

Unit form

Mandatory: Fill in one form for each unique unit/room included in the survey

Date of the survey*	
Person(s) completing form	
Name of the institution*	
Unit name*	
Room name	

Type of unit speciality* – choose the most appropriate one. This includes paediatric wards.		
<input type="radio"/> EM (Emergency) <input type="radio"/> OB (Observation) <input type="radio"/> RESP (Respiratory) <input type="radio"/> ID (Infectious disease) <input type="radio"/> HIV/TB (HIV-Tuberculosis) <input type="radio"/> REN (Nephrology-urology) <input type="radio"/> DIAL (Dialyses) <input type="radio"/> GAS (Gastroenterology)	<input type="radio"/> GM (General (Internal) Medicine mixed) ⁱ <input type="radio"/> SM (Surgical Mixed) <input type="radio"/> HO (Haematology-Oncology) <input type="radio"/> PLAS (Plastic Reconstructive Surgical) <input type="radio"/> ORT (Orthopaedic) <input type="radio"/> ENT (Ear Nose and Throat) <input type="radio"/> EYE (Ophthalmology) <input type="radio"/> ENDO (Endoscopy) <input type="radio"/> STI (Sexually Transmitted Infection)	<input type="radio"/> HCP (Healthcare Practice) <input type="radio"/> GP (General Practitioner practise) <input type="radio"/> MAL (Malnutrition) <input type="radio"/> NM (Neonatal Medical) <input type="radio"/> ANC (Antenatal care) <input type="radio"/> GYN (Gynaecology) <input type="radio"/> OBST (Obstetrics) <input type="radio"/> DEN (Dental Clinic)

Day surgery* ⁱⁱ	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown
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Total number of prescribersⁱⁱⁱ on the unit/room during defined timeslot of the survey			
Number of doctors	Number of nurses	Number of pharmacists	Number of others

Timeslot of data gathering on the day of the survey* ^{iv}	Starting time (hour):	<input type="radio"/> a.m. <input type="radio"/> p.m.
	Ending time (hour):	<input type="radio"/> a.m. <input type="radio"/> p.m.

* Mandatory variables

ⁱ Includes specialties such as Dermatology, Allergy-Immunology, Cardiovascular, etc. General medicine mixed refers also to paediatrics in general. Tick as well if no specialty is defined.

ⁱⁱ Day surgery indicates whether surgical procedures are taking place in the unit during the surveillance. If no surgical procedures take place during the survey, but pre- or post-operation consultations are held, then please choose 'No' for this variable.

ⁱⁱⁱ Specify the profession of person(s) "prescribing" antimicrobials and the number of them included in the survey on the unit/room during the defined timeslot of the survey.

^{iv} Specify approximate starting hour (e.g. 8 a.m.) and approximate ending hour (e.g. 3 p.m.) **Survey the unit for at least 4 hours; or about a half a day (unless session is shorter, in which case, survey for the whole session duration).** Preferably start the survey at the beginning of the session.



Patient form

Mandatory: Fill in one form for each patient¹ seen in the unit/room on the day of the survey

Name/code for...	Unit*:	Room:
Unique patient identifier*²:	Survey number*³:	

Age group*	Sex*	Ordered test*⁴ (multiple choice) (include only tests related to infection parameters & microbiology)	Admission status* (only for emergency/observation units)
<input type="radio"/> Adult ≥18 years <input type="radio"/> Child <18 years <input type="radio"/> Neonate <1 month	<input type="radio"/> Male <input type="radio"/> Female <input type="radio"/> Unknown	<input type="checkbox"/> Lab-based pathogen test <input type="checkbox"/> Point-of-Care pathogen test <input type="checkbox"/> Infection parameter (biomarker/other lab analysis) <input type="checkbox"/> Unknown <input type="checkbox"/> None	<input type="radio"/> Already admitted <input type="radio"/> Suspected admission <input type="radio"/> Referral other facility <input type="radio"/> Home <input type="radio"/> Unknown

Presenting symptoms or main reason(s) for consultation on the day of the survey* (multiple choice, max. 6 options)

