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Point Prevalence Survey of Antimicrobial Use: Short Report and Intervention Guide

Commonwealth Pharmacists Association & City St George's, University of London

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Table of Contents

SECTION A: Summary of Point Prevalence Survey (PPS) Findings and Opportunities for Antimicrobial Stewardship (AMS) Interventions.....	2
Table 1: Inpatient PPS Overview Report.....	3
Table 2: Outpatient PPS Overview Report.....	4
SECTION B: Making the Most of Your PPS Report.....	5
1) What do these results mean in my setting?.....	5
2) What are the opportunities for improvement in AMS?.....	5
3) What interventions could be made?.....	5
Table 3: Inpatient and Outpatient Examples of Interventions.....	6
Table 4: Inpatient Examples of Interventions.....	7
Table 5: Outpatient Examples of Interventions.....	9
4) Where can I access examples and templates to help me implement AMS interventions?.....	10
Table 6: Links to Resources and Examples for AMS Interventions.....	10
SECTION C: Categories of AMS Intervention - Examples.....	11
Table 7: Categories of AMS Interventions.....	11

SECTION A: Summary of Point Prevalence Survey (PPS) Findings and Opportunities for Antimicrobial Stewardship (AMS) Interventions

This summary guide highlights key metrics from a PPS on antimicrobial use to enable facilities to identify “at a glance” potential opportunities for prioritising AMS interventions. This guide may be used as a template report by entering the PPS data alongside the highlighted metrics or used as a standalone guide to support AMS activities. The guide may be used with data from Global PPS (GPPS) or WHO PPS methodologies. To note, a full GPPS report and raw data provide further details to support decisions for targeting interventions within a healthcare facility.

Table 1: Inpatient PPS Overview Report

Facility name:		
Inpatient PPS: Key results		
If you are using this report as a template for reporting within a facility, it is recommended that you populate this section with the following data:		
	Possible data to report	Potential areas for AMS intervention
Demographics / overview	- Number of patients surveyed - Proportion of patients surveyed receiving antimicrobials - Number of antimicrobials prescribed in total	
Quality indicators	% of prescriptions where reason for antimicrobial is documented % of prescriptions where stop date is documented	- If reason for antibiotics documented in the notes is < 80%*. - If stop date documented < 80%*.
AWaRe	Proportions of Access, Watch and Reserve (AWaRe) antibiotics	- Member States committed to a 70% global Access target during UNGA 2024: https://www.un.org/pga/wp-content/uploads/sites/108/2024/09/FINAL-Text-AMR-to-PGA.pdf - This does not apply to specific settings such as hospital inpatients; however, Watch antibiotics > 40 or 50% may represent an opportunity to review the use of Watch antibiotics in more detail and implement AMS improvement initiatives.
Compliance with guidelines	% of empirical vs targeted therapy - Proportion of oral vs parenteral antibiotics - Proportion of indication type (CAI / HAI / MP / SP) - Diagnosis by proportion - Antimicrobial class by proportion - Duration of Surgical antibiotic prophylaxis (SP1 / SP2 / SP3)	- If guideline compliance < 80%* - If duration of surgical prophylaxis beyond 24h > 20%*
Potential opportunity area for improvement: Inpatient		
*Target compliance levels should be agreed locally. Threshold values for opportunity areas for improvement have been defined above for the purpose of this report - please note these are examples and local context should be considered.		

Table 2: Outpatient PPS Overview Report

PPS survey period:		
Outpatient PPS: Key results		
If you are using this report as a template for reporting within a facility, it is recommended that you populate this section with the following data:		
	Possible data to report	Potential areas for AMS intervention
Demographics / overview	- Number of patients surveyed - Proportion of patients surveyed receiving antimicrobials - Number of antimicrobials prescribed in total	
Quality indicators	% of prescriptions where reason for antimicrobial is documented % of patients prescribed antibiotics for upper respiratory tract infections (NB: High % of URTI are viral and do not need antibiotic therapy)	- If reason for antibiotics documented in the notes is <80%*. - If prescribing antibiotics for upper respiratory tract infection > 20%*
AWaRe	Proportion of Access, Watch and Reserve (AWaRe) antibiotics	- Member States committed to a 70% global Access target during UNGA 2024: https://www.un.org/pga/wp-content/uploads/sites/108/2024/09/FINAL-Text-AMR-to-PGA.pdf. - This does not apply to specific settings; in a community setting, prescribing rates of Watch antibiotics >10% or 20% may represent an opportunity for improvement. Review of benchmarking data may be helpful to determine a target. Guideline compliance should be taken into account.
Compliance with guidelines	- Antimicrobial choice, dose and duration - Route - Proportion of oral vs parenteral antimicrobials - Antimicrobial class by proportion - Diagnosis by proportion	If guideline compliance < 80%~*
Potential opportunity area for improvement: Outpatient		
* Target compliance levels should be agreed locally. Threshold values for opportunity areas for improvement have been defined above for the purpose of this report - please note these are examples and local context should be considered.		

