</p>	<p>Priorities:</p> <ul style="list-style-type: none"> • Cleaner air • Reduced risk from AMR • Effective responses to major incidents – strengthen the health protection system • Enhanced data and surveillance capabilities • Smoke-free society • Healthier diets, healthier weight • Better mental health • Best start in life • Predictive prevention • New national science campus 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic • Includes health protection priorities but is not specifically a health protection strategy
<p>Europe European Centre for Disease Prevention & Control (ECDC) Strategy 2021-2027⁴⁴</p>	<p>Objectives:</p> <ol style="list-style-type: none"> 1. Strengthen and apply scientific excellence in all ECDC activities and outputs to inform public health policy and practice 2. Support countries to strengthen their capacities and capabilities to make evidence-based decisions on public health policies and practice 3. Future outlook: Prepare for the future through foresight and innovation assessments 4. Increase health security in the European Union (EU) through strengthened cooperation and coordination between ECDC and partners in non-EU countries 5. Transform the organisation to the next generation ECDC 	<ul style="list-style-type: none"> • Published in context of COVID-19 pandemic • Focused to ECDC-level activities in relation to countries

COVID-19 = Coronavirus Disease 2019; AMR = Anti-microbial Resistance; ECDC = European Centre for Disease Prevention & Control; EU = European Union

Country/Organisation and Strategic Document	Strategic Priorities/Objectives/Goals/Themes Identified	Notes
<p>France National Health Strategy 2018-2022 (Summary)³¹</p>	<p>Priorities:</p> <ul style="list-style-type: none"> • Implementing a policy of life-long health promotion, including prevention, in every living environment <ul style="list-style-type: none"> - References environmental hazards, sexual health/STIs, investing in immunisation, safe-guarding effectiveness of antibiotics • Tackling social and territorial inequality in terms of access to health • Guaranteeing quality, safety and appropriateness at every stage in a patient's health case management <ul style="list-style-type: none"> - References adapting the healthcare system to accommodate emerging risks • Breaking new ground in transforming our health system by re-affirming the role of its users <ul style="list-style-type: none"> - References increasing, disseminating and applying knowledge, supporting medical and technological innovation, boosting digital innovation 	<ul style="list-style-type: none"> • Broad healthcare strategy • Published prior to the COVID-19 pandemic

COVID-19 = Coronavirus Disease 2019

Country/Organisation and Strategic Document	Strategic Priorities/Objectives/Goals/Themes Identified	Notes
<p>France France’s Strategy for Global Health 2017³⁰</p>	<p>Priorities and objectives:</p> <ul style="list-style-type: none"> • Strengthen health systems while fighting diseases <ul style="list-style-type: none"> - Objectives include achieving UHC and fighting against communicable diseases via an integrated approach. Specifically references HIV/AIDS, tuberculosis (TB), malaria, vaccine coverage, sexual health/STIs, AMR, hepatitis, neglected tropical diseases, and research and development • Strengthen international health security <ul style="list-style-type: none"> - Objectives include supporting capacity building to implement IHR, strengthening EU international health security action and promoting the fight against emerging diseases and guarantee access to essential public health products. Specifically references research and development, One Health approach, and vector-borne diseases • Promote public health for all populations <ul style="list-style-type: none"> - Objectives include to act on main determinants of health, to promote prevention and a person-centred and integrated service delivery, and promote health for women, children, young people and those living in vulnerable situations - Specifically references environmental determinants of health (climate change, sanitation, air and water pollution) • Promote French expertise, training, research and innovation <ul style="list-style-type: none"> - Objectives include to mobilise and promote French expertise, to train human resources to have the skills necessary for tomorrow’s health systems and to Support and capitalize on France’s research, its offering and innovations 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic

COVID-19 = Coronavirus Disease 2019; UHC = Universal Healthcare; HIV = Human Immunodeficiency Virus; AIDS = Acquired Immunodeficiency Syndrome; TB = Tuberculosis; STIs = Sexually Transmitted Infections; AMR = Anti-microbial Resistance; IHR = International Health Regulations; EU = European Union

Country/Organisation and Strategic Document	Strategic Priorities/Objectives/Goals/Themes Identified	Notes
<p><u>Germany</u> Global Health Strategy of the German Federal Government (2020)⁴¹</p>	<p>Priorities:</p> <ul style="list-style-type: none"> • Promoting good health, preventing diseases and developing adequate responses <ul style="list-style-type: none"> - References AMR and expansion of research into antibiotics, expansion of vaccine programmes and research, eradication of polio • Holistic approaches to the environment, climate change and public health <ul style="list-style-type: none"> - Also references safe chemicals management regime • Strengthening health systems <ul style="list-style-type: none"> - Focus on achieving universal healthcare (UHC), also references sexual health • Protecting health – addressing cross-border health threats <ul style="list-style-type: none"> - References supporting further development of IHR 	<ul style="list-style-type: none"> • Published since the COVID-19 pandemic began
<p><u>New Zealand</u> New Zealand Health Strategy – Future Direction (2016)⁵¹</p>	<p>Broad themes:</p> <ul style="list-style-type: none"> • People-powered • Closer to home • Value and high performance • One team • Smart system 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic • High-level health strategy • Highlights two global challenges relevant to health protection: <ul style="list-style-type: none"> ○ Climate change ○ New and emerging infections

