HENRY FORD HEALTH

HENRY FORD HEALTH + MICHIGAN STATE UNIVERSITY Health Sciences

International Vaccine Institute

Importance of Clinical Engagement AMS as one solution to combat AMR

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Capturing data on Antimicrobial resistance Patterns and Trends in Use in Regions of Asia

TACE ASIA
Technical Assistance for Clinical Engagement

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CLINICAL ENGAGEMENT (CE)

- Pivotal role in the fight against AMR
- An initial step towards promoting the utilization of laboratory testing before prescribing antimicrobial
- Promoting better clinical decisions and appropriate use of antibiotics
- focusing on addressing practice and behavioral changes, rather than solely relying on policies.

OBJECTIVES OF CE

- Optimizing and promoting appropriate antimicrobial use
- Leveraging diagnostics utilization
- Preventing infections
- Strengthening healthcare systems
- Facilitating continuous quality improvement
- Sustainability

Three main pillars
AMS
DS
IPC
MULTIDISCIPLINARY APPROACH
ROLES OF HCW
AMS
GOVERNANCE AND LEADERSHIP
INTERVENTIONS
ROLES OF HCS AS STEWARDS
INTEGRATING AMS INTO IPC/DS EXISTING WORKFLOW

PILLARS FOR EFFECTIVE CLINICAL ENGAGEMENT

Antimicrobial stewardship

+ Diagnostic stewardship

Infection control program

=

LIMITS THE EMERGENCE AND TRANSMISSION OF ANTIMICROBIAL-RESISTANT BACTERIA

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• ANTIMICROBIAL STEWARDSHIP AS ONE SOLUTION TO COMBAT AMR

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DEFINITION

" the optimal selection, dosage, and duration of antimicrobial treatment that results in the best clinical outcome for the treatment or prevention of infection, with minimal toxicity to the patient and minimal impact on subsequent resistance."

Also defined as;

" Organizational or healthcare system-wide approach to promote and monitoring judicious use of antimicrobials to preserve their future effectiveness"

CLINICAL DEFINITION

- " The Right Antibiotic
- For the Right patient
- At the Right time
- With the Right dose
- And the Right route,
- Causing the least harm to
- The patient and future patients"

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CORE ELEMENTS OF AMSP

- ❑Leadership Commitment
- ❑ Accountability
- ❑ Drug Expertise
- ❑ Action
- ❑Tracking
- ❑ Reporting
- ❑Education

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WHO RECENT DEVELOPMENT

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WHO PRACTICAL TOOLKIT FOR IMPLEMENTATION OF AMS PROGRAMS

- GUIDANCE ON DEVELOPMENT OF AMS PROGRAMS

1. STRUCTURE
2. PLANNING AMS PROGRAMS
3. PERFORMING AMS INTERVENTIONS
4. ASSESSING AMS PROGRAMS
5. EDUCATION AND TRAINING

