**\*\*Template\*\***

This template contains sample content that can be edited, it is advised to retain headings and subheadings and to edit other content to align with local activity, please refer to *“AMS guidance for all healthcare settings 2022”* as reference guidance.

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 **AMS Annual Report 20xx**

**Prepared by: Antimicrobial Stewardship Oversight Committee**

**January 20xx**

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# Abbreviations

|  |  |
| --- | --- |
| AMR  | Antimicrobial Resistance |
| AMRIC  | Antimicrobial Resistance and Infection Control |
| AMS | Antimicrobial Stewardship |
| BIU | Business Information Unit |
| CAP | Community Acquired Pneumonia |
| CNM | Clinical Nurse Manager  |
| CPE  | Carbapenemase-producing Enterobacterales |
| EAAD | European Antibiotic Awareness Day |
| ECDC | European Centre for Disease Surveillance |
| HCAI | Healthcare Associated Infections |
| HPSC | Health Protection and Surveillance Centre |
| ID | Infectious Disease |
| iNAP | Irish National Action Plan on Antimicrobial Resistance |
| IV | Intravenous |
| KPI | Key Performance Indicator |
| MDT | Multidisciplinary Team |
| NCHD | Non Consultant Hospital Doctor |
| NCPS | National Clinical Programme for Surgery |
| PCHCAI | Prevention and Control of Healthcare Associated Infection  |
| PPS | Point Prevalence Survey |
| QI | Quality Improvement |
| SAP | Surgical Antibiotic Prophylaxis |
| WHO  | World Health Organization |

# Executive Summary

The impact of Antimicrobial Resistance (AMR) is significant as is the role we can all play in Antimicrobial Stewardship (AMS). AMS rounds included x rounds completed and x metrics collected. Patients were selected based on high priority antimicrobial including {insert text here}

The AMS team participated in the national point prevalence study in October, the prevalence of antimicrobial prescribing at x hospital was x% compared to x% nationally, and this was an encouraging trend.

New guidelines in the areas of {insert text here} were updated via the microbiology/infectious disease multidisciplinary team (MDT) in 20xx. Promotion of AMS continued in 20xx with the use of social media and internal communication channels to promote AMS. Education and training was provided to nursing, medical, pharmacy and undergraduate colleagues.

Research and audit remained an integral component of the AMS programme with x audits taking placing in collaboration with the AMS committee and presentation at both national and international conferences.

\*\*Sample Key Points\*\*

* Annual antimicrobial consumption was {insert text here}
* The annual PPS demonstrated an antimicrobial prevalence below {insert text here}
* X and Y were the two main initiatives undertaken by the AMS committee in 20xx.

# Governance

The AMRIC governance implementation tool was completed by the AMS team in June 20xx. The governance structure for AMS at x hospital is shown in appendix 1.The clinical lead for AMS at x hospital is x. The hospital is linked with the health region and contributed to x health region meetings in 20xx. AMS is identified as a key strategic initiative in x. An AMS action plan was approved by the AMS oversight committee in xx to outline the work plan for 20xx. Resources available to the AMS team include {insert text here}

The AMS operational committee is responsible for the day to day actions of AMS in the hospital. The operational team are responsible for the design, implementation, and reporting on the effectiveness of the AMS programme. The AMS operational team provide feedback to oversight committee on governance, consumption (measurement/monitoring), results of audits, education and training, guidelines and QI projects. The AMS operational team met on x occasions.

Members of the AMS oversight committee champion AMS in their areas, provide support to the AMS operational team and report via the chair/clinical lead to the executive team. The AMS oversight committee (see committee membership in appendix 2) met on 4 occasions March, June, September and December.

