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OBAIR LE CHÉILE CHUN ÁBHAIR  
FHRITHMHIOCRÓBACHA  
A CHOSAINN DON TODHCHAÍ

WORKING TOGETHER TO  
PROTECT ANTIMICROBIALS  
FOR THE FUTURE

# Ireland's Second One Health National Action Plan on Antimicrobial Resistance 2021-2025 (iNAP2) – Human Health Midterm Review





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# Introduction

Antimicrobials are treatments such as antibiotics used to prevent and treat infectious diseases in humans, animals, plants and crops. Increasing levels of antimicrobial resistance (AMR) in micro-organisms that cause infection and disease is making some of the most common infections more difficult to treat. AMR is a global health challenge that threatens advances in modern medicine. AMR has been included in Ireland's National Risk Register since 2014.

National Action Plans on Antimicrobial Resistance (AMR) are an international commitment for Member States of both the European Commission and the World Health Organization (WHO).

*Ireland's second One Health National Action Plan on Antimicrobial Resistance 2021-2025*, known as iNAP2, was published jointly by the Department of Health (DOH) and the Department of Agriculture, Food and the Marine (DAFM) on 18th November 2021. It is the successor plan to *Ireland's National Action Plan on Antimicrobial Resistance 2017-2020*, known as iNAP1, published jointly by DOH and DAFM in October 2017.

The approach to iNAP2 actions was based on three Guiding Principles:

1. Patient-centred approach, founded on integrated care in line with Sláintecare;
2. Developing iNAP2 with a focus on people, including patients, service users, staff, stakeholders and the public;
3. Ensuring that learning from the COVID-19 Pandemic is incorporated, focusing on infection prevention and control as an enabler for safe care.

In addition to 15 One Health actions agreed across the human health, animal health and environment sectors, iNAP2 includes 90 actions specific to human health across the 5 WHO Strategic Objectives:

1. Improve awareness and knowledge of AMR (18 actions)
2. Enhance surveillance of AMR and AMU (15 actions)
3. Reduce the spread of infection and disease (18 actions)
4. Optimise the use of antibiotics in human and animal health (21 actions)
5. Promote research and sustainable development in new medicines, diagnostic tools, vaccines and other interventions (18 actions)

A Midterm Review of human health actions was included as part of the development of iNAP2 given its publication in the context of the COVID-19 Pandemic. This was important to allow the emerging learning from care delivery and health system reform, both ongoing and necessitated by the pandemic, to be incorporated and to inform the implementation of iNAP2 over the latter part of the plan.

This Midterm Review sets out the progress made against the priorities and human health actions detailed in iNAP2 and provided an opportunity to review and refine the human health actions.

Further information is available from [www.gov.ie/amr](http://www.gov.ie/amr) and [www.hse.ie/hcai](http://www.hse.ie/hcai).

## Key achievements to date

Outlined below are some of the outputs that have been successfully delivered across the 5 Strategic Objectives since 2021. We would like to thank and acknowledge our human health stakeholders for their work and achievements to date and for their continued commitment to implementing iNAP2. (A full list of stakeholders is available in Appendix 1.)

### Strategic Objective 1: Improve awareness and knowledge of AMR (18 actions)

Lead Partner	Achievement
DOH	Single <u>One Health webpage for AMR</u> established on the gov.ie website. This is available at: <a href="http://www.gov.ie/amr">www.gov.ie/amr</a>
DOH	<b>Healthy Ireland 2023 Survey</b> questions relating to antibiotic usage were included in the 2017, 2021 and 2023 Healthy Ireland Surveys. The 2021 findings demonstrated that people have a good understanding about antibiotics with 78% of respondents correctly agreeing that antibiotics can kill bacteria and 65% of respondents correctly disagreeing that antibiotics can kill viruses. The 2023 Report is due for publication in Q4 2023.
HSE AMRIC	<u>HSE Antimicrobial Resistance and Infection Control (AMRIC) Action Plan 2022-2025</u> was published in November 2021 on the same day as iNAP2 and supports its delivery.
HSE AMRIC	<b>RESIST communications project</b> raises awareness of AMR and IPC including European Antibiotic Awareness Day, WHO World Hand Hygiene Day, International Infection Prevention Week, as well as promoting year-round public awareness campaigns.
HSE AMRIC	<u>HSE Antimicrobial Resistance Infection Control (AMRIC) Competency Framework for Infection Prevention and Control Practitioners in Ireland</u> was published in 2022.
HSE AMRIC	HSE Community IPC Manual published in March 2022.
HSE AMRIC	HSE Community National IPC Forum for Disability Infection Prevention Control Nurses was established.
HSE AMRIC	HSE AMRIC eLearning programme established. New modules are being developed and development of AMRIC eLearning HSELand hub has commenced.
RCSI	Royal College of Surgeons Ireland (RCSI) developed a children's book, 'Your Amazing Body – attack of the virus'. RCSI Transition year programme includes an annual talk on AMR and One Health.
IIOP	Irish Institute of Pharmacists (IIOP) developed an eLearning course, 'Antimicrobial Stewardship for Community Pharmacists', in consultation with members of AMRIC, which now available for Pharmacists to complete as a CPD resource.
PSI	Pharmaceutical Society of Ireland (PSI) - As part of the Review of the PSI Core Competency Framework for Pharmacists a new indicative behaviour has been added to domain 5: "I adhere to the principles of good antimicrobial stewardship and infection prevention and control and keep up to date with national guidelines to limit the development of antimicrobial resistance."



*Pictured at the launch of the RESIST roll out in Dungarvan Community Hospital are Paula French (left) Director of Nursing with members of staff and residents who took part in the launch in 2022*

## Strategic Objective 2: Enhance surveillance of AMR and AMU (15 actions)

Lead Partner	Achievement
DOH/HSE	Development of the <b>Second One Health Report on Antimicrobial Resistance and Antimicrobial Use</b> has commenced and report drafting is underway.
HSE AMRIC	' <b>Green/Red</b> ' Antibiotic Prescribing Reports are provided quarterly to GPs by HSE AMRIC.
HSE AMRIC	<b>New audit tool</b> for non-Antimicrobial Stewardship (AMS) specialists is in development by HSE AMRIC.
HSE AMRIC	<b>Surgical Site Infection Programme</b> established by HSE Acute Operations.
HSE AMRIC	<b>Enhanced surveillance reporting of antimicrobial consumption</b> in community inpatient facilities.
HSE AMRIC	<b>Healthcare associated infection (HCAI) data for Ireland</b> is published for input to European studies including Acute Hospital Antimicrobial National Point Prevalence Study (PPS), European Antimicrobial Resistance Surveillance Network (EARS-net) reporting, WHO Global Antimicrobial Resistance and Use Surveillance System (GLASS).
HSE AMRIC	<b>C.difficile National Reference Laboratory (NRL)</b> established and fully operational.
HSE AMRIC	<b>Joint quarterly reports and annual reports on C.difficile surveillance in Ireland</b> produced by HPSC and C.difficile National Reference Laboratory.
HSE AMRIC	<b>HSE Health Protection Surveillance Centre (HPSC) Irish C.difficile Infection Network (ICDI-Net)</b> established and inaugural meeting held in March 2023.
HSE AMRIC	<b>National Clinical Surveillance Infection Control System</b> phased roll out has commenced.
RCSI	<b>Irish Research Council (IRC)-funded workplace-based PhD with Beaumont Hospital/RCSI surveillance scientists</b> established.

Right: Regional Hospital Mullingar Infection Control Nursing Team pictured wearing the new RESIST tunics.  
L-R Claire Duffy CNM2 IPC, Christine McDonnell CNM2 IPC, Davina Rowe CNM2 IPC, Julie Cullen ADON IPC.

Below: The HSE AMRIC Team were successful at the Irish Healthcare Awards winning Clinical Team of the Year (2022).  
L-R former HSE CEO Paul Reid, AMRIC National Clinical Lead Dr Eimear Brannigan, former AMRIC National Clinical Lead Professor Martin Cormican and HSE Chief Clinical Officer Dr Colm Henry.



