

An integrated approach to antimicrobial stewardship

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antimicrobial stewardship webinar series*

Deborah Tong

**Technical Officer – Antimicrobial Stewardship
Antimicrobial Stewardship and Awareness Unit
Department of Global Coordination and Partnership
Division of Antimicrobial Resistance
WHO Headquarters**

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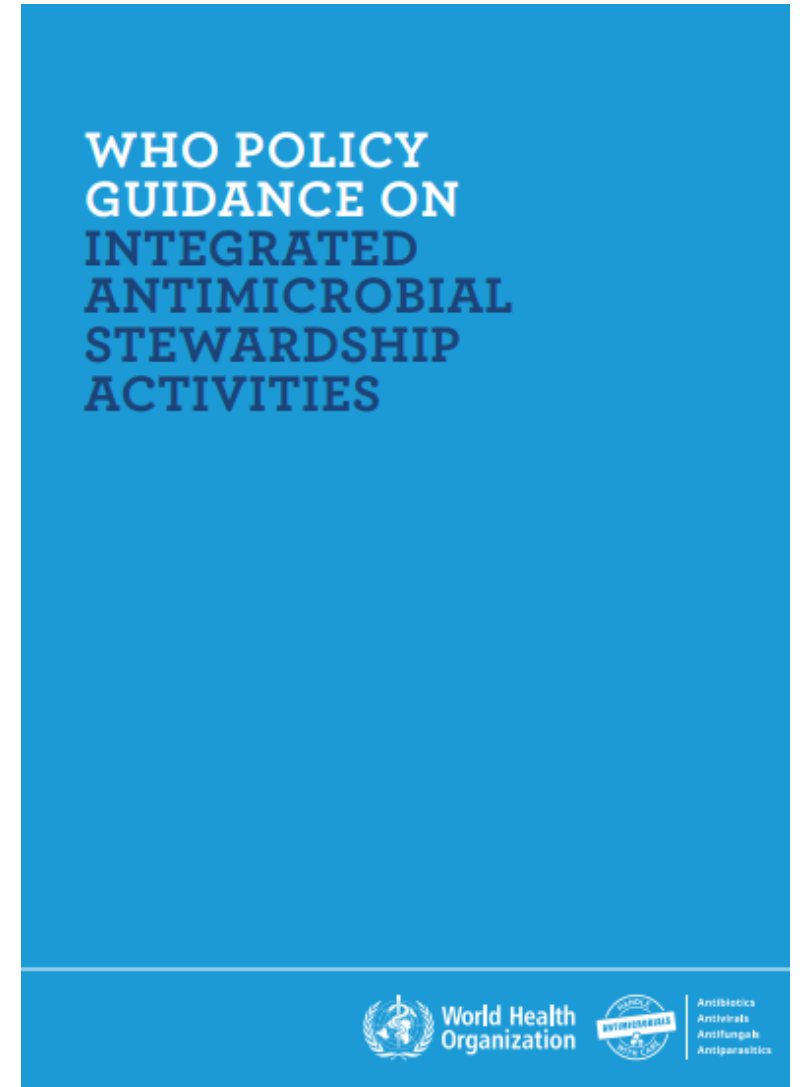


