

National Annual Acute Hospital Antimicrobial Point Prevalence Study Protocol 2024

V2.1 July 2024

| Version | Date | Changes from previous version | Drafted by |
|---------|----------------|--|---|
| 2.0 | September 2022 | <p>Removal of certain collection criteria (allergy details, correct dose, indication/reason documented, compliance with restriction policy, previous IV to Oral switch)</p> <p>Addition of four new questions focusing on surgical antibiotic prophylaxis extended beyond 24 hours.</p> <p>Addition of three feedback questions to the general questions section (relating to usefulness of data, use of data locally and suggestions for improvements).</p> <p>Some changes in wording.</p> | AMRIC in collaboration with national acute hospital PPS 2022 review group, a working group of the HSE antimicrobial consumption group |
| 2.1 | July 2024 | <p>Question removed:</p> <ul style="list-style-type: none"> • 'planned review or duration documented' <p>Additional questions added:</p> <ul style="list-style-type: none"> • 2d. Antimicrobial changed? (+ reason) • 4b. Is patient taking any oral medications <p>Wording changes and inclusion of flow chart Section 1C.</p> <p>Protocol and data collection tool modified to capture surgical category and operative procedure for all SAP.</p> <p>Surgical category/ operative procedures aligned to PPS HCAI & Antimicrobial Use in European Acute Care Hospitals</p> <p>Modification 3g: If the reason for continuing the antibiotics beyond 24 hours is confirmed/suspected infection diagnosed pre-op/intra-op/ Confirmed/suspected infection diagnosed post-op/, report as treatment indication code rather than SP3.</p> <p>Modification to general questions excel tool: one question removed, three added and wording modifying x 5 questions.</p> | AMRIC |

Introduction

Since 2009 the annual National Antimicrobial Point Prevalence Study (PPS) has been completed 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). From 2021 onwards it will be coordinated by the HSE National Antimicrobial Resistance & Infection Control (AMRIC) team and from 2022 analysis will be undertaken by the AMRIC team. The purpose of a point prevalence study (PPS) is to gather information relating to antimicrobial prescribing for all inpatients in the hospital over a defined period (usually one day). This document is designed as a step-by-step guide for anyone who may not have carried out a PPS previously. It outlines inclusion / exclusion criteria and the specific data/codes required for each field.

Protocol document contents:

1. **Instructions for participating in the 2024 National Antimicrobial PPS**
2. **Details on data required for each field**
3. **Data management**
4. **Ward/department data collection form** - for recording the date the study was carried out, ward name, number and specialty of inpatients on the ward at 8am on that date, number of patients captured in the study, name of data collector. (also being sent as a separate attachment)
5. **Patient data collection form** - this is the main data collection form for the PPS. One form per patient on an antimicrobial – see details in Section 2 (also being sent as a separate attachment)

Other references:

- **2024 Antimicrobial PPS data entry Excel database** (Separate attachment)
- **Frequently Asked Questions (FAQ)** (Separate attachment)

1. Instructions for participating in the 2024 National PPS

1A. Planning in advance for local PPS Lead

- The time period for data collection for the 2024 PPS is **12th September (Thursday) – 9th October 2024 (Wednesday)**.
- **Data should be submitted to HSE-AMRIC using the email address amricepitem@hse.ie by Friday 11th October.** Use “AMPPS2024” in the subject line of the email. **Data submitted after this date will not be analysed.**

- **Apply for any local approval** to carry out PPS in your hospital if required.
- **Discuss suitable PPS date(/s)** with the pharmacy department, Consultant Microbiologist(s), and/or Infectious Disease (ID) Consultant(s) on which to conduct the PPS within the aforementioned data collection time period (12th September – 9th October 2024).
- **Assemble the team** of people who are willing to help you collect data for the study e.g. microbiologists, ID consultants, microbiology/ID registrars, pharmacists, NCHDs, or nurse colleagues with an interest in the area may be willing to help.
- **Review the Patient data collection form in Section 5.**

Data submitted to HSE-AMRIC does not include any personally identifiable information (PII) (see Section 3). Do not submit data that contains patient name, hospital/patient number, full date of birth (year only), gender, consultant or date of admission.

It is advised to assign patients a unique sequential number to create a subject ID.

Please note that some questions from previous years have been omitted and modified on the Data Collection Form for PPS 2024.

- **Train the team in advance of the selected PPS date.** Go through the data collection process with each member of the team to ensure that everyone collecting data understands how to complete the data collection forms and how to access the information required.
- **Inform relevant stakeholders e.g. CNMs, ward clerks.** If possible, ward pharmacists should liaise with ward clerks on individual wards in relation to accuracy of census at 8am. This may not be updated until later in the day.
- **Print off sufficient Ward and Patient data collection forms.**
- **Print a copy of protocol & FAQ documents for each data collector.**

1B. On the day(s) of study

- Print off a copy of the most accurate census for all wards – to show all inpatients present at 8am on that day. Code the census as agreed.
- The theatre list from the previous day may be used to ensure all patients who received surgical antimicrobial prophylaxis in the previous 24 hours are captured.
- If the study is to be carried out over more than one day ensure individual wards / departments are completed in one day e.g. all St. Patrick's ward must be done over one day.