## Strategic Objective 3: Reduce the spread of infection and disease (18 actions)

Lead Partner	Achievement
DOH	Over €25m funding and 345 WTEs to support activities in the Human Health sector across a range of infection prevention and control (IPC) and AMR roles since 2018 across the iNAP National Action Plans.
HSE AMRIC	<u>Infection Prevention &amp; Control Link Practitioner Programme Framework – Community Health &amp; Social Care Settings 2021/2022</u> was published by HSE AMRIC in February 2021.
HSE AMRIC	Pharmacist Antimicrobial Stewardship Network (PAMS-Net) was established by HSE AMRIC to support delivery of the right antimicrobial, at the right time, dose and duration to meet patients' needs.
HSE AMRIC	Infection Prevention & Control Network Forum which provides Train the Trainer, educational materials, educational study day and webinars has been established by HSE AMRIC.
HSE AMRIC	Preparation and planning is underway for the <b>European Point prevalence survey (PPS) of healthcare-associated infections and antimicrobial use in acute hospitals</b> . More than 60 participating hospitals in Ireland will take part in the third European Centre for Disease Prevention and Control (ECDC) point prevalence survey in May 2023.
HSE AMRIC	IV-line teams established in 6 Model 4 hospitals by HSE Acute Operations in collaboration with HSE AMRIC.
HSE AMRIC	<u>Infection Control guiding principles for Building Acute Hospitals and Community settings</u> reviewed and updated in May 2022.
HSE AMRIC	Targeted AMRIC site visits provided to support acute hospital services.
HSE	National Immunisation Programmes continues to be delivered by HSE.
HIQA	HIQA Inspection Reports include antimicrobial stewardship as a key line of enquiry during all inspections. Three Specialist IPC Inspectors have undertaken: <ul style="list-style-type: none"> <li>• 86 inspections, of which 27 were specialist IPC inspections in 2021.</li> <li>• 103 inspections, of which 55 were standalone IPC inspections in 2022.</li> </ul>

Right: Selection of patient information leaflets available.

Below: Ms Rachel Kenna, Chief Nursing Officer, Department of Health marks World Hand Hygiene Day 2022.



## Strategic Objective 4: Optimise the use of antibiotics in human and animal health (21 actions)

Lead Partner	Achievement
DOH	A conference entitled <b>Building One Health Action under iNAP2</b> was held in Farmleigh House on 23rd June 2022, welcoming 100 delegates. This joint conference hosted by DOH and DAFM brought together stakeholders from across the One Health sectors. It acknowledged the work undertaken for iNAP1 as well as the publication of iNAP2. The keynote address was given by Emer Cooke, Executive Director of the European Medicines Agency and human health inputs were delivered by colleagues from HSE AMRIC and HIQA.
HSE AMRIC	HSE AMRIC continue to enhance and publish updated community antibiotic prescribing guidance to <a href="http://www.antibioticprescribing.ie">www.antibioticprescribing.ie</a> supported by educational podcasts/materials. The site has 380,000 users and over 2 million page views.
HSE AMRIC	<b>HSE Antimicrobial Stewardship Guidance for all healthcare settings</b> was published in August 2022.
HSE AMRIC	<b>AMS Toolkit for long term care facilities</b> produced by antimicrobial pharmacists.
HSE AMRIC	HSE Community published <b>Point Prevalence surveys of antibiotic use in HSE Older Persons and Mental Health facilities</b> – feedback and education delivered – resulting in a 50% reduction in antibiotic prophylaxis in HSE Older Persons Residential Care Facilities (RCFs).
HSE AMRIC / HPRA	HSE AMRIC in collaboration with HPRA, supported community prescribers with <b>real time information on antibiotic supply</b> .
ICGP	<b>ICGP Optimal antimicrobial prescribing workshop module</b> for GPs training resource is available at <a href="http://www.icgpeducation.ie">www.icgpeducation.ie</a> .
HIQA	<b>HIQA's new inspection programme against the National Standards for Safer Better Healthcare continues to place a focus on IPC and AMS</b> . Inspections in acute hospitals also seek to promote medication safety and antimicrobial stewardship. 21 inspections were conducted by 2022-year end.



Dr Martin Blake, Chief Veterinary Officer, Department of Agriculture, Food and the Marine, Ms Emer Cooke, Executive Director, European Medicines Agency and Ms Rachel Kenna, Chief Nursing Officer, Department of Health at the Building One Health Action under iNAP2 Conference in Farmleigh House, 23rd June 2023.

## Strategic Objective 5: Promote research and sustainable development in new medicines, diagnostic tools, vaccines and other interventions (18 actions)

Lead Partner	Achievement
DOH/HSE	National Clinical Guideline for infection prevention and control (IPC) has successfully completed quality assurance through the National Clinical Effectiveness Committee (NCEC) processes and is being prepared for publication in Q2 2023.
DOH	Systematic review and meta-analysis of the effectiveness of behaviour change initiatives to reduce sub-optimal antimicrobial prescribing and consumption study in progress by Department of Health in collaboration with the Department of Psychology, University of Limerick. Due to be completed in 2023.
DOH	GOLD Research Award established and first presented at the 2022 Department of Health National Patient Safety Office Conference. The Graduates Of the Last Decade (GOLD) award is an annual award for research amongst the health and social care professionals on AMR and IPC. It is designed to ensure research by students and newly qualified practitioners.
HSE AMRIC	In 2022 AMRIC: published 71 Clinical Guidance documents; published 48 Guidance documents on antibioticprescribing.ie; held 18 webinars; and 647 staff have undertaken foundation education training as part of HSE IPC Link Practitioner Programme.
HIQA	HIQA have commenced scoping work to develop a tool to collect a core data set and collection/survey methodology for the collection of costs attributable to AMR at a point in time, to initially consider public healthcare perspective.
DAFM	AMR Thematic Network established by the DAFM in November 2022 with representatives from across the One Health sectors. Its focus is to promote a strong One Health approach to research in AMR and to oversee a gap analysis study to identify priority areas for AMR One Health research.



Minister for Health Stephen Donnelly T.D., presenting Dr Aoife Fleming, School of Pharmacy, UCC with the Inaugural GOLD Award for the AMR/IPC Poster Competition at the National Patient Safety Conference in October 2022 for the poster titled "A survey of community pharmacists' and healthcare advisors' views and experiences on the provision of a Test and Treat Service for uncomplicated lower urinary tract infection in a retail pharmacy chain in Ireland".

This research was undertaken by UCC MPharm student Caoilinn Walsh, supervised by Dr Teresa Barbosa and Dr Aoife Fleming (Pharmaceutical Care Research Group, School of Pharmacy, UCC), Dr Susan O'Dwyer, Boots Ireland and Ms Lisa Buckley, Boots Ireland and School of Pharmacy UCC.

# Ireland's iNAP Journey

## One Health approach to tackling AMR

AMR has multiple drivers and needs to be tackled on many fronts. A One Health approach is essential to ensure that all sectors and stakeholders communicate and work effectively together.

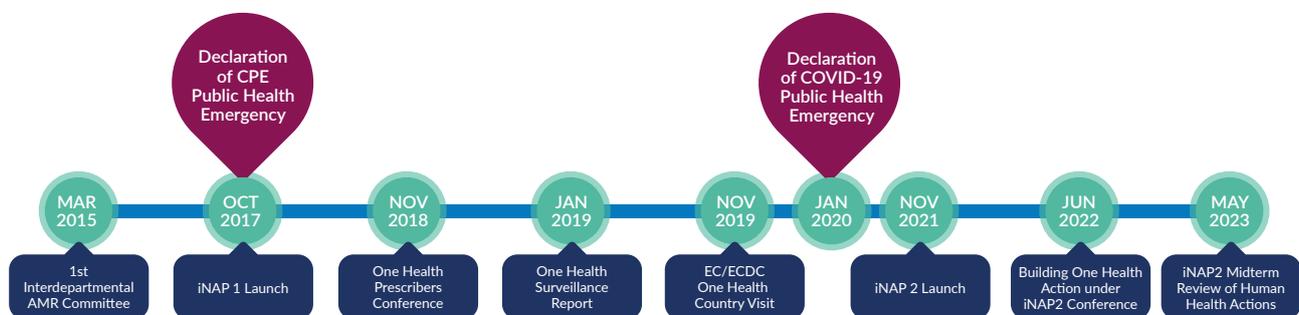
One Health is an integrated, unifying approach that aims to achieve optimal and sustainable health outcomes for people, animals, and ecosystems. It recognizes that the health of humans, domestic and wild animals, plants, and the wider environment (our ecosystems) are closely linked and inter-dependent.

It has been acknowledged globally that a One Health approach is the most effective way to address the global AMR challenge. This is promoted by both the World Health Organization (WHO) and the European Commission.

National Action Plans on Antimicrobial Resistance (AMR) are an international commitment for Member States of both the European Commission and the World Health Organization (WHO).

Following on from the World Health Organization (WHO) Global Action Plan on AMR (2015) and the European Action Plan on AMR (2017), Ireland published its first *National Action Plan on Antimicrobial Resistance 2017–2020*, known as iNAP, in October 2017. The successor plan, *Ireland's second One Health National Action Plan on Antimicrobial Resistance 2021–2025*, known as iNAP2, was published jointly by the DOH and the DAFM on 18th November 2021.

Some key milestones in Ireland's One Health journey are presented in the following figure.



## Ireland's second One Health National Action Plan on Antimicrobial Resistance 2021-2025 (iNAP2)

iNAP2 was developed in 2021 and builds on the work undertaken under iNAP1 2017-2020. iNAP2 includes learning from both the CPE and COVID-19 Public Health Emergencies and the Report of the European Commission / European Centre for Disease Prevention and Control (ECDC) One Health Country Monitoring Visit on AMR to Ireland (conducted November 2019). The human health actions in iNAP2 were developed through engagement with internal and external stakeholders including workshops with the HSE Antimicrobial Resistance and Infection Control (AMRIC) National Team, and the expert advisory input of the Independent Patient Safety Council.