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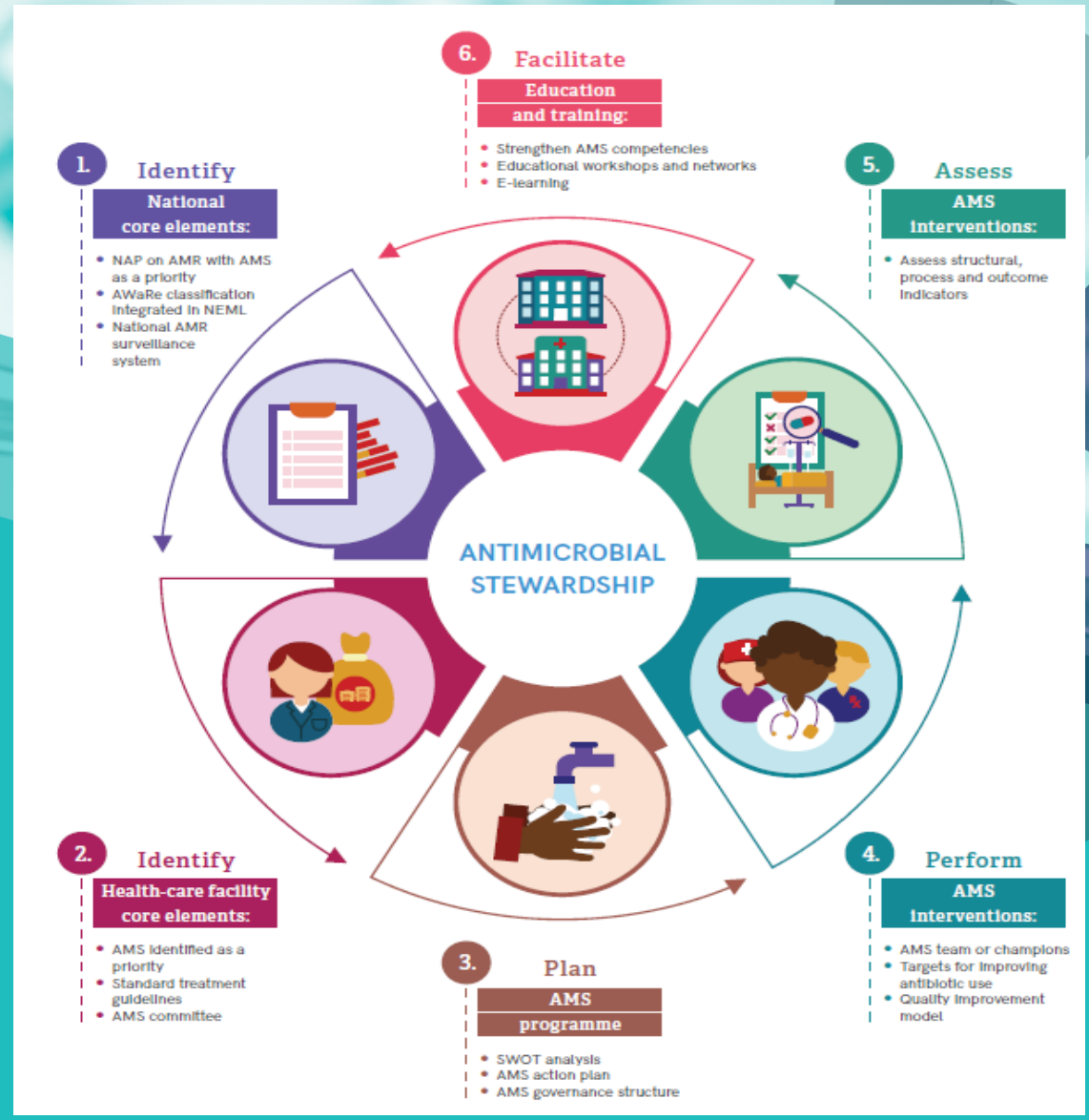

