Point Prevalence Survey (PPS) of Hospital Acquired Infection and Antimicrobial Prescribing

Northern Ireland Data Collection Protocol

(Adapted from the original © ECDC Protocol: v5.3)

PROTOCOL

March 2017

Contents

Key points

- Public Health Agency (PHA) will organise a point prevalence survey (PPS) of hospital-acquired infections (HAI) and antimicrobial use (AMU) in all acute hospitals in June 2017.
- The PHA will contribute data to 2016/17 ECDC for inclusion in a pan European report on Hai and AMU.
- The PHA will collaborate with Health Protection Surveillance Centre (HPSC), Republic of Ireland in areas of protocol development, training, data collection and dissemination of results.
- Protocol used will be All-Ireland protocol adapted for use in Northern Ireland protocol based on the standard protocol developed by ECDC.
- A team from within PHA will be established to co-ordinate the survey.
- PHA will develop web-based data collection tools for the survey and a secure web reporting tool for timely feedback of results.
- The PHA will develop materials on methodology, definitions, data collection, data entry and access to reports.
- The PHA will provide training on methodology, definitions, data collection, data entry and access to reports to co-ordinators and data collectors.
- All training materials, protocols, codebooks, data collection user guide and web reports user guide will be made available on PHA website.
- Data collection is the responsibility of participating hospitals/Trusts.
- Patient denominator data will be collected on all eligible patients.
- Additional data will be collected on all patients with active hospital-acquired infections and all patients receiving antimicrobials at the time of the survey.
- Data entry to the web will be by hospital/Trust staff.
- PHA will perform a validation study to check the robustness and accuracy of the information collected for a subset of wards and patients.
- Three levels of results will be available via secure web reporting tool, i.e. hospital level, Trust level and Northern Ireland aggregate.
- Hospital/Trusts will have access to a standard suite of reports in the Autumn.
- PHA will produce a preliminary report on results of PPS in Northern Ireland.
- Data will be forwarded to ECDC as our contribution for the production of a European report.

1 Acknowledgements

The European Centre for Disease Prevention and Control (ECDC) Point Prevalence Survey (PPS) protocol was further developed for use in Northern Ireland hospitals.

1.1 General Enquires/Contact Details

If you have any comments or queries on this data collection protocol or on conducting the survey, we would be happy to hear from you.

For more information, please contact in the first instance:

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2 Background & Objectives

2.1 Background

More than four million people in Europe acquire a healthcare-associated infection (HCAI) every year, of these approximately 37,000 die as a direct result of the infection. The death toll from HCAI is comparable to the number of people who die each year in road traffic accidents. Antimicrobial use (AMU) is a key driver of antimicrobial resistance; understanding the indications, dose used, and adherence to guidelines.

Surveillance of hospital-acquired infection (HAI) and AMU is an essential component of infection prevention and antimicrobial stewardship. It drives key actions by planning and implementing more effective, evidence-based policies, surveillance and strategies. However, robust comparable data for HAI and AMU (other than mandatory reporting) are not currently available for the NHS in Northern Ireland, making it difficult to quantify overall if there have been any changes in NHS trusts' HAI rates or AMU other than those reported on a mandatory basis.

Prevalence surveys are useful in providing data on the proportion of HAI and proportion and types of AMU at any one point (or period) in time in hospitals and give a better understanding of burden of both HAI and community-acquired infection (CAI) treated with antibiotics and AMU. To reduce the burden of HCAI and antimicrobial use there is a requirement for good, representative baseline and trend information on HCAI and antimicrobial use. This information will inform the impact of preventative measures which have been put in place, and act as a focus for future actions.

This point prevalence survey will be the fifth national point prevalence survey on healthcare-associated infections and the third national survey on antimicrobial use in Northern Ireland.

Prevalence survey	Patients surveyed	HAI Prevalence	Antimicrobial use Prevalence
2012 Northern Ireland	**4,510**	**4.2**	**29.5**
2012 ROI	9,030	5.2	34
2011/12 ECDC PPS	231,459	6.2	36.3
2006 Northern Ireland	**3,644**	**5·4**	**-**
2006 UK & ROI	75,856	7·6	-
UK 1993/94	37,111	9·0	-

Table 1 Results of previous HAI point prevalence surveys

2.2 Introduction

Northern Ireland first participated in a UK point prevalence survey (PPS) of healthcare-associated infections (HCAI) in acute hospitals in 1994. Northern Ireland and Republic of Ireland jointly participated in a PPS of healthcare-associated infections (HCAI) in acute hospitals in 2006. This survey of over 75,000 patients, organised by the Hospital Infection Society, was also conducted in England, and Wales. In Northern Ireland, all acute hospitals participated, 3,644 patients were surveyed and 198 patients (5.4%) were reported to have a HCAI. In ROI, 88% of acute hospitals participated in the survey, during which 7,541 patients were surveyed and 369 patients (4.8%) were reported to have a HAI.

In 2008, the dedicated surveillance network for European HCAI surveillance was transferred to the European Centre for Disease Prevention and Control (ECDC). ECDC undertook to develop an agreed EU protocol for a European PPS of hospital-acquired infection (HAI) and antimicrobial use in acute hospitals during 2011 and 2012. Both Ireland and Northern Ireland participated in the PPS during 2012 adopting an 'all-Ireland' study protocol and performing detailed analysis of data collected from both countries, in addition to returning data to ECDC for inclusion in the EU-wide report. In total, 33 administrative areas in 29 EU Member States provided data on 231,459 patients in 947 hospitals. The European HAI prevalence was 6% and antimicrobial use prevalence was 35%. In Northern Ireland, the HAI prevalence was 4.2% and antimicrobial use prevalence was 29.5%. In ROI, the HAI prevalence was 5.2% and antimicrobial use prevalence was 34%.

The PPS protocol provides a standardised methodology to EU Member States and hospitals to respond to article II.8.c of Council Recommendation 2009/C 151/01 of 9 June 2009 on patient safety, including the prevention and control of healthcare-associated infections. It also integrates the main variables of the European Surveillance of Antimicrobial Consumption (ESAC) hospital-PPS protocol, thereby providing additional support to Council Recommendation 2002/77/EC of 15 November 2001 on the prudent use of antimicrobial agents in human medicine.

The second EU-wide PPS will take place during 2016 and 2017. Northern Ireland and Republic of Ireland will perform the PPS during June 2017. The PPS in Northern Ireland will be coordinated by the Public Health Agency (N.I.) on behalf of Department of Health (N.I.).

2.3 Objectives

The objectives of European Point Prevalence Survey of HAI and AMU in acute-care hospitals are to:

- estimate the total burden (prevalence) of HAIs and antimicrobial use in acute-care hospitals;
- describe patients, invasive procedures, infections (sites, microorganisms including markers of antimicrobial resistance) and antimicrobials prescribed (compounds, indications)
    - by type of patients, specialties or healthcare facilities; and
    - by EU country, adjusted or stratified;
- describe key structures and processes for the prevention of HAIs and antimicrobial resistance at the hospital and ward level in EU hospitals;
- disseminate results to those who need to know at local, regional, national and EU level:
    - to raise awareness;
    - to further improve surveillance structures and skills;
    - to identify common EU problems and set up priorities accordingly;
    - to evaluate the effect of strategies and guide policies for the future at the local/national/regional level (repeated EU PPS);
- provide a standardised tool for hospitals to identify targets for quality improvement.

2.4 Key Protocol Changes 2017 versus 2012

- Inclusion criteria now *include* chronic care wards in acute care hospitals.
- Inclusion of new structure and process indicators for HAI and AMR prevention at hospital and ward level. Requirement for the local PPS team to gather ward level process indicators for inclusion on each ward list
- Hospital level:
    - Hospital ownership, more details on administrative hospital groups
    - Hospital size = total beds minus exclusive day beds. Day beds were not excluded from hospital size in 2012 PPS
    - Hospital level data on blood culture sets and faeces specimens tested for *C. difficile* processed on inpatients in previous year
    - IPC plan and report, participation in surveillance programmes, weekend access to microbiology tests and results, availability of multi-modal strategies in hospital and ICU(s) for prevention of certain HAI types and for antimicrobial stewardship
- Ward data: Simplified ward specialty variable
- Patient data:
    - Birth weight for neonates <4-weeks old by PPS date
- Antimicrobial use data:
    - Date of start of the antimicrobial; was the antimicrobial changed and if so, what was the reason for change of the antimicrobial and what was the date of start of the first antimicrobial given for this indication. Information on changing antimicrobials (+reason) will allow evaluating actual efforts to improve antimicrobial prescribing and adds local value to the PPS for the hospitals. The start dates serve as proxy indicator of the validity (sensitivity and specificity) of the prevalence of HAIs and will be used to estimate the burden antimicrobial use (prevalence to incidence conversion); as indicator of data validity, this variable needs to be interpreted together with the validation studies performed during the national PPS.
    - Dosage per day (number, strength and unit if doses per day): for EU/US comparisons and to enable DDD updates.

- HAI and AMR data:
  - HAI associated to current ward, or another ward since admission.
  - AMR marker data collected as S/I/R/UNK rather than as susceptible/non-susceptible.
- Codebook:
  - Specialty list: new ward specialty code list (with only main specialties), added consultant/patient specialty codes for healthy neonates
  - Diagnosis (site) code list for antimicrobial use: surgical site infection (SSI) was added as a subcategory of both SST and BJ; addition of cystic fibrosis (CF) as a separate entry
  - Antimicrobial ATC codes: updated with new codes added since 2011
  - HAI case definitions:
    - Surgical site infection (SSI): follow-up period of deep and organ/space SSIs after implant surgery changed from one year to 90 days.
    - Pneumonia (PN): note added indicating that one definitive chest X-ray or CT-scan for the current pneumonia episode may be sufficient in patients with underlying cardiac or pulmonary disease if comparison with previous X-rays is possible.
    - *Clostridium difficile* infection (GI-CDI): definition aligned to the case definition in the CDI surveillance protocol, to account for other methods to detect toxin-producing C. difficile organism in stool.
    - SYS-CSEP: no change in the definition, but change of the name from 'clinical sepsis' to 'treated unidentified severe infection' in adults and children, to differentiate this 'last resort' HAI case definition from the modern concept of sepsis based on organ dysfunction.

3 Outline of Roles and Responsibilities

3.1 PPS Timescales

a) **Training Dates**: Training events for PPS data collectors will be held during April/May 2017. One training day in each of the five acute-care Trusts and a 'mop-up' session in Public Health Agency.

b) **PPS Dates**: The survey will start on Tuesday 6th June and end on Thursday 30th June 2017.

c) **Completion of on-line data entry**: The complete dataset for each hospital must be uploaded to the secure web-based data entry system by a FINAL deadline of Friday 21st July 2017.

d) **Hospital reports:** Each hospital/Trust will have access to their results will be available on Web reporting system in Autumn 2017, i.e. once all data submitted by participating hospitals has been validated and analysed .

e) **Northern Ireland report** will be published in Winter 2017.

f) **Final European PPS report** publication date is yet to be confirmed by ECDC. Data from all participating hospitals will be submitted to ECDC for inclusion in a European report.

3.2 Training Offered by the PHA

- PHA co-ordination team will provide a comprehensive training course on methodology, organisation of survey, application of case definitions, validation study and interpretation of survey results.
- Training sessions; one in each Trust and a mop-up session in PHA, Linenhall St. Belfast.
- Trusts will be responsible for venue and coordination of Trust training sessions in liaison with PHA.
- Hospital data collectors (Hospital PPS Leads, IPCTs, antimicrobial pharmacists (AMP), microbiologists and ward staff will be invited to attend a training course on data collection methods, application of case definitions, entry of data and access to results.

It is recommended that each Trust should have an IPCN, antimicrobial pharmacist, microbiologist and representatives of ward staff present at the 1-day training course.

3.3 Resources supplied

The materials and tools have been developed to assist hospitals in carrying out the PPS and include:

- Patient and Staff information leaflets
- PPS protocol and data entry forms
- PPS codebook, including case definitions of HAI
- Standardised training material
- Web-based software to enter data
- Web-based outputs

3.4 When?

- The survey will commence on Tuesday 6th June and end on Thursday 30th June 2017.
- Data should be collected in a single day for each ward/unit.
- The total time frame for data collection for a hospital should be completed within two weeks and must not exceed the time period allocated to the survey.
- All data must be submitted through the secure web-based data entry site by a **FINAL** deadline of Friday 21st July 2017.

3.5 When will reports be available?

- Hospital results will be available, via Web reporting system, to each hospital/Trust in Autumn, i.e. once all data submitted by participating hospitals has been validated and analysed.
- Northern Ireland PPS report is expected in Winter.
- Final European PPS report publication date is yet to be confirmed by ECDC.

3.6 Where will data be collected?

The following hospitals, wards and patients are included in the survey;

Hospital Level

- All acute care hospitals

Ward Level

- All acute wards (including chronic care wards in acute care hospitals)
- Admitted patients who remain in the Emergency Department (ED) at 8am awaiting transfer to a bed on the ward and admitted patients who remain in wards attached to ED or who have been admitted and transferred to a day ward at 8am
- Patients admitted to acute hospital wards who await transfer to a long-term care facility are included, as the ward is designated as an acute care ward

  EXCEPT
  - Day units/wards
  - Patients attending the ED who have not been admitted to hospital
  - Labour/delivery suites
  - Operating theatres
  - Psychiatric wards
  - Outpatient department
  - Outpatient dialysis
  - Units specifically designated as residential care units within an acute hospital.