### HSE Antimicrobial Resistance and Infection Control (AMRIC) Action Plan 2022-2025

During the lifetime of iNAP1, major progress was achieved in advancing a One Health approach in health and social care services through the establishment in early 2019 of the HSE's Antimicrobial Resistance and Infection Control Division (AMRIC), under the Office of the Chief Clinical Officer. This built on previous structures but streamlined governance for Healthcare Associated Infections (HCAIs) and AMR. The Department of Health works closely with HSE AMRIC as an important human health stakeholder.

The core work of the AMRIC Team is focused on making services safer for patients and the public and supporting the sustainability of healthcare services by control of AMR. From its establishment, the HSE AMRIC Division's strategic objectives have been closely aligned with iNAPs in seeking to provide IPC and AMS leadership across the HSE health and social care services to:

- Build infection prevention and control (IPC)/ antimicrobial stewardship (AMS) capacity through multidisciplinary integrated teams across health and social care services,
- Provide access to IPC/AMS advice, support, education, and training for healthcare workers to drive,
- Implementation of National IPC Standards and Guidelines,
- Implement information systems to support healthcare associated infections (HCAI) and AMR surveillance systems, and
- Develop Key Performance Indicators (KPIs) for IPC and AMS for public health and social care services.

On the same day as the publication of iNAP2, the HSE published the [HSE Antimicrobial Resistance and Infection Control \(AMRIC\) Action Plan 2022-2025](#). This supports the delivery of iNAP2 and outlines the delivery and implementation of the human health actions under their remit.

# International Developments in AMR and IPC since the publication of iNAP2

Since the publication of iNAP2 in November 2021, there have been a number of significant developments at international level that reference AMR and/or the One Health Approach. The following strategies, plans and initiatives interface with AMR but have a much broader focus with developments that impact on a range of policy areas.

- International Pandemics Treaty
- Pharmaceutical Strategy for Europe
- Directorate General Health Emergency Preparedness and Response Authority (DG HERA)
- EU4Health
- Horizon Europe

There is also work underway to prepare a new European Commission Council recommendation regarding AMR with the aim of strengthening One Health and cross-Europe action.

iNAP2 will continue to guide the approach to AMR policy in Ireland while acknowledging the wider policy implications of the above international developments outside of AMR and IPC.

Some additional key international influences are considered below.

## WHO AMR Roadmap

Following on from the [WHO 2015 AMR Global Action Plan](#), the purpose of *Roadmap on antimicrobial resistance for the WHO European Region 2023-2030* is to guide and support countries in the region to identify, prioritise, implement and monitor high-impact interventions to tackle AMR. The Roadmap will also address some of the gaps in the Global Action Plan including a focus on vaccination and the environment and taking account of the developments and the current context including linking AMR to Health Security.

The vision for the Roadmap is that “By 2030, people and animals are safer from hard-to-treat infections in healthier environments.”

There are 6 actions areas: Prevention and control; Environmental and social determinants, Stewardship; Community behaviour/ awareness and; Access to medicines and health products.

3 outcomes are outlined:

1. Reduced burden and impact of infectious diseases on human and animal health.
2. Reduced levels of AMR.
3. Continued ability to treat infectious diseases.

The Roadmap is aligned with the recently developed WHO people centred framework for addressing antimicrobial resistance (AMR) in human health and its 13 high level interventions. Publication of the Roadmap will include development and consideration of appropriate indicators for Member States. The implementation of actions and priorities under iNAP2 will support Ireland in remaining on track to meet AMR and IPC requirements.

## WHO Global Strategy on Infection Prevention and Control

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The vision proposed for the draft Global Strategy on Infection Prevention and Control (GSIPC) is: “By 2030, everyone accessing or providing health care is safe from associated infections.”

The Strategy has 3 objectives:

1. Prevent infection in health care
2. Act to ensure IPC programmes are in place and implemented
3. Coordinate IPC activities with other areas and sectors and vice-versa

The draft Strategy is intended to be an aspirational, strategic and programmatic initiative that will be complemented by, and used in conjunction with, an associated action plan and monitoring framework that will be developed in 2023–2024.

Following adoption of the draft Strategy by the World Health Assembly in response to the request to the Director-General through resolution WHA75.13 (2022), a detailed implementation and global action plan will be developed for consideration by the Seventy-seventh World Health Assembly in May 2024. This will include a suggested monitoring and evaluation framework, including outcome and impact targets and a timeframe. The framework will have to be aligned with the monitoring matrix of other relevant existing WHO programmes to avoid duplication of reporting.

The IPC monitoring and reporting processes put in place under iNAP1 and strengthened under iNAP2 will support Ireland in remaining on track to meet the targets and timeframes under the planned global action plan.

## WHO Global Patient Safety Action Plan 2021 - 2030

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The World Health Organisation (WHO) Global Patient Safety Action Plan (GPSAP) 2021-2030 was adopted by the 74th World Health Assembly in 2021. The goal of the action plan is to eliminate avoidable harm in healthcare globally over a 10-year implementation period. This will be achieved by driving forward policies, strategies, and actions, based on science, patient experience, system design and partnerships. Additionally, the action plan aims to improve access to healthcare for all citizens and ultimately work towards universal healthcare.

The framework for the GPSAP includes seven strategic objectives. Each of which has five strategies. The seven principles which will guide the implementation of the GPSAP include the following:

1. **Patients and Family Members** – engage them in patient safety
2. **Collaborative Working** – achieve results by working collaboratively
3. **Data** – analyse and share data to generate learning
4. **Actionable & Measurable Improvements** – translate evidence into actionable and measurable improvement
5. **Care Setting** – Base policies and action on the nature of care setting
6. **Expertise & Experience** – use both scientific expertise and patient experience to improve patient safety
7. **Safety Culture** – instil a safety culture in the design and delivery of healthcare

The aims of the GPSAP are aligned with the Minister’s and Department’s commitment to implementing the Sláintecare reform strategy. Under the Sláintecare Implementation Strategy and Action Plan 2021-2023, patient safety and quality are an enabling programme for the delivery of the reform programmes. In addition, under Commitment 4: Common Causes of harm in the HSE Patient Safety Strategy 2019 – 2024, the following are included as areas for focus:

- Reducing Healthcare Associated Infection and Antimicrobial Resistance
- Reducing and Managing Sepsis.

# iNAP2 Midterm Review Methodology

## Rationale for iNAP2 Midterm Review

A Midterm Review of human health actions was built into iNAP2 given its publication in the context of the COVID-19 Pandemic. This was important to allow the emerging learning from care delivery and health system reform, both ongoing and necessitated by the Pandemic, to be incorporated and inform the latter implementation of the five-year plan.

On publication in 2021, human health actions were classified into the following timeframes:

- Ongoing
- 2021 Specific Actions and Deliverables
- 2022 Specific Actions and Deliverables
- 2023-2025 Specific Actions and Deliverables

The purpose of the Midterm Review is to record and acknowledge the progress made to date under iNAP2 and to review and refine the human health actions.

## Approach to Midterm Review



## iNAP2 Midterm Review Outcome Summary

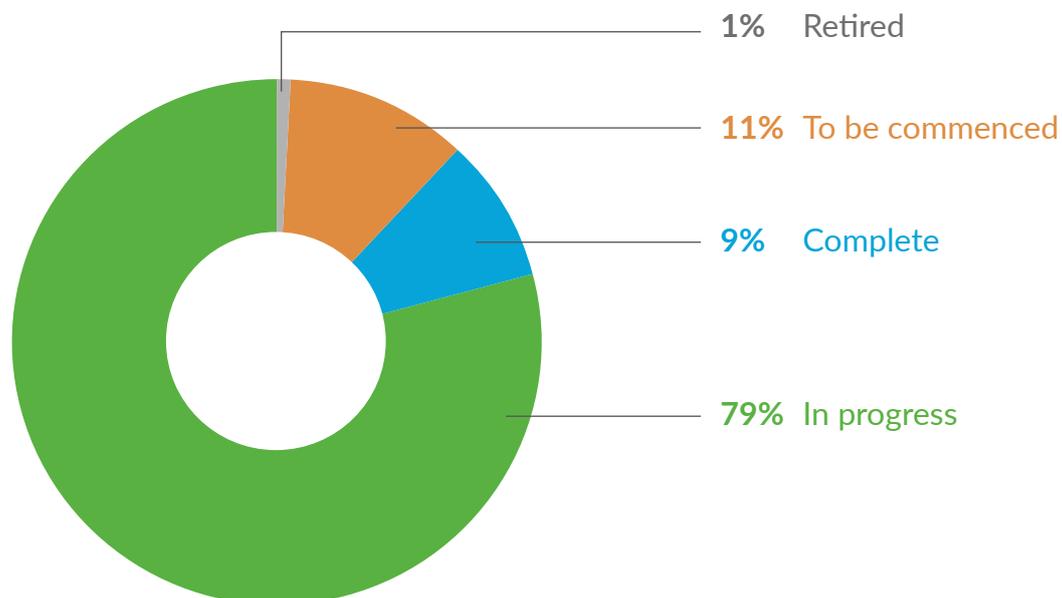
As outlined in the Key Achievements section, significant progress has been made and many initiatives have commenced, both new and building on the work of iNAP1. Some actions have been completed.