Outline

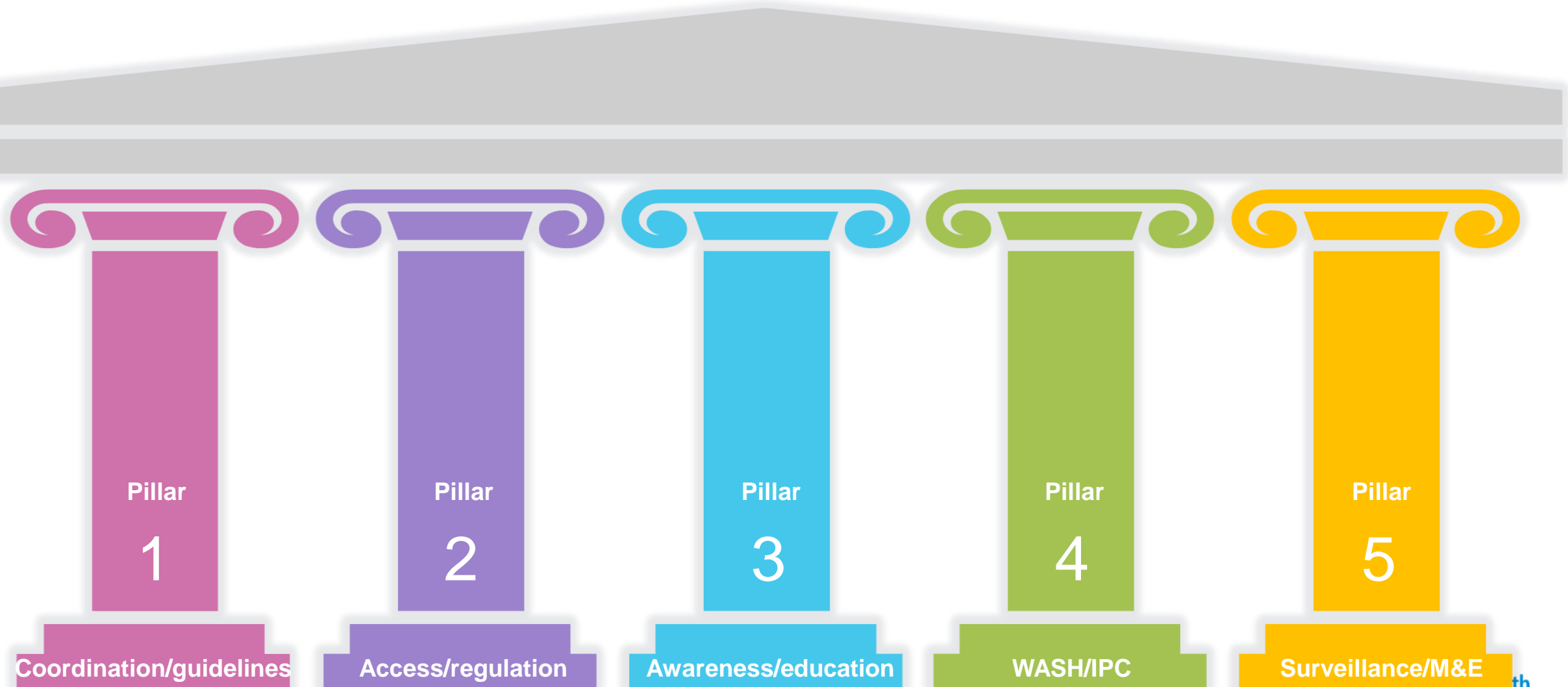
- WHO Policy Guidance on Integrated Antimicrobial Stewardship Activities
- Periodic assessment of national AMS core elements
- AMS governance and coordination mechanisms
- Periodic assessment of facility AMS core elements
- WHO AMS practical toolkit
- Key health-care facility AMS interventions
- AWaRe classification
- Monitoring and evaluation

WHO Policy Guidance on Integrated AMS Activities

- [WHO Policy Guidance on Integrated Antimicrobial Stewardship Activities](#) published in 2021
- **Programmatic approach** to antimicrobial stewardship through a set of integrated activities across the prevention, diagnosis and treatment spectrum
- Broadens focus of antimicrobial stewardship programmes **beyond actions at the health-care facility** to include essential supporting health systems, structures and processes
- Supports countries to:
 - Ensure appropriate oversight and coordination
 - Identify gaps in capacity and resources through systematic assessments
 - Approach antimicrobial stewardship in a step-wise, sustainable manner
- [Online training course](#) available



WHO Policy Guidance on Integrated AMS Activities



WHO Policy Guidance on Integrated AMS Activities

1. Establish and maintain a national coordinating mechanism for AMS that is functional at national, subnational and district levels.
2. Develop national treatment and stewardship guidelines, standards and implementation tools.