Temperature ≥38.3°C/≥101°F Sub-febrile temperature ≤38.3°C/≤101°F Sneezing/nasal congestion/runny or stuffy nose
 Acute cough Chronic cough Sore throat Dyspnoea, difficult breathing Ear discharge Chest pain Headache
 Musculoskeletal pain Fatigue/lethargy/general body weakness General body pain Dizziness Seizures Diarrhoea
 Bloody diarrhoea Painful/frequent urination Abdominal pain Nausea/vomiting Toothache/gum swelling
 Limb swelling/warmth erythema Itch or other symptoms of genitals/anus Skin lesions/spots Wound/ulcer/burns
 Trauma Other symptom(s) Unknown None, other reason

Fill in all information below *only if the patient had an antimicrobial prescription in the survey:*

Age⁵	Year (≥2years)	Current weight (kg)	Weight birth (kg) (only for neonates)	Penicillin allergy*⁶
	Month (1-23month)			
	Day (<1month)			

Cultures taken?* ⁷ <i>For culture identification or susceptibility testing</i>	<input type="radio"/> Yes →	Which type of culture?* ⁷	<input type="radio"/> Blood <input type="radio"/> Urine <input type="radio"/> Cerebrospinal fluid <input type="radio"/> Other
	<input type="radio"/> No <input type="radio"/> Unknown		When taken?* ⁷

Treatment based on infection parameter data?* ⁸ <i>e.g. biomarker/other lab analysis</i>	<input type="radio"/> Yes, which one →	<input type="radio"/> CRP <input type="radio"/> PCT <input type="radio"/> WBC	Type sample*	<input type="radio"/> Blood <input type="radio"/> Urine <input type="radio"/> Other
	<input type="radio"/> No	<input type="radio"/> serum lactate <input type="radio"/> urinalysis (dipstick, microscopy)		Value

Treatment based on specific pathogen testing?* ¹⁰	<input type="radio"/> Yes, which one → (max. 3)	1. Type*¹⁰	1. Pathogen*¹⁰	2. Type*¹⁰	2. Pathogen*¹⁰	3. Type*¹⁰	3. Pathogen*¹⁰
	<input type="radio"/> No	Result¹¹	<input type="radio"/> Pos. <input type="radio"/> Neg. <input type="radio"/> Inc.	<input type="radio"/> Pos. <input type="radio"/> Neg. <input type="radio"/> Inc.	<input type="radio"/> Pos. <input type="radio"/> Neg. <input type="radio"/> Inc.	<input type="radio"/> Pos. <input type="radio"/> Neg. <input type="radio"/> Inc.	<input type="radio"/> Pos. <input type="radio"/> Neg. <input type="radio"/> Inc.

Underlying morbidity* (multiple choice, max. 3 choices)

None AIDS/HIV Chronic cardiovascular disease Chronic hepatic disease Chronic lung diseases (incl. cystic fibrosis, COPD, bronchiectasis, asthma) Chronic renal failure (incl. patient on dialysis) Diabetes mellitus Gastroenterological disease: inflammatory bowel disorders Hematological or solid cancer/recent chemotherapy Immunosuppressed not oncology Malnutrition¹² Patients with foreign body materials (incl. vascular/urinary catheters) Post-COVID¹³ Trauma Other Unknown