The table below outlines the action status of the original 90 Human Health actions.

Action Status	No.	%	Explanation
Complete	8	9%	Action complete*
In Progress	71	79%	Work ongoing
Retired	1	1%	Action subsumed into other work area
To be commenced	10	11%	Not due to start yet
Total	90	100%	

\*This has been used for actions with a defined end point. Actions that will continue over time have been assigned to the "In Progress" category.

### iNAP2 Action status



## iNAP2 One Health Actions

The One Health approach is central to the delivery of iNAP2. The Department of Health worked closely with colleagues in the Department of Agriculture, Food and the Marine and the environment sector to agree the fifteen One Health actions in iNAP2. Reflecting the goal of an enduring One Health commitment, the majority of these actions were attributed to the “Ongoing” timeframe.

Underlining the importance of One Health, a single webpage for AMR policy, [www.gov.ie/amr](http://www.gov.ie/amr) was established in 2021.

The screenshot shows the gov.ie website interface. At the top, there is a navigation bar with links for Departments, Consultations, Publications, Policies, Languages, and a search icon. Below the navigation bar, the page is titled 'Publication' and features the main heading 'Antimicrobial Resistance: A One Health Approach'. Underneath the heading, it states 'From Department of Health: Department of Agriculture, Food and the Marine', 'Published on 13 August 2021', and 'Last updated on 21 November 2022'. A list of seven links is provided, detailing various One Health actions related to antimicrobial resistance. On the right side, there is a 'Part of' section indicating that this page is part of 'Policies' under 'Agriculture and Food' and 'Health'.

gov.ie

Departments Consultations Publications Policies Languages - Q

Publication

### Antimicrobial Resistance: A One Health Approach

From [Department of Health](#): Department of Agriculture, Food and the Marine  
 Published on 13 August 2021  
 Last updated on 21 November 2022

- [1. Antimicrobials are medicines](#)
- [2. Antimicrobial Resistance](#)
- [3. The One Health approach to Antimicrobial Resistance](#)
- [4. National Interdepartmental AMR Consultative Committee](#)
- [5. Ireland's National Action Plan on Antimicrobial Resistance 2017-2020 \(iNAP1\)](#)
- [6. Ireland's second One Health Action Plan on Antimicrobial Resistance 2021-2025 \(iNAP2\)](#)
- [7. Building One Health Action Under iNap.2](#)

**Part of**  
 Policies  
[Agriculture and Food](#)  
[Health](#)

The [www.gov.ie/amr](http://www.gov.ie/amr) webpage.

Continuing the support and promotion of the One Health approach, the Department of Health and the Department of Agriculture, Food and the Marine jointly hosted the *Building One Health Action under iNAP2* conference in Farmleigh House on 23<sup>rd</sup> June 2022. This joint conference brought together stakeholders from across the One Health sectors. It acknowledged the work undertaken for iNAP1 as well as the publication of iNAP2. The keynote address was given by Emer Cooke, Executive Director of the European Medicines Agency and human health inputs were delivered by colleagues from HSE AMRIC and HIQA.

The Department of Health remains dedicated to delivering on iNAP2 One Health commitments and as a result, there is no change in focus for the One Health actions for the remainder of the Plan.

## iNAP2 Midterm Review New Follow-on actions

Following the review of progress on actions and further to updates provided by stakeholders, the follow-on actions below have been identified as part of the Review process.

	Action	Timeframe	Responsible sector	Action Status
1-04a	Undertake further work to capture patients' and staff stories relating to their experience of AMR and IPC; and expand scope of project to include sepsis.	2023	DOH in collaboration with the HSE	In Progress
4-02a	Continue and progress collaboration with relevant specialist clinical areas to recognise synergies and interdependencies between these specialties and AMS best practise. This includes but is not limited to sepsis and sexual health.	2023	HSE	In Progress
5-14a	Implement the NCEC National Clinical Guideline No. 30 on Infection Prevention Control.	2023	HSE	To be commenced
5-14b	Conduct a mapping exercise between the new NCEC National Clinical Guideline No. 30 on IPC and NCEC National Clinical Guidelines Nos. 2 and 3 on MRSA and <i>C.difficile</i> respectively. This is to identify MRSA and <i>C.difficile</i> related content which is out of scope of the IPC Guideline and requires update.	2023	HSE	To be commenced
5-14c	Update clinical guidance on MRSA and <i>C.difficile</i> as HSE AMRIC Clinical Guideline.	2023	HSE	To be commenced

## iNAP2 Midterm Review Outcome: Progress on Actions

Ongoing delivery of actions continues. Information on some of the achievements under each action has been presented in the tables below as examples of the progress made to date.

Strategic Objective 1: Improve awareness and knowledge of antimicrobial resistance					
	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
1-01	Further develop and evolve communications activities to support AMR, AMS and IPC key messages, targeted to the audience.	Ongoing	DOH/HSE	In Progress	Key stakeholders continue to include messages to their members around AMR, AMS and IPC. Information is also shared with the public via social media.
1-02	Continue to carry out regular surveys to assess knowledge, belief and attitudes of the general public (for example, Healthy Ireland Survey), as well as healthcare professionals, about antibiotics, antibiotic use and AMR and IPC. Also, seek to assess the impact of awareness campaigns.	2023-2025	DOH	In Progress	Questions on antibiotic use have been included in the Healthy Ireland Surveys in 2021 and 2023.  This action will continue to be relevant for the lifespan of iNAP2.
1-03	Develop a patient and public policy engagement framework, to support iNAP2.	2023	DOH	In Progress	An Evidence Brief, <i>Public and Patient Engagement with Antimicrobial Resistance</i> was undertaken by the Health Research Board (HRB) in November 2021.  This action will continue to be progressed in 2023.
1-04	Undertake work to capture patients' and staff stories relating to their experience of AMR and IPC.	2021	DOH in collaboration with the HSE	Completed	Phase I of the Patient and Staff Stories Project was completed in August 2022.
1-04a	Undertake further work to capture patients' and staff stories relating to their experience of AMR and IPC; and expand scope of project to include sepsis.	2023	DOH in collaboration with the HSE	In Progress	Scoping work complete.
1-05	Work with educational stakeholders to promote learning on AMR and IPC for schools and educational institutions in order to promote and sustain good behaviours with respect to AMR and IPC.	2024*	DOH	To be commenced	
1-06	Promote best practice and share new developments and key messages on AMR, IPC and AMS in newsletters for health and social care professionals, in line with HSE AMRIC campaigns and iNAP2 national programmes and priorities.	2021	IMC/NMBI/ PSI/ IDC/ ICGP/RCSI/ RCPI/IIOP	In Progress	Key stakeholders continue to promote best practice and share key messages on AMR, IPC and AMS in their respective newsletters and through their social media channels.

	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
1-07	Promote AMR and IPC as key areas for competence amongst health and social care professionals by recognition in professional practice standards and guidance, as appropriate.	2021	IMC/NMBI/ PSI/CORU/ IDC	In Progress	This action commenced and stakeholders will continue to focus on this for the lifespan of iNAP2.  <u>HSE AMRIC Competency Framework for Infection Prevention and Control Practitioners in Ireland</u> was published in 2022.
1-08	Develop and promote HSE expert staff as spokespersons and advocates on AMR and IPC.	2022-2025	HSE	In Progress	Media training programme is underway.
1-09	Implement agreement with all Higher Education Institutions that they confirm that all students on clinical placement have completed foundation course on AMR, IPC and AMS before their first clinical placement.	2021	HSE	In Progress	eLearning programme completed 2022 and 2023 plan underway.  Development of AMRIC eLearning HSELand hub commenced.  RCSI students undertake mandatory infection prevention and control training on HSELand land prior to clinical placements in both graduate entry medicine (year 1 and year 2) and five-year undergraduate medicine programme (3rd to 5th).
1-10	Encourage the participation of GPs, pharmacists, registered nurses, registered midwives and other healthcare staff in continuous professional development and education on AMR, IPC and AMS by promotion of resources and increased awareness of the importance of these areas for practice.	2021	IMC/NMBI/ PSI/IDC/ ICGP/RCSI/ RCPI/IIOF/ HSE	In Progress	Stakeholders have included key messages in their newsletters to encourage participation in continuous professional development.  In September 2021, the IIOF launched a training programme through its online portal. This training programme, entitled 'Antimicrobial Stewardship for Community Pharmacists'.  This action will continue to be relevant for the lifespan of iNAP2.
1-11	Roll out the inclusion of key information on AMR, IPC and AMS in all induction material for all incoming staff and be built in to HSE supported continuing education and training.	2022	HSE	In Progress	As per HSE AMRIC implementation plan 2023-2025.