Patient Level

- All patients admitted to the ward at 8am on the morning of the survey, with the exception of day patients
- Patients transferred into the ward after 8am or transferred out/discharged after 8am and before the start of the survey are excluded
- Mothers and babies should have a separate form completed each, provided the infant was present on the ward at 8am

  EXCEPT

  - Day patients - Patients undergoing same day treatment or surgery
  - Patients attending the ED who have not been admitted to hospital at 8am
  - Outpatient department patients
  - Outpatient dialysis patients

3.7 What data will be collected?

Data collection includes variables at the national, hospital, ward and patient level. Denominator data are collected for each patient and numerator data are collected for each patient having an active healthcare associated infection and/or receiving an antimicrobial drug at the time of the survey.

For this PPS, HAI relates to infection acquired during, or as a consequence of, an acute care hospital stay. This PPS is not collecting data on healthcare-associated infections (HCAI) which may develop in long-term care facilities or nursing homes.

- A patient may develop HAI in the hospital where the survey is being conducted, attributable to that hospital

OR

- A patient may be transferred to the hospital where the survey is being conducted with an HAI which developed in another acute care hospital

OR

- A patient may be readmitted to a hospital within two days of discharge from that acute hospital or another acute hospital with a HAI

OR

- A patient may be readmitted to a hospital within 28 days of discharge from that acute hospital or another acute hospital with *Clostridium difficile* infection

OR

- A patient may be readmitted to hospital within 30 days of surgery for any category of surgical site infection (SSI) or within 90 days of implant surgery with deep/organ space SSIs.

3.8 Who collects data?

- The composition of the team responsible for the data collection may vary from one hospital to another; however, in order to ensure the validity and accuracy of the data, it is recommended the data collection team membership should be multidisciplinary.
- All data collectors are required to attend a PPS protocol training day during April/May.
- It is recommended that the local team be comprised of at least four members to collect data. Specialist input from the infection prevention and control team, clinical microbiologist and antimicrobial pharmacist will be required.
- Nursing, midwifery and medical staff based on each ward, should be involved in the PPS, as their knowledge of the patient's medical history, underlying disease prognosis, indications for antimicrobial therapy and signs & symptoms of HAI will be of critical importance to the local team.
- Data items to be collected include details of the patient, the ward/unit, HCAI, risk factors, microbiology and antimicrobials administered.

Information will be sought from case records, results of special investigations, temperature charts, prescribing records, nursing notes and, where necessary, through discussion with clinical staff and clinical observation.

4 Data Collection

There are 4 forms used for data collection:

1. **National Form** – National data are collected by the PHA.
2. **Hospital Form** – collate whole hospital data (plus data aggregated from Ward Census)
3. **Ward Census Form** – to collect ward information and patient denominator data
4. **Patient Form** – to collect patient denominator (and numerator data for HAI patients)

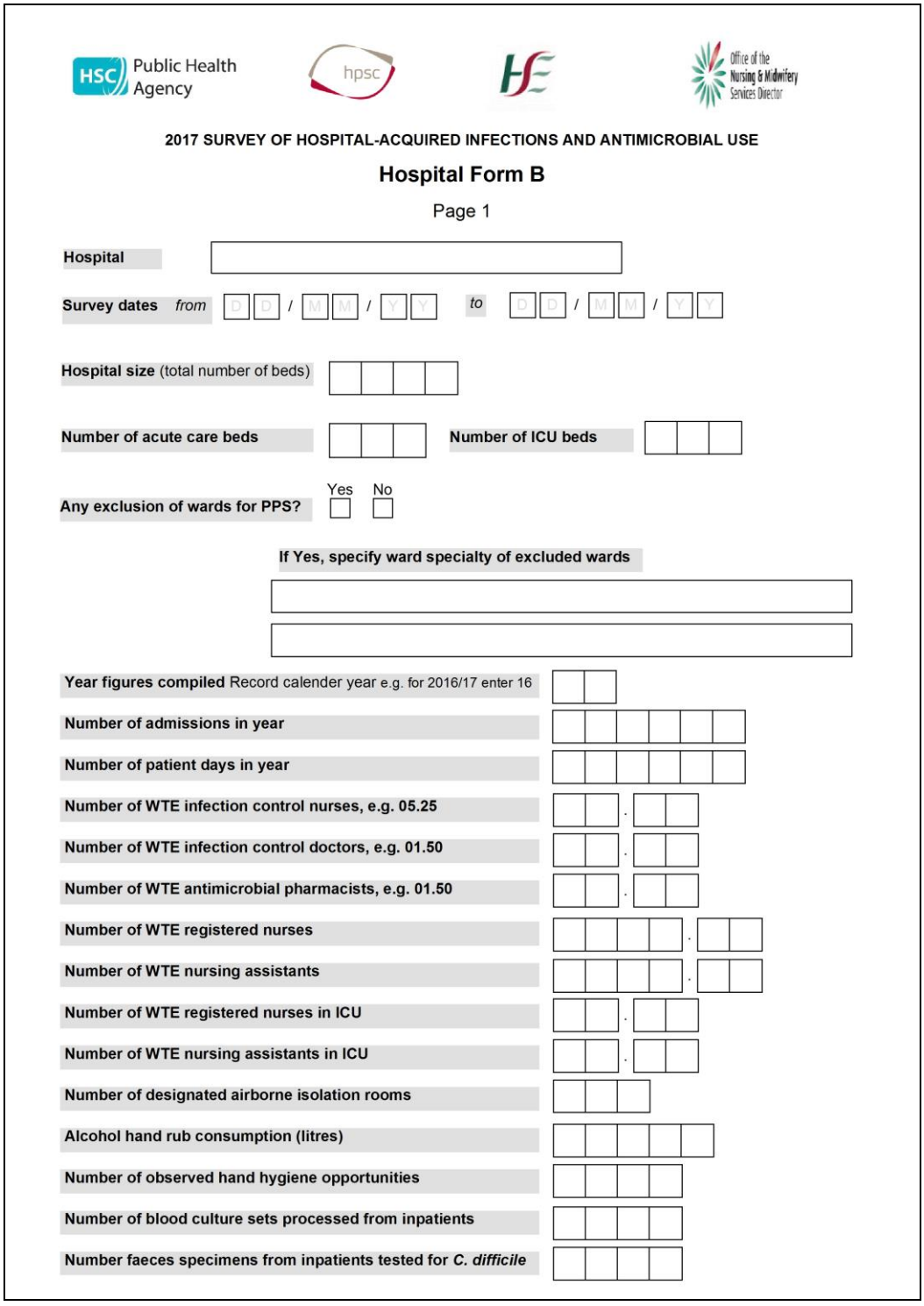
4.1 Northern Ireland Form

Regional data are collected by the PHA. The objectives are to assess the total number of acute care hospitals, bed occupancy and to estimate the total burden of HCAI and AB use. The national questionnaire also collects structure and process indicators, including the prevention and control of healthcare-associated infections which can be assessed across the jurisdiction.

4.2 Hospital Form (Completed by local PPS Coordinator. One form per hospital)

Hospital variables are collected in order to describe results by type and size of healthcare facilities and by the average length of stay in the hospital, a variable which is known to influence prevalence figures because patients with infections are known to stay longer in the hospital than the average hospital population. The questionnaire also includes structure and process indicators (SPIs).

One Hospital Form B to be completed for each hospital.



2017 SURVEY OF HOSPITAL-ACQUIRED INFECTIONS AND ANTIMICROBIAL USE

Hospital Form B

Page 1

Hospital

Survey dates *from* D D / M M / Y Y *to* D D / M M / Y Y

Hospital size (total number of beds)

Number of acute care beds

Number of ICU beds

Any exclusion of wards for PPS? Yes No

If Yes, specify ward specialty of excluded wards

Year figures compiled Record calender year e.g. for 2016/17 enter 16

Number of admissions in year

Number of patient days in year

Number of WTE infection control nurses, e.g. 05.25

Number of WTE infection control doctors, e.g. 01.50

Number of WTE antimicrobial pharmacists, e.g. 01.50

Number of WTE registered nurses

Number of WTE nursing assistants

Number of WTE registered nurses in ICU

Number of WTE nursing assistants in ICU

Number of designated airborne isolation rooms

Alcohol hand rub consumption (litres)

Number of observed hand hygiene opportunities

Number of blood culture sets processed from inpatients

Number faeces specimens from inpatients tested for *C. difficile*

Figure 1 Hospital (Form B) – Page 1

2017 SURVEY OF HOSPITAL-ACQUIRED INFECTIONS AND ANTIMICROBIAL USE

Hospital Form B

Page 2

Infection prevention and control (IPC) programme:

Is there an **annual IPC plan**, approved by the hospital CEO or a senior executive officer? Yes ☐ No ☐

Is there an **annual IPC report**, approved by the hospital CEO or a senior executive officer? Yes ☐ No ☐

Microbiology/diagnostic performance:

At weekends, can clinicians request routine microbiological tests and receive back results?

	Saturday	Sunday
Clinical tests	☐	☐
Screening tests	☐	☐

Does your ICU have the following in place for HAI prevention or antimicrobial stewardship?

	Guideline	Care bundle	Training	Checklist	Audit	Surveillance	Feedback
Pneumonia	☐	☐	☐	☐	☐	☐	☐
Blood stream infections	☐	☐	☐	☐	☐	☐	☐
Urinary tract infections	☐	☐	☐	☐	☐	☐	☐
Antimicrobial use	☐	☐	☐	☐	☐	☐	☐

Does your hospital (outside of ICU) have the following for HAI prevention or antimicrobial stewardship?

	Guideline	Care bundle	Training	Checklist	Audit	Surveillance	Feedback
Pneumonia	☐	☐	☐	☐	☐	☐	☐
Blood stream infections	☐	☐	☐	☐	☐	☐	☐
Surgical site infections	☐	☐	☐	☐	☐	☐	☐
Urinary tract infections	☐	☐	☐	☐	☐	☐	☐
Antimicrobial use	☐	☐	☐	☐	☐	☐	☐

Figure 2 Hospital (Form B) – Page 2

Notes for completion of Hospital (Form B) – Page 1

Data Item	Description
Hospital	Select from the following: **11** Altnagelvin Hospital **22** Antrim Area Hospital **33** Causeway Hospital **80** Belfast City Hospital **85** Belvoir Park Hospital **44** Craigavon Area Hospital **55** Daisy Hill Hospital **66** South West Area Hospital **75** Downe Hospital **77** Lagan Valley Hospital **88** Mater Infirmorum Hospital **97** Royal Victoria Hospital **98** Royal Belfast Hospital for Sick Children **99** Royal Jubilee Maternity Hospital **90** Musgrave Park Hospital **00** Ulster Hospital
Hospital type **Completed by PHA**	1 Primary 2 Secondary 3 Tertiary 4 Specialised hospital
Survey dates	Start and end date for the PPS in the entire hospital; end date is the date the data were collected on the last ward surveyed **DD/MM/YY**
Hospital size	Total number of beds in the hospital, excluding beds which are exclusively used for day cases.
Number of acute care beds	Number of acute beds in the hospital *Note* *If there are no permanently designated nursing home beds in the hospital, total beds equals number of acute care beds* *If there are permanently designated long-term care/nursing home beds in the hospital, number of acute care beds is calculated by subtracting the number of beds that are permanently designated as long-term care/nursing home beds from the total number of beds* Acute beds = Total Beds – long-term or nursing home beds *Note, beds on acute wards occupied by patients who are otherwise fit for discharge and awaiting transfer to long-term care are not considered as permanently designated long-term care/nursing home beds and are counted as acute care beds*
Number of ICU beds	Number of intensive care unit beds in the hospital. If there is no ICU then number of ICU beds = zero (0).
Ward exclusion	Were any wards excluded for the PPS in your hospital? Answer = **Yes** or **No** Recommended that all eligible acute wards are included

Specify specialty of excluded wards	If '**Yes**' to 'Ward exclusion' question above, specify which wards where excluded for the PPS. See 'ward specialty code list' **Figure 1 on page 16**
Year figures compiled	Record the latest full year for which the figures are provided; e.g. 2016 data = 16.
Total number of beds on included wards	The total number of beds that were open and available for occupancy included in the PPS. Each Ward List (Form A) records the total number of beds on each ward. The PPS team leader should add up the total number of beds from each Ward List once the PPS is completed for the hospital.
Total number of eligible patients included	The total number of patients included in the PPS. Each Ward List (Form A) records the total number of eligible patients on the ward. The PPS team leader should add up the total number of eligible patients from each Ward List once the PPS for the hospital has been completed – Cross check this total with the total number of Patient Forms completed for the hospital.
Number of admissions in year	Total number of admissions for the hospital in latest year for which data is available.
Number of patient days or bed days in year	Number of patient days or bed days for the hospital in latest year for which data is available.
Number of whole-time equivalent (WTE) infection prevention and control nurses (IPCN)	Number of WTE IPCN currently working in the hospital. *Note* *Where IPCNs are attached to a Trust, it may be difficult to apportion their time with accuracy to a particular hospital. As best as possible, try to reflect the time spent working in each hospital. For example, an IPCN working in Hospital A for 3-days is recorded as 0.6 WTE; and 2-days working in Hospital B is recorded as 0.4 WTE in Hospital B.* *IPCN = nurse with specialised training in infection control/hospital hygiene and usually responsible for infection control/hospital hygiene tasks, such as training of hospital employees in infection control, elaboration and implementation of infection control procedures, management of an infection control work plan and projects, audits and evaluation of performance, procedures for disinfection of medical devices.*
Number of whole-time equivalent (WTE) infection prevention and control doctors	Number WTE infection prevention & control doctors currently working in hospital. This may be a proportion of time spent by one. *Note* *Infection prevention and control doctor has specialised training in infection control/hospital hygiene and usually responsible for tasks such as identification and investigation of outbreaks, analysis and feedback of infection control data, elaboration of an infection control work plan and projects, design and management of surveillance systems, elaboration of infection*

	control procedures. *The IPC role should be part of the doctor's job description. If a portion of the doctor's hours are spent on IPC, as part of a wider remit, record the proportion of time devoted to IPC duties (e.g. one day per week = 0.2 WTE).*
Number of WTE antimicrobial pharmacists in the hospital	Number of WTE antimicrobial pharmacists currently working in the hospital. *Antimicrobial pharmacist is a pharmacist employed to provide specialised advice on antimicrobials and is a member of the antimicrobial stewardship team, participating in delivering core evidence-based interventions for antimicrobial stewardship.*
Number of WTE registered nurses in the hospital	Total number of WTE registered nurses working in the hospital Includes all registered nursing staff headcount, regardless of whether they are permanent, temporary or agency posts. Do not breakdown the proportion of each employee's clinical versus non-clinical/managerial commitment. ***Excludes student nurses who are not yet registered by NMC.***
Number of WTE healthcare assistants (HCA) in the hospital	Total number of WTE healthcare assistants (HCA) or nurse aides or multi-task attendants or carers working in the hospital Includes all HCA/nurse aide/multitask attendant/carer headcount, regardless of whether they are permanent, temporary or agency posts. ***Excludes students, volunteers or other allied health professionals (e.g. physiotherapist, dietician, occupational therapist, speech and language therapist)***
Number of WTE registered nurses in the ICU	Total number of WTE registered nurses working in the ICU. If the hospital has more than one ICU, provide the total for all ICUs combined. Includes all registered nursing staff headcount, regardless of whether they are permanent, temporary or agency posts. Do not breakdown the proportion of each employee's clinical versus non-clinical/managerial commitment. ***Excludes student nurses who are not yet registered by NMC***
Number of WTE healthcare assistants (HCA) in the ICU	Total number of WTE healthcare assistants (HCA) or nurse aides or multi-task attendants or carers working in the ICU. If the hospital has more than one ICU, provide the total for all ICUs combined. **Include** all HCA/nurse aide/multitask attendant/carers, regardless of whether they are permanent, temporary or agency posts. **Exclude** students, volunteers or other allied health professionals (e.g. physiotherapist, dietician, occupational therapist, speech and language therapist).