Antimicrobial (generic) name* (add form for >3 antimicrobials)	#1	#2	#3
When was it prescribed?* ¹⁵	<input type="radio"/> New <input type="radio"/> Ongoing → <input type="radio"/> Switched →	<input type="radio"/> New <input type="radio"/> Ongoing → <input type="radio"/> Switched →	<input type="radio"/> New <input type="radio"/> Ongoing → <input type="radio"/> Switched →
If ongoing/switched, where was it obtained?* ¹⁵	<input type="radio"/> Here <input type="radio"/> Other healthcare facility <input type="radio"/> Pharmacy <input type="radio"/> Self-medication <input type="radio"/> Else <input type="radio"/> Unknown	<input type="radio"/> Here <input type="radio"/> Other healthcare facility <input type="radio"/> Pharmacy <input type="radio"/> Self-medication <input type="radio"/> Else <input type="radio"/> Unknown	<input type="radio"/> Here <input type="radio"/> Other healthcare facility <input type="radio"/> Pharmacy <input type="radio"/> Self-medication <input type="radio"/> Else <input type="radio"/> Unknown
Single Unit Dose*¹⁶	Unit*¹⁶	Single Unit Dose*¹⁶	Unit*¹⁶
N doses/day*¹⁷	Route*¹⁸	N doses/day*¹⁷	Route*¹⁸
Intended duration known?*	<input type="radio"/> No <input type="radio"/> Yes, how many days →	<input type="radio"/> No <input type="radio"/> Yes, how many days →	<input type="radio"/> No <input type="radio"/> Yes, how many days →
Clinical diagnosis (appendix I)*			
Type of indication (appendix II)*			
Reason in notes*¹⁹	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> No patient file	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> No patient file	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> No patient file
Guidelines exist for diagnosis*²⁰	<input type="radio"/> Yes → <input type="radio"/> No <input type="radio"/> Not indicated <input type="radio"/> Unk.	<input type="radio"/> Yes → <input type="radio"/> No <input type="radio"/> Not indicated <input type="radio"/> Unk.	<input type="radio"/> Yes → <input type="radio"/> No <input type="radio"/> Not indicated <input type="radio"/> Unk.
Reference guideline*²¹	<input type="radio"/> Local <input type="radio"/> AWaRe <input type="radio"/> Unknown	<input type="radio"/> Local <input type="radio"/> AWaRe <input type="radio"/> Unknown	<input type="radio"/> Local <input type="radio"/> AWaRe <input type="radio"/> Unknown
<i>If guidelines exist, was the prescription compliant for:</i>	Drug*²²	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not available <input type="radio"/> Unk.	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not available <input type="radio"/> Unk.
	Dosing*²²	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not available <input type="radio"/> Unk.	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not available <input type="radio"/> Unk.
	Duration*²²	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not available <input type="radio"/> Unk.	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not available <input type="radio"/> Unk.
	Route*²²	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not available <input type="radio"/> Unk.	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not available <input type="radio"/> Unk.

* **Mandatory information** | **Abbreviations:** kg=kilogram, Pos.=positive, Neg.=negative, Inc.=inconclusive, g=gram, mg=milligram, IU=International Unit, MU=Million Units, O=oral, R=rectal, I=inhalation, IV=intravenous, IM=intramuscular, Unk.=Unknown.