1C. Who is to be included in the study

Include:

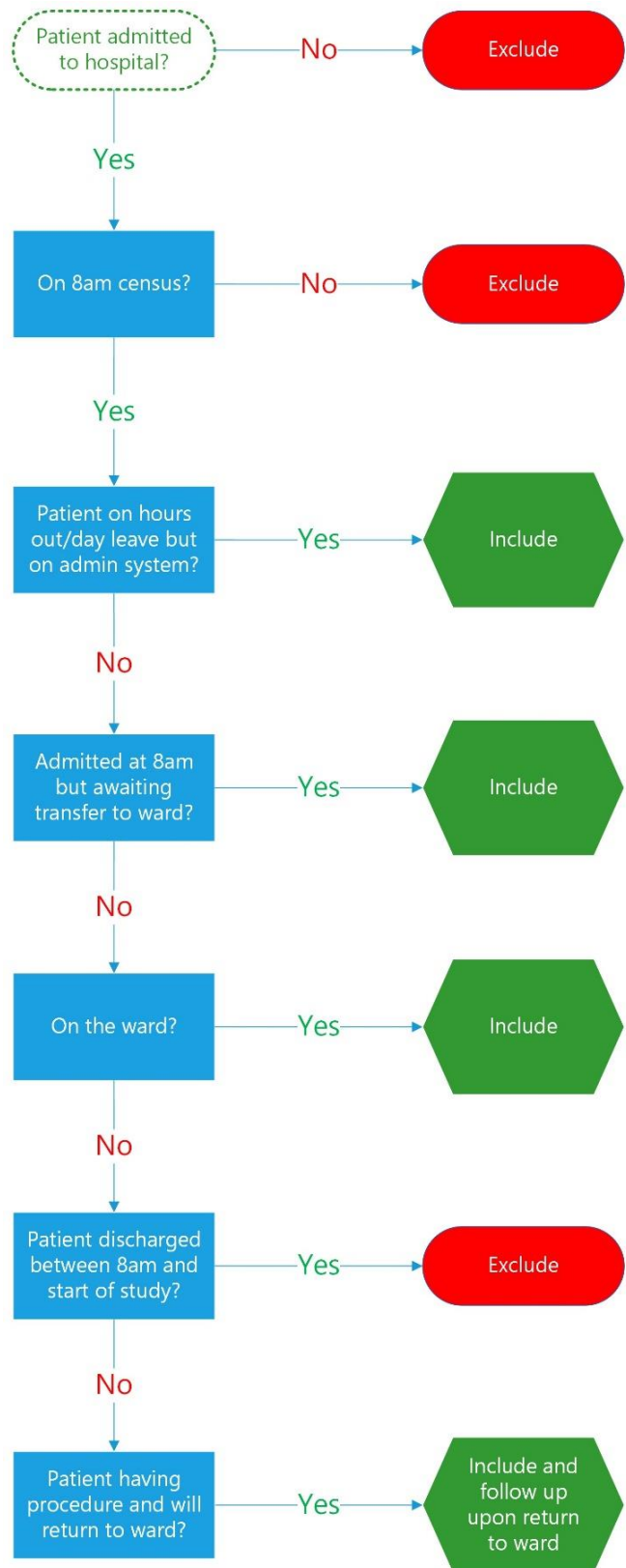
- Admitted patients who remain in the Emergency Department (ED) or other admission areas (e.g. AMU, SSU, PAU) at 8am awaiting transfer to a bed on the ward.
- ED patients on 8am census who have been transferred to the ward at the time the ED data is being collected. These should be followed up on the ward if possible.
- Patients on the 8am census but off the ward at the time of the data collection e.g. gone for X-ray should be followed up when they return to ward.
- Patients who are on the patient administration system but at home for a number of hours.

Exclude:

- Patients admitted after 8am
- Patients transferred out/discharged after 8am and before the start of data collection
- Patients in ED who have not been admitted to the hospital

Detailed data collection

Detailed data will be collected for all adult and paediatric inpatients included in the study (as outlined above) who are prescribed non-topical antibacterials and antifungals. Detailed data should be collected for patients who have received surgical antibiotic prophylaxis in the previous 24 hours, from 8am on the day before the PPS day until 8am on the day of the PPS. **Do not collect** detailed data for antivirals, antiprotozoals, anthelmintics, any topical antimicrobial applied to the skin, eye, ear, nose or genital area including Nystatin drops or line-locks.



1D. On the ward

- Inform the CNM on the ward that you are there to carry out the hospital's PPS of antimicrobials. Surgical ward CNMs will be able to advise on patients who are post-procedure and may have received prophylaxis in the previous 24 hours.
- It may help to work in teams of two if possible. This allows one person to collect medication prescription charts while the other records the information. This also provides an opportunity to discuss and reach consensus about complex cases and to provide training in PPS protocol and methods for staff who may not have done the PPS previously.
- It is often easier to go back and complete the sections which require access to healthcare records once all the medication charts have been seen. Information on appropriate duration and IV / oral switch may only be available after healthcare records have been reviewed.
- Record the number of patients on the ward census on the *Ward/Department Data Collection Form* (see Section 4).
- Check each patient's drug chart on the ward to see if they are currently receiving systemic antibiotics or antifungals. If a patient was receiving antimicrobials at 8am, but they have been discontinued by the time the PPS team get to the ward, do not record information with regard to this discontinued antimicrobial.
- If patient is receiving systemic antimicrobial therapy on the day of the PPS, complete all sections of the data collection form using a new line for each systemic antimicrobial. If patient has been on the antimicrobial since the start of the current drug chart check previous drug charts from this admission (if applicable) to see if the antimicrobial was started on a previous drug chart. The start date on a prescription is not necessarily a true start date.
- For surgical patients, check the anaesthetic / operating notes for any surgical prophylaxis administered in the previous 24 hours from 8am on the day before the PPS day until 8am on the day of the PPS, and record all the details on the data collection form. Single dose surgical prophylaxis may have been recorded on these documents if not recorded on the medication prescription chart.
- If a surgical patient is still on antimicrobials from theatre to PPS date, it is important to clarify whether this is prophylaxis or treatment of infection and seek surgical team, micro/ID input to confirm if necessary. There is a risk that treatment of infection in surgical patients could be miscoded as prolonged prophylaxis. It is really important to ensure data captured on surgical antibiotic prophylaxis is accurate.
- If you know a patient has previously been captured on a different ward, do not include the same patient twice. If the study is being carried out on multiple days by multiple data collectors, it may

be helpful to annotate 'PPS' or tick on the kardex to highlight that the patient has already been included.