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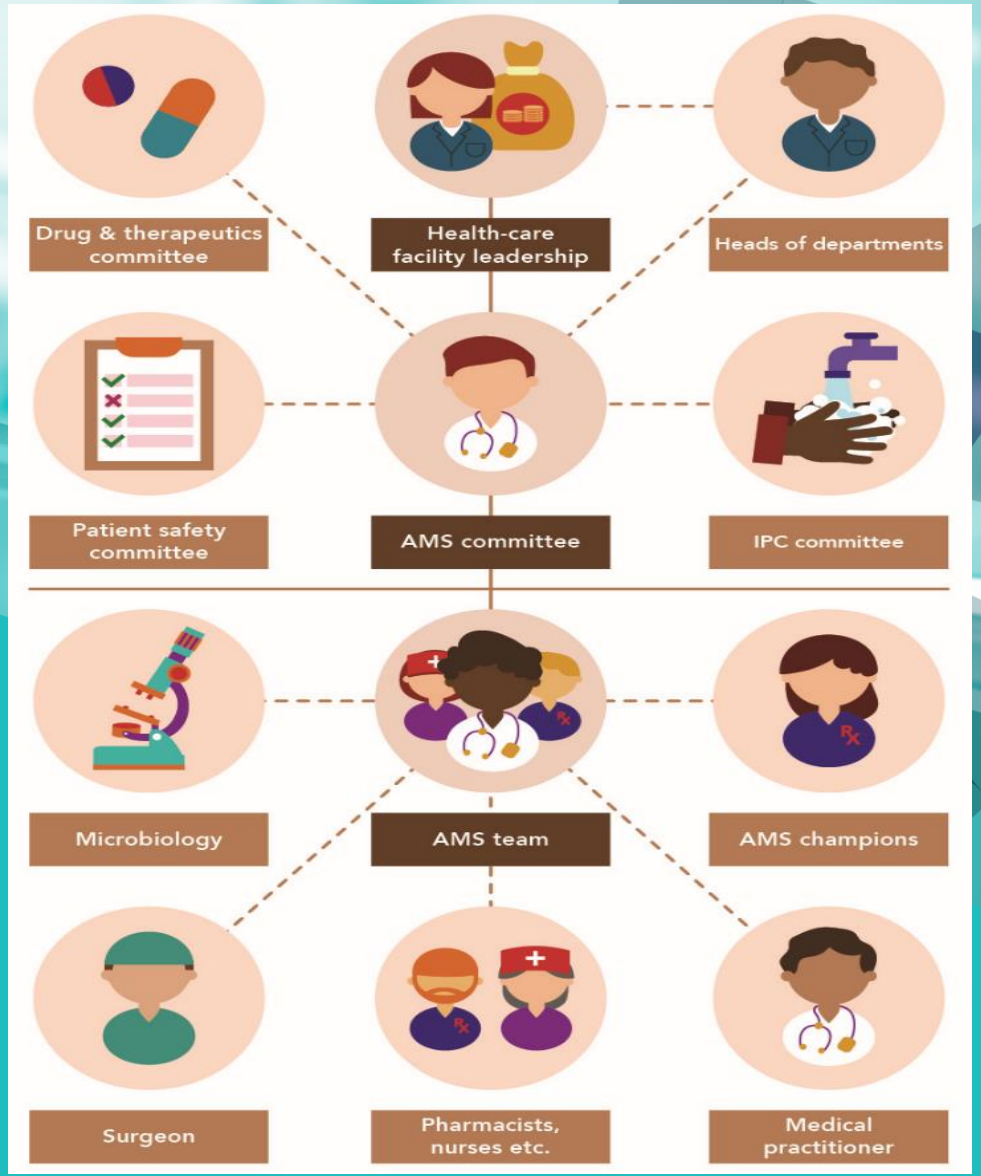
PLANNING AMS PROGRAMMES

Situational or SWOT analysis	Conduct a SWOT analysis: • Structures, policies and guidelines • Human resources • Data: antimicrobials, resistance • AMS activities
Facility AMS action plan	To ensure accountability, prioritize activities and measure progress

Governance

- ✓ Responsibilities and accountability
- ✓ AMS team and/or AMS champions
- ✓ Link to other programmes/ committees



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SITUATIONAL ANALYSIS

- Lack of coordination
- Multiple responsibilities to same personnel
- Lack of training
- Inadequate staffing
- Lack of awareness/ advocacy about ams
- Lack of funding
- Other high-priority initiatives
- Lack of local expertise in AMS
- Lack of AMS policy
- Prescribers' reluctance to change practices

PERFORMING AMS INTERVENTIONS

Passive measures

- Guidelines and clinical pathways
- Educational sessions/ workshops

Active interventions

- Prospective audit with intervention and feedback
- Streamlining and de-escalation of therapy

Restrictive measures

- Antibiotic order form
- Formulary restriction and authorization

Supportive/ supplemental measures

- IV-oral conversion
- Dose optimization

EDUCATION & TRAINING

AMS competencies

- ✓ Antibiotics
- ✓ Microbiology
- ✓ Infection management
- ✓ Plan and perform AMS interventions
- ✓ Monitor AMS interventions/ ABx use