Pillar

1

Coordination/guidelines

Pillar

2

Access/regulation

Pillar

3

Awareness/education

Pillar

4


WASH/IPC

Pillar

5

Surveillance/M&E

WHO Policy Guidance on Integrated AMS Activities

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- The diagram is shaped like a classical building with a grey roof and base. A large purple rectangular area, representing the main body of the building, contains three numbered points. Below this area are five pillars of different colors, each with a number and a label. The pillars are: Pillar 1 (pink), Pillar 2 (purple), Pillar 3 (light blue), Pillar 4 (green), and Pillar 5 (yellow). Each pillar has a corresponding colored base with a label. The entire structure is set against a white background.
3. Improve access to essential, quality-assured, safe, effective and affordable antimicrobials.
 4. Regulate social triggers and remuneration policies that promote responsible antimicrobial prescription and dispensing behaviours.
 5. Legislate and regulate responsible and appropriate use and disposal of antimicrobials.

Pillar

1

Coordination/guidelines

Pillar

2

Access/regulation

Pillar

3

Awareness/education

Pillar

4

WASH/IPC

Pillar

5

Surveillance/M&E

WHO Policy Guidance on Integrated AMS Activities

6. Improve awareness and engagement to support behavioural change of antimicrobials use.

7. Strengthen health worker capacity through the provision of tailored education and training packages according to health worker roles and functions.

Pillar

1

Coordination/guidelines

Pillar

2

Access/regulation

Pillar

3

Awareness/education

Pillar

4

WASH/IPC

Pillar

5

Surveillance/M&E

WHO Policy Guidance on Integrated AMS Activities

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- The diagram is shaped like a classical building. It features a wide, light-green rectangular base that serves as a platform for five pillars. Above this base is a large, rounded green rectangle containing two numbered items. The entire structure is topped by a grey triangular roof. The five pillars are color-coded and numbered: Pillar 1 (pink), Pillar 2 (purple), Pillar 3 (light blue), Pillar 4 (green), and Pillar 5 (yellow). Each pillar has a corresponding colored base at the bottom with descriptive text.
- 8. Enhance WASH in health facilities and communities.
 - 9. Implement IPC core components in health facilities.

Pillar

1

Coordination/guidelines

Pillar

2

Access/regulation

Pillar

3

Awareness/education

Pillar

4

WASH/IPC

Pillar

5

Surveillance/M&E

WHO Policy Guidance on Integrated AMS Activities

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- The diagram is shaped like a classical building. It features a large yellow rectangular area at the top, which serves as the 'entablature' and contains a list of activities. Below this are five vertical 'pillars' of different colors (pink, purple, blue, green, and orange). Each pillar is labeled with a number and a title. At the base of each pillar is a smaller, matching-colored rectangular block, also labeled with a title. The entire structure is set against a light gray background with a subtle gradient.
- 10. Surveillance of antimicrobial use and consumption.
 - 11. Surveillance of AMR.
 - 12. Monitoring and evaluation of AMS activities.

Pillar

1

Coordination/guidelines

Pillar

2

Access/regulation

Pillar

3

Awareness/education

Pillar

4

WASH/IPC

Pillar

5

Surveillance/M&E

Periodic assessment of national AMS core elements

National Assessment Tool

Components for assessment		Baseline	Period 1	Period 2	Period 3	Period 4	Verifiers
<ul style="list-style-type: none">● No● No, but a priority● Planned but not started● Partially implemented● Fully implemented							
PILLAR 1:							
Establish and develop national coordination mechanisms for antimicrobial stewardship and develop guidelines							
1	Establish and maintain a national coordinating mechanism for antimicrobial stewardship (AMS) that is functional at national, subnational and district levels.						
1.1	Is there a national policy on integrated AMS activities?	Choose an item	Choose an item	Choose an item	Choose an item	Choose an item	Approved national policy on integrated AMS activities
1.2	Is there a central national coordination unit at the ministry of health or designated agency or institution focused on AMS?	Choose an item	Choose an item	Choose an item	Choose an item	Choose an item	Central national coordination unit formally identified e.g. through a formal letter or within institution's organogram
1.3	Has the central national coordination unit established a national coordination mechanism for integrated AMS activities with diverse membership, including civil society and the private sector?	Choose an item	Choose an item	Choose an item	Choose an item	Choose an item	Meeting reports and developed AMS work plans at all levels

Assessment of AMS core elements – what next?