- At the end of data collection on the ward, check that the total number of patients' charts reviewed and recorded are the same as the number of patients listed on the ward census.

1E. Data entry (see Section 3 for additional information on Data management)

- The data collected will be analysed using Microsoft Excel.
- Additional columns can be added to the Excel file and saved at a local level if it has been agreed to carry out analysis on additional parameters e.g. by consultant / gender etc. Do not submit this additional data to HSE-AMRIC.
- Data should be entered into Excel database as soon as possible after data collection so that any discrepancies or missing data can be investigated promptly.
- Remember to save inputted data regularly. Consider saving a backup version of the Excel file after every data entry session.
- Data should be entered using the drop-down menus where provided.
- Ensure that Ward / department name match EXACTLY in *Department Data* and *Patient Data* sheets on Excel database.
- If the patient has been prescribed more than one antimicrobial therapy, only include the Subject ID in demographic details for subsequent rows – see Section 3.
- The *General Details* sheet in Excel should be completed by the local coordinator.
- Ensure adequate data protection measures have been employed whilst conducting the study and in storage / destruction of completed data collection forms and excel file (See Section 3).

Final date for submission of data to HSE-AMRIC is Friday 11th October 2024

2. Details on the data required for each field

1. Subject details

The following information should be recorded for all inpatients in the hospital at 8am on day of study who are receiving systemic antibacterials or antifungals.

Examine the medication chart of each patient and the anaesthetic / surgical notes of surgical patients.

For patients who are receiving systemic antimicrobial therapy on the day of the study or surgical prophylaxis in the 24 hours previously (from 8am day before to 8am day of PPS), record the following information:

1a. Subject ID

See Section 3 Data Management

1b. Department or ward

1c. Year of birth

The year of birth is used rather than the full date of birth. This includes patients less than 2 years of age.

1d. Specialty

ICU patients do not need to be sub-categorised as Medical or Surgical

2. Drugs given and review

Antimicrobial and Documentation Details

2a. Antimicrobial name

When entering response into excel, select from list or type in manually if not listed.

2b. Administration route of current antimicrobial formulation.

IV = parenteral/ PO = oral/ NEB = inhalation/ R = rectal

2c. Current /proposed /completed duration appropriate as per guidelines

Y/ N/ Medical Prophylaxis (MP)/ Not Applicable (NA)/Unknown (UNK)

This information may only be available after healthcare records have been reviewed. If the duration is unclear or not documented, ask the team caring for the patient what the planned duration is. If the planned review or duration remains unknown then select UNK.

2d. Antimicrobial changed? (+ reason). Was the antimicrobial (or the route of administration) changed for this infection episode, and if so, what was the reason? If the antimicrobial was changed more than once for the current infection episode, report the reason of the last change.

Changes should be considered for the entire treatment regimen for one infection episode.

- N=no change, antimicrobial was not changed.
- E=escalation: antimicrobial was escalated (or another antimicrobial was added) on microbiological and/or clinical grounds, i.e. the isolated microorganism was not susceptible to the previous antimicrobial and/or lack of clinical effect of previous antimicrobial; includes switch from oral to parenteral for the same antimicrobial.
- D=De-escalation: antimicrobial was de-escalated on microbiological and/or clinical grounds, i.e. the isolated microorganism was susceptible to more narrow-spectrum or first-line

antimicrobials than the previous antimicrobial and/or the clinical situation of the patient allows changing to a more narrow-spectrum or to a first-line antimicrobial. If other antimicrobials given for the same indication were stopped at the time of the survey, report de-escalation for the remaining antimicrobial(s).

- S=switch IV to oral; route of administration of same antimicrobial was changed from parenteral to oral. A switch can also occur between antimicrobials belonging to the same antimicrobial class, e.g. IV ampicillin/sulbactam to oral amoxicillin/clavulanate or IV ceftriaxone to oral cefuroxime axetil.
- A=adverse effects; antimicrobial was changed because of observed or expected side or adverse effects of the antimicrobial.
- OU=change for other or unknown reason: the antimicrobial for that indication was changed for another reason, or the antimicrobial was changed but the reason could not be determined by the surveyor.
- UNK=unknown: no information on whether the antimicrobial was changed or not.

3. Diagnosis, indications, reasons

Additional healthcare records e.g. observation charts, medical or nursing notes, labs, radiology results may need to be accessed for the following information.

3a. Indication code for antimicrobial therapy: See Table 1 (page 10).

If the indication is unclear or not documented, ask the team caring for the patient what they are treating.

3b. Diagnosis site code for indication: See Table 2 (page 11).

Only select a diagnosis site if the indication code for question 3a above was for treatment of infection (CI, LI or HI).

If the indication code was recorded as SP, MP, O, UI or UNK then select NA.

If the diagnosis site is unclear or not documented from the healthcare records, ask the team caring for the patient what they are treating.

3c. Is the antimicrobial choice in line with local guidelines/or Micro/ID approved? See Table 3 (page 12).

This only refers to the antimicrobial agent.