Footnotes Patient form

- Not admitted >24 hours or slept overnight during the timeslot of survey:** Include only outpatients or day patients. One exception: on emergency or observation units, include all patients (even those admitted overnight) & complete the 'Admission status'.
- Patient Identifier:** The unique patient identifier from your facility cannot be included in the online database.
- Survey Number:** A unique non-identifiable number is given in the online tool. Write down this number after the patient data has been recorded in the online database, to be able to add any missing information later.
- Test ordered:** Specify if a laboratory-based pathogen test, Point-of-Care pathogen Test (POCT) or biomarker test was ordered for this patient. Only include tests for infection parameters and microbiology diagnostics.
- Detailed patient age:** Specify age in **years** if the patient is ≥2 years old, in **months** if 1-23 months old, in **days** if <1 month old.
- Penicillin allergy confirmed:** Confirmed penicillin allergy is confirmed by Skin testing for penicillin allergy with penicillin G (Pen G), penicilloic acid (PA), and penicilloyl poly-L-lysine (PPL) v
- Cultures taken before start antimicrobial:** **Blood** culture, **Urine** culture, **Cerebrospinal Fluid** culture or **Other** culture. Specify whether a culture was taken before an antimicrobial was administered to the patient. If yes, specify additionally which one:
- Treatment based on infection parameter data:** **CRP** (C-reactive protein), **PCT** (Procalcitonin), **WBC** (white blood cell count), **serum lactate** (obtained from Arterial or Venous Blood Gas), **urinalysis** (including urine dipsticks and urine microscopy). Specify whether the choice for the antimicrobial treatment, or the choice of the specific drug, dose, duration or route depend on the infection parameter results. Do not report a test if it did not contribute to the chosen antimicrobial treatment. If yes, specify which infection parameter. Only blood cultures are considered for CRP and serum lactate and only urine cultures for urinalysis.
- Value & unit for the infection parameter:** **CRP** or **PCT** values are expressed in mg/L, µg/L, ng/L, mg/dL, ng/dL, ng/mL, µg/mL, nmol/L. **WBC** values are expressed in thousand per microliter (µL) (normal range is 4,500-11,000 WBCs per µL). **Serum lactate** values are expressed as mmol/L (normal range in adults: 0.5-2.2 mmol/L for venous blood; 0.5-1.6 mmol/L for arterial blood). For **urinalysis** write '1' for presence of nitrites or leukocyte esterase (urine dipstick) or high number of leukocytes or presence of bacteria (microscopy), and '0' for absence of any of these. Do not fill in the unit.
Conversion calculators: <http://unitslab.com/node/67> (CRP), <http://unitslab.com/node/103> (PCT); <https://unitslab.com/node/152> (serum lactate)
- Treatment based on pathogen testing:** Specify whether the choice for the antimicrobial treatment, or the choice of the specific drug, dose, duration or route depend on pathogen test results. Do not report any test if it did not contribute to chosen antimicrobial treatment. If yes, **specify up to 3 single tests:**

Type of test	Target pathogen		
<ul style="list-style-type: none"> • PCR / molecular assay • Antigen test • Serology test • Microscopy (e.g. Gram stain) • Unknown 	<ul style="list-style-type: none"> • Dengue • Group B Streptococcus • HIV • Hepatitis B • Legionella • Malaria 	<ul style="list-style-type: none"> • MRSA • Pneumococcus • Strep A • SARS-CoV-2/Flu/RSV • Syphilis • Scrub typhus 	<ul style="list-style-type: none"> • TB (also includes resistance test like MTB/RIF or MTB/XDR) • Sexually transmitted infections • Multiplex panel • Other

- Results diagnostic test:** Please indicate whether the result was **Pos.**=positive: pathogens detected, e.g. DNA, antigens or visible parasites were identified; **Neg.**=negative: no pathogens detected, e.g. no parasites seen, no target material found; or **Inc.**=inconclusive: the result was unclear, e.g. insufficient sample quality, too few cells or fields examined or test failure.
- Malnutrition** refers to dietary deficiency which lead to lack of vitamins, minerals and other essential substances. Include illnesses as marasmus, kwashiorkor, scurvy, delayed growth, etc.
- Post-COVID** refers to symptoms lasting >2 months after initial COVID-19 infection, with new symptoms >3 months post-infection.
- When was the prescription/course prescribed:** "**New**" refers to newly prescribed antimicrobials, not changed from a previous antimicrobial treatment that was prescribed for the same condition/complaints. "**Ongoing**" refers to antimicrobial treatments that are continuing but are not changed by the prescriber. "**Switch**" is switched to another antimicrobial and refers to antimicrobial treatments that were changed from a previous antimicrobial treatment that was prescribed for the same condition/complaints.
- If ongoing/switched, where prescribed:** "**Here**" refers to the current attending institution. "**Other healthcare facilities**" refer to any other facility (e.g. hospital wards, clinics). "**Pharmacy**" refers to 'over-the-counter' use of antimicrobials without prescription. "**Self-medication**" refers to any previously administered antimicrobial without prescription (leftovers at home, from family/friends).
- Single Unit Dose:** Numeric value for dose per administration and unit for the dose (in grams, milligrams, IU or MU)
- N Doses/day:** Number of doses per day. E.g. every 16h=1.5 doses/day, every 36h=0.67 doses/day, every 48h=0.5 doses/day.
- Route:** Routes of administration are: Oral=**O**; Rectal=**R**; Inhalation=**I**; Intramuscular=**IM**; Intravenous=**IV**.
- Reason in Notes:** A diagnosis / indication for the antimicrobial course is recorded in the patient's documentation (treatment chart, notes, etc.). **Yes**=Reason recorded in notes. **No**=Reason not recorded in notes. **No patient file**=no recorded patient file available.
- Guideline existing:** A guideline can be a local, national or any other adopted guideline. **Yes**=Yes; **No**=No guidelines for the specific indication. **Not indicated**=No Information because diagnosis/indication is unknown; **Unknown**=Unknown.
- Type of guideline:** Choose which guideline was used for this diagnosis/indication. **Local**=a local, national or any other adopted guideline. **AWaRe**=the AWaRe Handbook.
- Guideline compliance** according to the **Drug**=type or choice of the antimicrobial; **Dosing**=the dosing of chosen antimicrobial; **Route of Adm.**=the route of administration; and **Duration**=the duration of the therapy/prophylaxes. **Yes**=Compliant to the guideline. **No**=Not compliant to the guideline. **Not Available**=Not available because information is missing in the guideline; **Unknown**=Unknown.