Number of airborne infection isolation rooms (AIIR)	Total number of designated airborne infection isolation rooms (AIIR) in the hospital. An AIIR is defined as a room with negative pressure ventilation and an ante room.
Alcohol [based] **hand rub consumption**	Total number of litres of alcohol-based hand rub used in the hospital in latest year for which data is available.
Observed hand hygiene opportunities	Total number of observed hand hygiene opportunities in the hospital in latest year for which data is available. *Note* *The recorded compliance with the opportunities is not needed, just the number of opportunities observed.*
Number of blood culture sets processed	Total number of blood culture sets received from the hospital and incubated by the microbiology laboratory in latest year for which data is available. *Note* *Microbiology laboratories that process blood cultures from more than one hospital will need to breakdown and provide the total number of blood culture sets processed for the hospital surveyed, not the total number of sets processed for all hospitals combined.*
Number of faeces specimens from inpatients tested for *C. difficile*	Total number of inpatient faeces specimens received from the hospital and tested for *C. difficile* by the microbiology laboratory in latest year for which data is available. *Note* *Microbiology laboratories that process faeces specimens from more than 1 hospital will need to breakdown and provide the total number of inpatient faeces specimens tested for C. difficile for each individual hospital, not the total number processed for all hospitals combined.* *The microbiology laboratory should exclude faeces specimens from non-inpatients (e.g. outpatients, day care, primary care, long-term care facilities).*

Notes for completion Hospital Form B – Page 2

Data Item	Description
Annual IPC plan	**Yes** or **No** Is there an annual IPC plan (e.g. work plan, service plan), approved by the Hospital CEO or senior management team member? *If the Hospital's infection control committee is chaired by the CEO or senior management team member, can answer 'Yes' to this question*
Annual IPC report	**Yes** or **No** Is there an annual IPC report, approved by the Hospital CEO or senior management team member? *If the Hospital's infection control committee is chaired by the CEO or senior management team member, can answer 'Yes' to this question*
Participation in surveillance networks Does not appear on Form Completed by PHA	National surveillance networks that your hospital participate in 1. **SSI** = surgical site infection 2. **ICU** =Device-associated infection in Critical Care Units 3. **CDI** = *C. difficile* infection 4. **Antimicrobial resistance** = EARS-Net bloodstream infection (BSI) 5. **Antimicrobial consumption** = Acute hospital antimicrobial consumption surveillance (ESAC)
Weekend microbiology services for clinical specimens	Clinical tests, at weekends, can clinicians request routine microbiology testing of clinical specimens (e.g. blood cultures, CSFs, tissue, pus, wound swab for culture, faeces, urines) and expect to routinely get results on clinical specimens in your hospital within a standard turnaround time: on Saturday (tick box if 'Yes' applies; otherwise select 'No') on Sunday (tick box if 'yes' applies; otherwise select 'No')
Weekend microbiology services for screening specimens	Screening tests, at weekends, can clinicians request routine microbiology testing of screening specimens or active surveillance specimens (e.g. MRSA screening swabs, VRE screening swabs/faeces, ESBL screening swabs/faeces, CRE screening swabs/faeces) and expect to routinely get results on screening specimens in your hospital within a standard turnaround time: on Saturday (tick box if 'Yes' applies; otherwise select 'No') on Sunday (tick box if 'Yes' applies; otherwise select 'No')
Definitions used for multi-modal strategies	• **Guideline**: written guideline document available on the ward • **Care bundle**: a care bundle is a structured way of improving the processes of care and patient outcomes: a small, straightforward set of evidence-based practices — generally three to five — that, when performed collectively and reliably, have been proven to improve patient outcomes. • **Training**: regular training, courses or other form of education • **Checklist**: self-applied checklist by the HCW • **Audit**: evaluation of the implementation of prevention practices (process evaluation, observations…) by another person than the one/those who are supposed to implement

	the practices. • **Surveillance**: Formal surveillance of the HAI type or antimicrobial stewardship intervention (e.g. consumption, compliance with quality prescribing indicators) – Can be local, regional or national surveillance • **Feedback** At least an annual written feedback on audit and/or surveillance results for the HAI type or antimicrobial stewardship intervention to frontline healthcare workers
Multi-modal strategies for prevention of HAI and antimicrobial stewardship in the hospital in the ICU(s)	For each of the HAI types (Pneumonia, Blood stream infections, UTI) and Antimicrobial use; tick the components of a local multi-modal preventative strategy that are in place in your ICU. See above for the definitions of each component. *If your hospital has more than one ICU, tick the components that apply to at least one of the ICUs in your hospital.*
Multi-modal strategies for prevention of HAI and antimicrobial stewardship in the hospital (wards other than ICU)	For each of the HAI types (Pneumonia, Blood stream infections, Surgical Site Infections, UTI) and Antimicrobial use; tick the components of a local multi-modal preventative strategy that are in place in your hospital. See above for the definitions of each component *They don't have to be present on every ward. Implementation on at least one ward outside of ICU is sufficient.*

4.3 Ward List

- The local PPS coordinator should communicate with the Director of Nursing or Midwifery and Hospital Manager/Chief Executive Officer in advance of the PPS to ensure that line managers request the assistance of nursing or midwifery staff to help and facilitate the data collection process on the day of the PPS for their ward.
- The local PPS coordinator in consultation with ward managers plans the timetable of wards to be covered each day of the PPS in the hospital.
- One Ward Census should be completed for each ward surveyed
- Ward details (specialty, number of beds, number of single rooms etc.) should be completed by ward manager in advance of the survey. This can be completed in conjunction with the local PPS coordinator when arranging the survey on the ward.
- Data on **every** patient present on the ward before/at 8am on the date of the survey should be collected, whether or not they are receiving antimicrobials.
- This should be filled in by the night shift nursing or midwifery staff before 8am on the date of the survey on that ward. The day shift nursing and midwifery staff will be requested to make themselves available to assist the data collection team with any clinical questions that may arise on data collection day.
- All completed Ward Census forms will be collated and used to generate hospital data collected on Hospital Form B. Completed Ward Census forms must be retained by the local PPS coordinator.
- Ward Form A – 1 form per ward – 2 parts
    - A1 Ward demographics
        - The local PPS team will need to obtain some information and should begin recording data on the ward list ahead of the PPS date, prior to giving the partially completed ward list to each ward manager for ward nursing or midwifery staff to complete on the scheduled date.
    - A2 Census data:
        - Census data on EVERY patient present on the ward before/at 8am on the date of the survey should be collected, whether or not they are receiving antimicrobials.
        - Census should be filled-in by the night shift nursing or midwifery staff before 8am on the date of the survey on that ward. The day shift nursing and midwifery staff will be requested to make themselves available to assist the data collection team with any clinical questions that may arise on data collection day.
        - All completed ward lists (Form A) will be collated and used to generate whole-hospital data. The completed ward list for each ward must be retained by the local PPS team leader.

Ward List A (One form per ward A1; completed by local PPS coordinator.)

Hospital variables are collected in order to describe results by type and size of healthcare facilities and by the average length of stay in the hospital, a variable which is known to influence prevalence figures because patients with infections are known to stay longer in the hospital than the average hospital population. The questionnaire also includes structure and process indicators (SPIs).

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2017 SURVEY OF HOSPITAL-ACQUIRED INFECTIONS AND ANTIMICROBIAL USE

Ward List A1

Ward name for internal use [not recorded on WebForm] _____

Please record details below for each Ward.
Completed Ward Lists should be returned to PPS Team for entry to Web System

Hospital & Ward code — Hospital code ☐☐☐ Ward code ☐☐

Ward specialty ☐

Survey date ☐☐ / ☐☐ / ☐☐ (D D / M M / Y Y)

On this ward, is a review performed on the appropriateness of antimicrobials within 72 hours from the initial order? ☐ Yes ☐ No

☐☐ Total number of beds

☐☐ Number of beds occupied on the day of PPS

☐☐ Number of beds with functioning AHR dispensers at point of care

☐☐ Number of patient rooms in ward

☐☐ Number of single patient rooms

☐☐ Number of single patient rooms with *en suite* bathroom, i.e. toilet & shower/bath

☐☐ Total number of patients included in PPS

Figure 3a. Ward List (A1)

Notes for completion of Ward List A1

Data Item	Description
Ward name for internal use	The usual name of the ward in the hospital. *Note: This is not recorded in database.*
Hospital code	Unique hospital code assigned by Public Health Agency Select from the following: **11** Altnagelvin Hospital **22** Antrim Area Hospital **33** Causeway Hospital **80** Belfast City Hospital **85** Belvoir Park Hospital **44** Craigavon Area Hospital **55** Daisy Hill Hospital **66** South West Area Hospital **75** Downe Hospital **77** Lagan Valley Hospital **88** Mater Infirmorum Hospital **97** Royal Victoria Hospital **98** Royal Belfast Hospital for Sick Children **99** Royal Jubilee Maternity Hospital **90** Musgrave Park Hospital **00** Ulster Hospital
Ward Code	Two-digit code assigned in advance by the local PPS coordinator to every ward in the hospital Abbreviated ward code assigned to every ward in the hospital (Maximum two digits – 02, 11 etc.)
Ward Specialty	The main specialty of the ward should be selected from the 11 options 'ward specialty list' [**Codebook, Ward specialty, page 3**] *Notes* *The ward specialty should be assigned in advance by the local PPS coordinator in consultation with the ward clinical nurse or midwifery manager.*
Survey date	The date the PPS was performed on the ward = DD/MM/YY
Formal post prescription review process in place on the ward	Select 'Yes' or 'No' Yes = There is a formal, documented process/procedure to review the appropriateness of an antimicrobial within 72 hours of its prescription, including review procedures addressing broad spectrum or restricted antimicrobials. This is performed by a person or team other than the treating physician at a minimum of twice weekly on the ward. Routine reassessment of the prescription performed by the admitting team does not meet the definition of formal post prescription review. *The answer to this question should be assigned in advance by the local PPS team, in consultation with the clinical microbiologist and antimicrobial pharmacist.*

Data Item	Description
Number of patient beds on the ward	Total numbers of beds on the ward that are normally open for admissions **and excluding beds solely designated as day beds.** *Answer to this question should be assigned in advance by the local PPS team, in consultation with the ward clinical nurse or midwifery manager*
Number of beds occupied on the day of the PPS	Total number of beds on the ward that are occupied by eligible patients on the day of the PPS *The answer to this question should be assigned by the local PPS team once the completed section A2 has been reviewed*
Number of beds in ward <u>with functioning</u> AHR dispensers at the point-of-care	Count up the **TOTAL** number of beds in the ward with functioning alcohol-based hand rub (AHR) dispensers available at the point-of-care (i.e. not broken and contains AHR). The point-of-care is within the patient zone and should be within arm's reach of where patient care is delivered, as defined by the '2009 WHO Guidelines on Hand Hygiene in Healthcare'. ABHR dispensers at the entrance to the patient room are not considered at the point-of-care. *The answer to this question should be assigned in advance by the local PPS team, in consultation with the infection prevention and control team*
Number of patient rooms in ward	Count up the **TOTAL** number of rooms on the ward, which are available for occupancy by patients. *<u>If rooms are closed and not available for occupancy, they should not be counted.</u>* This includes the number of single rooms, each of which is counted as one room **PLUS** the number of multiple-occupancy rooms/bays (e.g. a bay shared by two or more patients is counted as one room). *Answer to this question should be assigned in advance by the local PPS team, in consultation with the ward clinical nurse or midwifery manager*
Number of single patient rooms	Number of single rooms in the ward. *<u>If rooms are closed and not available for occupancy, they should not be counted.</u>* A single room is defined as a room available for isolation. It may not necessarily be in use as an isolation room at the time of the survey. *Answer to this question should be assigned in advance by the local PPS team, in consultation with the ward clinical nurse or midwifery manager*
Number of single patient rooms with *en-suite* bathrooms (i.e. individual toilet and washing facilities)	Count up the **TOTAL** number of single rooms with an en suite bathroom (i.e. separate toilet and washing facilities for the use of one patient). Do not count a single room with a hand wash basin and a commode. *The answer to this question should be assigned in advance by the local PPS team, in consultation with the ward clinical nurse or midwifery manager*
Total number of patients included in PPS	Total number of eligible patients on the ward included in the PPS *The answer to this question should be assigned by the local PPS team once the completed section A2 has been reviewed*

HSC Public Health Agency

Ward List A2

↓ **Ward details should be completed by Ward contact/manager and PPS team lead in advance of survey** ↓

Ward name ____________________________

Hospital Code [| |] **Ward code** [|] **Ward specialty** [ ]

↓ COMPLETED BY WARD STAFF FOR ALL PATIENTS ON THE WARD ↓													COMPLETED BY PPS DATA TEAM	
		M/F	**Years or Months**	**Neonate <4 weeks**	**DD/MM/YY**	**+**	**+**	**+**	**+**	**+**	**+**	**+**	**+**	
Bed number	**Patient name**	Gender	Age Or month if <2 years old	Birth weight	Admission date	Surgery since admission	Surgery in last 24 hrs	Central vascular catheter	Peripheral vascular catheter	Urethral Catheter	Intubation	Patient on antimicrobial	**Eligible patient**	**Patient Study Number**
												Total		

Note: If there are more than 20 beds on ward please continue on another Ward List – Completed Ward Lists to be retained by the PPS team leader

Figure 3b. Ward List (A2)

Notes for completion of Ward List (A2) !!Not submitted to PHA – but retained in Hospital!!