The following questions (3d – 3e) are only required for patients with an indication (3a) of surgical prophylaxis i.e. SP1 (Single dose prescribed once only), SP2 (>1 dose but prescribed for 24 hours or less), or SP3 (Prescribed for more than 24 hours). If this does not apply to patient then please select NA for all responses.

3d. Surgical category: See Table 4 (page 13-15).

Only respond with surgical category if indication code in question 3a was SP1, SP2, or SP3. Otherwise select NA.

3e. Operative Procedure: See Table 4 (page 13-15).

Only respond with operative procedure if indication code in 3a was SP1, SP2, or SP3. Otherwise select NA.

The following questions (3f - 3g) are only required for patients with an indication of surgical prophylaxis prescribed for more than 24 hours (Question 3a = SP3). If this does not apply to patient then please select NA for all responses.

3f. If surgical prophylaxis prescribed for more than 24 hours, was there a specific documented reason?

Y/ N/ Not Applicable (NA)

Only respond with Y or N if indication code in question 3a was SP3 (prescribed for more than 24 hours). Otherwise select NA. This may be documented in the medical notes or in the theatre operative note.

3g. If 'Yes', what was the reason for continuing the antibiotics beyond 24 hours? See Table 5 (page 16).

Drain in place, In line with locally approved guidelines/ Not Applicable (NA)

Only respond with reason if indication code in question 3a was SP3 (prescribed for more than 24 hours) and answer to question 3f was 'Yes'. Otherwise select NA. When entering response into excel, select from list or type in manually if not listed.

If the reason for continuing the antibiotics beyond 24 hours is confirmed/suspected infection diagnosed pre-op/intra-op/ Confirmed/suspected infection diagnosed post-op/, report as treatment indication code rather than SP3.

4. Currently on IV

If patient not on IV, please select NA for all responses

4a. Suitable for oral switch

Y/ N/ Unknown (UNK)/ Not Applicable (NA)

If patient currently on IV antimicrobial therapy, are they suitable for IV/PO switch as per local guidelines? e.g. afebrile, clinically stable, eating / functional GIT, oral equivalent, no reason to delay switch. Patient's notes may need to be accessed for this information.

If the antimicrobial is only in an IV form e.g. piperacillin-tazobactam or ceftriaxone, but they fit the criteria for switch and an oral alternative is appropriate, select Y. If you are unsure e.g. waiting for blood results to establish if WBC and CRP normalising, select Unknown (UNK)

If SP1 or SP2, select NA.

If not on IV, please select NA.

4b. Is patient currently taking any oral medications?

Y/N/NA

If patient is on one or more other oral medications, select Y. Otherwise, select N.

The definition of oral medication includes liquid formulations. If SP1 or SP2, select NA.

If not on IV, please select NA.

Table 1: Question 3a - Indication codes for prescribed antimicrobials

| Table 1: Indication codes for Prescribed Antimicrobials | |
|--|--|
| Code | Details |
| CI | Community-acquired infection = symptoms or antimicrobials started < 48hrs after patient was admitted |
| LI | Infection acquired in long-term care facility (nursing home) |
| | HI 1,2,3,4 or 5 Hospital-acquired infection symptoms start 48 hours after admission to hospital i.e. from Day 3 |
| HI1 | Post-op infection (within 30 days of surgery or 1 year after implant surgery) |
| HI2 | Other intervention related infections (IV catheter, urinary catheter insertion, VAP, CAPD) |
| HI3 | <i>C difficile</i> infection >48 hrs after admission or <28 days after previous admission |
| HI4 | Other hospital acquired infection e.g. HAP presenting >48 hours after admission or if readmitted <48 hours since recent discharge |
| HI5 | Infection present on admission from another hospital |
| MP | Medical prophylaxis = (e.g. intrapartum benzylpenicillin or erythromycin for PPRM, Azithromycin long term for bronchiectasis, neonatal sepsis prophylaxis) |
| O | Other indication = (e.g. erythromycin used as a pro-kinetic agent) |
| UI | Unknown indication/reason: No one knows why the patient is on antimicrobials and there is no documentation of reason in the patient notes or medication chart and the fact that no one knows has been verified with the ward staff |
| UNK | Unknown or missing information = Indication information was not verified during the study |
| | SP 1,2 or 3 = Surgical prophylaxis* |
| SP1 | Single dose prescribed once only |
| SP2 | >1 dose but prescribed for 24 hours or less |
| SP3 | Prescribed for more than 24 hours |

*Check if any surgical prophylaxis administered from 8am on the day before the PPS day until 8am on PPS day – if yes, check back to see if also given on day before yesterday or on day of the study to determine if duration exceeds one day. Remember to check the operative notes and anaesthetic sheet as single dose surgical prophylaxis may have been recorded on these documents if not recorded on the medication prescription chart.

Table 2: Question 3b - Diagnosis site codes for prescribed antimicrobials

The following table lists codes to be used for the prescriber's diagnosis of the site of infection for which the patient is receiving antimicrobial.