	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
1-12	Develop and implement the Core Competency Framework for all healthcare staff for AMR and IPC.	2022	HSE	In Progress	HSE AMRIC Core Competency Framework published in May 2022.  HSE AMRIC continue to provide support for implementation of this framework.
1-13	Create standards and requirements for AMR educational modules in Nursing and Midwifery.	2022	NMBI	Completed	This action is being subsumed in to 1-07 as the NMBI have updated their regulatory approach to a principle-based approach.
1-14	Ensure education on AMR and IPC is included in pharmacy undergraduate and postgraduate core curriculum training and examinations.	2022	PSI	In Progress	In 2023, the PSI will review the Accreditation Standards for CPD programmes and courses for pharmacists and in 2024 they will review the Accreditation Standards that underpin the integrated five-year MPharm degree programme.
1-15	Continue to work closely with health stakeholders, academics, professional organisations, and researchers, so these organisations, their teams and individual practitioners become "ambassadors" for the key messages related to prudent antibiotic use, to the general public and to their membership.	2023*	DOH/HSE	In Progress	Work is ongoing around the development of the IPC Ambassador role.  As per HSE AMRIC implementation plan 2022-2025
1-16	Continue to support the HSE Antimicrobial Stewardship Advisory Group, ensuring expert input in relation to AMS.	2021	HSE	In Progress	HSE AMRIC continue to collaborate with key stakeholders.
1-17	Continued support of collaborative approach to the dissemination of safety information from the European Medicines Agency (EMA) and Health Products Regulatory Authority (HPRA).	Ongoing	HPRA	In Progress	HPRA continues to communicate safety updates relating to antimicrobials, including product information updates, safety notices, drug safety newsletters. They also have annual social media campaigns to raise awareness of European Antibiotic Awareness Day, World Antibiotic Awareness Week and Medication Safety Week.
1-18	Disseminate information and promote participation of Irish stakeholders in the planned EU voluntary network on AMR in human health.	2022	DOH	Retired	This action has been retired as structures at EU level are evolving and are being redesigned post-pandemic.

Strategic Objective 2: Enhance surveillance of antibiotic resistance & antibiotic use					
	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
2-01	Establish a national system for continuous and enhanced monitoring of HCAIs in intensive care units.	2023*	HSE	To be commenced	
2-02	Establish a national system for continuous monitoring of HCAIs in surgical site infections.	2021	HSE	In Progress	Work on this action has commenced with data collection and analysis underway.
2-03	Establish a national system for monitoring of common community-acquired infections, to include UTI, in collaboration with GPs.	2023	HSE/ICGP	To be commenced	
2-04	Scope and extend provision of antibiotic prescribing data at prescriber and service levels across settings to provide direct prescriber feedback, inform behavioural change and support extension of best practice projects, such as GP preferred antibiotics prescribing.	2022-2025	HSE/ICGP/PCRS	In Progress	<p>HSE AMRIC team in collaboration with Primary Care Reimbursement Service (PCRS) issue GPs nationally with a quarterly report outlining the quantity and type of antibiotics that are prescribed to their GMS lists (Green/Red). Continued collaboration with ICGP on AMR/AMS/IPC messaging.</p> <p>Promotion of appropriate antibiotic prescribing and Green/Red messaging in collaboration with IPU and PAMS-Net forum.</p>
2-05	Improve surveillance, collection, analysis, timely reporting, and feedback of antimicrobial consumption data across key settings, broadly built around the WHO AWaRE classification. For example, this may include but is not limited to General Practice, long-term residential care facilities and dental services.	2022	HSE	In Progress	<p>HSE AMRIC incorporated WHO AWaRE classifications in to Acute Antimicrobial Point Prevalence Study 2022.</p> <p>HSE AMRIC continue reporting processes for National CPE (monthly) &amp; NPHET COVID-19 and NPOG (monthly).</p>
2-06	Develop and improve annual national and European prevalence studies of antimicrobial prescribing in acute hospital and long-term residential care facilities.	Ongoing	HSE/HPSC/DOH	In Progress	<p>Completed and published National Acute Antimicrobial Point Prevalence Study in 2022. Dissemination of PPS 2022 and AMRIC infographic poster to key stakeholders.</p> <p>Continued collaboration for ECDC Point Prevalence study 2023.</p> <p><i>C. difficile</i> National Reference Laboratory (NRL) established. Joint quarterly reports and annual reports on <i>C. difficile</i> surveillance in Ireland produced by HPSC and <i>C. difficile</i> NRL.</p>

	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
2-07	Support participation in, and contribute to development, of the WHO Global Antimicrobial Resistance Surveillance System (GLASS)	Ongoing	HSE	In Progress	Continued participation in <u>WHO Global Antimicrobial Resistance and Use Surveillance System (GLASS)</u> .
2-08	Develop sustainability and governance for continuation and further development of the One Health Surveillance Reporting system to include multi-disciplinary professional and clinical/ administrative support.	2024*	DOH/HSE	In Progress	Work continues to develop the sustainability and governance for future reports and ensure learnings are adapted from the second One Health Report on Antimicrobial Resistance and Antimicrobial Use.
2-09	Develop and publish the One Health Surveillance data report for 2017/2018/2019.	2023*	DOH/HSE	In Progress	Work currently underway with a new format agreed and presented to the Interdepartmental AMR Consultative Committee. Publication planned for 2023.
2-10	Develop and report the UN Sustainable Development Goal indicator (3.d.2), as it relates to human health.	2022	DOH/HSE	Completed	Data for the UN Sustainable Development Goal indicator (3.d.2) is being reported via the Global Antimicrobial Resistance and Use Surveillance System (GLASS).
2-11	Develop and implement systems and processes to provide more timely collation, frequency and reporting of key antimicrobial routine resistance data from microbiology laboratories including public and private laboratories built on the existing EARS-Net process.	2023-2025	DOH/HSE	In Progress	HSE HPSC continue to submit and publish data for 8 pathogens as part of Ears-Net reporting.  This action relates to further developments required of laboratory services in Ireland.
2-12	Enhance rapid laboratory diagnostic capacity to support AMR and IPC stewardship, which may enhance patient flow.	2022-2025	HSE/RCPI	To be commenced	
2-13	Develop an integrated and comprehensive microbiology human health reference laboratory service that encompasses services for key antimicrobial resistance issues, including periodic structured national surveillance studies of antimicrobial resistance in key organisms.	2024-2025*	DOH/HSE	To be commenced	
2-14	Contribute to the development and implementation of medical laboratory systems and eHealth systems to ensure they support AMR and IPC surveillance.	2022-2025	DOH/HSE	In Progress	HSE AMRIC is working with eHealth to implement a phased roll out of a National Clinical Surveillance Infection Control System. Project planning and procurement is underway.  This action relates to further developments required of laboratory services in Ireland.

	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
2-15	Develop a collaborative framework within which the HSE can work with private healthcare providers on surveillance.	2024-2025*	DOH/HSE	To be commenced	

### Strategic Objective 3: Reduce the spread of infection and disease

	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
3-01	Develop and implement the HSE 2022-2025 AMRIC Action Plan, cognisant of the learnings from COVID-19.	2022-2025	HSE	In Progress	<u>HSE Antimicrobial Resistance &amp; Infection Control Action Plan 2022-2025</u> was published in November 2021. Implementation of the Action Plan is ongoing.
3-02	Implement the HSE Community IPC Strategy in line with the integrated approach to AMR and IPC and cognisant of the related recommendations in the Nursing Home Expert Panel Report on COVID-19 (2020).	2022	HSE	In Progress	Implementation of the HSE Community IPC Strategy continues to progress. All 18 posts (9 CNS/CNM2 and administration) have been filled.  HSE Community IPC Link Practitioner Programme established with 670 staff undertaken foundation education training.  Guidance and resources developed to support IPC and AMS practice and published to <a href="http://www.antibioticprescribing.ie">www.antibioticprescribing.ie</a>
3-03	Promote best practice in IPC as homecare services develop, including guidance, education, and advice.	2022	DOH/HSE/ Private Providers	In Progress	This action has commenced. Regulations for Providers of Home Support Services are at an advanced stage and set out minimum requirements regarding Infection Prevention and Control. Work will continue in 2023 with legal enactment expected in 2024. HIQA standards for homecare and home support are also in development.  IPC Control Guide for Home Support workers developed and published. HSE AMRIC continue to plan and deliver training to support IPC best practices.