Sullivan TJ, Wedner HJ, Shatz GS, Yecies LD, Parker CW. Skin testing to detect penicillin allergy. J Allergy Clin Immunol. 1981 Sep;68(3):171-80. doi: 10.1016/0091-6749(81)90180-9. PMID: 6267115.

APPENDIX I – Clinical diagnostic codes (what the clinician aims at treating)

Site	Codes	Examples
CNS	Proph CNS	<i>Prophylaxis</i> for CNS (meningococcal)
	CNS	Infections of the C entral N ervous S ystem
EYE	Proph EYE	<i>Prophylaxis</i> for Eye operations
	EYE	Therapy for Eye infections e.g., conjunctivitis, trachoma, blepharitis, keratitis
ENT	Proph ENT	<i>Prophylaxis</i> for E ar, N ose, T hroat including mouth (Surgical or Medical prophylaxis)
	PHAR	Therapy for pharyngitis
	SIN	Therapy for sinusitis
	AOM	Acute otitis media and CSOM (Chronic Suppurative Otitis Media)
	ENT	Therapy for E ar, N ose, T hroat infections, other than PHAR, SIN or AOM
DEN	Proph DEN	<i>Prophylaxis</i> for dental cases
	DEN	Dental infections e.g. abscess, pulpitis, periodontal disease
RESP	Proph RESP	<i>Prophylaxis</i> for R espiratory pathogens e.g. for aspergillosis
	LUNG	Lung abscess including aspergilloma
	URTI	U pper R espiratory T ract viral I nfections including influenza but not ENT
	Bron	Acute B ronchitis or exacerbations of chronic bronchitis
	Bronch	Acute bronchiolitis
	Pneu	P neumonia or LRTI (lower respiratory tract infections)
	COVID-19	Coronavirus disease caused by SARS-CoV-2 infection
	TB	Pulmonary TB – Tuberculosis / Extrapulmonary TB
	CF	Complication of cystic fibrosis
CVS	Proph CVS	C ardiac or V ascular <i>prophylaxis</i> , endocarditis prophylaxis
	CVS	C ardio V ascular S ystem infections: endocarditis, endovascular device e.g. pacemaker
GI	Proph GI	G astro- I ntestinal <i>prophylaxis</i>
	GO	Acute Infectious Diarrhoea, gastroenteritis (https://www.who.int/publications/i/item/WHO-MHP-HPS-EML-2022.02)
	GI	Any other Gastro-Intestinal infection
	CDIF	<i>Clostridioides difficile</i> infection
SSTBJ	Proph SST	<i>Prophylaxis</i> for Skin and Soft Tissue, impetigo, plastic or orthopaedic surgery
	SST	S kin and S oft T issue: Cellulitis, impetigo, erysipelas, folliculitis, other viral exanthems, burn wound- and bite-related infections.
	Sys-DI	Disseminated infection (viral infections such as measles, Cytomegalovirus ...)
	DST	D eep S oft T issue not involving bone e.g., infected pressure or diabetic ulcer, abscess
UTI	Proph UTI	<i>Prophylaxis</i> for recurrent U rinary T ract I nfection (Medical Prophylaxis)
	Cys	Lower Urinary Tract Infection (UTI), cystitis
	Pye	Upper UTI including catheter related urinary tract infection, pyelonephritis
	ASB	Asymptomatic bacteriuria
GUOB	Proph OBGY	<i>Prophylaxis</i> for O Bstetric or G Ynaecological surgery (MP: group B streptococcus carriage)
	OBGY	O bstetric/ G ynaecological infections, STDs in women, vaginitis, vaginosis
	GUM	G enito- U rinary M ales + Prostatitis, epididymo-orchitis, STDs in men
No defined site (NDS)	BAC	Bacteraemia or fungaemia with no clear anatomic site and no shock
	SEPSIS	Sepsis of any origin (e.g. urosepsis, pulmonary sepsis etc), sepsis syndrome or septic shock with no clear anatomic site. Include fungaemia (candidemia) with septic symptoms
	Typh-fever	Typhoid fever/enteric fever
	Malaria	
	HIV	Human immunodeficiency virus
	PUO	P yrexia of U nknown O riorigin: Fever syndrome with no identified source or site of infection
	LO-LYMPH	Localized acute lymphadenitis
	LYMPH	L ymphatics as the primary source of infection. Suppurative lymphadenitis
	Other	Antimicrobial prescribed with documentation but no defined diagnosis group
	MP-GEN	Drug is for M edical <i>Prophylaxis</i> in g eneral, targeting no specific site, e.g. antifungal prophylaxis
	UNK	Completely U nknown Indication
	PROK	Antimicrobial (e.g. erythromycin) prescribed for P rokinetic use