Only select a diagnosis site if the indication code for question 3a. was for treatment of infection (CI, LI or HI). Diagnosis site is to be recorded as **NA** if the prescriber's indication for antimicrobial use was recorded as SP, MP, O, UI or UNK. The **UND** code should only be used if there is no clear evidence of infection or inflammation.

| Table 2: Diagnosis site codes for prescribed antimicrobials | |
|--|--|
| Code | Prescriber's diagnosis of the site of infection for which the patient receives antimicrobial therapy |
| CF | Cystic Fibrosis |
| CNS | Central nervous system infection (e.g., meningitis, brain abscess) |
| EYE | Endophthalmitis |
| ENT | Infections of ear, nose, throat, larynx, and mouth |
| BRON | Acute bronchitis or exacerbations of chronic bronchitis, infective exacerbation of COPD, infective exacerbation of pulmonary fibrosis |
| PNEU | Pneumonia |
| CVS | Cardiovascular infection (e.g., endocarditis, vascular graft infection) |
| GI | Gastrointestinal infections (e.g., salmonellosis, <i>C. difficile</i> infection) |
| IA | Intraabdominal infection, including hepatobiliary |
| SST | Skin soft tissue infection, includes cellulitis, wound infection and deep soft tissue infection, not involving bone |
| BJ | Bone or joint infection (e.g., septic arthritis (including prosthetic joints), osteomyelitis) |
| CYS | Cystitis or symptomatic lower urinary tract infection |
| PYE | Pyelonephritis or symptomatic upper urinary tract infection |
| ASB | Asymptomatic bacteriuria – positive urine microbiology results in the absence of signs of urinary tract infection |
| OBGY | Obstetric or gynaecological infections |
| GUM | Prostatitis, epididymo-orchitis |
| STI | Sexually transmitted infections for both men and women |
| BAC | Laboratory-confirmed clinically-significant positive blood cultures (bacteraemia or bloodstream infection) |
| CSEP | Clinical sepsis (suspected bloodstream infection without microbiology laboratory confirmation of positive blood cultures or results are not yet available or blood cultures have not been collected or laboratory has confirmed that blood cultures are negative after five days incubation) Note CSEP excludes patients with febrile neutropenia and infection in immunocompromised hosts (See FN below) |
| FN | Febrile neutropenia or other form of manifestation of infection without an obvious site in an immunocompromised host (e.g. patient with HIV infection, patient receiving chemotherapy or other immunosuppressive therapy) |
| PF | Perinatal infection (an infection acquired just before birth, often after rupture of membranes, or as the neonate passes through the birth canal) |
| TB | Tubercle bacillus |
| UND | Completely undefined site for infection with no systemic inflammation |
| NA | Not applicable, indication for antimicrobial use is not for 'treatment intention of infection' |

Table 3: Question 3c - Is antimicrobial in line with local antimicrobial guidelines or Micro/ID approved?

The **choice of agent meets local antimicrobial guidelines/policies** for empirical prescribing, surgical prophylaxis or the prescription has been rationalised or is based on relevant recent microbiology culture and antimicrobial susceptibility results or on Micro/ID advice.

| Table 3: Is antimicrobial in line with local antimicrobial guidelines or Micro/ID approved? | |
|--|---|
| Yes | Compliant with local empiric antimicrobial prescribing policy for that infection or compliant with local surgical antimicrobial prophylaxis prescribing policy for that surgical procedure or the prescription has been rationalised (e.g. allergy, adverse drug reaction, nil by mouth) or has been prescribed on the advice of a microbiologist or infectious diseases physician or is based on relevant recent microbiology culture and antimicrobial susceptibility results |
| No | Non-compliant with local empiric antimicrobial prescribing policy for that infection or non-compliant with local surgical antimicrobial prophylaxis prescribing policy for that surgical procedure |
| Cannot be determined (CBD) | Reason for antimicrobial prescription cannot be determined from review of the patient's notes and/or discussion with staff caring for patient |
| No guidelines in place (NG) | A local antimicrobial guideline is not available |
| Unknown (UNK) | This should only be chosen if the patient's healthcare record is not available for review |

(NB – Only Yes and No denominators are used for calculation of compliance)

Table 4: Question 3d and 3e – Surgical Category and Operative Procedure

Question 3d – 3e are only required for patients with an indication (3a) of surgical prophylaxis i.e. SP1 (Single dose prescribed once only), SP2 (>1 dose but prescribed for 24 hours or less), or SP3 (Prescribed for more than 24 hours). If this does not apply to patient then please select NA for all responses.

Surgical category and operative procedures listed in Table 4 are aligned to [PPS HCAI & Antimicrobial Use in European Acute Care Hospitals \(Irish Protocol 2023\)](#).

Reference: NHSN operative procedure category mappings to ICD-9-CM codes, October 2010. Available from: www.cdc.gov/nhsn/PDFs/pscManual/9pscSSICurrent.pdf

Report NHSN-codes even if the incision is not entirely closed at procedure's end (i.e. if wires or tubes extrude through the incision).

| Category | NHSN code | Operative procedure | Description |
|---------------------|-----------|---|---|
| Cardiac | NHSN-HTP | Heart transplant | Transplantation of heart **Includes insertion/ replacement of leads **Excludes insertion of temporary transvenous pacemaker system |
| Cardiac | NHSN-CARD | Cardiac surgery | Procedures on the valves or septum of heart Does not include coronary artery bypass graft, surgery on vessels, heart transplantation, or pacemaker implantation |
| Cardiac | NHSN-CBGB | Coronary artery bypass graft with both chest and donor site incisions | Chest procedure to perform direct revascularisation of the heart; includes obtaining suitable vein from donor site for grafting |
| Cardiac | NHSN-CBGC | Coronary artery bypass graft with chest incision only | Chest procedure to perform direct vascularisation of the heart using, for example the internal mammary (thoracic) artery |
| Cardiac | NHSN-PACE | Pacemaker surgery | Insertion, manipulation or replacement of pacemaker |
| ENT & Maxillofacial | NHSN-NECK | Neck surgery | Major excision or incision of the larynx and radical neck dissection; Maxillofacial surgery **Excludes thyroid and parathyroid operations - see NHSN-THYR below |
| General | NHSN-APPY | Appendix surgery | Operation of appendix (not incidental to another procedure) **Includes laparoscopic appendectomy |
| General | NHSN-BILI | Bile duct, liver or pancreatic surgery | Excision of bile ducts or operative procedures on the biliary tract, liver or pancreas **Excludes operations only on gallbladder (See Gallbladder Surgery) |