	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
3-04	Enhance collaboration and promote community of practice across all health and social care services.	2021	HSE/HIQA/ Private Providers	In Progress	<p>HSE AMRIC published the Infection Prevention &amp; Control Link Practitioner Programme Framework – Community Health &amp; Social Care Settings 2021/2022 in February 2021.</p> <p>Pharmacist Antimicrobial Stewardship Network (PAMS-Net) was established by HSE AMRIC to support delivery of the right antimicrobial, at the right time, dose and duration to meet patients' needs.</p> <p>HSE AMRIC established an Infection Prevention &amp; Control Network Forum which provides Train the Trainer, educational materials, educational study day and webinars.</p> <p>eLearning programme is also underway as per the HSE Action Plan 2022-2025.</p>
3-05	Promote best practice in governance models and arrangements across AMR and IPC for all health and social care services.	2022-2025	HSE	In Progress	AMRIC oversight and implementation governance arrangement updated and reviewed for 2023, CHO and Acute Hospital Groups IPC and AMS committees reviewed and published.
3-06	Enhance government arrangements across AMRIC for HSE funded services.	2022-2025	HSE	In Progress	As per HSE Action Plan 2022-2025.
3-07	Ensure IPC best practice requirements are embedded in refurbishment projects of older facilities and equipment, including IPC consideration of minimising transmission risk.	2022-2025	HSE	In Progress	<p>The Strategic Healthcare Investment Framework (SHIF) is under development. SHIF sets out the Investment Criteria and an Intervention Hierarchy based on the principle of the Continuum of Care by which all capital investment proposals in the public health sector are to be assessed. Infection prevention and control (IPC) is embodied in the criterion of Patient Safety within the Framework.</p> <p>HSE AMRIC delivered community and acute capital IPC programme (Major and minor).</p> <p>HSE AMRIC updated V. 6.0 Infection Control Guiding principles for Building Acute Hospitals and Community settings.</p>

	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
3-08	Ensure IPC best practice requirements are embedded in new major building projects, including IPC consideration of minimising transmission risk.	2022-2025	HSE/DOH	In Progress	Strategic Healthcare Investment Framework (SHIF) also applies to this action. See commentary for 3.07.  As per HSE AMRIC Action Plan 2022-2025.
3-09	Ensure IPC best practice requirements are embedded in refurbishment projects under minor capital, including IPC consideration of minimising transmission risk.	2022-2025	HSE/DOH	In Progress	Strategic Healthcare Investment Framework (SHIF) also applies to this action. See commentary for 3.07.  HSE AMRIC Community and Acute minor capital plan delivered 2022 and underway 2023.
3-10	Include IPC considerations as part of the prioritisation process for investment in capital projects.	2022-2025	HSE/DOH	In Progress	Strategic Healthcare Investment Framework (SHIF) also applies to this action. See commentary for 3.07.  Continued collaboration through HSE AMRIC / Estates forum.
3-11	Encourage participation in professional networks related to AMR and IPC, formally and informally, specialist and generalist for healthcare professionals.	2022-2025	HSE/HIQA/ Private Providers	In Progress	HSE AMRIC forums underway: Infection Prevention Control Nurses, AMRIC Consultants in Microbiology and Infectious Diseases, PAMS-net.
3-12	Review and evaluate current and potential other approaches to reduce infections associated with Peripheral and Central Venous Catheter Related Infection, including the development and implementation of guidance on prevention of infection.	2022	HSE	In Progress	HSE AMRIC developed guidance on delivery of IV teams and pilot teams established in two sites. HSE AMRIC Model of Care agreed. Plans underway for implementation in all level four Hospitals and one level three site. IVI forum established.
3-13	Improve practice on incident review of key healthcare associated infections and reporting in line with best practice in incident management.	2022-2025	HSE	In Progress	As per HSE AMRIC Action Plan 2022-2025.
3-14	Continue the monitoring programme of IPC inspections in acute and community healthcare settings, designated centres for older persons, and persons with a disability.	Ongoing	HIQA	In Progress	HIQA continue to carry out inspections in acute, rehabilitation and community hospitals. At the end of 2022, 21 inspections had been carried out. HIQA have also established an Infection Prevention and Control Hub for designated centres and approximately 500 queries have been received.  HSE AMRIC/HIQA quarterly forum established.

	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
					(contd.) HSE AMRIC provided targeted site visits to support acute hospital services that had been identified with high-risk IPC/AMS issues.
3-15	With regard to the relevant monitoring programmes, inspection reports to include details of compliance plan responses from providers outlining how they will come into compliance with required regulations or standards.	2021	HIQA	In Progress	HIQA's Inspection Reports include details of compliance plan responses from providers. In 2021, three specialist IPC Inspectors undertook 86 inspections of which 27 were specialist IPC inspections and in 2022, 103 inspections were undertaken for the year, of which 55 were standalone IPC inspections.
3-16	Ensure residential care staff have an increased understanding around implementation of IPC standards in their facilities.	Ongoing	Private Providers	In Progress	<p>HIQA have provided webinars delivered by specialist infection prevention &amp; control inspectors for nursing home providers. HIQA expect to conduct in excess of 40 inspections during 2023. All HIQA inspectors attend regular infection prevention &amp; control updates and training.</p> <p>HIQA also provide an online learning course in Infection Prevention and Control for health and social care staff which was completed by 45,000 staff by December 2022.</p>
3-17	Continue to promote vaccination as a means of preventing and limiting infection in line with the National Guidelines from the National Immunisation Advisory Committee.	Ongoing	DOH/HSE/ Private Providers	In Progress	<p>ICGP has appointed a GP Vaccination Lead who continues to disseminate the messaging around vaccinations and will work closely with the National Immunisation Advisory Committee.</p> <p>HSE delivering National Immunisation Programmes.</p>
3-18	Promote general health and wellbeing measures, through the Healthy Ireland framework, as a means of potentially preventing infection.	Ongoing	DOH/Private Providers	In Progress	<p>General health promotion continues to be progressed as per the Healthy Ireland Strategic Action Plan, 2021-2025.</p> <p>Questions relating to antibiotic usage were included in the 2017, 2021 and 2023 Healthy Ireland Surveys. The 2023 Report is due for publication in Q4 2023.</p>

Strategic Objective 4: Optimise the Use of Antibiotics in Human and Animal Health					
	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
4-01	Progress implementation of electronic prescribing throughout the healthcare systems, in order to support antimicrobial stewardship and audit.	2022-2025	HSE/DOH	In Progress	The ePrescribing projects continue to be rolled out to Community and Acute settings.  HSE AMRIC providing input as required.
4-02	Develop and enhance <a href="http://www.antibioticprescribing.ie">www.antibioticprescribing.ie</a> as a national platform to support prescribing for community services and acute hospitals. Update platform to enhance usability and promote best practice in antimicrobial prescribing.	2022-2025	HSE/DOH/ICGP	In Progress	HSE AMRIC have updated antibiotic prescribing guidance on <a href="http://www.antibioticprescribing.ie">www.antibioticprescribing.ie</a>  ICGP provided an Optimal Antibiotic Prescribing Workshop via <a href="http://www.antibioticprescribing.ie">www.antibioticprescribing.ie</a>
4-02a	Continue and progress collaboration with relevant specialist clinical areas to recognise synergies and interdependencies between these specialties and AMS best practise. This includes but is not limited to sepsis and sexual health.	2023	HSE	In Progress	This is a new action designed to recognise the collaborative approach already underway that the HSE takes to implementing the HSE AMRIC Action Plan 2022-2025.
4-03	Continue multi-agency participation in the HSE Antimicrobial Guideline Review.	2022-2025	HSE/HPRA	In Progress	HPRA continue to actively participate in the HSE Antimicrobial Guideline Review.  HSE AMRIC published Antimicrobial Stewardship guidance for all healthcare settings. Multidisciplinary workshop held as part of European Antibiotic Awareness Day (EAAD) with local implementation plans underway.
4-04	Provide induction training on antimicrobial prescribing for all new prescribers and develop a process for assessment of completion.	2022	HSE/ICGP	To be commenced	
4-05	Provide access to support for individual prescribers to audit their prescribing in community and acute hospital settings, which may include tools and education.	2022-2025	HSE	In Progress	HSE AMRIC has developed an Azithromycin and Antibiotic UTI prophylaxis audit tool.  Ongoing HSE AMRIC education and promotion through key stakeholders/forums.  Surgical Prophylaxis Tool developed.

