

# Antimicrobial stewardship

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**Introduction:** Antimicrobial stewardship is a coordinated program that promotes the appropriate use of antimicrobials (including antibiotics), improves patient outcomes, reduces microbial resistance, and decreases the spread of infections caused by multidrug-resistant organisms.

7 Core Elements of Antimicrobial Stewardship Programs are

- Leadership commitment.
- Accountability
- Drug expertise.
- Action.
- Tracking.
- Reporting.
- Education.

**Discussion:** Clinical Microbiologist play a key role in the Antimicrobial Stewardship program. Provide the cumulative antimicrobial susceptibility reports, enhanced culture and susceptibility reports, guidance in the preanalytic phase, rapid diagnostic test availability, provider education, and alert and surveillance systems. Indications should be evidence based. Narrowest spectrum required with appropriate doses to the site and type of infection with minimal duration of infection. Ensure monotherapy in most cases.

Avoid use of meropenem for empiric treatment of suspected late onset sepsis if rates of multi-drug resistant gram-negative bacilli are low. Avoid therapy with overlapping activity. Avoid simultaneous use of metronidazole and meropenem to treat necrotizing enterocolitis. Target vancomycin trough to 15–20 mg/L to treat pneumonia caused by MRSA.

De-escalation of Antibiotic Treatments a concern and important. Stop therapy promptly if indicated by culture results. Discontinue antibiotics after 48 hours if blood cultures are negative and ongoing infection is not suspected. Restrict the Use of higher generation antibiotics with restricted antibiotic policy. Computer surveillance and decision support should be there. Automated alerts for redundant antibiotic combinations. Monitoring Success of Antimicrobial Stewardship by successful implementation and safety. Then can be monitored by cost reduction, DOT and DDD.

**Conclusion:** The emergence of antibiotic resistant organisms (AROs) has been linked to the inappropriate use and overuse of antibiotics. Antimicrobial stewardship is recognized as a critical patient safety and quality imperative to combat the emergence of antimicrobial resistance (AMR) and preserve the activity of existing agents. The primary goal of antimicrobial stewardship is to optimize clinical outcomes while minimizing unintended consequences of antimicrobial use, including toxicity and the emergence of resistance.

### Biography

Heading Clinical Microbiology, serology and molecular laboratory and different sections of Microbiology which includes bacteriology, Mycology, serology, Parasitology, Immunology, infectious molecular diagnostics. NABL accreditation of laboratory services and NABH accreditation for Infection Control Trained NABL Assessor, NABL auditor and NABH auditor. Accomplished people leader and Team player Well versed with six sigma and process quality Infection control Officer with active participation with clinicians and involved in clinical rounds wherever required. Expert panelist in various academic forums. Keen interest in Antimicrobial stewardship program to curtail the misuse of Antibiotics. Well aware of the WHONET software for the presentation of different antibiograms. Conducted various workshops, CME and trainings routinely of doctors, nursing staff and technical staff on EQAS, BMW, Hand Hygiene, Hospital Infection Control, NABL accreditation Academics and regular teaching of MD students, Nurses, and other hospital staff. Taken various public lectures like Dengue prevention, Hepatitis vaccination, Coronavirus etc.

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**Note:** This work is partly presented at Webinar on Clinical Microbiology and Infectious Diseases, going to be held on April 28th, 2021 GMT+1.