Face to face workshops

Online e-learning resources

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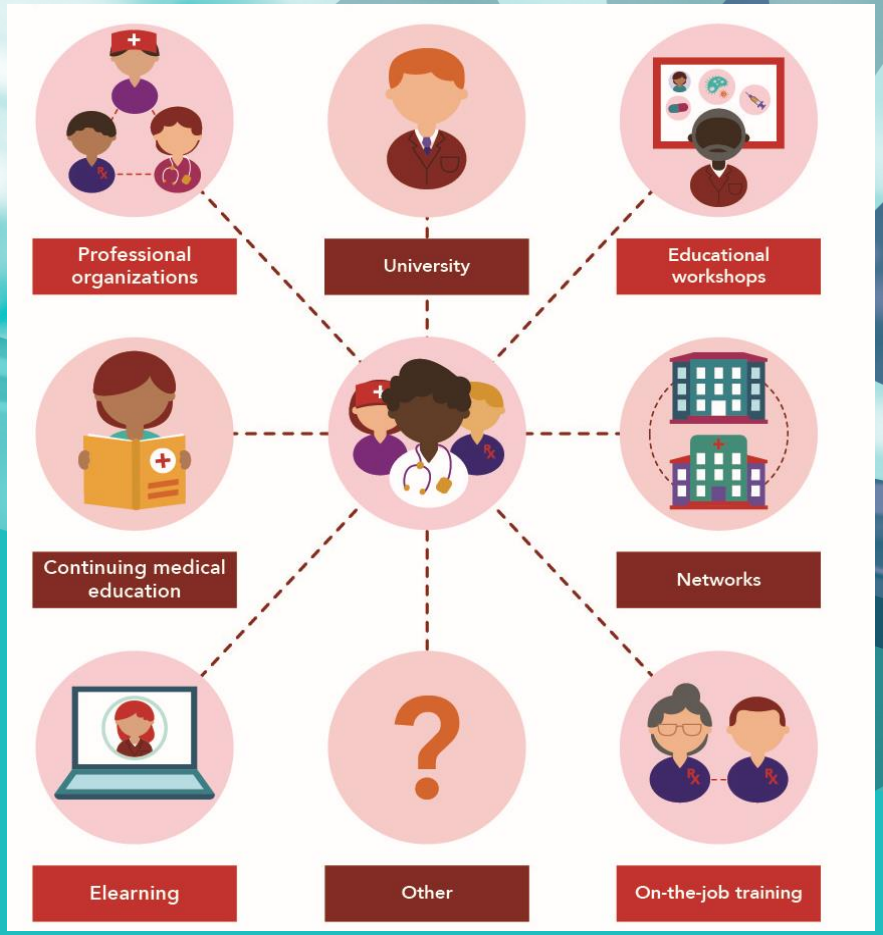

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WHO POLICY GUIDANCE ON INTEGRATED ANTIMICROBIAL STEWARDSHIP ACTIVITIES

Identifying what is already in place, What needs to be put in place over time on a priority basis & what resources will be needed for the same

Periodic evaluation

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ACTIONS: INTERVENTIONS

- Guidelines, policies, and protocols alone will probably not change practice

- Active interventions are most effective
  - Prospective audit
  - Formulary restriction and preauthorization
  - Antibiotic ‘Time Out’
  - IV to oral switch
  - De-escalation therapy
  - Dose optimization

PROSPECTIVE AUDIT

- A physician reviews orders and intervenes with modification of orders and feedback to the prescriber
- Results in improved use, decreased costs
- Caveats:
  - Time and labour-intensive
  - Many settings do not have capacity
  - Providers may not be receptive

“ Start Smart and Then Focus”