	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
4-06	Conduct Pilot Project on Point of Care Testing to support appropriate prescribing and use of antimicrobials based on the HIQA HTA (2019).	2023-2025	HSE	To be commenced	
4-07	Develop mechanism which enhances communication with AMRIC around potential and confirmed shortages of antimicrobial medicines, including early alerts, and develop guidance in relation to the management of shortages for prescribers.	2022	HSE/HPRA/ Pharmaceutical Sector	In Progress	<p>HPRA continues to enhance communication with HSE AMRIC via early notifications of potential and actual shortages of antimicrobial medicines. The HPRA, via the Medicine Shortages Multistakeholder Framework engages with marketing authorisation stakeholders of alternatives to ensure that patient impact is mitigated.</p> <p>HSE AMRIC update <a href="http://www.antibioticprescribing.ie">www.antibioticprescribing.ie</a> with real time information of antibiotic supply for community prescribers.</p>
4-08	Develop a mechanism for ensuring supply of critical antimicrobials to patients at highest clinical need.	2022	HSE/HPRA/ Pharmaceutical Sector	In Progress	<p>HPRA via the Medicine Shortages Multistakeholder Framework engages with marketing authorisation stakeholders of alternatives to ensure that patient impact is mitigated. HPRA has published a two-year review of shortages which includes strategies to prevent shortages from occurring, involving everyone in the medicine chain and health system.</p> <p>As per HSE AMRIC Action Plan 2022-2025.</p>
4-09	Highlight the strategic vulnerability of antimicrobials when production is restricted to few/one manufacturer, and subject to potential shocks on the global supply chain.	2022-2025	DOH/HSE	In Progress	<p>This relates to the work prioritised under the DG HERA work programme and the European Pharma Strategy.</p> <p>HSE AMRIC contributed to the Swedish Presidency of the Council of the European Union - High-level meeting on Antimicrobial Resistance (Stockholm 6th - 7th March 2023) on options available to protect and promote research and production of novel antibiotics.</p>

	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
4-10	Inclusion of medication safety and antimicrobial stewardship as a core part of a wider assessment methodology which is under development against the <i>National Standards for Safer Better Healthcare</i> in contemplation of the Patient Safety (Notifications) Bill and Patient Safety (Licensing) Bill.	Ongoing	HIQA	In Progress	HIQA's inspection programmes against the <i>National Standards for Safer Better Healthcare</i> continue with inspections in acute hospitals seeking to promote medication safety and antimicrobial stewardship. In 2022, 21 inspections had taken place with in excess of 40 inspections expected in acute, rehabilitation and community inpatient services in 2023.
4-11	Expand the GP out of hours prescribing projects and support AMS.	Ongoing	HSE/ICGP	In Progress	HSE AMRIC initiated GP Out of Hours Prescribing project in 2022.
4-12	Build capacity in an integrated way, in line with agreed model, to ensure AMRIC Multi-Disciplinary Teams across all settings in line with overarching integrated AMRIC governance.	2022-2025	DOH/HSE	In Progress	HSE Planning addressed as part of estimates process and planning underway.
4-13	Conduct Midterm Review of the Workforce Plan in line with the strategic workforce objectives and policy approach in place at the time of the review.	2023	DOH/HSE	To be commenced	
4-14	Engage with the wider healthcare team (for example, management, clinical, pharmacy, laboratory, and cleaning facilities) to ensure IPC and AMR are an integral part of the delivery of all services.	Ongoing	All	In Progress	HSE AMRIC continued stakeholder engagement, guidance, webinars and educational material delivered.  Targeted communications delivered as per HSE AMRIC Communications plan.
4-15	Expand the role and governance of the AMRIC Teams, including the interface across acute and community services and with specialties such as Public Health, HPSC, Facilities Management, Hygiene Services and others for surveillance, prevention, and control of infectious disease.	2022-2025	DOH/HSE	In Progress	Updated acute and community IPC and AMS committees completed.  As per HSE AMRIC Action Plan 2022-2025.
4-16	Develop models to support recruitment and retention of skilled IPC and AMS staff across the multi-disciplinary team and geographical distribution.	2022-2025	DOH/HSE	In Progress	HSE AMRIC eLearning and education plan underway.  HSE AMRIC Performance Achievement process implemented.

	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
4-17	Promote IPC, AMS and AMR as specialist areas to newly qualified healthcare professionals.	2022	DOH/HSE	In Progress	NPSO presented the inaugural GOLD (Graduates of the Last Decade) poster award at the National Patient Safety Conference 2022.  As per HSE AMRIC action plan 2022-2025.
4-18	Promote awareness of HPRA facility for provision of advice on regulatory strategy to stakeholders.	Ongoing	HPRA	In Progress	HPRA continues to provide scientific and regulatory advice on anti-infective products and vaccines. The Innovation Office provides regulatory support and advice to individuals, academics, small and medium enterprises, pharmaceutical and medical device companies and other groups who are developing innovative anti-infective health products or technologies.
4-19	Ensure systemic antimicrobials for human use to remain as prescription-only products.	Ongoing	HPRA	In Progress	Antimicrobials for human use remain prescription-only products.
4-20	Update HPRA Guidance on reclassification of medications to include specific advice on reclassification of antimicrobials.	2022	HPRA	Completed	The Guide to Reclassification (Switching) of Legal Supply Status for Human Medicinal Products has been updated to advise applicants to seek advice prior to submission of an application for reclassification of an antimicrobial.
4-21	Contribute to the development and implementation of medical laboratory systems and eHealth systems to ensure they support AMRIC stewardship.	2022-2025	DOH/HSE	In Progress	HSE AMRIC, eHealth and operations collaborate with key stakeholders on projects to support AMS stewardship e.g. National Clinical Surveillance Infection Control System, GP OOH antibiotic prescribing, GP GMS antibiotic prescribing.

### Strategic Objective 5: Promote research and sustainable investment in new medicines, diagnostic tools, vaccines and other interventions

	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
5-01	Facilitate, where appropriate, research in new medicines, diagnostic tools, vaccines, and other intervention; across acute, general practice, dental and community care settings.	Ongoing	HSE/DOH/ RCSI/ RCPI/ICGP/ HRB/ IDC	In Progress	<p>HRB funded schemes will continue to be open to applications in AMR research. They will continue to disseminate opportunities for European funding via Horizon Europe and EU4Health.</p> <p>DOH, HSE AMRIC and HRB participate in the AMR Thematic network established by DAFM.</p> <p>ICGP supporting a project on antimicrobial resistance – CARA (Collaboration to reduce Antimicrobial Use and Antimicrobial Resistance and identify opportunities for Improvement and Awareness)</p>
5-02	Develop a mechanism to review the highest priority evidence gaps on AMR and IPC aligned with the strategy, which will guide the exploration of opportunities and deliberations relating to co-funding.	2022	DOH/HRB	In Progress	DOH, HSE AMRIC & HRB participate in the AMR Thematic network established by DAFM.
5-03	Explore opportunities, directly and in collaboration with other funders and stakeholders, to advance research in AMR and infection control.	Ongoing	DOH/HRB/ HSE	In Progress	HRB continues to participate in the JPIAMR Management Board and will work with government departments and agencies to support their involvement in EU4Health and other EU funding opportunities.
5-04	Continue to strengthen, develop, and invest in relevant co-funded research collaborations at EU and Global level including the Joint Programming Initiatives on Antimicrobial Resistance (JPIAMR).	Ongoing	HRB	In Progress	<p>HRB will continue to facilitate Irish participation in AMR diagnostics and surveillance calls in 2023.</p> <p><u>HRB Strategy Health Research – Making an Impact 2021-2025</u> published and AMR recognised in implementation action 5.3.2.</p>

	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
5-05	Review the evidence base for behavioural change initiatives to promote optimal antimicrobial prescribing and reduce antimicrobial consumption.	2022	DOH/HSE	In Progress	A systematic review and meta-analysis of the effectiveness of behaviour change initiatives to reduce sub-optimal antimicrobial prescribing and consumption has commenced and this research is underway. An interim update was provided to the Interdepartmental AMR Consultative Committee in March 2023.  As per HSE AMRIC Communication plan.
5-06	Review policy approaches to Patient and Public Involvement on AMR.	2021	DOH	In Progress	An Evidence Brief, <i>Public and Patient Engagement with Antimicrobial Resistance</i> was undertaken and completed by the HRB in November 2021.
5-07	Develop a tool to collect a core data set and collection/survey methodology for the collection of costs attributable to AMR at a point in time, to initially consider public healthcare perspective.	2022	DOH/HSE/ HIQA	In Progress	Work on this has commenced and scoping review is currently underway by HIQA in conjunction with DOH and HSE AMRIC.
5-08	Undertake Health Technology Assessment(s) on AMR and IPC and/or HCAI-related topics as may be identified, in line with outcome of the HIQA HTA prioritisation processes. In particular consider developments in POCT technologies.	2023-2025	HIQA/DOH	In Progress	The requirement for HTAs on IPC/AMR related topics will be kept under review for the lifespan of the plan.
5-09	Consider innovative funding mechanisms for new antimicrobial agents on a value, not volume, basis.	Ongoing	DOH	In Progress	This relates to work under the Pharmaceutical Strategy for Europe. Publication of the proposal to revise the general pharmaceutical legislation imminent under the Pharmaceutical Strategy – this will include matters relating to the competitive functioning of the market and affordability.
5-10	Assess the role of healthcare infrastructure in potential environmental transmission of multi-drug resistant infection (for example, via infection reservoirs), including consideration of clinically and cost-effective management options.	2022	DOH/HSE	In Progress	DOH/HSE AMRIC will continue to work with research partners to progress this as a priority research topic.
5-11	Develop capacity and capability to support AMR and IPC workforce planning in line with international best evidence, in particular the development and implementation of professional competency frameworks.	2022	DOH/HSE	In Progress	As per HSE AMRIC Action plan 2022-2025.