COVID-19 = Coronavirus Disease 2019; AMR = Anti-microbial Resistance; UHC = Universal Healthcare; IHR = International Health Regulations

Country/Organisation and Strategic Document	Strategic Priorities/Objectives/Goals/Themes Identified	Notes
<p><u>Northern Ireland</u> Public Health Agency Corporate Plan 2017-2021³³</p>	<p>Key Outcomes Defined:</p> <ul style="list-style-type: none"> • All children and young people have best start in life – includes reference to protection through vaccination and immunisation and prevention of transmission of infection in childcare/school settings • All individuals and communities equipped and enabled to live long healthy lives – includes reference to timely outbreak response, emergency planning, immunisations programmes and promotion of key health protection messages • All health and wellbeing services should be safe and high quality – includes reference to healthcare-acquired infections/AMR • Organisation works effectively 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic • Includes health protection priorities but is not specifically a health protection strategy
<p><u>Northern Ireland</u> Making Life Better – A Whole System Strategic Framework for Public Health 2013-2023²⁸</p>	<p>Themes:</p> <ul style="list-style-type: none"> • Giving Every Child the Best Start • Equipped Throughout Life • Empowering Healthy Living <ul style="list-style-type: none"> - References importance of vaccination and policy - References AMR - References STIs including HIV - References readiness to address and mitigate certain threats and hazards • Creating the Conditions <ul style="list-style-type: none"> - References direct and indirect effects of chemical, physical and biological hazards on health and wellbeing, including air and water quality • Empowering Communities • Developing Collaboration 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic

COVID-19 = Coronavirus Disease 2019; AMR = Anti-microbial Resistance; HIV = Human Immunodeficiency Virus; STI = Sexually Transmitted Infections

Country/Organisation and Strategic Document	Strategic Priorities/Objectives/Goals/Themes Identified	Notes
<p><u>Qatar</u> Ministry of Public Health Public Health Strategy 2017-2022⁴³</p>	<p>Objectives:</p> <ul style="list-style-type: none"> • Reduce the impact and burden of communicable diseases <ul style="list-style-type: none"> - References HIV/AIDS, hepatitis, TB, foodborne illness, vaccine coverage, eradication of measles/polio/rubella • Reducing the spread of diseases and premature death from non-communicable diseases (chronic) • Enable individuals to make informed decisions to improve their health through effective awareness campaigns, and implement disease prevention strategies that enhance their lives and health for longer years • Strengthening disaster management and emergency preparedness and disease outbreaks through advance planning 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic
<p><u>Scotland</u> Public Health Scotland Strategic Plan 2020-2023³⁴</p>	<p>Priorities/Areas of Focus:</p> <ul style="list-style-type: none"> • COVID-19 • Mental well-being • Community and Place • Poverty and Children 	<ul style="list-style-type: none"> • Published in context of COVID-19 pandemic • Includes health protection priority with reference to COVID-19

COVID-19 = Coronavirus Disease 2019; HIV = Human Immunodeficiency Virus; AIDS = Acquired Immunodeficiency Syndrome; TB = Tuberculosis

Country/Organisation and Strategic Document	Strategic Priorities/Objectives/Goals/Themes Identified	Notes
<p>USA U.S. Department of Health and Human Services National Health Security Strategy 2019-2022²⁷</p>	<p>Objectives:</p> <ul style="list-style-type: none"> • Prepare, mobilize, and coordinate the Whole-of-Government to bring the full spectrum of federal medical and public health capabilities to support SLTT authorities in the event of a public health emergency, disaster, or attack • Protect the nation from the health effects of emerging and pandemic infectious diseases and chemical, biological, radiological, and nuclear (CBRN) threats • Leverage the capabilities of the private sector 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic • Considers ‘All Hazards’ perspective (doesn’t use the term explicitly however)
<p>USA Centers for Disease Control and Prevention Global Health Strategy 2019-2021⁵²</p>	<p>Goals:</p> <ul style="list-style-type: none"> • Goal 1: Health Security - Protect Americans and populations across the globe by strengthening global public health prevention, detection, and response • Goal 2: Health Impact - Save lives, improve health outcomes, and foster healthy populations globally • Goal 3: Public Health Science Leadership - Lead the advancement of global public health science and practice and serve as a leading source of credible scientific information 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic • Updated during COVID-19 pandemic however to reflect impact of this threat
<p>USA U.S. Department of Health and Human Services Office of the Assistant Secretary for Preparedness and Response Strategic Plan for 2020-2023⁵³</p>	<p>Goals:</p> <ul style="list-style-type: none"> • Goal 1: Foster strong leadership • Goal 2: Sustain a robust and resilient public health security capacity • Goal 3: Advance an innovative public health emergency medical countermeasure enterprise • Goal 4: Build a regional disaster health response system 	<ul style="list-style-type: none"> • Published since the COVID-19 pandemic began