1. Documentations
2. Culture of Culture
3. Allergy
4. Mismatch “ bug and drug”

FORMULARY RESTRICTION AND PREAUTHORIZATION

- Specific antibiotics cannot be ordered without authorization
- Useful in response to healthcare-associated outbreak

AN ANTIBIOTIC 'TIME OUT'

- A concrete point in time dedicated to reviewing antimicrobial choice and duration
  - Reappraise therapy when more clinical data are available (usually in 48-72 hours)
  - Decide about continuation, narrowing therapy and specify a duration
- Recommended changes are better received and more likely to be followed at a later time point
- E.g: Surgical prophylaxis 24 hour

IV TO ORAL SWITCH

- Antibiotics with similar bioavailability
- Less side effects
- Less cost
- Shorter hospital stay

IV TO ORAL SWITCH

- For an intravenous to oral conversion, the following criteria must be met:
- **Inclusion Criteria**
  - Patient is admitted to a non-intensive care unit (ICU)/general practice unit (GPU)
  - Patient has received and is tolerating at least 1 dose of a medication administered enterally or is tolerating an enteral diet
  - Patient has received the medication to be converted intravenously for at least 24 hours
- **Exclusion Criteria**
  - The patient is admitted to an intensive care unit (ICU) (including ICU step-down or mixed ICU unit)
  - Nonfunctioning gastrointestinal tract
    - Gastric obstruction or ileus
  - Persistent nausea and vomiting
  - Strict NPO (for a procedure or other medical reason)
  - Patients receiving treatment for an active GI bleed

- **Inclusion Criteria – Anti-Infectives**
  - Afebrile (T <38°C, 100.4°F) for at least 24 hours
  - Resolving/normalizing WBC (unless on oral or injectable steroids)

- **Exclusion Criteria – Anti-infectives**
  - Neutropenia (ANC <1000)
  - Endocarditis
  - Meningitis or brain abscess
  - Clostridium difficile infection
  - S aureus bacteremia
  - Feeding tubes with intestinal access only (applies to fluoroquinolones only)

DOSE OPTIMIZATION

- Optimization of AB dosing based on
  - ✓ Individual patient characteristics
  - ✓ Causative organisms
  - ✓ Site of infections
  - ✓ PK-PD characteristics

