



دائرة الصحة  
DEPARTMENT OF HEALTH

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## 1. Purpose

1.1. These Guidelines seek to assist Healthcare Facilities in implementing the Antimicrobial Stewardship Programs (ASP) Standard, which aims to improve antimicrobial prescribing in general, and antibacterial prescribing in particular, to minimize the development and spread of resistant bacterial clones in Healthcare Facilities and communities.

## 2. Scope

2.1. These Guidelines elaborate the requirements for establishing ASP in all hospitals and one-day surgery centres in the Emirate of Abu Dhabi that are providing any of the following services: in-patient care, ambulatory care (out-patient), emergency room, palliative care and/or rehabilitation services.

2.2. These Guidelines, are not binding, but they seek to assist and support Healthcare Facilities meet the DOH requirements of effective management of antimicrobials utilization through prudent prescribing and dispensing of all antimicrobials including antibiotics for use.

## 3. Definitions

- 3.1. **Antimicrobial agents:** refer to the group of drugs that are prescribed to treat, cure or prevent infections caused by microorganisms. Most widely used antimicrobial agents are antibiotics, which are active against bacterial infections. Additionally, there are antiviral, antifungal and antiparasitic agents.
- 3.2. **Antibiotics or Antibacterial:** are prescription-only medicines that are used to treat, cure or prevent infections caused by bacteria.
- 3.3. **Antimicrobial Stewardship Program (ASP):** coordinated interventions designed to improve and measure the appropriate use of antimicrobial agents by promoting the selection of the optimal antimicrobial drug regimen including dosing, duration of therapy, and route of administration.
- 3.4. **Antibiotic resistance:** is a natural phenomenon, which is however accelerated by human actions. It may develop as a result of spontaneous genetic events, i.e. either mutations of specific genes or acquisition of resistance genes by horizontal gene transfer between microbial cells. Resistance genes enable microorganisms to acquire resistance by various mechanisms such as, altering antibiotic target sites, enzymatic inactivation of antibiotics, reducing intracellular concentration of antibiotics, overproducing target enzymes or bypass pathways. Repeated exposure of bacteria to antibiotics triggers the development of resistance and selection of resistant strains. Overuse or misuse of antibiotics have greatly expedited this process, risking the availability of effective treatment options for common infectious diseases.
- 3.5. **Cumulative Antibiogram:** Periodic summary of antimicrobial susceptibilities of clinically significant bacterial and fungal isolates from local clinical samples. It is used to assess the local antimicrobial susceptibilities/resistance rate allowing for a more rational empirical prescribing of antimicrobials. Furthermore, such data can be used to compare susceptibility rates within the Healthcare Facility, across different facilities and to local, national and international susceptibility rates.
- 3.6. **Healthcare Facilities:** for the scope of this standard, licensed hospitals and one day surgery centres are collectively referred to as Healthcare Facilities.
- 3.7. **Pharmacy and Therapeutics Committee (PTC):** is responsible for managing the formulary system, drug shortages, and managing the supply and safe use of medications in DOH licensed Healthcare Facilities. It is composed of actively practicing physicians, pharmacists, store managers, nurses, administrators, quality improvement managers, and other health care professionals and staff who participate in the medication-use process. Other

responsibilities of the PTC may include but not limited to: Medication Use Evaluation (MUE), adverse-drug event monitoring and reporting, medication-error prevention, and support the development of standard treatment protocols/ clinical care plans and guidelines.

**3.8. Standard Treatment Guidelines (STG)/ Protocols:** are evidence-based structured care plans to assist prescribers in clinical judgement. They are developed to harmonize clinical decision-making, promoting best practice and improving quality of care. Development of STGs utilizes best available evidence (local and international data/ recommendations).

**3.9. Multi-Drug Resistant Organisms (MDRO):** are defined as microorganisms, predominantly bacteria, that are resistant to three or more classes of antimicrobial agents.

#### **4. Guidelines for Healthcare Facilities Management and Professionals**

##### **4.1. Leadership Commitment**

- 4.1.1. ASP should be reflected in the strategic plan of the Healthcare Facility;
- 4.1.2. Management should delegate and support competent staff members to execute stewardship activities with appropriate level of independence;
- 4.1.3. ASP activities should be supported by heads of clinical departments, head of pharmacy, head of pathology/ medical laboratory, infection control, and quality management;
- 4.1.4. Management should allocate human, financial, technical and administrative resources to properly implement the ASP.

