# Bhutan: “Early Efforts in AMU”

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# Introduction

- **Between 20-50% of antibiotic prescriptions are either unnecessary or inappropriate**
  - *Given when they are not needed*
  - *The wrong antibiotic is chosen to treat an infection*
  - *Continued when they are no longer necessary*
  - *Given at the wrong dose*
  - *Broad spectrum agents are used to treat very susceptible bacteria*

# Background

- For an individual, getting an antibiotic increases a patient's chance of becoming colonized or infected with a resistant organism
- Increasing use of antibiotics in healthcare settings increases the prevalence of resistant bacteria in hospitals
- Antimicrobial Stewardship National Program and unit established in Mid 2016
- AMS prioritised in the NAP to Combat AMR in Bhutan
- Fleming Fund support for infrastructure & capacity building

# ANTIMICROBIAL USE

# STEWARDSHIP PROGRAM FUNCTIONS

- Develop guidelines, policies, and protocols that support optimal prescribing

- Prioritize efforts
  - Specific conditions
  - Particular units or prescriber groups
  - Specific antimicrobial drugs
- Educate
- Monitor and report

# ACTIONS: INTERVENTIONS

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

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

# PROSPECTIVE AUDIT

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

# ANTIMICROBIAL STEWARDSHIP IN JDWNRH

**Interventions:**

- Targeted review of six antimicrobials
  - Ceftriaxone, Ciprofloxacin, vancomycin, amikacin, pip taz, mero/ imipenem, Polymixin, Colistin (AWaRe, Watch & Reserve Category)
- Streamlined Therapy
  - Eliminating unnecessary combinations
  - Recommended more narrow spectrum
  - Eliminating unnecessary long term therapy
  - Surgical prophylaxis uniformity
- Dose optimization
- Change of parenteral to oral

# FORMULARY RESTRICTION AND PREAUTHORIZATION

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

# PARENTERAL TO ORAL SWITCH

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

# DOSE OPTIMIZATION

- Optimization of AB dosing based on
  - ✓Individual patient characteristics
  - ✓Causative organisms
  - ✓Site of infections
  - ✓PK-PD characteristics
  - ✓Systemic Plan from a broad spectrum to specific narrow spectrum Ab

# SURVEYS

- Point prevalence surveys on AMR and antimicrobial use
- Prospective audit data collection for analysis and sensitization of staffs
- Surgical Prophylaxis audits
- Guideline compliance audits

# POINT PREVALENCE SURVEY

- Twice a year
- Seasonal variation
- 4 Hospitals
- National Antimicrobial Prescription Survey tool (NAPs)

# PROSPECTIVE AUDIT AND FEEDBACK

- Twice a week
- Manual
- Monitor compliance to feedbacks and also changes in prescription
- Guideline compliance audits

# SURGICAL PROPHYLAXIS

- SOP developed and endorsed by QMC of the hospital
- Monitors Choice, initiation of prophylaxis/ timing and duration of prophylaxis
- Key Performance Indicator of the hospital

# GUIDELINE COMPLIANCE

- Appropriate
- Inappropriate
- Not accessible

# THANK YOU & TASHI DELEK