Data Item	Description
Ward name	**The usual name of the ward in the hospital, as entered on Ward List A1**
Hospital code	**Unique hospital code assigned by the national PPS coordinating centre, as entered in section A1 p.26**
Ward code	**Abbreviated ward code assigned to every ward in the hospital (Maximum two digits – 02, 11 etc) as entered in section A1**
Bed Number	Consecutive bed number as it is usually categorised on the ward (e.g. 1, 2, 3 OR 1a, 1b, 1c, 1d etc) If a bed is vacant and available for occupancy, enter the bed number, but leave the remainder of the row blank, as there is no patient in the bed.
Patient Name	Patient name is recorded on the ward Census solely to enable the data collection team to identify patients on the Ward Census who are eligible for inclusion in the PPS. **!!Patient name will not be recorded on the WebForm!!** *On maternity wards both the mother and the neonate should be counted as separate patients. If the mother was admitted to the ward at or before 8am and the baby was born after 8am, only the mother is included in PPS.*
Sex	Enter patient gender as **M** or **F**
Age	Enter age in years if 2 years or older. If patient age is under 2 years, record age in months, rounded to the nearest month followed by letter M = 06M, 22M. If a patient age is less than 4 weeks, record age as '00'.
Birth weight	Enter birth weight in grams (gm) for neonates who are aged less than 4 weeks old (i.e. Age coded as 00) on the PPS date. Birth weight = Weight at time of birth not weight on PPS date
Admission date	Date of patient's admission to the current hospital. If the patient was transferred in from another hospital, the date of transfer to the current hospital is recorded as the date of admission. For babies born in the current hospital: Date of admission = Date of birth. Record as **DD/MM/YY**

Data Item	Description
Surgery since admission	Enter **+** if the patient has undergone surgery during this admission. Leave blank if no surgery during this hospital admission. *Review patient notes to determine whether the patient has undergone surgery during the current admission. This information can be found in surgery/operation notes.* *Surgery is defined as a procedure where an incision is made (not just a needle puncture), with breach of mucosa and/or skin – not necessarily in the operating theatre.* *Note that the following procedures are **NOT** regarded as surgical procedures:* • *Endoscopic procedures (OGD, colonoscopy, ERCP, bronchoscopy)* • *Percutaneous angioplasty (coronary, cerebral or peripheral vascular)* • *Percutaneous drainage of a collection (e.g. in interventional radiology)* • *Insertion of a central vascular catheter* • *Insertion of an intra-aortic balloon pump* • *Insertion of an intercostal tube drain or chest drain* • *Insertion of a percutaneous nephrostomy*
Surgery in the last 24 hours	Enter **+** if the patient has undergone surgery in the past 24 hours Leave blank if no surgery in the past 24 hours. *This question will be checked by the PPS team to identify patients who may have received surgical prophylaxis in the 24 hours prior to 8am on the date of the survey*
Central vascular catheter (CVC)	Enter **+** if the patient has a central vascular catheter (CVC) ***in situ* at the time of survey** *Notes* A **CVC** is a vascular catheter that terminates at or close to the heart or in one of the **great vessels.** The following are considered great vessels: Aorta, pulmonary artery, superior vena cava, inferior vena cava, brachiocephalic veins, internal jugular veins, subclavian veins, external iliac veins, common iliac veins , common femoral veins and in neonates, the umbilical artery or vein A **CVC** is used for infusion, withdrawal of blood, or hemodynamic monitoring and includes – central venous catheter, vascath, portacath, permcath, peripherally inserted central catheter (PICC) and midline. Neither the insertion site nor the type of device may be used to determine if a catheter qualifies as a central vascular catheter. An introducer is considered a central vascular catheter. Pacemaker wires and other devices without lumens inserted into central blood vessels or the heart are **not** considered central vascular catheters, because fluids are not infused, pushed, nor withdrawn through such devices.

Data Item	Description
Peripheral vascular catheter (PVC)	Enter **+** if the patient has a peripheral venous or arterial vascular catheter (PVC) ***in situ*** **at the time of survey** Leave blank if no PVC *in situ*
Urethral catheter	Enter **+** if the patient has an indwelling urethral catheter ***in situ*** **at the time of survey** Leave blank if no urethral catheter in situ *Note* Suprapubic, self-intermittent catheterisation, urostomy or nephrostomy are **NOT** urethral catheters and should not be recorded
Intubation	Enter **+** if the patient is intubated with or without mechanical ventilation (endotracheal tube or tracheostomy) **at the time of survey** Leave blank if the patient is not intubated *Note* Non-invasive ventilation (e.g. CPAP) is not regarded as intubation
Patient on antimicrobials	Enter **+** if the patient is receiving antimicrobials as recorded in the notes/medication chart *Note* Patient is prescribed at least one systemic antimicrobial agent [antibacterial or antifungal] via enteral (oral or rectal), parenteral (intravenous) or inhaled route at the time of the survey (including intermittent treatment). Patients who receive surgical prophylaxis before 8am on the day of the survey **and** after 8am on the day before the survey should be recorded as on antimicrobials. • Topical antimicrobials are excluded • Antivirals are excluded • Treatment of tuberculosis (TB) is excluded
Eligible Patient	**THIS WILL BE COMPLETED BY THE PPS TEAM AND SHOULD BE LEFT BLANK BY THE WARD STAFF** Enter **+** if the patient is eligible for inclusion in the PPS
Patient Study Number	**THIS WILL BE COMPLETED BY THE PPS TEAM AND SHOULD BE LEFT BLANK BY THE WARD STAFF** Allocate consecutive numbers to eligible patients on the ward. Start at 1 for each ward
Total	**THIS WILL BE COMPLETED BY THE PPS TEAM AND SHOULD BE LEFT BLANK BY THE WARD STAFF** Complete yellow box by totalling number of eligible patients on the ward

4.4 Patient Form C

Flowchart to assist in the completion of Patient Form C:

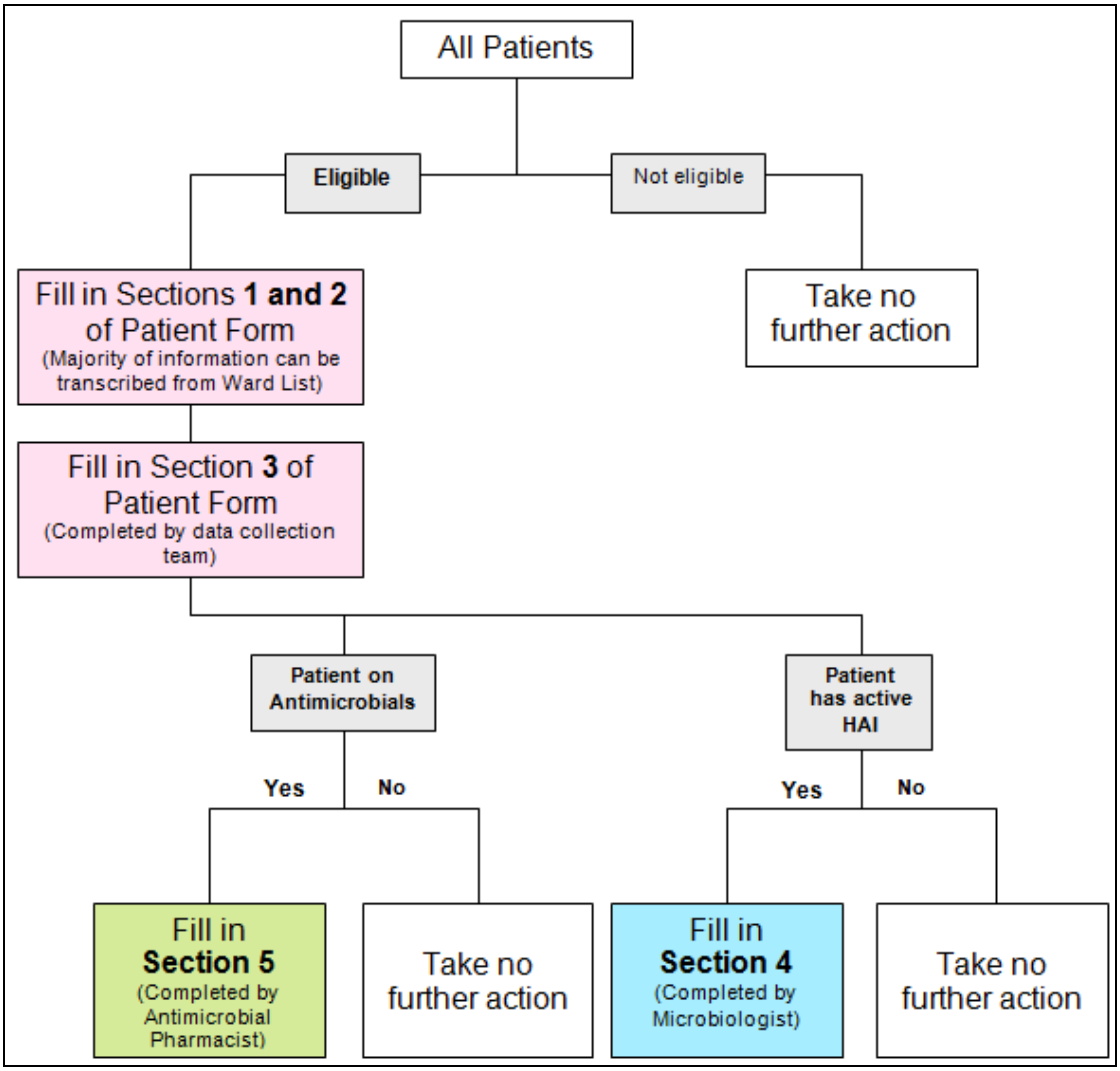


Figure 4: Flowchart to assist with completion of Patient Form C

Note: The majority of information for Sections 1 and 2 [pink section] on each patient can be transcribed directly from the completed Ward Census.

Fill in one Patient Form for every eligible patient, i.e. if patient is present on the ward before 8am on the day of the survey and not discharged from the ward by the time the survey starts. For a patient who is deemed eligible but temporarily off the ward (in radiology, theatre or rehabilitation), if the patient's healthcare record and medication chart are not available, please highlight that patient for review later in the day, upon his or her return to the ward.

For each eligible patient, the data collection team should review:

- Current medical or nursing notes
- Observation charts
- Drug charts/medication charts
- Surgery/operation notes
- Laboratory reports e.g. microbiology results
- Other relevant records e.g. wound charts, stool charts, care plans

If the required information is not clear from the notes, the data collection team should seek clarification from a member of nursing/medical staff.