| | | | |
|----------------------------|-----------|------------------------------------|--|
| General | NHSN-CHOL | Gallbladder surgery | Cholecystectomy and cholecystotomy |
| General | NHSN-HER | Herniorrhaphy | Repair of inguinal, femoral, umbilical, or anterior abdominal wall hernia **Excludes repair of diaphragmatic or hiatal hernia or hernias at other body sites (See Thoracic Surgery) |
| General | NHSN-LTP | Liver transplant | Transplantation of liver |
| General | NHSN-REC | Rectal surgery | Operations on rectum |
| General | NHSN-SB | Small bowel surgery | Incision or resection of the small intestine **Excludes small-to-large bowel anastomosis (See colon surgery) |
| General | NHSN-AB | General-Abdominal Surgery | Abdominal operations not involving the gastrointestinal tract or biliary system |
| General | NHSN-BRST | Breast surgery | Excision of lesion or tissue of breast including radical, modified, or quadrant resection, lumpectomy, incisional biopsy, or mammoplasty |
| General | NHSN-COLO | Colon surgery | Incision, resection, or anastomosis of the large intestine **Includes large-to-small and small-to-large bowel anastomosis **Excludes rectal operations |
| General | NHSN-GAST | Gastric surgery | Incision or excision of stomach; includes subtotal or total gastrectomy **Excludes vagotomy and fundoplication which should be recorded as minimally invasive (unless open) |
| General | NHSN-SPLE | Spleen surgery | Resection or manipulation of spleen |
| General | NHSN-THYR | Thyroid and/or parathyroid surgery | Resection or manipulation of thyroid and/or parathyroid |
| Neurosurgery | NHSN-CRAN | Craniotomy | Incision through the skull to excise, repair, or explore the brain **Excludes taps or punctures |
| Neurosurgery | NHSN-VSHN | Ventricular shunt | Ventricular shunt operations, including revision and removal of shunt |
| NHSN-XLAP | NHSN-XLAP | Exploratory laparotomy | Procedures involving an incision through abdominal wall to gain access into the abdominal cavity; diagnostic procedure on abdominal region |
| Obstetrics and Gynaecology | NHSN-CSEC | Caesarean section | Obstetrical delivery by Caesarean section |
| Obstetrics and Gynaecology | NHSN-HYST | Abdominal hysterectomy | Removal of uterus through an abdominal incision **Excludes vaginal hysterectomy (see separate procedure listed below) |
| Obstetrics and Gynaecology | NHSN-OVRY | Ovarian surgery | Operations on ovary and related structures |
| Obstetrics and Gynaecology | NHSN-VHYS | Vaginal hysterectomy | Vaginal hysterectomy; includes that by laparoscope |
| Orthopaedics | NHSN-FUSN | Spinal fusion | Immobilisation of spinal column **Excludes refusion of spine |

| | | | |
|--------------|------------|--|---|
| Orthopaedics | NHSN-FX | Open reduction of fracture | Open reduction of fracture or dislocation of long bones that requires internal or external fixation **Excludes placement of joint prosthesis (see Hip and Knee prosthesis) **Excludes closed application of external fixator which should be recorded as minimally invasive |
| Orthopaedics | NHSN-KPRO | Knee prosthesis | Arthroplasty of knee **Includes total, partial and revisions |
| Orthopaedics | NHSN-LAM | Laminectomy | Exploration or decompression of spinal cord through excision or incision into vertebral structures |
| Orthopaedics | NHSN-RFUSN | Refusion of spine | Refusion of spine |
| Orthopaedics | NHSN-UL | Ortho-Upper limb surgery excl. open reduction # long bones | Operations on the upper limb (hand, arm, shoulder) including joint prosthesis **excluding hip/knee prosthesis **excluding Open reduction of fracture or dislocation of long bones |
| Orthopaedics | NHSN-HPRO | Hip prosthesis | Arthroplasty of hip **Includes total, partial and revisions |
| Thoracic | NHSN-THOR | Thoracic surgery | Noncardiac, nonvascular thoracic surgery ** Includes pneumonectomy and diaphragmatic or hiatal hernia repair |
| Urology | NHSN-KTP | Kidney transplant | Transplantation of kidney |
| Urology | NHSN-NEPH | Kidney surgery | Resection or manipulation of the kidney with or without removal of related structures **Excludes kidney transplant |
| Urology | NHSN-PRST | Prostate surgery | Suprapubic, retropubic, radical, or perineal excision of the prostate **Excludes transurethral resection of the prostate, which should be recorded as minimally invasive |
| Vascular | NHSN-AAA | Abdominal aortic aneurysm repair | Resection of abdominal aorta with anastomosis or replacement |
| Vascular | NHSN-AMP | Limb amputation | Total or partial amputation or disarticulation of the upper or lower limbs, including digits **Excludes amputation with healing by secondary intention which should be recorded as minimally invasive |
| Vascular | NHSN-AVSD | Shunt for dialysis | Arteriovenostomy for renal dialysis (surgery to create an AV fistula or graft for haemodialysis) |
| Vascular | NHSN-CEA | Carotid endarterectomy | Endarterectomy on vessels of head and neck (includes carotid artery and jugular vein) |
| Vascular | NHSN-PVBY | Peripheral vascular bypass surgery | Bypass operations on peripheral arteries |

Table 5: Question 3g – If ‘Yes’, what was the reason for continuing the antibiotics beyond 24 hours?

