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### 1 SELECTION OF OPPORTUNITIES FOR IMPROVEMENT

#### Problem Prioritization

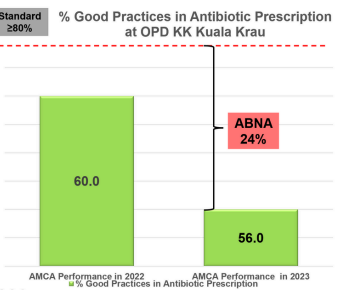
No	Problem	S	M	A	R	T	Total	Rank
1	Poor percentage of optimal HbA1c control among Diabetes Mellitus patient	20	22	21	16	18	97	2
2	High percentage of defaulters in Bronchial asthma patient	23	21	20	15	17	96	3
3	Poor percentage of good practices in antibiotic prescription for patients At Out-Patient Department (OPD)	23	22	21	20	20	106	1
4	High percentage on clinical fundus examination defaulters	19	19	16	18	16	88	4

Score	1	2	3
Weightage	Low	Medium	High

Group Voting: Voting performed by 8 group members

#### Justification

Antibiotics are prescribed to bacterial treat infection. However, prescribing antibiotic non-judiciously leads to antibiotic resistance, allergies, and side effects. To ensure antibiotics are prescribed as indicated, a yearly Anti-Microbial Clinical Audit (AMCA) is done in all health clinics.



**Seriousness**  
 AMCA done in KK Kuala Krau in two consecutive years showed performance below standard, (≥ 80%, 24%). Verification was done and showed 55% (ABNA 25%). Poor antibiotic prescription practices will lead to antibiotic resistance in the community.

**Measurable**  
 Data on antibiotics prescription can be extracted from OPD Card.

**Appropriate**  
 To prevent antimicrobial resistance in the community.

**Remedial**  
 Intervention can be implemented to improve good practices of antibiotics prescription.

**Timeliness**  
 This study can be carried out within 12 months.

### 3 PROCESS OF GATHERING INFORMATION

#### Methodology

**Study Design**  
 Cross Sectional Study

#### Sample Study

All OPD patients in KK Kuala Krau with antibiotics' prescriptions

#### Sampling Method

Universal Sampling of 30 OPD cards with antibiotics prescriptions

#### Study Duration

**Verification study:**  
 Aug. 2023  
**Remedial measures:**  
 Sept. 2023 till Feb 2024  
**1st cycle:**  
 Feb. 2024  
**2nd cycle :**  
 July 2024

#### Data Collections Tool (Process)

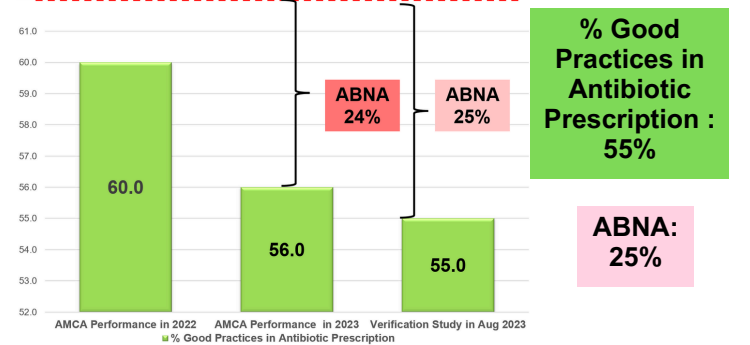
Pre and Post Test Antibiotics knowledge among Medical Officer (MO), Questionnaire among healthcare staff and patients

#### Data Collections Tool (Outcomes)

Antimicrobial Clinical Audit (AMCA) Excel Form

### 4 ANALYSIS AND INTERPRETATION

Standard ≥80% % Good Practices in Antibiotic Prescription at OPD KK Kuala Krau



#### Contributing Factors

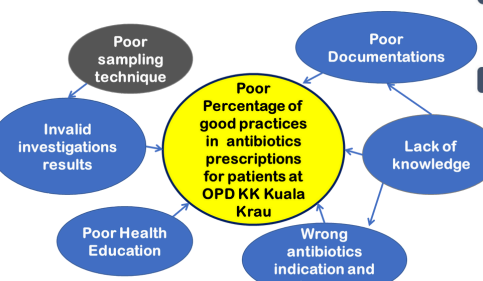
A survey done showed that:

- Healthcare Staff: 57% were unaware of correct sample collection technique
- Patient: 40% had correct understanding regarding antibiotic usage
- 28% didn't take complete history and documentation