COVID-19 = Coronavirus Disease 2019; SLTT = State, Local, Tribal and Territorial

Country/Organisation and Strategic Document	Strategic Priorities/Objectives/Goals/Themes Identified	Notes
<p>Wales Public Health Wales Strategic Plan 2019-2022³²</p>	<p>Key areas highlighted within health protection theme:</p> <ul style="list-style-type: none"> • Integrated whole system approach to health protection - encompassing surveillance, prevention of infection across community and wider population, early effective diagnosis of infection, early effective treatment of infection, early effective intervention to control the spread of infection • Drive down risks from HCAI/AMR • Strengthen response to other risks e.g. VPDs • Effective approach to risks from environmental hazards and support Wales to prepare for/deal with anticipated effects of climate change 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic • Considers health protection hazards beyond infectious diseases • Includes health protection priorities but is not specifically a health protection plan
<p>Wales (North) NHS Wales Strategic Immunisation Plan 2019-2022⁵⁴</p>	<p>Priorities for improvement:</p> <ul style="list-style-type: none"> • Increasing uptake, achieving targets and reducing variation – MMR, influenza • Maintaining uptake where doing well – 6in1 by 1st birthday, MenACWY • Providing quality assurance on provision of smaller vaccine programmes 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic • Focuses specifically on strategic priorities for immunisation

COVID-19 = Coronavirus Disease 2019; HCAI = Healthcare-Acquired Infection; AMR = Anti-microbial Resistance; VPDs = Vaccine Preventable Disease; MMR = Measles, Mumps and Rubella; NHS = National Health Service

Country/Organisation and Strategic Document	Strategic Priorities/Objectives/Goals/Themes Identified	Notes
<p>Wales Public Health Wales Long-Term Strategy 2018-2030³⁷</p>	<p>Priorities:</p> <ul style="list-style-type: none"> • Protecting the public from infection and environmental threats to health • Building and mobilising knowledge and skills to improve health and well-being across Wales • Sets out specific health protection expectations for 2030: <ul style="list-style-type: none"> ○ Reductions in morbidity and mortality due to infections (includes HBV, HCV) ○ Collating/utilising health data across the healthcare system for timely diagnosis/appropriate treatment ○ Strengthened national capacity for early warning, risk reduction and management of national and global health risks ○ Recognition as system leaders for HCAIs and AMR ○ Partnership working to reduce mortality and morbidity attributed to issues such as climate change and air pollution • Influencing the wider determinants of health • Improved mental well-being and resilience • Promoting healthy behaviours • Securing a healthy future for the next generation through a focus on early years • Supporting the development of a sustainable health and care system focused on prevention and early intervention • Building and mobilising knowledge and skills to improve health and wellbeing across Wales 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic • Considers health protection hazards beyond infectious diseases • Includes health protection priorities but is not specifically a health protection strategy

COVID-19 = Coronavirus Disease 2019; HBV = Hepatitis B Virus; HCV = Hepatitis C Virus; HCAI = Healthcare-Acquired Infection; AMR = Anti-microbial Resistance

Country/Organisation and Strategic Document	Strategic Priorities/Objectives/Goals/Themes Identified	Notes
<p><u>World Health Organization</u> Health, environment and climate change Draft WHO global strategy on health, environment and climate change: the transformation needed to improve lives and well-being sustainably through healthy environments⁴⁰</p>	<p>Objectives</p> <ul style="list-style-type: none"> • Primary prevention: to scale up action on health determinants for health protection and improvement in the 2030 Agenda for Sustainable Development • Cross-sectoral action: to act on determinants of health in all policies and in all sectors • Strengthened health sector: to strengthen health sector leadership, governance and coordination roles • Building support: to build mechanisms for governance, and political and social support • Enhanced evidence and communication: to generate the evidence base on risks and solutions, and to efficiently communicate that information to guide choices and investments • Monitoring: to guide actions by monitoring progress towards the Sustainable Development Goals (SDGs) 	<ul style="list-style-type: none"> • Published prior to the COVID-19 pandemic • Focused on health relative to the environment and climate change from global perspective

COVID-19 = Coronavirus Disease 2019; WHO = World Health Organization; SDGs = Sustainable Development Goals