The AMS Operational Team presented to:

* The pharmacy and therapeutics committee (dates)
* Local Prevention and Control of Healthcare Associated Infection (PCHCAI) committee (dates)
* Health Region committee (dates)

# Measurement and Monitoring

## AMS Rounds Summary

The antimicrobial stewardship rounds in 20xx included a total of x rounds/week as per Fig.1. AMS metrics were collected. Patients are included in AMS rounds as per Fig.1. Key Performance Indicators (KPIs) for the AMS rounds were collected as per table 1. AMS rounds took place x weekly on a Tuesday and Thursday afternoon and focus primarily on medical/surgical patients. AMS metrics comparing 20xx to 20xx are shown in table 1.

6

Figure 1, AMS Round Patient Selection

|  |
| --- |
| AMS Metrics Comparing 20xx to 20xx |
| KPI | Target | Actual | Actual |
|  |  | 2023 N=xxx prescriptions | 2024 N=xxx prescriptions |
| Agent Appropriate | **90%** |  |  |
| Duration of Therapy Appropriate | **90%** |  |  |
| Route Appropriate | **90%** |  |  |
| Uptake of recommendations | **90%** |  |  |

Table 1 Metrics from AMS rounds

**\*\*Sample Key Points\*\***

* Appropriate agent choice improving across all rounds >x%
* Durations prolonged across all rounds, similar to feedback from national PPS audit
* Uptake of recommendations good (x%)

## National Point Prevalence Study

Since 2009 the annual National Antimicrobial Point Prevalence Survey (PPS) has been undertaken in Ireland with data submitted to the Health Protection Surveillance Centre (HPSC) for analysis. From 2009-2020 the PPS was coordinated by the Irish Antimicrobial Pharmacists Group (IAPG). Since 2021 it is coordinated by the HSE National Antimicrobial Resistance & Infection Control (AMRIC) team. The purpose of a point prevalence survey (PPS) is to gather information relating to antimicrobial prescribing for all inpatients in the hospital over a defined period (usually one day). At xx the PPS audit took place on the xx and xx staff members collected data. Results for the national PPS 2024 are shown below, in 2023 a European PPS was undertaken and results from this PPS are shown below.

\*\*Insert key PPS audit results\*\*

**\*\***Sample Key Points\*\*

* x prevalence is < x % for 20xx.
* x patients on antimicrobials are elderly (median x years)
* A high proportion of patients on antimicrobials are on IV treatments.
* The number of patients suitable for oral switch has declined from x% in 20xx to x% in 20xx- indicating better IV to oral switching by teams
* Adherence to local guidance is good (x%)
* x patients (x%) were on reserve antimicrobials, x% were microbiology/ID approved (aim >90%).
* x is a focus from this year’s PPS audit for 20xx.

## Antimicrobial Consumption Summary

Antimicrobial dispensing data is submitted nationally for analysis with feedback provided to the AMS operational team. The HSE Antimicrobial Resistance Infection Control (AMRIC) action plan 2022-2025 has a target of 72.1 DDD/100 bed days used for acute hospital antimicrobial consumption. See Table 2 for summary of antimicrobial consumption for x hospital.

|  |
| --- |
| Summary of Antimicrobial Consumption data |
| Measure  | Year  | Level  | % Change  | Nat  | Decile  |
| Drug Type: Antibiotic  | 2024 | 83.2 | -5% | 69 | 10 |
| Alert Agents: F\_Carbapens | 2024 | 3.22 | -3% | 1.68 | 8 |
| Alert Agents: P\_Linezolid | 2024 | 0.32 | -6% | 0.12 | 8 |
| Alert Agents: P\_Daptomycin | 2024 | 1.62 | +9% | 0.99 | 10 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Table 2 Summary of Antimicrobial Consumption data

\*\*Sample Key Points\*\*

* Meropenem usage is x compared to national usage and similar model hospitals
* Quinolone usage is x

## Antimicrobial Resistance Summary and Key Surveillance Data

Surveillance scientists at x hospital undertake annual analysis of samples taken within the organisation and monitor for resistance to antimicrobials. This data is presented annually to the AMS oversight committee and the committee decide if any action is required. Table 3 is a summary of the key results for 20xx and actions taken.