SECTION B: Making the Most of Your PPS Report

This section gives guidance on what actions can be taken depending on the opportunity areas identified above.

1) What do these results mean in my setting?

The potential opportunities highlighted in the report have been identified based on a typical setting providing services to a range of specialities. If your facility is a specialist oncology centre, for example, higher consumption of Watch and Reserve and use of parenteral antibiotics would be expected.

- Refer to the full GPPS report or raw data for details of antibiotic trends within specific areas.
- Consider whether the antibiotic choices align with guidelines or have had input from an infection specialist/microbiologist.

2) What are the opportunities for improvement in AMS?

Potential opportunities have been highlighted in section A. Some examples are described in the tables below.

3) What interventions could be made?

Please refer to the examples and suggestions in the table below.

Table 3: Inpatient and Outpatient Examples of Interventions

Facility wide: Opportunity – PPS findings	Interventions to consider	Examples
High % of Watch and Reserve antibiotics	Use the full GPPS report / raw data to identify: • Areas/specialities of high Watch/Reserve antibiotic use • Conditions (diagnosis) /infection type (HAI/CAI, etc.) where Watch and Reserve antibiotics are commonly used, and review if this is appropriate/justified • Specific antibiotics being used very commonly.	Example 1 (Inpatient): Ceftriaxone is routinely used as first choice for many infection types on the medical ward – this is a focus for AMS interventions which may include: engagement of ward teams in AMS discussions; senior doctors in this area championing AMS; a restriction process for ceftriaxone managed by pharmacy; teaching of the ward teams; use of local antibiogram data to support alternative choices of antibiotic
	In a community outpatient setting, high proportions of Watch and Reserve antibiotics are likely to suggest an opportunity for improvement.	Example 2 (Outpatient): Ciprofloxacin is routinely used for the treatment of urinary tract infections – this is a focus for AMS interventions. This may include: engagement of clinic teams in AMS discussions; senior doctors in this area championing AMS; a restriction process for ciprofloxacin managed by pharmacy; education and training with a focus on empirical treatment guidelines and provision of rationale for “first” and “second” line treatment options.
High % of non-compliance with guidelines	Use the full GPPS report / raw data to identify: • Areas/specialities with high prevalence of non-compliance with standard treatment guidelines • Conditions/infection types where non-compliance with standard treatment guidelines is more prevalent	Example: A more general theme of non-compliance may require a facility-level AMS intervention to improve compliance. This may include: work to understand the barriers to following guidelines; stakeholder engagement; education and training; improving access to the guidelines, such as implementing or promoting a guidelines app, such as the Prescribing Companion App .
Low % of rationale/indication for antibiotics documented in the notes	Use the full GPPS report / raw data to identify areas/specialities of high prevalence of not recording the reason for the antibiotic in the notes.	Example: A more general theme of not documenting the reason for antibiotics may require a facility-level AMS intervention to improve compliance. This may include: work to understand the barriers, stakeholder engagement, or education and training.

Table 4: Inpatient Examples of Interventions

Inpatient: Opportunity – PPS findings	Interventions to consider	Examples
High % of hospital-acquired infections (HAIs)	Use the full report (or infection category breakdown) to identify: • Areas/specialities with high prevalence of HAI • Conditions/infection types where HAI is more prevalent Engage your facility's infection prevention and control team and committee in discussions and plans for improvement. If you completed the HAI module, review this data in the full report.	Example 1: A high prevalence of hospital-acquired urinary tract infection may be linked to catheter care or dehydration in older people. High prevalence of sepsis or bacteraemia may be associated with intravenous catheters and highlight a need to improve best practice care. Hospital-acquired pneumonias may be linked to intubation. There may be general themes where an area needs to improve infection prevention practices, including handwashing, environmental cleaning, reducing transmission from staff by adopting a “bare below the elbows” uniform policy and antiseptic non-touch techniques.
		Example 2: A high prevalence of postoperative surgical site infection may suggest a need to improve infection prevention at the point of surgery. This may include: implementation of the WHO Safer Surgery Checklist ; implementation of a method to ensure correct timing of antibiotic prophylaxis before skin incision; development of antibiotic surgical prophylaxis guidelines; a clinical audit of the antibiotic surgical prophylaxis guidelines; improvement in wound care; cleaner surgical environments.
High % of surgical antibiotic prophylaxis extending beyond 24 hours	For most types of surgery, there is no evidence that extended surgical antibiotic prophylaxis is better for preventing surgical site infection.	Example: A high prevalence of antibiotic surgical prophylaxis extending beyond 24 hours may suggest that antibiotics are being used for unnecessarily long periods of time. AMS interventions may include: implementation of the WHO Safer Surgery Checklist ; development of antibiotic surgical prophylaxis guidelines; a surgical lead championing the review of surgical prophylaxis on the ward; a direction to stop after X number of doses in the handover from surgery or a clinical audit; pharmaceutical review of post-operative prescriptions; feedback of the antibiotic surgical prophylaxis guidelines.
High % of parenteral antibiotics	Use the full GPPS report / raw data (or infection category breakdown) to identify: • Areas/specialities with high use of parenteral antibiotics • Conditions/infection types where parenteral antibiotics are used, and review if this is appropriate/justified Review the % of prescriptions where stop/review dates are documented	Example: Higher use of parenteral antibiotics in certain ward areas, e.g. critical care/ITU or for surgical prophylaxis, would be expected; however, high use of parenteral antibiotics on a mixed medical ward may identify a need for further investigation and may be a focus for AMS interventions. Examples include: IV-to-oral switch awareness campaign; AMS ward rounds to encourage antibiotic review; targeting antibiotics with high bioavailability, e.g. metronidazole and ciprofloxacin for IV to oral switches; IV-to-oral switch guidelines; a clinical audit of the IV to oral switch guidelines; development of an antibiotic medication chart or electronic prescribing system with prompts for review of IV antibiotics at, for example, 48 hours.