##### **4.2. Antimicrobial Stewardship Program Team**

- 4.2.1. ASP team should be officially constituted as a multidisciplinary team reporting to the Senior Management of the Healthcare Facility;
- 4.2.2. Terms of reference for ASP should be prepared to document the scope of activities, including roles and responsibilities.
- 4.2.3. Composition of the ASP team includes, but is not limited to:
  - 4.2.3.1. Preferably chaired by an infectious diseases physician or an actively involved senior physician with infectious diseases background and/or interest in infectious diseases. The Chair should represent the ASP team in the Healthcare Facility's Pharmacy and Therapeutics Committee (PTC), Infection

- Prevention and Control Committee (IPCC) and act as point of contact for DOH on issues related to the ASP;
- 4.2.3.2. Membership should minimally include clinical pharmacist or pharmacist, clinical microbiologist or microbiologist and Infection control expert;
  - 4.2.3.3. Healthcare Facility management representatives, quality and information technology staff members.

#### **4.2.4. Roles and responsibilities of ASP team**

- 4.2.4.1. Demonstrate commitment to promote safe and appropriate use of antimicrobials in the Healthcare Facility;
- 4.2.4.2. Efficiently lead the ASP and relevant activities in the Healthcare Facility;
- 4.2.4.3. Develop, update and disseminate internally facility-based written policy pertaining to the judicious use of antimicrobials;
- 4.2.4.4. Determine program priorities, establish suitable targets and monitor progress;
- 4.2.4.5. Establish relevant key performance indicators;
- 4.2.4.6. Create an appropriate structure and simplified processes to execute the Program;
- 4.2.4.7. Conduct periodic ASP team meetings evidenced with meeting minutes in a calendar year;
- 4.2.4.8. Work collaboratively with the hospital's Pharmacy and Therapeutic Committee, Infection Prevention and Control committee, and pathology/laboratory team;
- 4.2.4.9. Design and implement interventions to encourage rational antimicrobial use;
- 4.2.4.10. Coordinate activities across departments such as, but not limited to: clinical specialties, pharmacy, nursing and laboratory, to oversee the use of antimicrobials;
- 4.2.4.11. Support and streamline development of Standard treatment guidelines/ protocols for infectious diseases;
- 4.2.4.12. Enforce/ implement restrictions/ pre-authorization of broad-spectrum antibiotics in consultation with PTC and IPCC;
- 4.2.4.13. Develop internal policies for pre-authorization requirements and parenteral-to-oral antibiotic conversion;
- 4.2.4.14. Devise mechanisms/ processes for the timely review of pre-authorization requests for the prescriptions of broad-spectrum antibiotics;
- 4.2.4.15. Conduct/ contribute to outbreak investigations with relevant departments pertaining to the detection of MDROs;
- 4.2.4.16. Educate physicians, pharmacists and nurses regarding antimicrobial stewardship activities;

- 4.2.4.17. Conduct bi-annual analyses of antimicrobials dispensed for IP/ OP/ ER use utilizing at least one of the following metrics such as Days of therapy (DOT), Defined Daily Dose (DDD), or direct measurement of number of units or expenditure on antibiotic purchasing;
- 4.2.4.18. Submit analyses reports to Healthcare Facility's senior management and provide specific recommendations to improve antimicrobial prescribing;
- 4.2.4.19. Distribute finalized analyses reports to all healthcare professionals within the Healthcare Facility;
- 4.2.4.20. ASP team members should obtain appropriate trainings and relevant certifications;
- 4.2.4.21. Monitor and evaluate compliance to standard treatment guidelines (STG)/ protocols by prescribers;
- 4.2.4.22. Submit a report to the Healthcare Facility's Senior Management on half-yearly basis regarding compliance to standard treatment guidelines (STG)/ protocols by Healthcare Professionals;
- 4.2.4.23. Any other relevant function to improve antimicrobial use.

### **4.3. Pharmacy and Therapeutics Committee (PTC)**

Duties of the PTC may include, but are not limited to:

- 4.3.1. Facilitate development of strategies, methodologies and tools to optimize antimicrobial use;
- 4.3.2. Establish effective internal communication channels to inform Healthcare Professionals regarding measures to promote the rational antimicrobial use;
- 4.3.3. Ensure availability of a variety of narrow-spectrum and broad-spectrum cost-effective antimicrobial agents in different dosage forms suitable to treat different infections effectively;
- 4.3.4. Facilitate and coordinate activities across departments for the development of standard treatment guidelines/ protocols for managing infectious diseases;
- 4.3.5. Review and support restrictions/ pre-authorization from ID specialist or designated Physician(s) on dispensing of broad-spectrum/extended-spectrum antimicrobial agents, such as:
  - 3rd & 4th Generation Cephalosporins;
  - Fluoroquinolones;
  - Carbapenems;
  - Antifungals such as Voriconazole and Echinocandins.