|  |  |  |
| --- | --- | --- |
| Summary of Antimicrobial Resistance data 20xx | Action  | Completed by |
| \*\*Sample \*\*Increasing gentamicin resistance to gram negative organisms | Switch empiric guidance to amikacin as aminoglycoside of choice | X month 20xx |
| Nil other changes in resistance data | No action required |  |

Table 3 Summary of Antimicrobial Resistance Data 20xx

The microbiology team submit key surveillance data to the business information unit (BIU) monthly including rates of *C difficile* (AMRIC target for 2025 <1.7/10,000 bed days used), CPE screening and *Staph aureus* bacteraemia. A summary of the results for this site are shown in figure 3.

Insert summary here: Figure 2

Figure 2 Summary of Key Surveillance data 20xx

## Antimicrobial Related Safety Incidents

The AMS programme at x hospital is aligned to the medication safety programme with the medication safety pharmacist membership on the AMS Oversight Committee. This is a key relationship as antimicrobials are categorised as high-risk medications by the WHO (that are more likely to cause harm in the instance of a medication error). A summary of antimicrobial related safety incidences was presented at the Q1 AMS oversight committee meeting and is summarised in Table 4. The full medication safety report 20XX is available on the intranet at {insert LINK}.

|  |
| --- |
| Summary of Antimicrobial Safety Incidents 20xx |
| Total number of antimicrobial related safety incidents | x |
| No. of events that resulted in harm  | x |
| Types of Events | x Incorrect medication administeredx Incorrect dosage administeredx Incorrect Route of administration |
| Grading of events (MERP system or alternative) | x Category C eventsx Category D events |
| Sample Key actions taken from medication safety reports  | 1. An audit of aminoglycoside prescribing at x hospital should be part of the 20xx action plan
2. A communication form AMS clinical lead to all consultants sent advising daily review of aminoglycoside prescribing.
 |

Table 4 Summary of Antimicrobial Safety Incidents 20xx

# AMS QI projects

## Example: Surgical Antimicrobial Prophylaxis Campaign

Surgical antibiotic prophylaxis is a critical step in preventing surgical site infection. The maximum benefit with the least harm is gained by administering an appropriate agent at the right time and for the right duration. Giving the antibiotic for longer than is needed does not reduce the risk of infection and does increase the risk of harm such as acute kidney injury and *Clostridioides difficile* infection. A joint position statement on surgical antibiotic prophylaxis duration was developed by the HSE Antimicrobial Resistance and Infection Control Team (AMRIC), the HSE Antimicrobial Stewardship Advisory Group & the National Clinical Programme for Surgery (NCPS). An audit tool was developed by the above committees to aid quality improvements projects. The HSE Antimicrobial Resistance Infection Control (AMRIC) action plan 2022-2025 has a target of <20% of surgical antimicrobial prophylaxis extended beyond 24 hours.

In XX the AMS pharmacists along with 3 surgical interns audited x patients from x surgical specialities. Results of initial audit are shown in Fig 3.

Interventions/ Actions:

* Training sessions were undertaken with pharmacy, surgical CNM3, interns, NCHDs, nursing grand rounds, surgical nurse teaching, Max fax journal club, anaesthetics
* Surgical prophylaxis guidance was updated in collaboration with microbiology/ID and anaesthetics.
* Communications included development of surgical prophylaxis posters for theatres and surgical wards.

Figure 3 Summary of SAP Audit Results 20XX

Insert summary here: Figure 3

\*\*Key Points\*\*

To be completed

## Example: Intravenous to oral antimicrobial campaign

AMRIC guidance recommends that all AMS programmes should have an intravenous to oral antimicrobial campaign in place. Criteria for switching from intravenous to oral therapy should be readily available to prescribers.