Inpatient: Opportunity – PPS findings	Interventions to consider	Examples
Low % cultures taken for culture and sensitivity	In most settings, antimicrobial therapy is started empirically. Consider an approach of identifying where culture and sensitivity testing are most critical or beneficial when reviewing the data and targeting interventions. This may include: • Certain conditions, e.g. endocarditis - taking a blood culture; meningitis and taking a CSF culture • Severity of infection, e.g. sepsis • Conditions where there may be a high prevalence of AMR, e.g. TB Non-response to treatment - e.g. patients who have been on antimicrobials for a long time	

Table 5: Outpatient Examples of Interventions

Outpatient: Opportunity – PPS findings	Interventions to consider	Examples
High % of incorrect doses	Underdosing of antimicrobials leads to increased risk of treatment failure and is a driver for AMR. Overdosing increases the risk of patient harm.	Example: A more general theme of non-compliance with dosing guidelines may require a facility-level AMS intervention to improve compliance. This may include: work to understand the barriers to following guidelines; stakeholder engagement; education and training; improving access to the guidelines (for example, promoting an App platform where the guidelines are available). Encourage an appropriate duration according to standard treatment guidelines.
Long durations of antibiotics being prescribed	Unnecessarily long courses of antibiotics increase antibiotic exposure, therefore the selection pressure for resistance. In an outpatient setting, long courses can increase the risk of patients not completing antibiotic courses and sharing leftovers or self-medicating at a later date. Overprescribing also adds pressure to the medicine supply chain. One of the most effective ways to drastically reduce antibiotic prescriptions is to shorten the duration of treatment. Many international guidelines have reduced the recommended durations for standard infections based on the latest available evidence— whether pulmonary, urinary, skin-related, or meningitis. It is essential to promote access to these updated recommendations.	Example: Most prescribers prescribe 7 to 10 days of antibiotics for community-acquired pneumonia when the guidelines recommend a 5-day course. AMS interventions may include engaging prescribers and presenting the evidence for 5-day courses, implementing targets for 5-day prescribing and monitoring and reporting back.
High % of antibiotic prescribing for viral infections, e.g. upper respiratory tract infections	Use the full GPPS report / raw data to identify any themes, such as high prescribing for viral infections in specific populations, e.g. children.	Example: High use of antibiotics prescribed for viral upper respiratory tract infections in young children may identify a need for further investigation and may be a focus for AMS interventions. Examples include: engaging stakeholders; understanding drivers for prescribing and risks of not prescribing or follow-up; implementing delayed antibiotic prescribing; providing safety netting advice to parents; and use of diagnostic tests where available.

4) Where can I access examples and templates to help me implement AMS interventions?

Please refer to the table below.