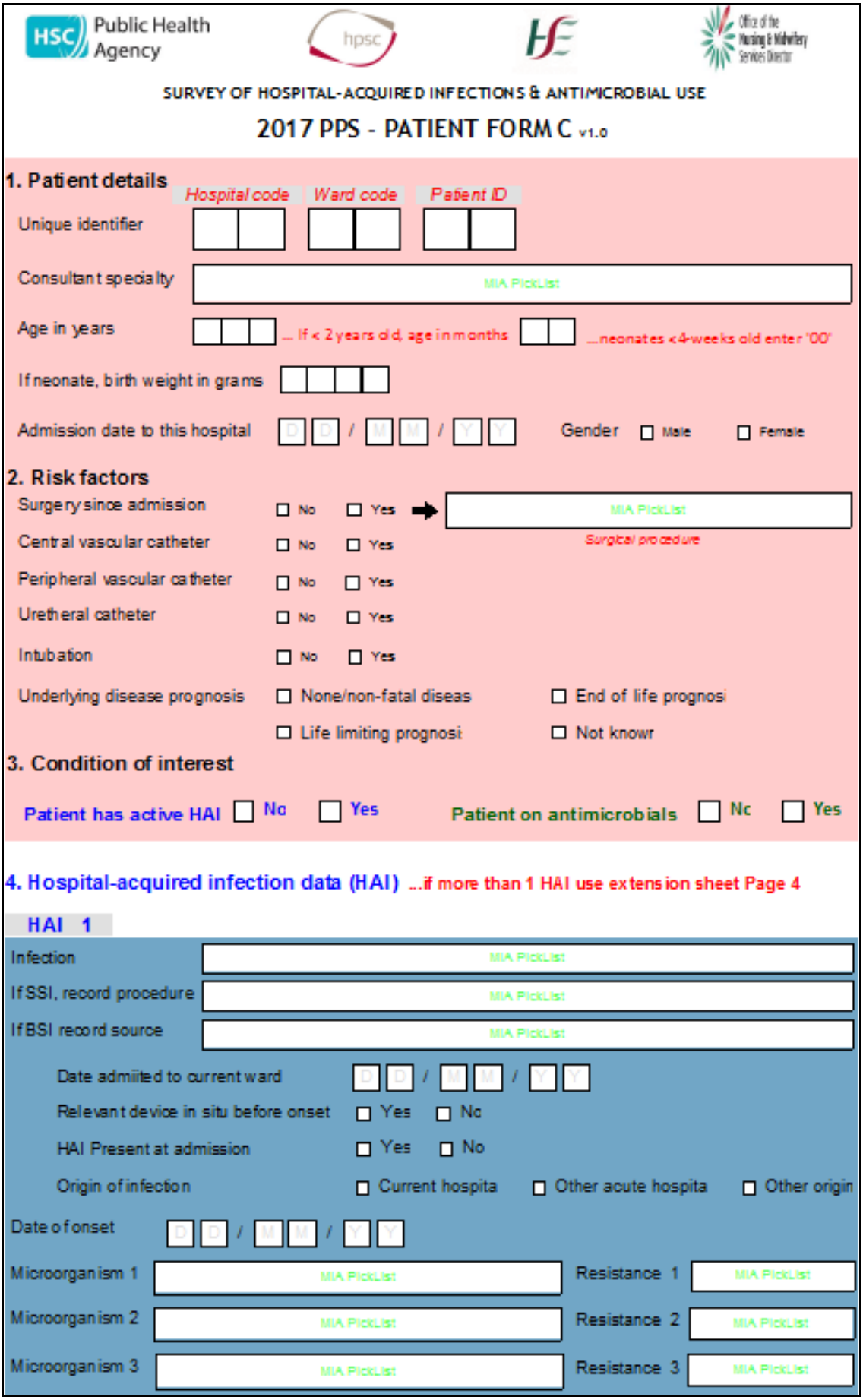


Figure 5a. Patient Form C – Page 1

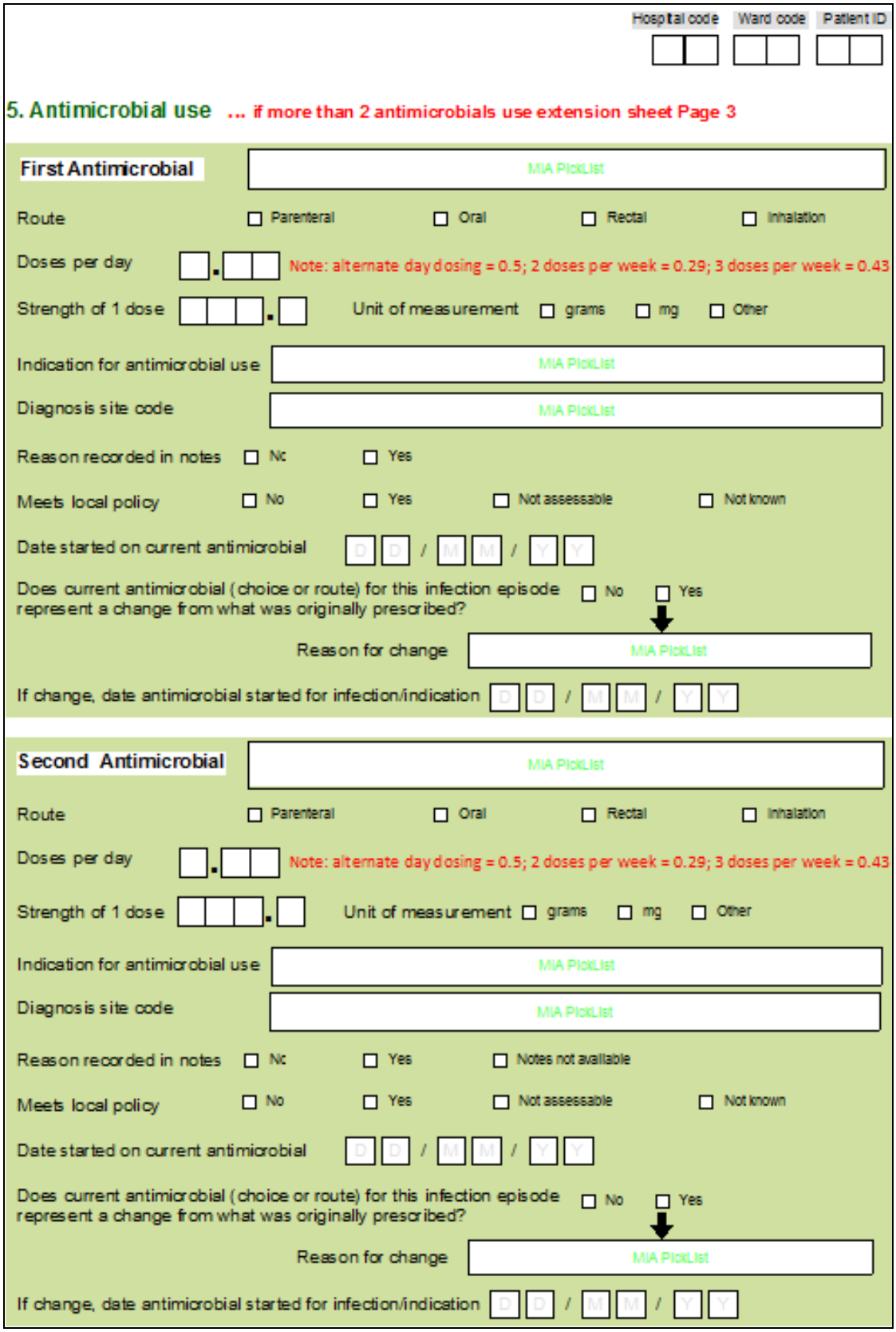
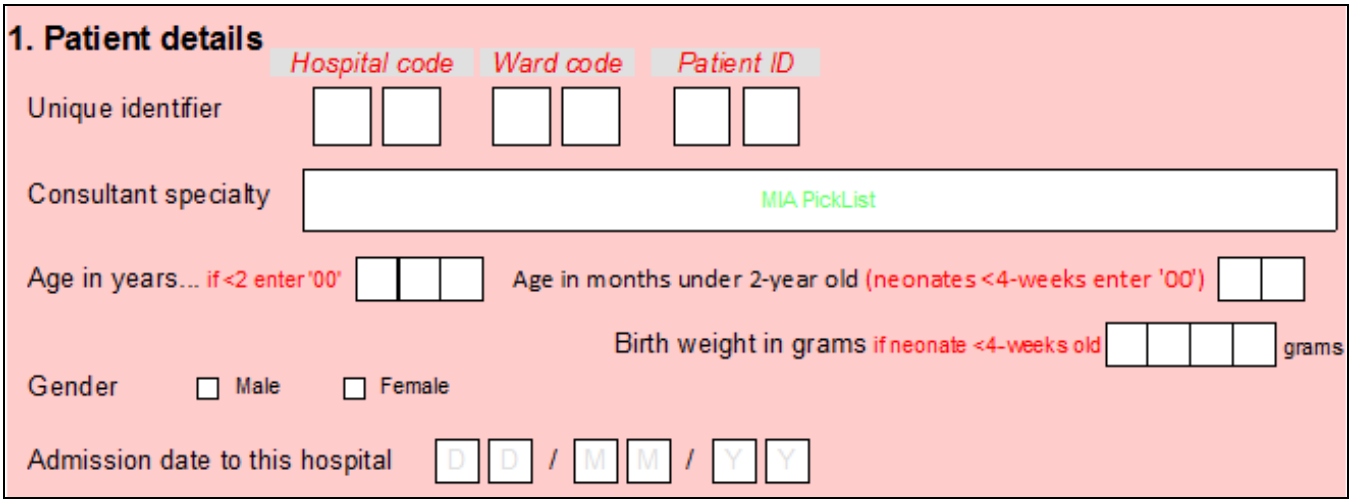


Figure 5b. Patient Form C – Page 2

4.4.1 Patient details: Section 1

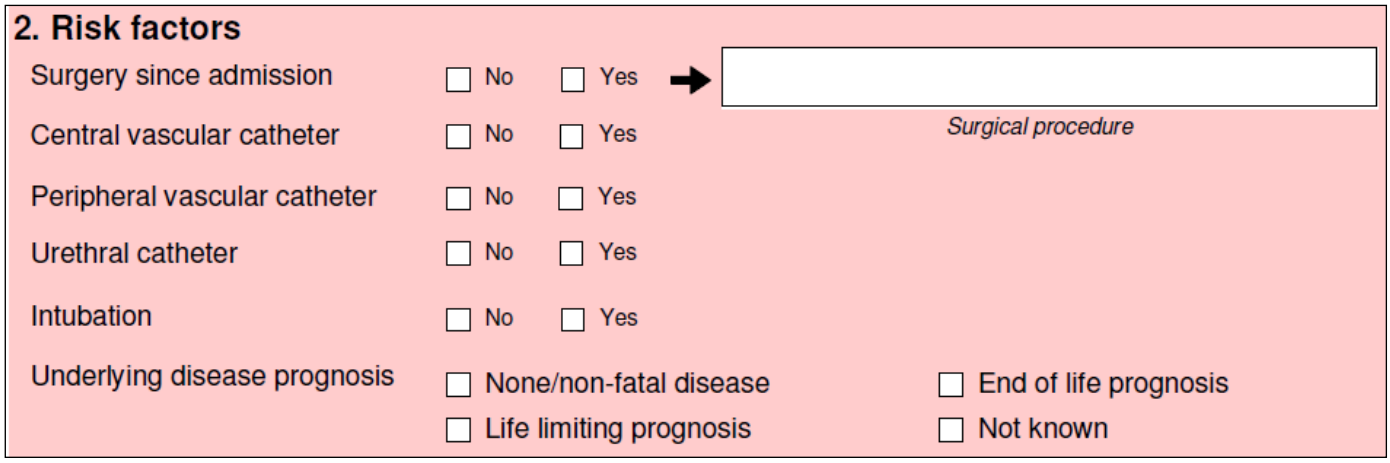


Notes for completion

Data Item	Description
Unique identifier	Unique three-part identifier used to link the data collected to the patient on the ward. It has no meaning outside of the hospital and it ensures that the patient data during the PPS collected remains anonymous: 1) **Hospital code**: Hospital code assigned by PHA (2- digits) 2) **Ward code**: Assigned in advance by the local PPS team to every ward in the hospital (2-digits). Enter as recorded on the completed Ward List. 3) **Patient ID**: The consecutive two digits 'patient study number' in the final column of the Ward List, assigned by the PPS team to each eligible patient (01, 02, 03....11, 12.....20, 21 etc).
Consultant specialty	Select from **Codebook: Consultant specialty, page 4** **The consultant specialty and the ward specialty may be different** The consultant specialty should be taken as the patient's current consultant and not necessarily the consultant on duty when they were admitted to hospital. In some instances the specialty of the consultant in Accident and Emergency will be different to the eventual consultant the patient has, so it is more accurate to reflect the specialism of their current consultant. If a consultant, in the relevant specialism, has not been identified at the time of the survey then it should be coded as 'Other/General'. ▪ If a patient with pneumonia is admitted 'on-call' under the care of a physician who has a dual-specialisation (e.g. general medicine and rheumatology), count the admitting consultant's specialty as MEDGEN rather than MEDRHEU. ▪ However, if a rheumatology patient is admitted under the same clinician, count the admitting consultant's specialty as MEDRHEU for accuracy. ▪ For healthy neonates on maternity ward, register admitting consultant specialty as GOBAB. ▪ For healthy neonates on the paediatric ward, register admitting consultant specialty as PEDBAB. ▪ Admitting consultant specialty for sick neonates will be categorised as PEDNEO or ICUNEO if admitted to NICU.

Age	Enter as recorded on Ward Census ▪ Enter age in years if 2 years or older. ▪ If patient age is under 2 years, enter '00'and record 'Age in months', rounded up to the nearest whole month. If neonate less than 4 weeks old, record age as '00'.
Age in Months	Enter as recorded on Ward Census ▪ Enter age in months if less than 2 years old, rounded up to the nearest whole month. ▪ If neonate less than 4 weeks old, record age in months as '00'.
Birth weight	Enter birth weight in grams (gm) for neonates who are aged less than 4 weeks old (i.e. Age coded as 00) on the PPS date. Birth weight = weight at time of birth not weight on PPS date.
Gender	Enter as recorded on Ward Census. Enter patient gender as **Male** or **Female**
Admission date	Enter as recorded on the completed Ward List. Date of patient's admission to the current hospital . If the patient was transferred in from another hospital, the date of transfer to the **current hospital** should be recorded as the date of admission. Record as **DD/MM/YYYY**

4.4.2 Patient risk factors: Section 2



Notes for completion

Data Item	Description
Surgery since admission	Check the completed Ward List. For patients who have been marked as **+** = Yes for surgery, the patient's case notes should also be reviewed to confirm that the patient has actually undergone surgery during the current admission. This information can be found in surgery/operation notes. If the patient has not undergone surgery on this admission = 'No'. Surgery is defined as a procedure, where an incision is made (not just a needle puncture), with breach of mucosa and/or skin – not necessarily in the operating theatre. The purpose of surgery should be primarily therapeutic. Insertion of a device or line is not considered to be a surgical procedure. If you think that the patient has undergone surgery on this admission, cross check the procedure performed as documented in the patient notes with the 'surgery list' **(Codebook: Surgical procedures page 6).** If the surgical procedure performed is listed – Tick the box '**Yes**' Note that the following procedures are **NOT** regarded as surgical/minimally invasive procedures: ▪ Endoscopic procedures (OGD, colonoscopy, ERCP bronchoscopy ▪ Percutaneous angioplasty (coronary, cerebral or peripheral vascular) ▪ Percutaneous drainage of a collection (e.g. in interventional radiology ▪ Insertion of a central vascular catheter ▪ Insertion of an intra-aortic balloon pump ▪ Insertion of an intercostal tube drain or chest drain ▪ Insertion of a percutaneous nephrostomy
Surgical Procedure	If a surgical procedure has been performed, write the surgical procedure in the box 'Surgical Procedure'.