Only respond with reason if indication code in question **3a** was **SP3** (prescribed for more than 24 hours) and answer to question **3f** was ‘**Yes**’. Otherwise select **NA**.

When entering response into excel, select reason from list or **type in manually if not listed**.

| Table 5: Reason for continuing the antibiotics beyond 24 hours |
|---|
| Drain in place |
| In line with locally approved guidelines |
| Not Applicable (NA) |

3. Data Management

This section relates to aspects of data management for the 2024 national antimicrobial PPS. It covers areas of data protection best practice which will ensure the data controllers (hospital personnel who collect the primary data directly from patient records) understand their responsibilities when sharing data with HSE-AMRIC. HSE-AMRIC will only accept anonymised data.

The following list of key points should be helpful when completing the MS Excel tool:

1. Ensure the data are collected in accordance with your hospital's own data protection policy. Personally identifiable information (PII) must not be sent to HSE-AMRIC. If the local policy requires that you do not collect PII for your own purposes, then national antimicrobial PPS 2024 cannot be used as a reason for collecting the data. If the local policy allows the pharmacy to collect PII data then you may do so, however, please do not share the PII with HSE-AMRIC.
2. Ensure that the patient's actual medical record number (MRN or any such patient identifier) is never entered into the Excel tool. See section below on how to complete the Subject ID.
3. The full date of birth must not be included in the Excel tool. Instead, only the year of birth is required. Use the "YYYY" format (e.g. 1944 or 2016). Month of birth is not required, even for <2-year-olds.
4. If additional patient-related fields are included locally in the form (gender, consultant name and date of admission) these must be left out of the Excel that is sent to HSE-AMRIC. You may add these or other fields in a copy of the Excel for your own use after the anonymised version is sent to HSE-AMRIC.
5. Ensure all corrections are made before sending the data to HSE-AMRIC as all identifiers (even the Subject ID) will be removed upon collation at HSE-AMRIC and there will be no way of referring back to a particular record should you need to make a correction.

How to create the Subject ID field

Since 2018, HSE-AMRIC does not accept the real patient identifier such as an MRN for AMC-PPS. Instead, please use a sequential number for each physical PPS data entry form (which equates to a single patient). This new ID is called the Subject ID, and it is vital that the Subject ID cannot be linked back to the MRN, therefore refrain from noting the two IDs side-by-side.

Example of a data entry in Excel in past and current versions:

Prior versions

| PATIENT DETAILS | | | | | | | ... | DRUGS GIVEN |
|-----------------|---------------|--------------|--------------------|------------|--------------|-------------------|-----|---------------------------------------|
| Patient ID | Date of birth | Gender (F/M) | Department or Ward | Consultant | Speciality | Date of admission | | Antimicrobial (type in if not listed) |
| ABC1243 | 01/08/2018 | M | Ward A | Dr Mouse | Paed Medical | 01/09/2016 | | Amoxicillin and enzyme inhibitor |
| DEF556 | 01/09/1940 | M | Ward B | Dr Hourse | Surgical | 02/09/2016 | | Ciprofloxacin |
| ZXY998 | 17/03/1988 | F | Ward C | Dr Cat | Medical | 04/09/2016 | | Flucloxacillin |
| ZXY998 | | | | | | | | Benzylpenicillin |
| : | | | | | | | | |

Current version

| SUBJECT DETAILS | | | | ... | ... | ... | DRUGS GIVEN |
|-----------------|----------------------|--------------------|--------------|-----|-----|-----|---------------------------------------|
| Subject ID | Year of Birth (YYYY) | Department or Ward | Speciality | | | | Antimicrobial (type in if not listed) |
| 1 | 2018 | Ward A | Paed Medical | | | | Amoxicillin and enzyme inhibitor |
| 2 | 1940 | Ward B | Surgical | | | | Ciprofloxacin |
| 3 | 1988 | Ward C | Medical | | | | Flucloxacillin |
| 3 | | | | | | | Benzylpenicillin |
| : | | | | | | | |

Note:

- Only minimum fields are required for each subject (e.g. ID number 3 above) when the patient has been prescribed more than one antimicrobial therapy.
- The name of the department must be identical to the ones noted in the Department Data sheet. Furthermore, in the current version there is a drop-down which should list the correct names.
- Please do not delete whole columns or row in the Excel tool. Simply replace any incorrect information.

4. PPS 2024 Ward/Department Data Collection Form

| | | | | | | | | |
|---|--|--|--|--|--|--|--|--|
| Date | | | | | | | | |
| Ward Name (The <u>EXACT</u> same name must be used for the ward for the entire PPS i.e. have the same name on the ward/department form and on the individual patient data collection forms) | | | | | | | | |
| Total number of patients in ward included in PPS (denominator) | | | | | | | | |
| Patient Specialty: | | | | | | | | |
| Number of adult medical patients on ward included in PPS | | | | | | | | |
| Number of adult surgical patients on ward included in PPS | | | | | | | | |
| Number of adult ICU patients on ward included in PPS | | | | | | | | |
| Number of adult Obs/Gynae patients on ward included in PPS | | | | | | | | |
| Number of paed medical patients on ward included in PPS | | | | | | | | |
| Number of paed surgical patients on ward included in PPS | | | | | | | | |
| Number of paed ICU patients on ward included in PPS | | | | | | | | |
| Number of adult patients ('Other' specialty)* on ward included in PPS | | | | | | | | |
| Number of paed patients ('Other' specialty)* on ward included in PPS | | | | | | | | |
| Data collected by | | | | | | | | |