  TDM is also an AMS strategy

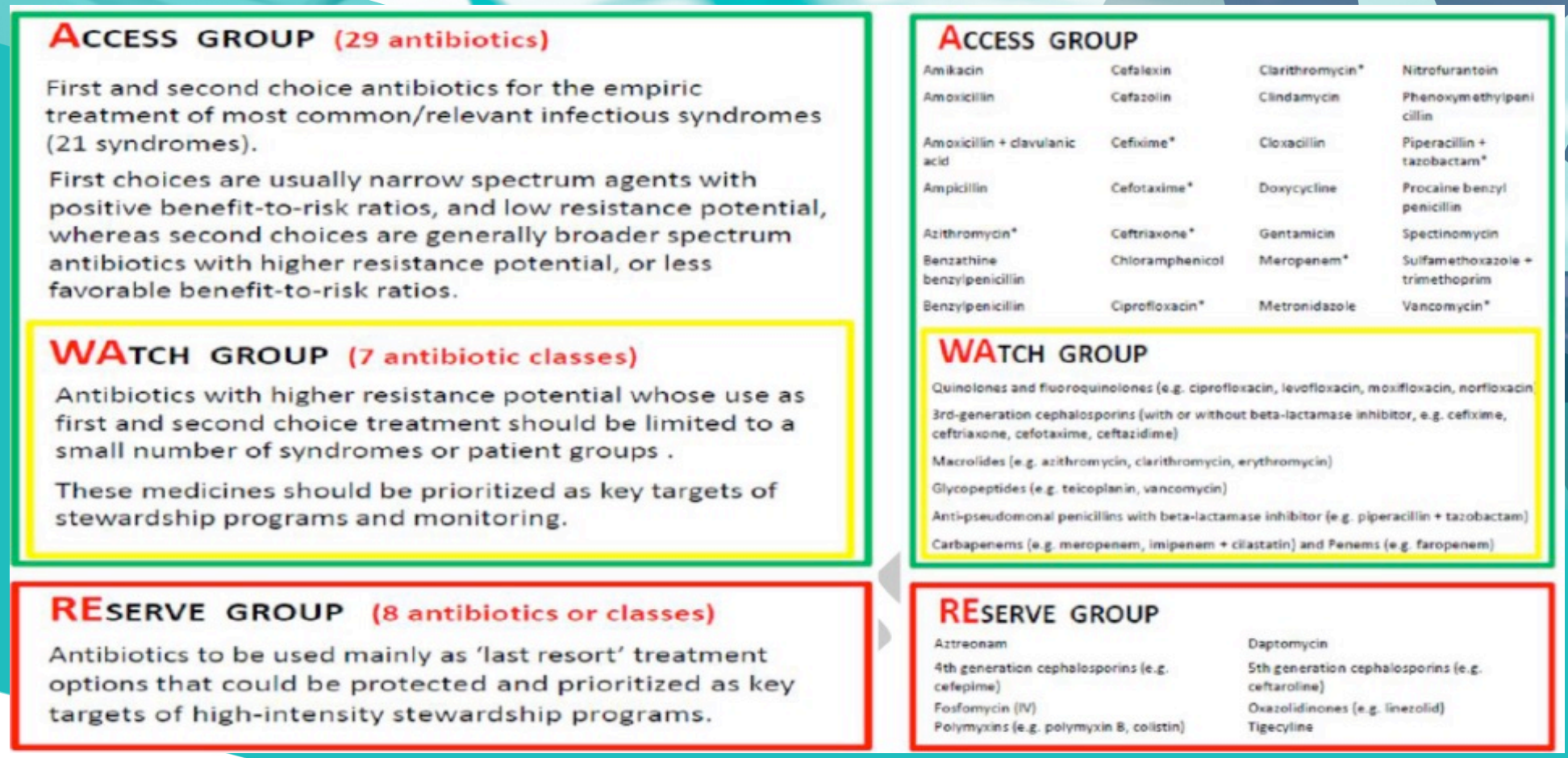
INTERVENTIONS/ ACTIONS

- Development of antibiotic guidelines/ SOPs
  - Local susceptibility/ antibiogram
  - Antimicrobial consumption
  - AWaRe Classifications

- Select and review charts
  - What is current practice? (surgical prophylaxis, antibiotic sensitivity testing)
  - What can we improve upon?

- Involve prescribers

WHO Aware Categorization of Antibiotics



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INTERVENTION OPTIONS

- Education
- Guidelines (include surgical, outpatient)
- Pre prescription review and restrictions
- Post prescription review (48 to 72 hrs)
- The “Time out” (48 to 72 hrs)
- Stop orders
- De escalation, redundant therapy
- IV to oral conversion
- Optimize dosing
- Audit and feedback (Ward rounds)
- Vendor restriction
- Use of EMR/ how IT can be of benefit
- Duration
- Allergy evaluation
- Regulatory

RECOMMENDATIONS

Identify dedicated leaders and champions within facilities who will take responsibility for establishing AMS committees and implement AMS programs
Identify funding sources to support facility-level AMS and present case study for funding to them
Sensitize stakeholders about the urgency of AMR as a health risk .and increase awareness of National Action Plan (NAP) content, government roll out plans for AMS
Integrate AMS training into existing CME/training programs and IPC training initiatives across all health disciplines
Training of trainers workshop for AMS team and cascade learning for others
Adapt WHO and other available material to country context
Establish mechanism for M&E based on NAP targets
Develop interdisciplinary training programs to support increased understanding and communication between wards and departments
Establish mechanism for coordination and internal communication between stakeholders
Sensitize facility leaders and other stakeholders about the urgency of AMR as a health risk.
Perform needs assessments of local laboratory capacity
Strengthen microbiology laboratory capacity