Central vascular catheter	Select 'Yes' or 'No' based on completed Ward List: **+** = 'Yes', blank = 'No'.
Peripheral vascular catheter	Select 'Yes' or 'No' based on completed Ward List: **+** = 'Yes', blank = 'No'. Yes = the patient has a peripheral venous or arterial vascular catheter (PVC) ***in situ*** **at the time of survey.**
Urethral catheter	Select 'Yes' or 'No' based on completed Ward List: + = 'Yes', blank = 'No'. This question should only be answered 'Yes' if the patient has an indwelling **urethral** catheter ***in situ*** **at the time of survey.**
Intubation	Enter as recorded on Ward Census.
Underlying disease prognosis	Choose from: • None/Non-Fatal • Life Limiting Prognosis • End of Life Prognosis • Not Known An algorithm is provided in **Figure 6 (overleaf)** to assist with completion. This is designed to classify the severity of the underlying medical condition for each patient. In the event that a patient is being treated for an acute infection, including HAI, the influence of the acute infection on the patient's underlying disease should be disregarded. The underlying disease prognosis should only be estimated based on the patient's overall condition, before this acute infection episode began. Input from the staff caring for the patient will be required to ensure correct application of the underlying disease prognosis.

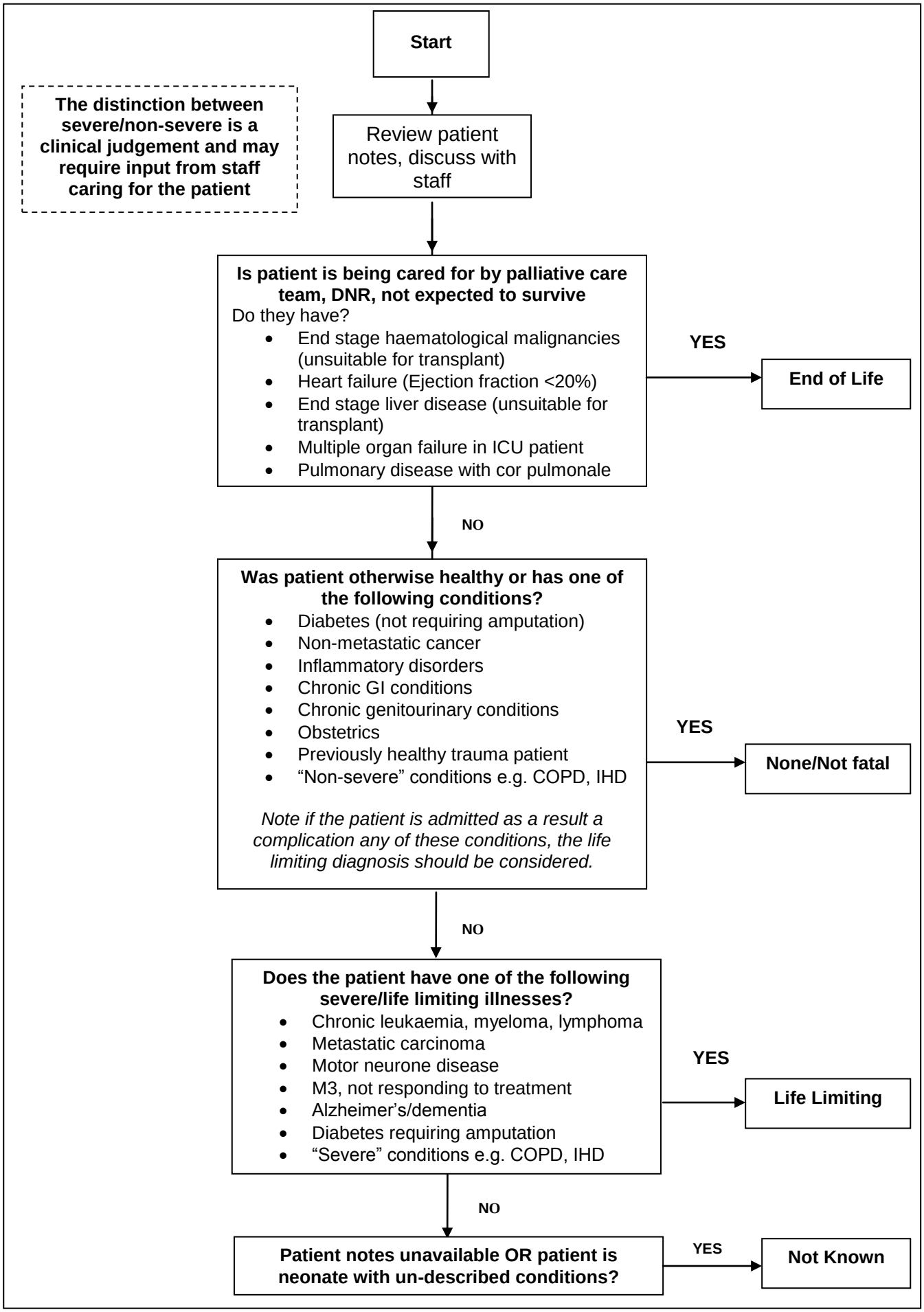


Figure 6: Underlying Disease Prognosis Algorithm

4.4.3 Condition of interest: Section 3 (Completed by data collection team)

3. Condition of interest

Patient has active HAI ☐ No ☐ Yes Patient on antimicrobials ☐ No ☐ Yes

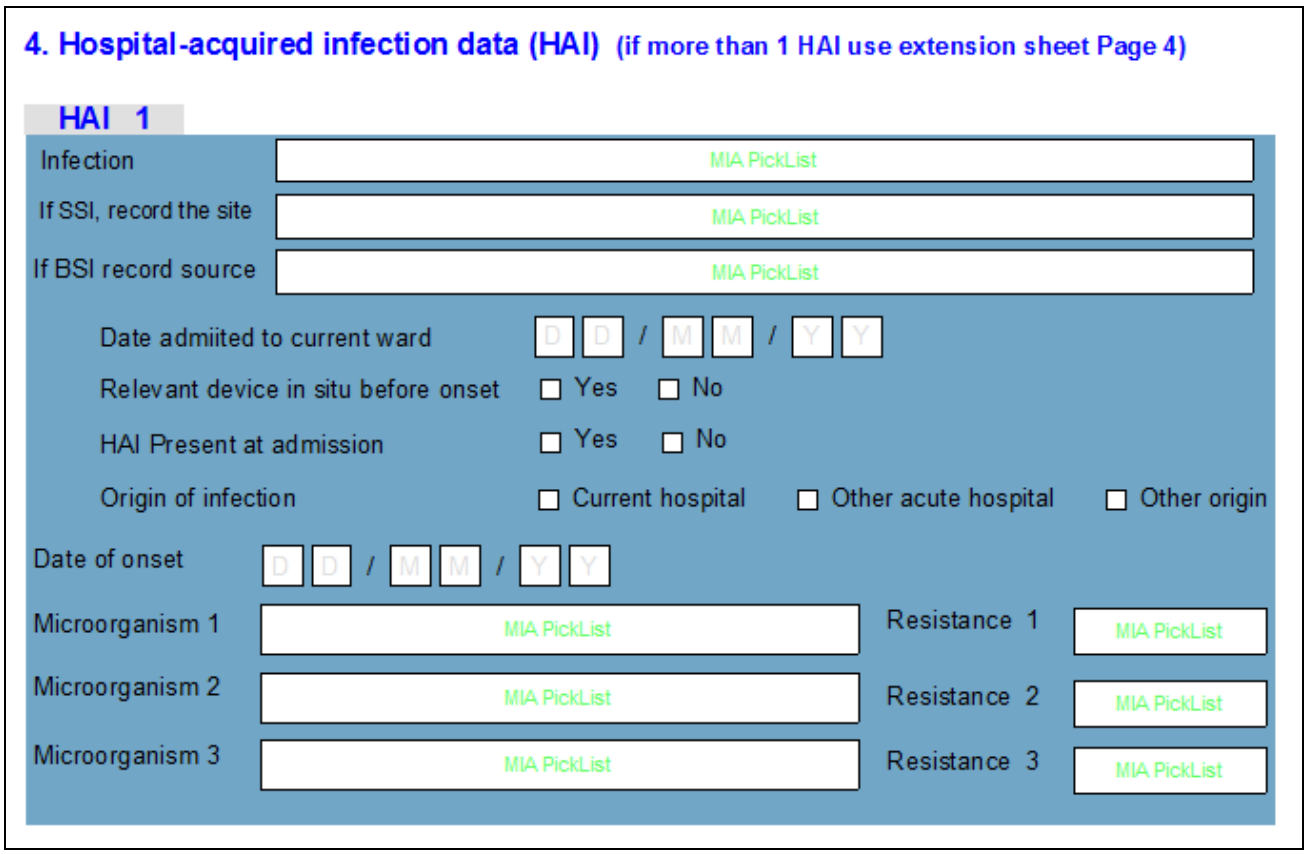
Notes for completion

Data Item	Description
Patient has active hospital-acquired infection (HAI)	'Yes' or 'No' as appropriate Refer to **Figure 7: Onset of HAI, overleaf - p. 41** algorithm to assist in identification of an HAI for specific HAI definitions. The answer to this question is decided by the PPS team in conjunction with the staff working on the ward.
Patient on antimicrobials	Select '**Yes**' or '**No**' as appropriate, based on review of Ward List plus review of medication prescription and administration record and healthcare record. *Note* The question on the Ward Census – 'Surgery in last 24 hours' should be reviewed. If that question is answered **+**, the PPS team should also check the patient's chart, surgical and anaesthetic operative notes for evidence of surgical prophylaxis administered in the 24 hours prior to 8am on the date of the survey. **Include:** • Patient prescribed at least one systemic antimicrobial agent [antibacterial and/or antifungal] via enteral (oral or rectal), parenteral (intravenous) or inhaled route at the time of the survey (including planned intermittent treatment). • Patient who received surgical prophylaxis before 8am on the day of the survey **and** after 8am on the day before the survey. • Treatment for infection caused by non-tuberculous mycobacteria (NTM)/mycobacteria other than tuberculosis (MOTT)/atypical mycobacteria . **Exclude:** • Any topical antibacterial/antifungal/antiviral. • All antivirals, antiprotozoal or anthelminthic agents. • Any agent prescribed for treatment of Mycobacterium tuberculosis (TB). If the patient **is** receiving antimicrobials, **Section 5** on "Antimicrobial Use" should be completed.

Onset of HAI		Case Definition
All HAI types *Day 3 onwards*		Meets the case definition on the day of survey
OR		
All HAI types *Admission, day 1 or day 2 AND patient discharged from hospital, acute or non-acute, in preceding 48 hours*	***AND***	
OR		OR
Surgical Site Infection *Admission, day 1 or day 2* *An SSI is defined as any SSI type which occurs within 30 days of infection of the operation date. In the case of surgery involving an implant, deep or organ space SSI arising up to 90 days after surgery is also considered and the patient either has symptoms that meet the case definition and/or is on antimicrobial treatment for infection.*		Patient is receiving antimicrobials **AND** HAI has previously met the case definition between day 1 of antimicrobial treatment and survey day
OR		
***Clostridium difficile* infection** *Admission, day 1 or day 2 AND patient discharged from hospital, acute or non-acute, in preceding 28 days*		
OR		
Device associated infection *Relevant device in situ prior to onset*		
OR		
Neonatal infection *Count any active infection arising after birth while infant remains in hospital*		