APPENDIX II - Type of Indication

CAI Community acquired infection	Concerns any infection acquired in the community, thus outside the healthcare setting in a patient without recent (<48hours) health care exposure.		
HAI Healthcare Associated Infection following admission and/or intervention during hospital stay	HAI1 Post-operative surgical site infection (within: 30 days of surgery OR; 90 days after implant surgery)		
	HAI2 The patient has been discharged from hospital < 48 hours and has a known hospital infection or a new infection < 48 hours after discharge from hospital . The infection can be an intervention related (e.g. intravenous or urinary catheter-related) or any other hospital acquired infection of mixed or undefined origin.		
	HAI3 <i>C. difficile</i> associated diarrhoea (CDAD) (>48 h post-admission or <30 days after discharge from previous admission episode).		
SP Surgical prophylaxis*	SP1 Single dose	SP2 one day	SP3 >1 day
	For surgical patients the duration of prophylaxis should be encoded as either prescription of one dose, one day (= multiple doses given within 24 hours) or prescribed >1 day.		
MP Medical prophylaxis	For example long term use to prevent UTI's or penicillin in asplenic patients <i>etc.</i>		
OTH Other	For example erythromycin as a motility agent (motilin agonist).		
UNK	Completely unknown indication		

Select 1 possibility for each reported antimicrobial

*Surgical prophylaxis includes those antibiotics prescribed on the day of the survey for a **day-case surgical intervention, including dental procedures**.

APPENDIX III: Combination anti-infective agents

Combinations of an antibiotic and a beta-lactamase inhibitor:

Ampicillin and beta-lactamase inhibitor: **report only ampicillin dose** (J01CR01)

Amoxicillin and beta-lactamase inhibitor: **report only amoxicillin dose** (J01CR02)

Example:

Amoxicillin and beta-lactamase inhibitor 1.2g IV → 1g (amoxicillin) + 200mg (clavulanic acid), **report 1 g as a dose**

Other combinations of multiple antimicrobial substances:

J01EE01 Sulfamethoxazole and Trimethoprim: **report the total amount of sulfamethoxazole and trimethoprim**

Example: Co-trimoxazole 960mg: (sulfamethoxazole. 800mg + trimethoprim 160mg), **report 960mg**