The benefits of oral prescribing are:

* Increased patient mobility and comfort
* Reduced length of stay
* Released nursing and clinician time to care for patients.
* Reduced use of single use plastics used to administer IV antimicrobials
* Reduced total cost of therapy

Results from the ECDC 2023 point prevalence survey demonstrated that 70% of antimicrobials given in Irish hospitals were given IV, this figure was x for our site. In x the AMS pharmacists along with a care of the elderly NCHD and the IV care team utilised national guidance to focus on IV to oral switches including an awareness campaign and targeted AMS rounds focusing on patients on IV antimicrobials >48 hours.

\*\*Key Points\*\*

To be completed

# Education and Training

Education and training is a key component of the AMS programme at x hospital. Education is a core element of an effective AMS programme. The second Irish National Action Plan on Antimicrobial Resistance (iNAP2) promotes a One Health approach to AMS education for all those involved in the fields of human health, animal health, agriculture, and environment. Unlike certain other medications where prescribing, dispensing, and administration may be restricted to specialists, antimicrobials are widely prescribed, dispensed, and administered by healthcare workers at all stages of their career. Education is an enabling intervention that increases means and reduces barriers to achieving AMS goals. The purpose of AMS education is to influence and change antimicrobial prescribing practices. Table 5 illustrates the key AMS education completed in 20xx.

|  |
| --- |
| AMS Education completed in 20XX \*\*SAMPLE\*\* |
|  | Face to Face | No. of attendees | HSeLanD | No. of completions | Virtual | No. of attendees |
| Pharmacist & other pharmacy staff | Month xAMS update to PharmacistsMonth x Surgical Prophylaxis update  | x | AMRIC Antimicrobial Stewardship in Practice | xx |  |  |
| Prescribers | Month xPrinciples of AMS for interns Month x Cardiology AMS Update  | xx | AMRIC Hand HygieneAMRIC Surgical Antibiotic Prophylaxis | xx | Month x May New Medicines on the Horizon for NCHDs | xx |
| Nurses | Month x Nursing Grand Rounds AMS presentation  | x | AMRIC Basics of Infection Prevention and Control | x |  |  |
| Allied Health Professionals  | Month x Physiotherapy journal club  | x | AMRIC Basics of Infection Prevention and Control  | x |  |  |

Table 5 Summary of Education and Training completed in 20xx

# Guidelines and Guideline Review

|  |
| --- |
| Summary of Guidance Updated in 20xx \*\*SAMPLE\*\* |
| Guidance | Updated by | Signed off by | Uploaded to hospital guidance  | Next review due  |
| *C Difficile*  | Microbiology NCHD/AMS pharmacist  | AMS oversight Committee | x month 20xx |  x month 20xx  |
| UTI guidance | Microbiology consultant/ID SPR | AMS oversight committee | x month 20xx | x month 20xx |

Table 6 Sample Summary of Guidance Updated in 20xx

# Communications

|  |
| --- |
| Summary of Communication Program for 20xx \*\*SAMPLE\*\* |
|  | Q1 | Q2 | Q3 | Q4 |
| General Hospital Staff Population |
| Face to Face |  |  |  | EAAD promotional stand |
| Intranet Banner | Environmental Waste IV->oral | Surgical Prophylaxis Campaign | CAP duration-5 days | Time take to give IV antimicrobials |
| Social Media via hospital account |  | *“Don’t Prolong Surgical Prophylaxis”* |  | “*EAAD”* |
| AMS/IPC Newsletter | x month 20xx |  | x month 20xx |  |
| Electronic  | Clean hands video playing in outpatients waiting room  |  |  |  |
| Face to Face |  |  |  | EAAD promotional stand |

Table 7 Summary of Communication Program for 20xx

# AMS Research and Audits

The AMS programme maintains an audit log in an effort to ensure maintenance of audit cycle irrespective of staff changeover. Audits completed in 20xx include:

|  |
| --- |
| AMS Audit Programme Log \*\*SAMPLE\*\* |
| Date | Audit title | Completed by | Primary Recommendations | Planned Actions | Planned re-audit date  |
|  X month 20xx | Review of amikacin prescribing at x | x | Encourage review of aminoglycosides at 24 hours to review ongoing need | Include aminoglycoside prescriptions in AMS rounds | x month 20xx |