Figure 7: Algorithm to assist with identification of HAI

4.4.4 Hospital acquired infection: Section 4 (Completed by microbiologist/IPCN)



Notes for completion

Data Item	Description
Infection	The HAI type **(Codebook, page 25-48 for detailed HAI descriptions)** The HAI case definitions should be used for all patients including adults, babies, and children. The only exception is for babies in the neonatal ward; Neonatal HAI case definitions should be used. Where a specific neonatal HAI case definition does not exist, a general HAI case definition may be applied. Only active HAI that meet the HAI case definition should be recorded. There is space to record up to three separate HAI. One in the first sheet and space for two further HAI on the extension page. Results of tests/examinations that are not yet available on the survey date should not be completed after the survey date nor taken into account to establish whether the case definition criteria are fulfilled. A hospital-acquired bloodstream infection (BSI) is registered as a separate HAI with specification of the source in a separate field. **Except** Catheter related infection (CRI3) = catheter-related bloodstream infection with microbiological documentation of the relationship between the vascular catheter and the BSI – i.e. positive catheter tip culture with significant growth of same organism as that isolated from blood or positive exit site swab culture with growth of same organism as that isolated from blood. Neonatal bloodstream infections. Neonatal bloodstream infections

	should be reported as neonatal laboratory confirmed bloodstream infection caused by organisms other than coagulase negative staphylococci (NEO-LCBI) or neonatal laboratory confirmed bloodstream infection caused by coagulase negative staphylococci (NEO-CNSB), together with the origin of the bloodstream infection CRI3 and neonatal BSIs should not be reported twice in the point prevalence survey (**Codebook, Page 47 for definitions**).
If SSI: record the site	If the patient HAI meets the case definition for a surgical site infection the site of the surgical procedure should be recorded. See **Codebook, Surgical category Page 6-9** for the list of surgical procedures.
Source of BSI	If the patient's HAI meets the definition for a laboratory-confirmed bloodstream infection (BSI), specify the source; Select the relevant BSI source code from **Codebook, Page 12.** An algorithm is also provided in **Codebook, Page 12.** *Note* **Primary catheter-related BSI**: Primary BSI due to infection of either a peripheral vascular catheter (PVC) or central vascular catheter (CVC). When the same microorganism was cultured from both the blood and the vascular catheter, this is microbiologically confirmed catheter-related BSI (CRI3): CRI3-PVC or CRI3-CVC (See **Codebook, Section 1.7 p.34** for CRI definition). When the patient has positive blood cultures without microbiological confirmation of the same organism from the vascular catheter and the patient's symptoms improve within 48 hours after removal of the catheter, this is clinically-diagnosed catheter-related BSI, without microbiological confirmation linking the blood culture to the vascular catheter (C-PVC or C-CVC). **Primary BSI of unknown origin (UO)**: Primary BSI of unknown origin. Not related to vascular catheter infection and not meeting definition of secondary BSI below. No identifiable source was found for that BSI. **Secondary BSI:** BSI arising secondary to infection elsewhere. When the same micro-organism was cultured from both the blood and another infection site or strong clinical evidence exists that the patient's BSI developed secondary to another infection site, invasive diagnostic procedure or foreign body. Pulmonary infection resulting in BSI **(S-PUL)** Urinary tract infection resulting in BSI **(S-UTI)** Digestive tract infection resulting in BSI **(S-DIG)** Surgical site infection resulting in BSI **(S-SSI)** Skin and soft tissue infection resulting in BSI **(S-SST)** Other infection resulting in BSI **(S-OTH)** **BSI Source Unknown (UNK):** No information available about the BSI source or information missing. *Note* Secondary BSI are reported as a separate HAI in addition to reporting the primary infection, provided the primary infection matches the relevant HAI case definition.

Data Item	Description
Relevant device *in situ* before onset	HAI which occurs in a patient with a relevant device that was used within a defined period before the onset of clinical signs or symptoms of infection (even intermittently) *Note* The term 'device-associated' is used only for the following three HAI: 1. Pneumonia, where the relevant device is intubation and the endotracheal tube was *in situ* within **48 hours** of the onset of signs and symptoms of pneumonia. 2. Catheter-related infection, where the relevant device is peripheral or central vascular catheter and the vascular catheter was *in situ* within **48 hours** of the onset of signs and symptoms of catheter related infection. 3. Urinary tract infection, where the relevant device is urinary catheter and the urinary catheter was *in situ* within **seven days** of the onset of signs and symptoms of infection. If the interval between removal of an endotracheal tube or vascular catheter and onset of symptoms or signs of pneumonia or catheter related infection is longer than 48 hours, there must be compelling evidence that the infection was associated with the use of that device Note that other HAI related to devices (e.g. ventriculitis due to external ventricular drain) are recorded as HAI but are not recorded as device-associated.
Present at admission	Signs and symptoms of HAI were present on admission to hospital: *Note* The following HAI may be present on admission to hospital: • Any HAI type diagnosed in a patient admitted to this hospital having been discharged from an acute hospital in the preceding 48 hours. • Surgical site infection diagnosed in a patient admitted to this hospital and the infection is related to a non-implant surgery performed within 30 days prior to admission or implant surgery performed within 90-days prior to admission. • *Clostridium difficile* infection diagnosed in a patient discharged from an acute hospital in preceding 28 days prior to admission to this hospital.

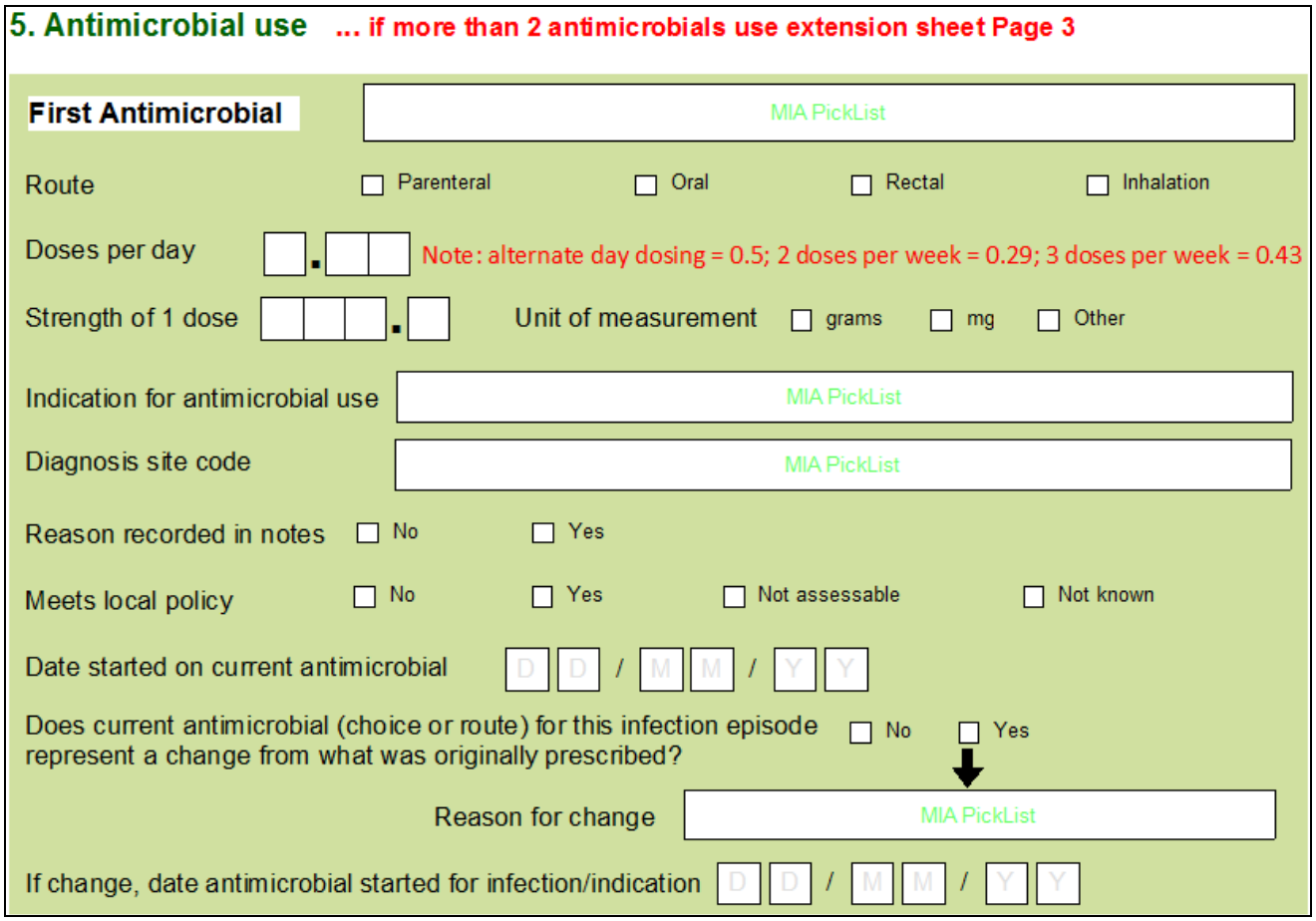
Data Item	Description
Origin of infection	HAI is associated with: 1) Current hospital 2) Another acute hospital 3) Other origin *Note* **Current Hospital** • HAI with onset on day 3 or later of admission to current hospital • Patient was admitted with HAI (or HAI presented on day 1 or 2) and the patient was discharged from the current hospital in preceding 48 hours. • Patient was admitted with CDI (or CDI presented on day 1 or 2) and was discharged from the current hospital in the preceding 28 days. • Patient was admitted with SSI (or SSI presented on day 1 or 2) and patient had non-implant surgery in current hospital within 30 days prior to admission or for implant surgery, within 90-days prior to admission. **Other Acute Hospital (independent/private or public)** • Patient was admitted with HAI (or HAI presented on day 1 or 2) and was discharged from another acute hospital in preceding 48 hours. • Patient was admitted with CDI (or CDI presented on day 1 or 2) and was discharged from another acute hospital in the preceding 28 days. • Patient was admitted with SSI (or SSI presented on day 1 or 2) and patient had surgery in another acute hospital within 30 days or for implant surgery within 90-days prior to admission. The category 'other origin or unknown' refers **only** to infections arising after day 3 (meeting definition for HAI), where the local PPS team disagrees/disputes that the infection is truly a HAI (e.g. patient develops pneumonia on day 3 of admission with *Streptococcus pneumoniae* isolated from sputum). It would be exceptionally rare to choose this option, as the overwhelming majority of HAI arising after day 3 would be acquired either in the current or another acute hospital. It may not always be possible to determine a single origin of infection. For example, in a patient admitted with CDI who had been admitted to the current hospital and another acute hospital in the preceding 28 days.
Date of onset	Date of first signs or symptoms of infection **DD/MM/YY** *Note* • **Not to be recorded if signs/symptoms are present at admission**, but mandatory if onset during current hospitalisation. • If date of onset is not known, the date treatment started or the date first diagnostic sample was taken should be recorded as date of onset.
Date admitted to the current ward	Record the date that the patient was admitted to the current ward.

Notes for completion - completed by a Microbiologist/IPCN

Data Item	Description
Microorganism	Select from the 'microorganism code list by category' **(Codebook, Microorganism codes, page 13)** See **Codebook HAI definitions, page 25-48** for more information regarding the relevant microbiology results Do not enter results retrospectively and do not wait for final microbiology reports that were incomplete at the time of PPS. *Note* For each HAI, there is room to specify up to three different causative microorganisms. The laboratory information system should be checked for relevant positive microbiology laboratory specimen results available for that patient at the time of PPS and relating to the HAI infection episode under treatment. Note that specimens may have been sent to microbiology in the days prior to initiation of antimicrobial therapy. Cross-check the date that antimicrobial therapy was commenced for an active HAI when reviewing microbiology results for each patient. If there are no positive microbiology results for the HAI, one of the following codes may be selected: **NONID**: Evidence exists that a microbiological examination has been done, but the micro-organism cannot be correctly classified. **NOEXA**: No diagnostic sample taken, no microbiological examination done. **STERI**: Microbiological examination(s) has (have) been done and the culture was sterile/organisms not detected. **NA**: Results of the microbiological examination are not yet available or cannot be accessed.
Resistance	If the microorganism isolated is one of the following: • *Staphylococcus aureus* • *Enterococcus* spp • *Enterobacteriaceae* • *Pseudomonas aeruginosa* • *Acinetobacter baumannii* Select the appropriate resistance code from 'antimicrobial resistance markers and codes **(Codebook, HAI: Resistance codes, page 17)** ○ **S** = Sensitive ○ **I** = Intermediate ○ **R** = Resistant ○ **UNK** = Unknown antimicrobial susceptibility test result **resistance data are not required for any other organisms – If microorganism identified does not belong to key microorganisms listed above, leave 'resistance code' box blank If a microorganism is tested against more than one antimicrobial in the same class, with different results, assign the priority code to the more resistant antimicrobial R>I>S e.g. *E. cloacae* resistant to Ertapenem = R, meropenem = S => Record *E. cloacae* as carbapenem = R

4.4.5 Antimicrobial use: Section 5 (Completed by antimicrobial pharmacist)

The section on antimicrobial use aims to record details of the antimicrobial(s) prescribed and to find out what the clinicians think they are treating. This section does not aim to discuss or determine whether or not the antimicrobial prescribing is appropriate.



Data on up to five separate antimicrobials can be recorded. As the majority of patients receiving systemic antimicrobials will receive only one or two antimicrobials, section 5 allows record of two antimicrobials. An extension sheet can be used for the small number of patients who may receive three to five antimicrobials.

Systemic antimicrobials are defined as antibacterial or antifungal agents prescribed at the time of the survey for:

- Treatment of infection
- Medical prophylaxis against infection
- Surgical antimicrobial prophylaxis

In certain circumstances, prescribed antimicrobials may not be administered on the date of survey (e.g. patient with renal impairment receiving alternate day dosing of antimicrobial therapy/medical prophylaxis or re-dosing as per results of therapeutic drug monitoring). The patient is included as receiving antimicrobials as the antimicrobial is prescribed and scheduled to be administered.

Surgical antimicrobial prophylaxis is defined as prophylaxis given between 8am on the day before the survey and 8am on the day of survey is included. Surgical antimicrobial prophylaxis commenced after 8am on the date of the survey is not included.