Table 6: Links to Resources and Examples for AMS Interventions

Resource	Description
Commonwealth Pharmacists Association CwPAMS AMS Toolkit (Open access)	Aims to complement guidance provided by the WHO AMS Practical Toolkit. This Toolkit outlines strategies and projects that a healthcare organisation could implement as part of an AMS workplan and gives case examples of the CwPAMS projects. The toolkit links to a repository of resources developed and used within the CwPAMS projects.
Commonwealth Pharmacists Association SPARC Prescribing Companion App (Downloadable from the App Store and Google Play)	A web-based and app platform providing country-authored standard treatment guidelines for infections and infectious disease prescribing, and a curated repository of international resources to support AMS.
Firstline (Downloadable from the App Store and Google Play)	A web-based and app platform based on the WHO AWaRe Book, providing clinical guidance for common infections and drug information for antimicrobials, including dosing for adults and children.
Brad Spellberg Evidence for Shorter is Better (Open access)	Collation of evidence to review optimal duration of treatment for a range of common infections.
World Health Organisation Antimicrobial stewardship interventions: a practical guide	A guide containing commonly used AMS interventions to promote optimal use of antimicrobials in healthcare settings.
World Health Organisation Antimicrobial stewardship programmes in health-care facilities in low- and middle-income countries: a WHO practical toolkit (Open access)	Provides guidance on how to implement AMS programmes in the human health sector at the national and health-care facility level in low- and middle-income countries.
World Health Organisation AWaRe (Access, Watch, Reserve) antibiotic book	Provides guidance on the choice of antibiotic, dose, route of administration, and duration of treatment for more than 30 of the most common clinical infections in children and adults in both primary health care and hospital settings. (Supplementary material: AWaRe classification of antibiotics for evaluation and monitoring of use, 2023)
World Health Organisation Guidelines on core components of infection prevention and control programmes at the national and acute health care facility level	International evidence-based guidelines on the core components of IPC programmes

SECTION C: Categories of AMS Intervention - Examples

This matrix categorises AMS intervention examples to assist teams in evaluating their strategies. Evidence demonstrates that multifaceted interventions - those combining multiple complementary components - are more effective in driving meaningful change. By grouping interventions into distinct categories, this resource enables AMS teams to assess whether their planned approach incorporates a diversity of elements for optimal impact.

Table 7: Categories of AMS Interventions

AMS Intervention Category	Example Interventions
Educational	• Teaching or training on AMS and AMR with pre- and post-knowledge, attitudes and practices survey • Prescriber training sessions • Incorporation of AMS into staff orientation • CPD modules on AMR and rational prescribing • Pharmacy-led AMS teaching for junior doctors
Guidelines and policy	• Guideline or app promotion • Development or adaptation of local antibiotic guidelines to local resistance patterns • Implementation of surgical prophylaxis protocols • Formulary alignment with WHO AWaRe categories and the EML of the WHO • Policy defining standards for prescribing antimicrobials, e.g. recording of the indication for treatment
Audit and feedback	• Regular audit of antibiotic prescriptions • Feedback reports to prescribers or units • Benchmarking across departments • Use of prescribing indicators (e.g. % compliance)
Review and de-escalation	• AMS ward rounds • 48–72-hour antibiotic review policy • IV to oral switch protocols • Microbiology-guided de-escalation and / or advice • Stop or streamline therapy where appropriate
Restriction policies	• Restriction process for Watch/Reserve antibiotics that are used heavily • Pre-authorisation for carbapenems or vancomycin • Conditional approval for prolonged antibiotic courses • Daily pharmacist review of restricted drugs

AMS Intervention Category	Example Interventions
Diagnostic stewardship	• Routine cultures before antibiotic initiation for suspected severe or key infections • Optimise pre-analytical stage in diagnostics - implementation of sampling checklists – see “Specimen Optimal Sampling” toolkit produced by CPA available on Prescribing Companion • Use of rapid diagnostic tests where available • Training on test interpretation • Improve lab result turnaround times • Communication of results to clinicians
Documentation	• Mandatory documentation of indication and duration • Dedicated AMS section in medical records or e-prescribing • Antibiotic prescription stickers or checklists • Prompts for stop/review dates in charts
Multidisciplinary team (MDT) AMS	• Set up an AMS committee with sufficient representation of the MDT, including pharmacist and microbiologist • AMS clinical pharmacy service • Regular AMS team ward rounds • Joint case reviews between departments
Facility/system-level initiatives	• Establish an IPC Committee • Increased Infection Prevention and Control measures. Consider how reduced transmission risk can be supported by “bare below the elbows” and the uniform policy • Improved access to diagnostics and essential antibiotics • Addressing stock-outs that affect antibiotic use
Other	• Set up and sharing of a surveillance system on AMR/AMC/AMU at the facility level (or a case-based surveillance system to monitor the trend over time) • Development and use of a local antibiogram

Definitions

Antibiotic: Antibiotic refers to agents that act against (kill or inhibit growth) of bacteria

Antimicrobial: Antimicrobial refers to all agents that act against microbial organisms, i.e. bacteria, viruses, parasites and fungi. These agents either kill or inhibit growth of microorganisms.

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The Department of Health and Social Care's [Fleming Fund](#) is a UK aid programme supporting up to 25 countries across Africa and Asia to tackle antimicrobial resistance (AMR), a leading public health threat across the world. The Fleming Fund invests in strengthening data surveillance systems through a portfolio of country grants, regional grants and fellowships managed by [Mott MacDonald](#), and global projects managed by partners.

Partner information

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