Stakeholder
mapping

Establish or
strengthen
governance and
coordination
mechanism

Develop AMS policy

Develop costed
implementation plan
which prioritises
'low-hanging fruit'

Identify and secure
human and financial
resources

Develop monitoring
and evaluation
framework

AMS governance and coordination mechanisms

A central national coordination unit within the ministry of health or equivalent is needed to:

- Establish and sustain an **enabling environment** for AMS at all levels
- Ensure sustainable and adequate **funding** and technically competent **human resources**
- Provide **oversight** and ensure **accountability**
- **Coordinate** between and among stakeholders

Examples:

- AMS technical working group
- AMS sub-committee to national AMR committee
- Task force for optimizing antimicrobial use

AMS governance and coordination mechanisms

Membership should include representatives from:

- Relevant national programs and departments
- Private, for-profit sector
- Professional societies
- NGOs
- Regulatory bodies
- Academia and researchers
- Community groups and patients/consumers
- Other relevant One Health sectors



AMS governance and coordination mechanisms

The terms of reference could include:

- Provide **strategic and programmatic leadership** on activities in the AMR national action plan relating to optimizing antimicrobial use
- Provide **guidance on gap analysis and prioritization** to help define a starting point based on available capacities and resources
- **Enhance integration** of AMS activities across different levels of the health sector
- **Mobilize resources** dedicated to AMS activities, including through integration into national health sector plans and budgets at all levels
- Develop and implement a **monitoring and evaluation framework** and national targets

Periodic assessment of facility AMS core elements

Health-Care Facility Assessment Tool

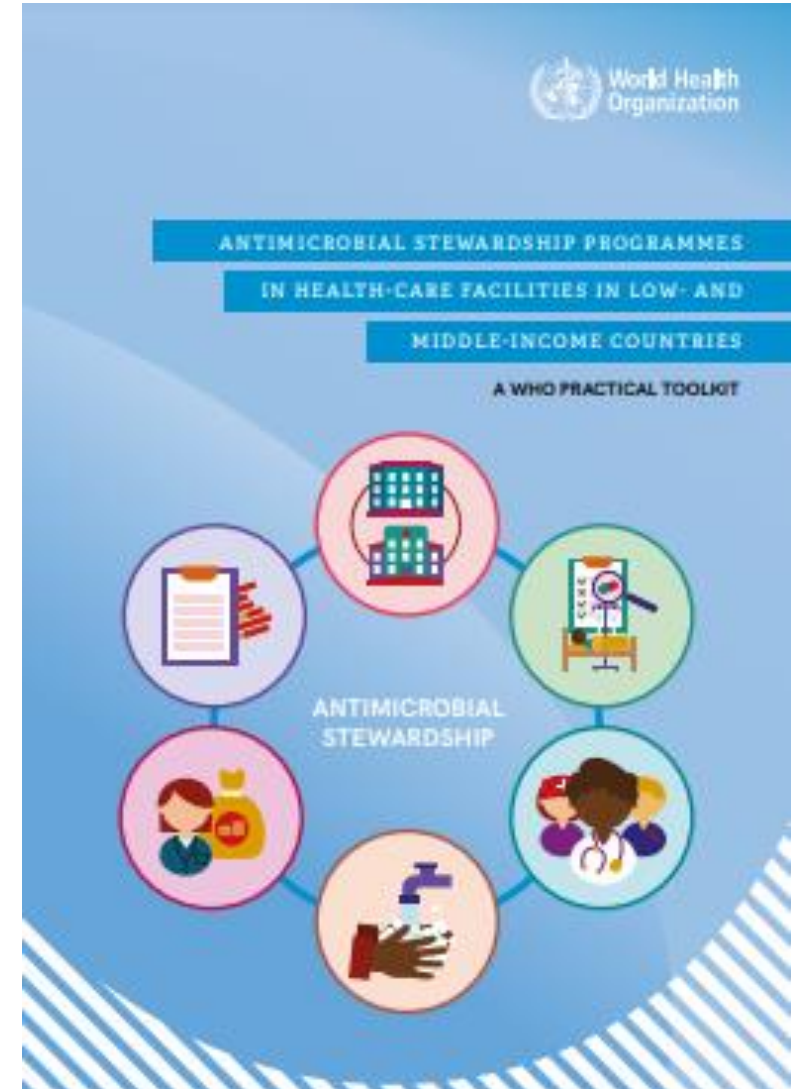
Components for assessment		Baseline	Period 1	Period 2	Period 3	Period 4	Verifiers
<ul style="list-style-type: none">NoNo, but a priorityPlanned but not startedPartially implementedFully implemented							
Leadership commitment							
1	Is AMS identified as a priority by the health-care facility management/ leadership?	Choose an item	Choose an item	Choose an item	Choose an item	Choose an item	Interviews with health-care facility leadership
1.a	Are AMS activities included in health-care facility annual plans with key performance indicators?	Choose an item	Choose an item	Choose an item	Choose an item	Choose an item	Annual plans of health-care facility with AMS performance indicators
1.b	Has the health-care facility management allocated human and financial resources to initiate AMS activities?	Choose an item	Choose an item	Choose an item	Choose an item	Choose an item	Availability of personnel with AMS role in their job description
2	Is there a health-care facility action plan in place that prioritizes AMS activities?	Choose an item	Choose an item	Choose an item	Choose an item	Choose an item	Health-care facility action plan and AMS progress report