5 out of 10 MO in KK Kuala Krau had good antibiotic knowledge in primary care

### 2 KEY MEASURES FOR IMPROVEMENT

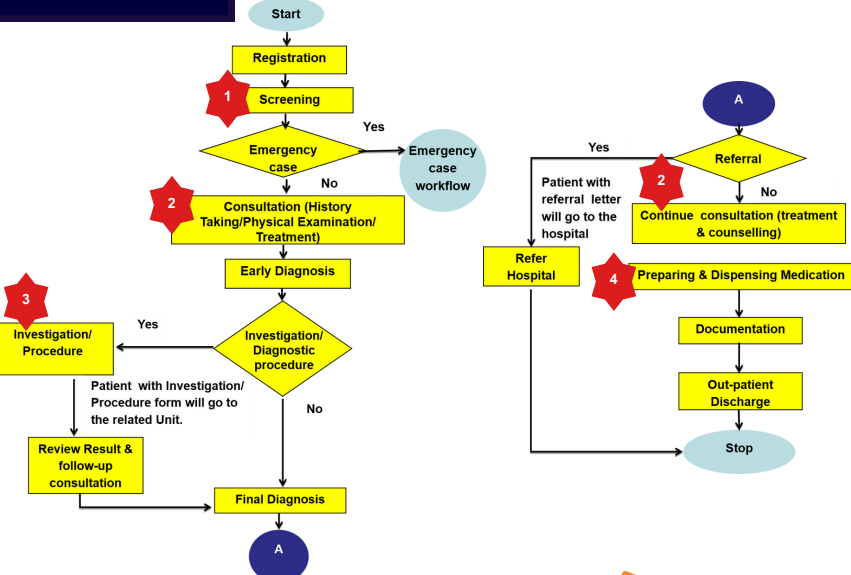
#### Problem Analysis Chart



#### Study Objective

- GENERAL OBJECTIVE**
- To increase percentage of good practices in antibiotic prescription at OPD KK Kuala Krau.
- SPECIFIC OBJECTIVE**
- To determine the percentage of good practices in antibiotic prescription at OPD KK Kuala Krau.
  - To identify factors that associated with poor practices in antibiotic prescription at OPD KK Kuala Krau.
  - To formulate and implement good practices in antibiotic prescription at OPD KK Kuala Krau.
  - To evaluate the effectiveness of remedial measures to increase percentage of good practices in antibiotic prescription at OPD KK Kuala Krau.

#### Process of Care



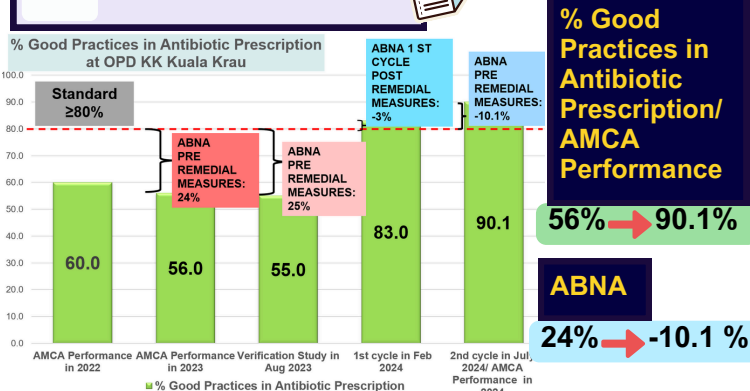
**Indicator** % of Good Practices in Antibiotic Prescription:  $\frac{\text{No. of OPD's cards for AMCA} \geq 80\% \text{ passing score}}{\text{No. of OPD's cards for AMCA}} \times 100\%$

**Standard** ≥80%  
**Good Practices in Antibiotic Prescription**

### 5 STRATEGIES FOR CHANGE

Factor Addressed	Remedial Measures
Poor antibiotic knowledge	<ul style="list-style-type: none"> <li>Continuous Medical Education (CME)</li> <li>Weekly Case-Based Discussions (CBD)</li> <li>Quick reference notes on common infectious diseases</li> </ul>
Incorrect sample collection technique	Specimens' collections guidance posters
Incomplete History Taking & Poor Documentation	Use of clinical support tools E.g: Allergic History, Centor Score, Alvarado Score and Curb Score stamps
Poor correct understanding regarding antibiotics use among patients	Antibiotic resistance and timing of antibiotic administration posters

### 6 EFFECT OF CHANGE



### 7 THE NEXT STEP

- Develop an application for quick reference notes on common infectious diseases in the Health Clinic.
- Regular antibiotic prescription audit (two cases per week with discussion).
- Tracking the prescriber with the most frequent inappropriate antibiotic use in our clinic
- Continuously apply remedial measures to maintain good antibiotic prescription practices in our clinic.
- This will ensure that patients receive accurate and safe treatment at primary care and that our clinic achieves the AMCA standard yearly.

References: (1)Cosgrove SE. The relationship between antimicrobial resistance and patient outcomes: Mortality, length of hospital stay, and health care costs. Clin Infect Dis 2006;42 Suppl 2:S82-9. (2)Inappropriate antibiotics allergy documentation in health records: A qualitative study on family physicians' and pharmacists' experiences. Kitty De Clercq, Jochen W.L. Cals, Eefje G.P.M. de Bont; (3)Physicians' knowledge, perceptions and behavior towards antibiotics prescribing: a systematic review of literature. Md Rezaul, Hassali, Alrasheedy, Saleem, Md Yusof & Godman; (4) Teng CL, Achike FI, Phua KL, Nurjahan MI, Mastura I, Asiah HN, Mariam AM, Narayanan S, Norsiah A, Sabariah I, et al. Modifying antibiotic prescribing: the effectiveness of academic detailing plus information leaflet in a Malaysian primary care setting. Med J Malaysia. 2006;61(3):323-31.