Table 8 Summary of AMS Audit Programme 20XX

## Presentation at Conferences

|  |
| --- |
| AMS Research presented at Conferences in 20xx \*\*SAMPLE\*\* |
| Conference | Title  | Presentation type | Authors |
| Infectious Disease Society of Ireland  | Review of Amikacin prescribing at XX | Poster | Roy Evans, Dr Craig Butler |

Table 9 AMS Research presented at Conferences in 20xx

# Appendix 1- National AMS governance structure

**AMS Oversight Committee**

**Operational team update committee and request input** Suggest meeting quarterly-AMS

* AMS operational team & full membership as per “Antimicrobial stewardship Guidance for all healthcare settings” section 2.1.5.3
* AMS committee should report to executive team/board in their hospital via AMS clinical lead
* AMS should be recognised as a strategic quality and safety initiative within the hospital, the clinical lead should have access to the risk register
* AMS committee should report to executive team/board in their hospital via AMS clinical lead

**AMS Operational Team**

**(Day to day operation of AMS activities)**

*Suggest meeting monthly*

·Clinical lead for AMS

· AMS pharmacist(s)

. Full membership as per “Antimicrobial stewardship Guidance for all healthcare settings” section 2.1.5.3

. All AMS operational teams should have a representative on their health region IPC and AMS committee

**AMRIC National & AMRIC acute services teams**

Continuous communication with hospitals via Regional Committees andAMS Operational Team

Clinical Lead: Dr Eimear Brannigan

AMRIC to work to provide supportive material, resources and education/training to acute hospitals. AMS operational teams to provide feedback to AMRIC.

AMS operational team to provide feedback to oversight team on governance, consumption (Measurement/monitoring), results of audits, education and training, guidelines and QI projects.

Oversight members to promote AMS in their areas.

# Appendix 2 Membership AMS Committee and Team

|  |
| --- |
| Membership of hospital AMS Operational Team |
|  | Name | Title |
|  |  | Clinical Lead for AMS (Chair) |
|  |  | AMS Pharmacist  |
|  |  | Clinical Microbiologist |
|  |  | Infectious Diseases Consultant |
|  |  | Clinical Microbiology or Infectious Disease SPR(s) |
|  |  | Surveillance Scientist |
|  |  | Full membership as per *“Antimicrobial stewardship Guidance for all healthcare settings 2022”* section 2.1.5.3  |

|  |
| --- |
| Membership of hospital AMS Oversight Committee |
|  | Name | Title |
|  |  | Clinical Lead for AMS (Chair) |
|  |  | Representative of the service manager or executive management team |
|  |  | AMS Pharmacist  |
|  |  | Clinical Microbiologist |
|  |  | Infectious Diseases Consultant |
|  |  | Clinical Microbiology or Infectious Disease SPR(s) |
|  |  | Infection Control team member |
|  |  | Clinicians from varying disciplines appropriate to the size, complexities, and specialities of the service (example medicine, surgery, emergency medicine, intensive care etc.) |
|  |  | Director of nursing  |
|  |  | Pharmacy Executive Manager |
|  |  | Surveillance Scientist  |
|  |  | Communications representative |
|  |  | Full membership as per *“Antimicrobial stewardship Guidance for all healthcare settings 2022”* section 2.1.5.3  |

# Appendix 3

## AMS team Annual Action Plan (for year report is based on)

# Appendix 4

# Presentations at conferences (full text)

# References

1. Health Service Executive (2022). Antimicrobial stewardship guidance for all healthcare settings. [Click here](https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/antibicrobial-stewardship-audit-tools/hse-amric-antimicrobial-stewardship-guidance-for-all-healthcare-settings-v1-published-august-2022.pdf)