Periodic assessment of facility AMS core elements

- Intended to be completed at baseline and periodically (e.g. annually)
- 28 questions (some sub-questions) over 6 domains:
 - Leadership commitment
 - Accountability and responsibility
 - AMS actions
 - Education and training
 - Monitoring and surveillance
 - Reporting feedback
- A response to each question is given based on the following options:
 - No
 - No, but a priority
 - Planned but not started
 - Partially implemented
 - Fully implemented

WHO AMS practical toolkit

- [AMS in health-care facilities in LMICs: a WHO practical toolkit](#) published in 2019
- Provides guidance on implementation of activities at facility level
- [Online training course](#) available



Key health-care facility AMS interventions

Leadership commitment

Prioritisation of AMS by management

Allocation of human/financial resources

Accountability & responsibility

Functioning AMS committee

AMS champion

Multidisciplinary AMS team

AMS activity reporting

AMS actions

Antibiotic guidelines

Audit & feedback

AMS rounds

Formulary restrictions

Decision support tools

Standardised medication charts

Education & training

Continuous in-service training for facility staff

Continuous professional development for AMS team

Monitoring & surveillance

AMR surveillance

AMC/AMU surveillance

Stockouts

Quality of medical products

AMS interventions

Reporting feedback

Analysis & reporting of AMR, AMC and AMU

Antibiograms

Feedback of antimicrobial prescribing appropriateness

AWaRe classification

WHO Access, Watch, Reserve (AWaRe) classification of antibiotics for evaluation and monitoring of use, 2021