Notes for completion

Data Item	Description
Antimicrobial generic name and ATC5 code	Select from list of Antimicrobials & ATC5 codes **(Codebook, Page 19)** ***Include:*** ▪ Patient prescribed at least one systemic antimicrobial agent [antibacterial and/or antifungal] via enteral (oral or rectal), parenteral (intravenous) or inhaled route at the time of the survey (including planned/intermittent/alternate day treatment or medical prophylaxis). ▪ Alternate day or intermittent dosing regimens should be included even if the patient is not scheduled to receive a dose on the date of the survey. ▪ Patient who received surgical prophylaxis before 8am on the day of the survey and after 8am on the day before the survey ▪ Treatment for infection caused by non-tuberculous. mycobacteria (NTM)/mycobacteria other than tuberculosis (MOTT)/atypical mycobacteria. ▪ Erythromycin when prescribed as a prokinetic agent ***Exclude:*** ▪ All topical antibacterial/antifungal/antiviral agents ▪ All antivirals, antiprotozoal and anthelminthic ▪ Any agent prescribed for treatment of *Mycobacterium tuberculosis* (TB)
Route	Method of administration of the antimicrobial prescribed Select the appropriate box: ▪ Parenteral = intravenous (IV) or intramuscular (IM) or intraocular injection or intraventricular administration ▪ Oral route = enteral or oral (PO) or via nasogastric/jejunal/PEG/RIG tube ▪ Rectal route (PR) ▪ Inhalation route. ***NOTE* – ALL TOPICAL AGENTS ARE EXCLUDED**
Doses per day of the current antimicrobial	Report dosage for current antimicrobial, as prescribed in the medication chart or anaesthetic sheet: • Number of doses per day ○ For antimicrobials administered on alternate day dosing regimen, record 0.5 for doses per day ○ For antimicrobials administered intermittently, as per therapeutic drug monitoring results (e.g. vancomycin in patients on dialysis), determine the number of doses per week (e.g. 2 doses = 2/7 = 0.29, 3 doses = 3/7 = 0.43) ○ For example: Intermittent vancomycin given twice per week = 0.29 ○ For antimicrobials administered as continuous infusion regimen, use code 99 as number of doses per day
Strength of one dose of the current antimicrobial	Report prescribed dosage for all antimicrobials as prescribed in the medication chart or anaesthetic sheet.

Unit of measurement of the current antimicrobial	Report unit of measurement for the prescribed dose of each antimicrobial, as prescribed in medication chart/anaesthetic sheet: • mg • grams • other - international units (IU).
Indication for antimicrobial use	Patient receives systemic antimicrobials according to the prescribing clinician or documentation in medical notes or upon questioning the prescriber. Select appropriate indication **(Codebook, AMU – Indication, p.24)** <u>Treatment intention for infection</u> • Community-acquired infection • Infection acquired in long-term care facility (nursing home) • Hospital-acquired infection <u>Surgical prophylaxis</u> Check the completed Ward List column titled 'surgery in the last 24 hours'. If the patient has had surgery in the last 24 hours, surgical prophylaxis may have been administered depending on the procedure. Check if any surgical prophylaxis was 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 survey to determine if duration exceeds one day. Remember to check the operative note and anaesthetic sheet as single dose surgical prophylaxis may have been recorded on these documents if not recorded on the medication chart. • Single dose prescribed once only • >1 dose but prescribed for 24 hours or less • Prescribed for more than 24 hours **Medical prophylaxis** (e.g. co-trimoxazole for PCP prophylaxis, intrapartum Benzylpenicillin or erythromycin for PPROM, azithromycin used for prevention of COPD exacerbation). **Other indication** (e.g. erythromycin used as a pro-kinetic agent). **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. **Unknown or missing information** Indication information was not verified during the survey.

Data Item	Description
Diagnosis site code for treatment indication	The clinician's diagnosis/site for antimicrobial treatment of infection should be selected from the 'prescriber's diagnosis site code list for antimicrobial use' in **Codebook, AMU: Diagnosis site code, p23.** Choose the site that fits best with the clinical information available on PPS date. *Note* This diagnosis field is used for all prescriptions including those prescribed for community acquired infection, therefore the categories differ. This list of diagnoses/sites is NOT the same as the list of HAI case definitions. For example, the clinician suspects the patient has infection, but the site is not clear at the time of the empiric prescription: • If there is still no further information or relevant positive microbiology result by the time the PPS takes place, select CSEP • By the time the PPS takes place the patient has had a significant positive blood culture result – select BAC rather than CSEP, as the current diagnosis is a bloodstream infection It is not the objective to relate the use of an antimicrobial to the information on hospital-acquired infection (such as microorganisms). Both types of data are collected separately and the clinician's intention may not always be the same as the data collector's application of HAI. Diagnosis site is recorded as not applicable (NA) in the Diagnosis site box, where the prescriber's indication for antimicrobial use is recorded as Surgical prophylaxis, Medical prophylaxis, Other indication, Unknown indication or Unknown The "**SIRS-Systemic inflammatory response with no clear anatomical site**" code should be used when there is evidence of infection (e.g. pyrexia, increased WBC count) but no clear anatomical site. An example of this would be an elderly patient presenting with pyrexia, confusion and the clinician has recorded ?UTI, ?LRTI in the notes and the patient was started on antimicrobial treatment. The "**UND-Completely undefined- site with no systemic inflammation**" code should only be used if there is no clear evidence of infection or inflammation.
Reason recorded in notes	The reason/rationale for prescription is documented in the patient's medical notes, operating theatre note or prescription chart: Select the appropriate box 'Yes' or 'No'. *Note* Medical notes should be reviewed to check whether the prescriber recorded the reason for prescription at the time of prescribing. Nursing or pharmacist notes should not be reviewed to determine the reason. 'No' option should be selected if the information regarding the

	prescriber's indication and diagnosis (site) were only obtained by discussion with clinical staff on the ward.
Meets local policy	'Yes' or 'No' or 'Not assessable' or 'Not known' as appropriate An algorithm to assist with determining compliance with local policy is provided in **Figure 8 on page 55.** The **choice of agent meets local policy** for empirical prescribing, surgical prophylaxis or the prescription has been rationalised or is based on relevant recent microbiology culture and antimicrobial susceptibility results: **Yes** = Compliant with local empirical antimicrobial prescribing policy for that infection **OR** compliant with local surgical antimicrobial prophylaxis prescribing policy for that surgical procedure **OR** restricted antimicrobial prescribed on the advice of an infection specialist. **No** = Non-compliant with local empirical antimicrobial prescribing policy for that infection **OR** non-compliant with local surgical antimicrobial prophylaxis prescribing policy for that surgical procedure **OR** restricted antimicrobial prescribed *without* approval of an infection specialist. **Not assessable** = If any of the following apply: ▪ Reason for antimicrobial prescription cannot be determined from review of the patient's notes and/or discussion with staff caring for patient ▪ Medical prophylaxis ▪ Use of erythromycin as a pro-kinetic agent. ▪ A local prescribing policy is not available for the specific infection being treated ▪ A local surgical antimicrobial prophylaxis policy is not available for the specific surgical procedure that the patient has undergone ▪ Patient has a documented antimicrobial allergy which would prevent compliance with local policy **Not known** – This should only be chosen if the patient's healthcare record is not available for review. *Note* This section only requires the type of antimicrobial to be assessed (route, dose and duration are not required to be assessed). However, if the guideline recommends a combination of two or more antibiotics then compliance should be that they are all prescribed. An experienced pharmacist would be able to confirm the regimen and judge whether compliant. *We suggest you refer to a pharmacist for advice.*

Date started on current antimicrobial formulation for this infection episode	Date on which the first dose of the **current antimicrobial** was first prescribed for this infection episode; i.e. prescriber indication = • Treatment of community-acquired infection (CI), • Treatment of long term care acquired infection (LI) • Treatment of hospital acquired infection (HI) *Note* If the antimicrobial was already started prior to admission (e.g. via GP or a referral hospital), record the date of admission as the start date. Do not record start dates for indications: Surgical prophylaxis, Medical prophylaxis, Other indication, Unknown indication or Unknown.
Does current antimicrobial (choice, formulation or route) for this infection episode represent a change from what was originally prescribed?	Where there has been no change in the antimicrobial choice and route since start of treatment for this infection episode: Select **No = No change** Select **Yes** = Where there has been a change either to the antimicrobial choice or the route since the start of treatment for this infection episode.

Reason for change: If 'Yes' answer for 'current antimicrobial (choice, formulation or route) for this infection episode represents a change from what was originally prescribed'	Where there has been more than one change in antimicrobials for the current infection episode, report the reason for the most recent change. **Escalation**: Escalation takes place either on clinical or microbiological grounds. The initial antimicrobial prescribed at the start of this infection episode was escalated OR additional antimicrobial was added OR same antimicrobial was switched from oral to IV route **De-escalation**: De-escalation takes place either on clinical or microbiological grounds, whereby the initial empiric antimicrobial prescribed at the start of this infection episode was de-escalated to a narrower spectrum agent **IV to oral switch**: The antimicrobial prescribed at the start of treatment of this infection episode has been switched from the IV to oral route. Note that a switch from oral to IV should be recorded as 'E' **Adverse effects**: An observed side effect or adverse event attributed to the initial antimicrobial prescribed at the start of treatment of this infection episode resulted in change to a different antimicrobial **Other or undetermined reason**: The initial antimicrobial prescribed at the start of treatment of this infection episode was changed, but the reason cannot be determined on review of records. Select this option for patient who has been changed to a different antimicrobial just to facilitate OPAT, where clinical and microbiological factors have not influenced the decision (e.g. switch from Cefotaxime to Ceftriaxone or Meropenem to Ertapenem) **Unknown**: The initial antimicrobial prescribed at the start of treatment of this infection episode was changed but the patient's healthcare record is not available for review to determine the reason. <u>Note:</u> • Take note of patients with longer length-of-stay who may have more than one medication chart. If the medication chart has been rewritten, there may be important antimicrobial information on the older medication chart which will help determine whether the patient continues treatment for an initial infection or the patient has begun treatment for different infection. • Where the patient completed treatment for one infection episode and then commenced treatment for a different infection episode, this is not recorded as a change, because it represents a different episode. Careful review of the sequence of events in the healthcare record, medication chart(s) and from discussion with staff caring for the patient will be required to determine this information.

Start date of the initial antimicrobial treatment for this infection episode	Enter this information only for patient who is prescribed antimicrobial for indication treatment of community-acquired infection, long term care acquired infection or hospital acquired infection **AND** has had a change in the initial antimicrobial prescribed at the start of treatment of this infection episode *Note* Where there has been more than one change in antimicrobials for the current infection episode, report the start date for the first antimicrobial (i.e. the antimicrobial chosen at the start of this infection episode)

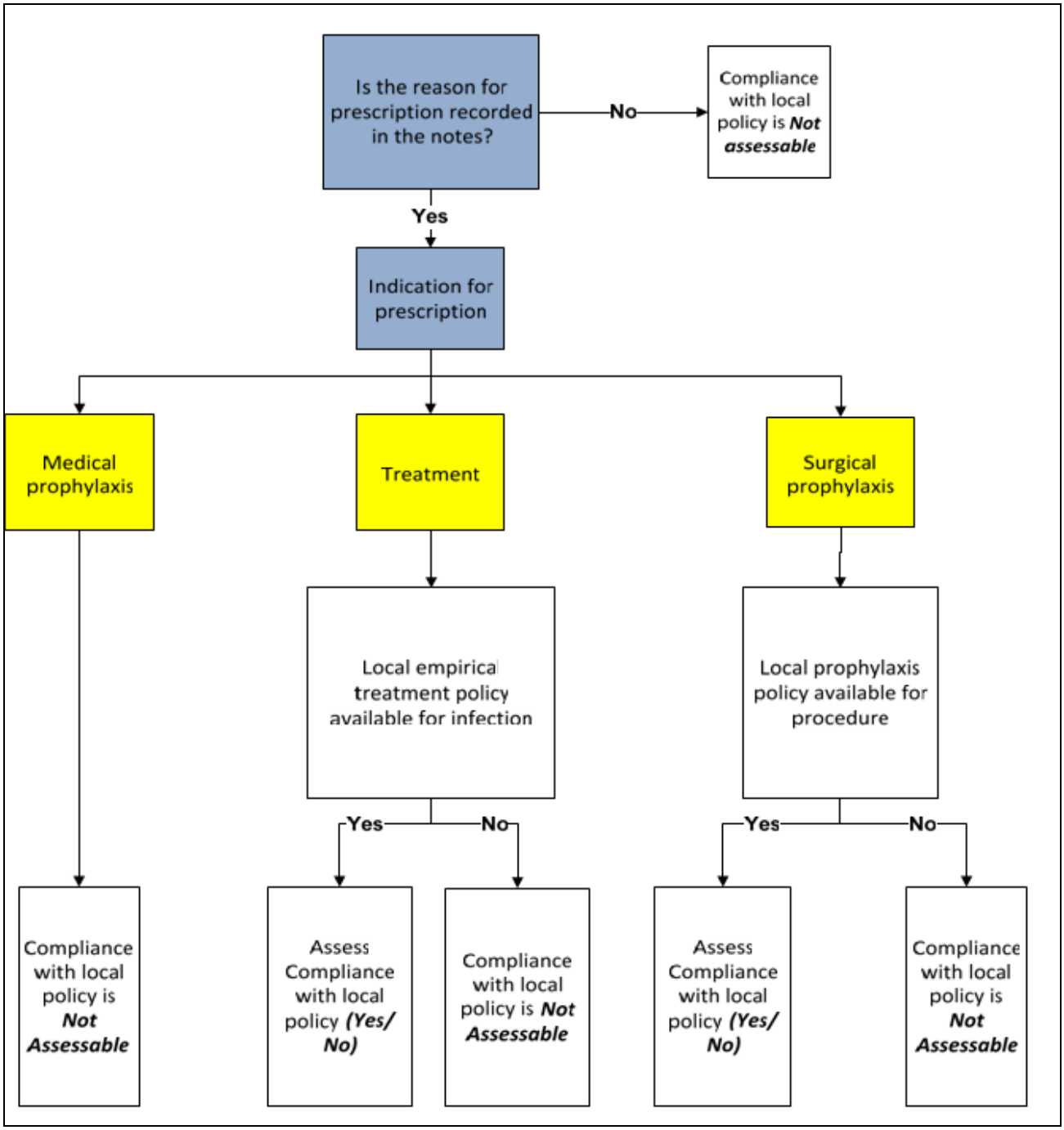


Figure 8: Algorithm to assist in determining compliance with local policy