#### **4.4. Standard Treatment Guidelines (STGs)/Protocols**

- 4.4.1. Relevant clinical departments should develop STGs in consultation with the ASP team, PTC, Pathology/microbiology, and other stakeholders;
- 4.4.2. Develop STGs for infectious conditions that are most frequent causes of prescribing antibiotics within the Healthcare Facility;
- 4.4.3. STGs should meet but not be limited to the following criteria;
  - 4.4.3.1. Should be evidence-based utilising best available data/resource from local, international guidelines and recommendations;
  - 4.4.3.2. Align with local or national guidelines, where applicable;
  - 4.4.3.3. Approve and sign by Healthcare Facility's leadership;
  - 4.4.3.4. Seek to optimize selection and use of antimicrobials;
  - 4.4.3.5. Current and regularly updated;
  - 4.4.3.6. Address infectious diseases most commonly occurring in out-patient, in-patient and emergency room clinical settings (see Appendix 1);
  - 4.4.3.7. Appropriately referenced against local and international best practices and/or approved guidelines from internationally recognized entities;
  - 4.4.3.8. Take into account local and national updated antimicrobial resistance patterns and trends;
  - 4.4.3.9. Ensure availability to all relevant healthcare professionals, preferably through some built-in hospital information system;

#### **4.5. Cumulative antibiogram**

Components of the cumulative antibiogram should include, but not be limited to:

- 4.5.1. Develop and update at least once a year;
- 4.5.2. Include results from all relevant antimicrobial susceptibility tests carried out during the assessment period;
- 4.5.3. Publish internally to ensure access by healthcare professionals;
- 4.5.4. Order antimicrobial susceptibility testing prudently in accordance with Healthcare Facility STGs and international best practices;
- 4.5.5. Include requirements for clinically significant bacterial and fungal isolates to be tested against a range of appropriately selected narrow and broad-spectrum antimicrobial agents;
- 4.5.6. Use of statistical softwares specifically designed for AMR surveillance, such as BacLink and WHONET are strongly encouraged;

4.5.7. For further guidance on analysis and presentation of cumulative antimicrobial susceptibility test data, refer to related CLSI (Clinical and Laboratory Standards Institute) Guideline M39.

#### **4.6. Education and Trainings**

- 4.6.1. Healthcare professional should be offered relevant training pertaining to the judicious use of antimicrobials on regular-basis;
- 4.6.2. Hospital ASP team and PTC members should be actively involved in conducting and organizing such trainings;
- 4.6.3. ASP orientation trainings should be offered and documented for all newly employed healthcare professionals during the first three months of their employment;
- 4.6.4. Ensure ASP activities to be covered in the Healthcare Facility's CME events, at least once annually;

#### **4.7. Monitoring and Tracking**

- 4.7.1. ASP team should share the Healthcare Facility's antimicrobial use reports with Healthcare Professionals within the organization;
- 4.7.2. ASP team should conduct prospective audits on a regular basis to ensure compliance with internal policies, adherence to STGs and relevant standards;
- 4.7.3. Provide regular feedback and communication to prescribers;

#### **4.8. Reporting**

- 4.8.1. Submit an annual updated report to DOH summarizing all interventions implemented and results regarding the impact of ASP on antimicrobial prescribing, on local bacterial resistance patterns and trends, and on the quality of care to [asp@haad.ae](mailto:asp@haad.ae)

## Appendix 1

Evidence-based Standard Treatment Guidelines including, but not limited to the below mentioned conditions should be developed and adhered to:

1. Community acquired pneumonia
2. Sore throat
3. Tonsillitis
4. Lower respiratory tract infections
5. Acute otitis media
6. Skin and soft tissue infections
7. Empiric use of antimicrobials for suspected MRSA
8. Urinary tract infections (male and female)
9. Antimicrobial prescribing for surgical prophylaxis
10. Management and care of patients with *Clostridium difficile* infection
11. Management and care of patients with CRE (Carbapenem-resistant *Enterobacteriaceae*) and other carbapenem-resistant organisms (e.g. Acinetobacter).