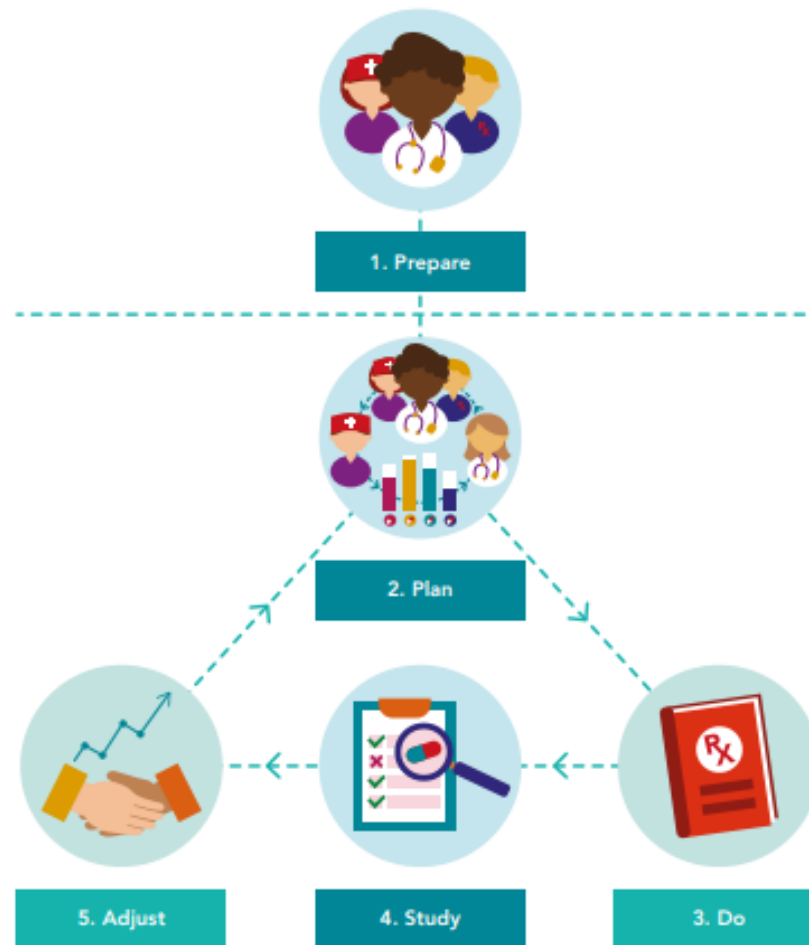
To assist in the development of tools for antibiotic stewardship at local, national and global levels and to reduce antimicrobial resistance, the Access, Watch, Reserve (AWaRe) classification of antibiotics was developed – where antibiotics are classified into different groups to emphasize the importance of their appropriate use.

This classification is intended to be used as a tool for countries to better support antibiotic monitoring and stewardship activities. It is not intended as model for the inclusion of antibiotics on national essential medicine lists. Antibiotics classified under AWaRe and also included on the WHO Model Lists of Essential Medicines are indicated in the worksheets.

Antibiotic	Class	ATC code	Category	Listed on EML/EMLc 2021
Amikacin	Aminoglycosides	J01GB06	Access	Yes
Amoxicillin	Penicillins	J01CA04	Access	Yes
Amoxicillin/clavulanic-acid	Beta-lactam/beta-lactamase-inhibitor	J01CR02	Access	Yes
Ampicillin	Penicillins	J01CA01	Access	Yes
Ampicillin/sulbactam	Beta-lactam/beta-lactamase-inhibitor	J01CR01	Access	No
Arbekacin	Aminoglycosides	J01GB12	Watch	No
Aspoxicillin	Penicillins	J01CA19	Watch	No
Azidocillin	Penicillins	J01CE04	Access	No
Azithromycin	Macrolides	J01FA10	Watch	Yes
Azlocillin	Penicillins	J01CA09	Watch	No
Aztreonam	Monobactams	J01DF01	Reserve	No

Monitoring and evaluation

- AMS programmes should follow a continuous quality improvement cycle



Monitoring and evaluation – examples of indicators

Structural indicators

- Leadership commitment
- Accountability and responsibility
- AMS actions
- Education and training
- Monitoring and surveillance
- Reporting feedback

Process indicators

- Documented indication for antimicrobial use
- Stop/review date
- Compliance with guidelines
- De-escalation
- IV to oral switch
- Surgical prophylaxis stopped within 24 hours of surgery

Outcome indicators

- Patient outcomes:
 - In-hospital mortality
 - Length of stay
 - Readmission within 30 days after discharge
- Microbiology outcomes
 - *Clostridioides difficile* infection
 - Healthcare-associated infections caused by MROs

Thank you