*Use sparingly

5. Patient Data Collection Form (V2.0 – July 2024)

This form is to be used for data collection from all eligible patients included in the study receiving systemic antibiotics or antifungals.

| 1. PATIENT DETAILS | | |
|---|--|---|
| 1a. Subject ID: <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> | 1b. Ward: <input style="width: 100%; height: 20px;" type="text"/> | 1c. Year of Birth: <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> |
| 1d. Specialty (tick one): <u>If ADULT</u> <u>If PAEDS</u> MED: <input type="radio"/> SURG: <input type="radio"/> ICU: <input type="radio"/> OBS/GYN: <input type="radio"/> OTHER: <input type="radio"/> MED: <input type="radio"/> SURG: <input type="radio"/> ICU: <input type="radio"/> OTHER: <input type="radio"/> | | |

| 2. DRUGS GIVEN & REVIEW | | | 3. DIAGNOSIS, INDICATIONS, REASONS | | | | | 4. ON IV | | | | | |
|-------------------------|------------------------|--|--|---|---|---|---|--|--|--|---|---|---|
| | 2a. Antimicrobial name | 2b. Administration route* | 2c. Current / proposed / completed duration appropriate?* | 2d. Antimicrobial changed? (+reason) * | 3a. Indication code (H11-5/CI/ LI/MP/ SP1-3/ UI/ UNK/ O. Table 1, p 10) | 3b. Diagnosis site code (only if 3a. is H11 / H12 / H13 / H14 / H15 / CI / LI, otherwise NA. Table 2, p 11) | 3c. Is antimicrobial choice in line with guideline / micro / ID approved? (Table 3, p 12)* | 3d. Surgical category (only if 3a. is SP1 / SP2 / SP3, otherwise NA. Table 4, p 13-15) | 3e. Operative procedure (only if 3a. is SP1 / SP2 / SP3, otherwise NA. Table 4, p 13-15) | 3f. If surgical prophylaxis for >24 hrs, was there a specific documented reason? (only if 3a. is SP3, otherwise NA)* | 3g. If 3f is "Y", what was the reason for continuing antibiotics beyond 24 hrs? (only if 3a. is SP3, otherwise NA. Table 5, p 16)* | 4a. Suitable for oral switch?* | 4b. Patient currently taking any oral medications?* |
| | | IV: <input type="radio"/> PO: <input type="radio"/> NEB: <input type="radio"/> R: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> MP: <input type="radio"/> NA: <input type="radio"/> UNK: <input type="radio"/> | N: <input type="radio"/> OU: <input type="radio"/> E: <input type="radio"/> UNK: <input type="radio"/> D: <input type="radio"/> S: <input type="radio"/> A: <input type="radio"/> | | or NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> CBD: <input type="radio"/> NG: <input type="radio"/> UNK: <input type="radio"/> | or NA: <input type="radio"/> | NHSN-..... or NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> NA: <input type="radio"/> | Drain in place: <input type="radio"/> In line with locally approved guidelines: <input type="radio"/> NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> UNK: <input type="radio"/> NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> NA: <input type="radio"/> |
| | | IV: <input type="radio"/> PO: <input type="radio"/> NEB: <input type="radio"/> R: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> MP: <input type="radio"/> NA: <input type="radio"/> UNK: <input type="radio"/> | N: <input type="radio"/> OU: <input type="radio"/> E: <input type="radio"/> UNK: <input type="radio"/> D: <input type="radio"/> S: <input type="radio"/> A: <input type="radio"/> | | or NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> CBD: <input type="radio"/> NG: <input type="radio"/> UNK: <input type="radio"/> | or NA: <input type="radio"/> | NHSN-..... or NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> NA: <input type="radio"/> | Drain in place: <input type="radio"/> In line with locally approved guidelines: <input type="radio"/> NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> UNK: <input type="radio"/> NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> NA: <input type="radio"/> |
| | | IV: <input type="radio"/> PO: <input type="radio"/> NEB: <input type="radio"/> R: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> MP: <input type="radio"/> NA: <input type="radio"/> UNK: <input type="radio"/> | N: <input type="radio"/> OU: <input type="radio"/> E: <input type="radio"/> UNK: <input type="radio"/> D: <input type="radio"/> S: <input type="radio"/> A: <input type="radio"/> | | or NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> CBD: <input type="radio"/> NG: <input type="radio"/> UNK: <input type="radio"/> | or NA: <input type="radio"/> | NHSN-..... or NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> NA: <input type="radio"/> | Drain in place: <input type="radio"/> In line with locally approved guidelines: <input type="radio"/> NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> UNK: <input type="radio"/> NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> NA: <input type="radio"/> |
| | | IV: <input type="radio"/> PO: <input type="radio"/> NEB: <input type="radio"/> R: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> MP: <input type="radio"/> NA: <input type="radio"/> UNK: <input type="radio"/> | N: <input type="radio"/> OU: <input type="radio"/> E: <input type="radio"/> UNK: <input type="radio"/> D: <input type="radio"/> S: <input type="radio"/> A: <input type="radio"/> | | or NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> CBD: <input type="radio"/> NG: <input type="radio"/> UNK: <input type="radio"/> | or NA: <input type="radio"/> | NHSN-..... or NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> NA: <input type="radio"/> | Drain in place: <input type="radio"/> In line with locally approved guidelines: <input type="radio"/> NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> UNK: <input type="radio"/> NA: <input type="radio"/> | Y: <input type="radio"/> N: <input type="radio"/> NA: <input type="radio"/> |

* tick one option