	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
5-12	Promote a culture of continuous monitoring, audit methodologies and other mechanisms to support AMR and IPC and inform continuous quality improvement.	2022	HSE	In Progress	HSE AMRIC continue to engage with NRL <i>C. difficile</i> .  HSE HPSC Irish <i>C. difficile</i> Infection Network (CDI-Net) established.
5-13	Develop capacity and capability, including supporting structures, to support AMR, IPC and AMS clinical practice guidance development, update, review, and implementation in a timely way informed by international and national evidence, best practice and learning from the public health emergencies.	2024*	DOH/HSE	In Progress	Suite of up to date AMRIC guidance developed in consultation with key stakeholders and published on hpsc.ie.  DOH/HSE AMRIC continue to work on this issue through usual service planning processes.  HSE AMRIC and HPSC continue to collaborate on timely surveillance data reporting.  Delivered AMRIC educational webinars to support front line staff.
5-14	Submit the Clinical Guideline on Infection Prevention and Control to the National Clinical Effectiveness Committee for quality assurance and consideration for progression as a National Clinical Guideline.	2022	HSE/DOH/ NCEC	Completed	IPC Guideline has successfully completed quality assurance through the NCEC process and will be published in Q2 2023.  HSE AMRIC to support implementation plan of NCG.
5-14a	Implement the NCEC National Clinical Guideline No. 30 on Infection Prevention Control.	2023	HSE	To be commenced	
5-14b	Conduct a mapping exercise between the new NCEC National Clinical Guideline no. 30 on IPC and NCEC National Clinical Guidelines Nos. 2 and 3 on MRSA and <i>C. difficile</i> respectively. This is to identify MRSA and <i>C. difficile</i> related content which is out of scope of the IPC Guideline and requires update.	2023	HSE	To be commenced	
5-14c	Update clinical guidance on MRSA and <i>C. difficile</i> as HSE AMRIC Clinical Guideline.	2023	HSE	To be commenced	
5-15	Continue to support the response to the COVID-19 Public Health Emergency through evidence synthesis and COVID-19 publications which support the work of the National Public Health Emergency Team (NPHE) COVID-19.	2021-2022	HIQA	Completed	The National Public Health Emergency Team (NPHE) COVID-19 was stepped down in 2022. This work has been mainstreamed into HIQA's role in evidence synthesis.  HIQA produced over 500 research outputs between March 2020 and December 2022.

	Action	Timeframe	Responsible Sector	Action	Midterm Review Comment
5-16	Ensure AMR and IPC indicators are captured and aligned to the Health Systems Performance Assessment Framework as it continues to develop.	2022	DOH/HSE	Completed	AMR and IPC indicators have been included in the Health Systems Performance Assessment Framework. Phase II of this work will continue in 2023.
5-17	Continue to develop HPRA regulatory expertise to support the assessment of new antimicrobial medicines, medical devices, vaccines, and other interventions.	Ongoing	HPRA	In Progress	HPRA continues to provide scientific and regulatory advice on anti-infective products and vaccines. The Innovation Office provides regulatory support and advice to individuals, academics, small and medium enterprises, pharmaceutical and medical device companies and other groups who are developing innovative anti-infective health products or technologies.
5-18	Establish an annual Student Award for research amongst the health and social care professionals student groups on AMR and IPC work.	2022	DOH	Completed	NPSO presented the inaugural GOLD (Graduates of the Last Decade) poster award at the National Patient Safety Conference 2022.

\* Timeframe has been revised.

## Appendix 1: iNAP2 External Stakeholders

The following external stakeholders were invited to contribute to the iNAP2 Midterm Review.

External Stakeholders
CORU
Dental Council
Health Information & Quality Authority
Health Products Regulatory Authority
Health Research Board
HSE AMRIC
Irish Medical Council
Irish College of General Practitioners
Irish Institute of Pharmacy
Mental Health Commission
Nursing & Midwifery Board of Ireland
Pharmaceutical Society of Ireland
Pre-Hospital Emergency Care Council
Private Hospitals Association
Royal College of Physicians in Ireland
Royal College of Surgeons in Ireland

## Appendix 2: Department of Health Antimicrobial Resistance Team

Department of Health	
Ms Rachel Kenna	Chief Nursing Officer, Department of Health
Ms Rosarie Lynch	Head of Clinical Effectiveness and AMR Unit
Dr Laura Dooley	Assistant Principal Officer, Antimicrobial Resistance Unit (to April 2023)
Ms Sarah Delaney	Higher Executive Officer, Antimicrobial Resistance Unit
Mr Stephen Kearney	Executive Officer, Antimicrobial Resistance Unit (to March 2023)

## Abbreviations

ADON IPC	Assistant Director of Nursing Infection Prevention and Control
AMR	Antimicrobial Resistance
AMRIC	Antimicrobial Resistance and Infection Control
AMS	Antimicrobial Stewardship
AMU	Antimicrobial Use
AWaRE	Access Watch Reserve
CARA	Collaboration to reduce Antimicrobial Use and Antimicrobial Resistance and identify opportunities for Improvement and Awareness project
<i>C. difficile</i>	<i>Clostridium difficile</i>
CDI	<i>Clostridium difficile</i> Infection
CEO	Chief Executive Officer
CHO	Community Healthcare Organisation (primary healthcare networks)
CNO	Chief Nursing Officer
CNM2 IPC	Clinical Nurse Manager 2 Infection Prevention and Control
CMO	Chief Medical Officer
CORU	Regulator for Health and Social Care Professionals
CPE	Carbapenemase Producing Enterobacteriales
CVO	Chief Veterinary Officer
DAFM	Department of Agriculture, Food & the Marine
DG	Director General
DG HERA	European Commission Directorate General for Health Emergency Preparedness and Response Authority
DOH	Department of Health
EARS-Net	European Antimicrobial Resistance Surveillance Network
EARS-Net Scheme	European Research Area Scheme
ECDC	European Centre for Disease Control
EMA	European Medicines Agency
ESRI	Economic and Social Research Institute
EU	European Union
EU-JAMRAI	European Union-Joint Action on Antimicrobial Resistance
EUnetHTA	European Network for Health Technology Assessment
GLASS	WHO Global Antimicrobial Resistance Surveillance System
GOLD Research Award	Graduates Of the Last Decade (GOLD) award
GP	General Practitioner
GPSAP	WHO Global Patient Safety Action Plan
GSIPC	WHO Global Strategy on Infection Prevention and Control
HALT	Healthcare Associated Infections and Antibiotic use in Long-Term Care Facilities
HCAI	Healthcare Associated Infection
HEA	Higher Education Authority
HIQA	Health Information and Quality Authority
HPRA	Health Products Regulatory Authority
HPSC	Health Protection Surveillance Centre
HRB	Health Research Board
HRB-CICER	Health Research Board-Collaboration in Ireland for Clinical Effectiveness Reviews
HSE	Health Service Executive
HSE-PCRS	HSE Primary Care Reimbursement Service

HSeLanD	The Irish Health service's eLearning and development platform
HTA	Health Technology Assessment
ICGP	Irish College of General Practitioners
ICDI-Net	HSE HPSC Irish <i>C.difficile</i> Infection Network
IOP	Irish Institute of Pharmacy
IMC	Irish Medical Council
iNAP1	Ireland's National Action Plan on Antimicrobial Resistance 2017-2020
iNAP2	Ireland's second One Health National Action Plan on Antimicrobial Resistance 2021-2025
IPC	Infection Prevention and Control
IPCN	Infection Prevention and Control Nurse
IRC	Irish Research Council
IV Line	Intravenous line
JPIAMR	Joint Programming Initiative on Antimicrobial Resistance
KPI	Key Performance Indicator
LTCF	Long Term Care Facility
LTRC	Long Term Residential Care
MDR	Multi Drug Resistant
MRSA	Methicillin Resistant <i>Staphylococcus aureus</i>
MS	Member State
NAP	National Action Plan
NCEC	National Clinical Effectiveness Committee
NCPERLS	National Carbapenemase Producing Enterobacterales Reference Laboratory
NHQRS	National Healthcare Quality Reporting System
NMBI	Nursing and Midwifery Board of Ireland
NPHEM	National Public Health Emergency Team
NPOG	National Performance Oversight Group
NPSO	National Patient Safety Office
NRL	National Reference Laboratory
OECD	Organisation for Economic Co-operation and Development
PAMS-Net	Pharmacist Antimicrobial Stewardship Network
PCRS	Primary Care Reimbursement Scheme
POCT	Point Of Care Testing
PPS	Point Prevalence Survey
PSI	Pharmaceutical Society of Ireland
RESIST	HSE Campaign to promote the judicious use of antimicrobials
RCPI	Royal College of Physicians of Ireland
RCSI	Royal College of Physicians of Ireland
<i>S. aureus</i> /Staph. aureus	<i>Staphylococcus aureus</i>
SDGs	Sustainable Development Goals
SHIF	Strategic Healthcare Investment Framework
UN	United Nations
UTI	Urinary Tract Infection
WHA	World Health Assembly
WHO	World Health Organisation



OB AIR LE CHÉILE CHUN ÁBHAIR  
FHRITHMHIOCRÓBACHA  
A CHOSAINT DON TODHCHAÍ

WORKING TOGETHER TO  
PROTECT ANTIMICROBIALS  
FOR THE FUTURE