

## SURVEY OF ANTIBIOTIC RESISTANCE *ESCHERICHIA COLI* AND *KLEBSIELLA PNEUMONIAE* FROM CANALS IN LAK SI DISTRICT, BANGKOK

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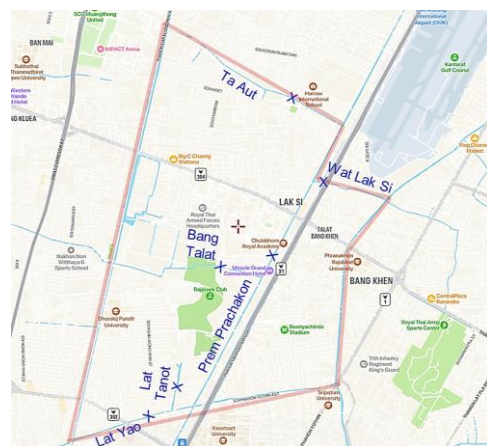
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### INTRODUCTION

- Laksi district is one of the major districts in Bangkok.
- The district has 6 major canals including Prem Prachakon, Bang Talat, Lat Tanot, Lat Yao, Wat Lak Si, and Ta Aut, which flow through many communities and hospital.
- The communities and hospital in the district have a chance to contaminate the water with waste and potentially antibiotic resistant bacteria, especially fecal bacteria.
- This study aimed to isolate Enterobacteriaceae from water in the canals of Laksi district and determine antibiotic resistance pattern of isolates.

### METHODS



Water sampling

Bacterial culture  
using MacConkey agar

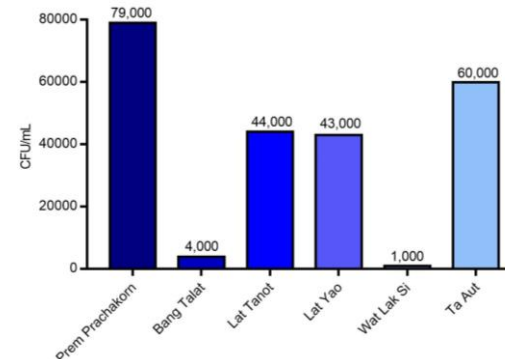
Lactose fermenters

Biochemical tests  
using citrate, indole, ornithine motility,  
triple sugar iron (TSI) tests

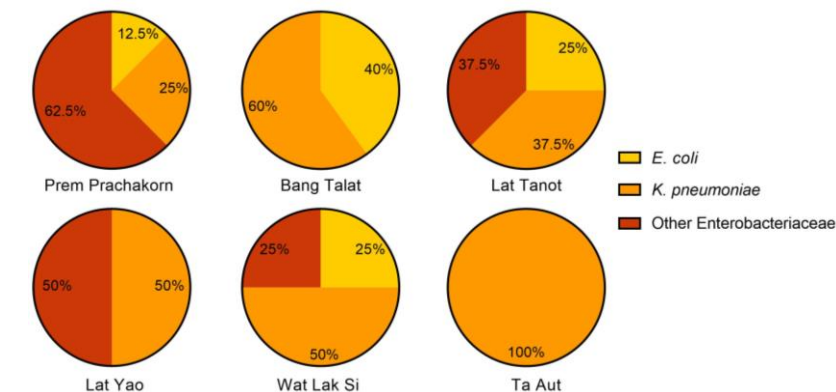
Drug susceptibility tests  
using Kirby-Bauer method

### RESULTS

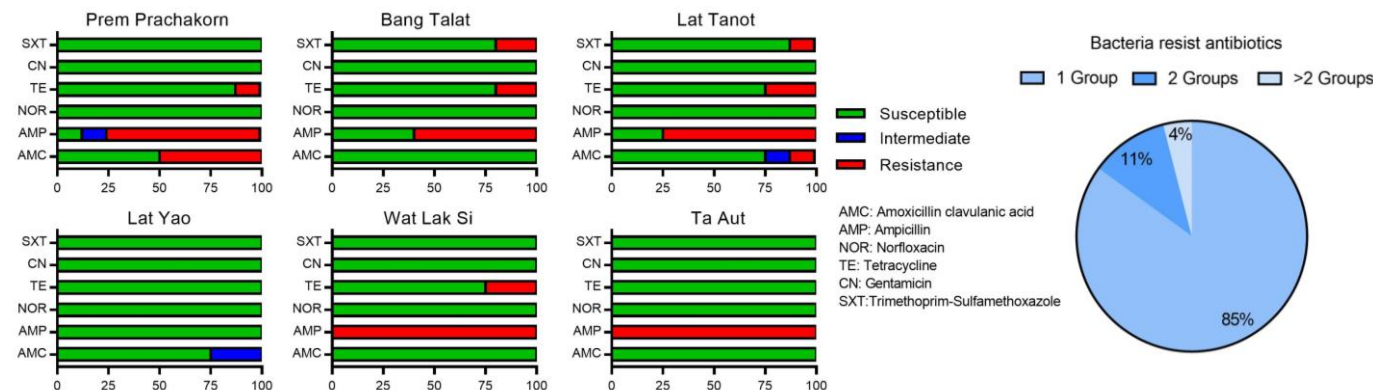
#### 1. Numbers of Gram-negative isolates



#### 2. Identification of lactose fermenter isolates



#### 3. Antibiotic resistance characteristics of isolates



### CONCLUSION

- The water in the main canals of Lak Si district is contaminated with antibiotic resistant bacteria.
- E. coli* and *K. pneumoniae* isolated from water samples collecting from the canals in Laksi district resist mostly to Ampicillin and Amoxicillin-clavulanate antibiotics, especially Prem Prachakon canal which flow through big community and hospital.
- Interestingly, some isolates are found to resist to more than one antibiotic group.
- The findings raise concern of people exposure to these bacteria and call for more cautious approach to manage wastewater from both community and hospital in the district.

### REFERENCE

Clinical and Laboratory Standards Institute. CLSI supplement M100. 30th ed. Wayne, PA.