AMR Surveillance: Aga Khan University Hospital (AKUH) Experience

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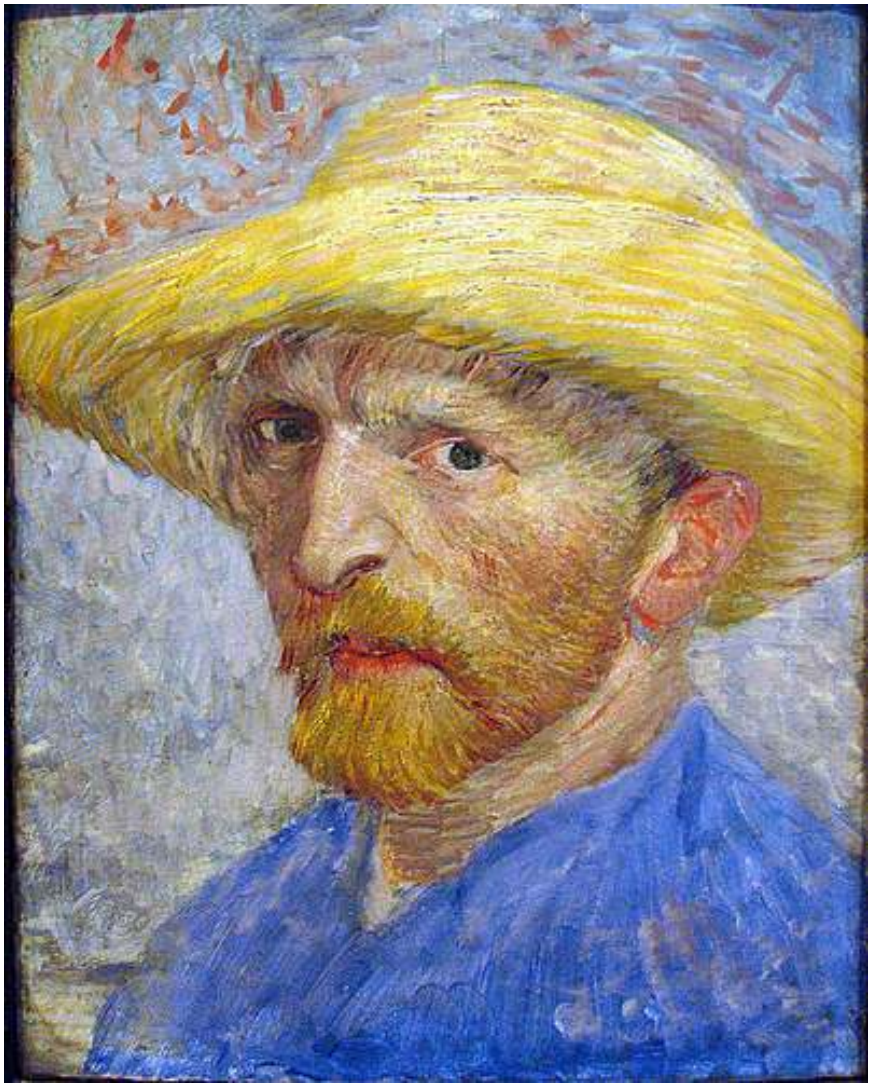
Global Antibiotic Resistance Partnership

CDDEP THE CENTER FOR Disease Dynamics, Economics & Policy
WASHINGTON DC • NEW DELHI

Objective



Background

- AKUH: Tertiary referral teaching hospital
- Transited recently from a private hospital to a university hospital
- Hospital Plan: Cardiology and Oncology Center

Aim

- Optimize the use of antimicrobials and assist in the prevention, control and containment of antimicrobial resistance by:
    - defining/updating guidelines for empirical (syndromic) treatment and standard treatment guidelines
    - Reassessing the drug formulary
    - Identifying need for the implementation of infection control measures
    - Monitor impact of interventions

Surveillance System and Studies

- Surveillance System
  - Continuous passive surveillance, organism based
  - Department of Microbiology (Laboratory)
  - Infection Control Team

- Surveillance studies:
  - Faculty/ Residents/ Visiting Individuals

Data Sources

- Patients' specimens: Determined by physician
- High risk area surveillance
  - Patients and Environments :ICU, NICU, Surgical wards, Theatres
  - Patients transferred from other institutions
- Satellite Laboratories: (Potential for wider surveillance)

Standardization and Quality of Susceptibility Testing

- **Quality Control Manager:**
  - Fulltime employee to ensure quality in the whole lab
- **Internal Quality Control:**
  - Continuous training, Range of control strains e.t.c
- **External Quality Control: NEQAS**
  - independent assessment of performance
- **Accreditation??**
  - South African National Accreditation System (SANAS): ISO/IEC 17025

Susceptibility Testing Methods

- Disc Diffusion Method(S): Done Routinely on most cultures

- E-Test: Occasionally, e.g ongoing Streptococcus pneumoniae surveillance study.

Data variables for Surveillance

- Yes:
  - Patient IDs
  - Unit ID
  - All Isolates
  - Resistance or Sensitive
  - Isolate Source
- No:
  - Quantitative Data (diameters)

Information Management System

- Hospitals/Lab information management system:
  - C.A.R.E 2000 (Symphony Global Technologies PLC, UK)
    - Advantages: Networked, Quick Feedback on individual patients
    - Disadvantages: Difficult trend data retrieval
- Microbiology Surveillance Data Collection has required its own database

Microbiology Surveillance Data Collection

- WHONET Experience:
  - Introduced
  - Individuals involved in data entry found it difficult to use, less and less entries made…
- Currently:
  - Data Entered Directly into spreadsheets Excel (Microsoft®)
  - Timely retrieval of DATA from C.A.R.E difficult

- Tomorrow:
  - Currently developing a database system:
    - Protocol to collect SOME data accurately and not ALL data.
    - Friendly GUI
    - Match Data Collection forms
    - Have a similar coding system to WHONET
    - Able to identify duplicates
    - Timing of specimen collection >/< 48hrs of admission
  - Incorporation of clinical/pharmacy data on antimicrobial use

Challenges/ limitations

- Samples are random and dictated by physician choice
- Lack of clinical information
- Standardized sample collection
- Quality Control
- **Duplicates or multiple isolates**
- Quantitative data: detection only of broad trends

Effect of limitations

- Very likely overestimated prevalence?
- Impacting on hospital policy made difficult
- Decision thresholds: Not developed and written down as SOPC

Quenching our thirst for antibiotics?

Some Results from AMR surveillance

The Portrait

Thank you…