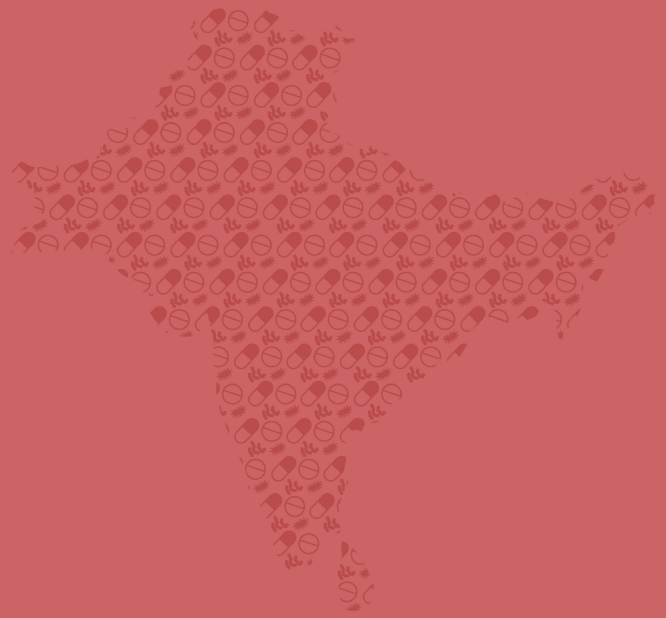
The Fleming Fund

MOTT MACDONALD

Lessons learned, importance of utilization of data and how CAPTURA's efforts can inform next steps and initiatives



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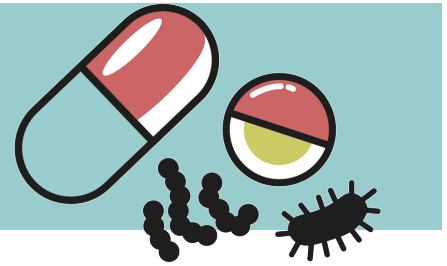
UKaid
from the British people

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

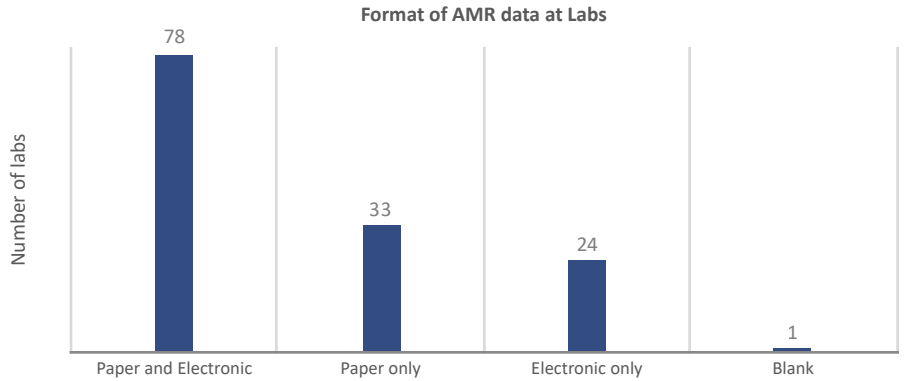
Presentation overview

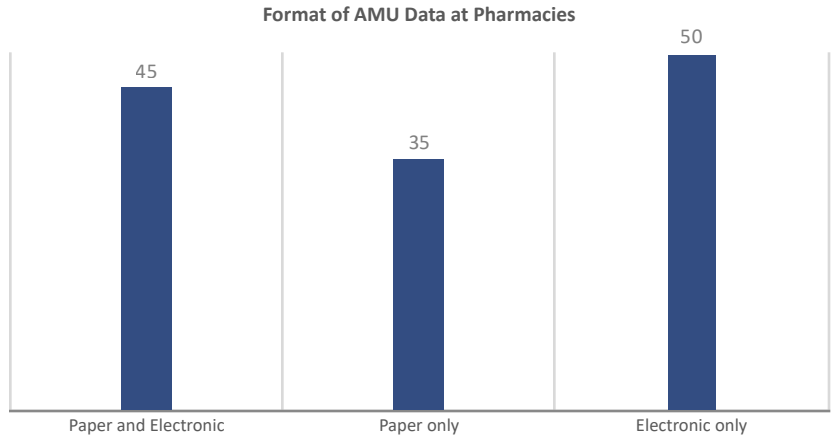
- Key takeaways from the CAPTURA experience to guide the way forward for enhanced surveillance
- Importance of data utilization and next steps

Importance of electronic data entry systems for AMR and AMU

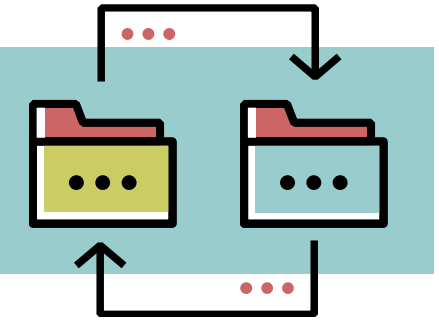


- Digitizing paper-based records is extremely time consuming and costly
- Moving from paper to electronic data entry systems for AMR (e.g., WHONET)
  - Important for sustainability of reporting to National level
  - Improved timeliness for facility analysis and reporting to national level
  - Improved quality and completeness





AMR and culture results need to be linked with clinical data and outcomes



- There were very few datasets in CAPTURA where AMR and culture results were able to be linked with clinical data and outcomes

- Why is this important?
  - Improved clinical care (clinical outcomes and complications associated with AMR)
  - For priority setting within the ministry
  - Advocating for funds nationally, regionally and globally

- AMR surveillance systems are still in their infancy, the time is now to ensure linkages are made

Guidelines needed for collection of and standardization of metadata for AMR, AMU and AMC

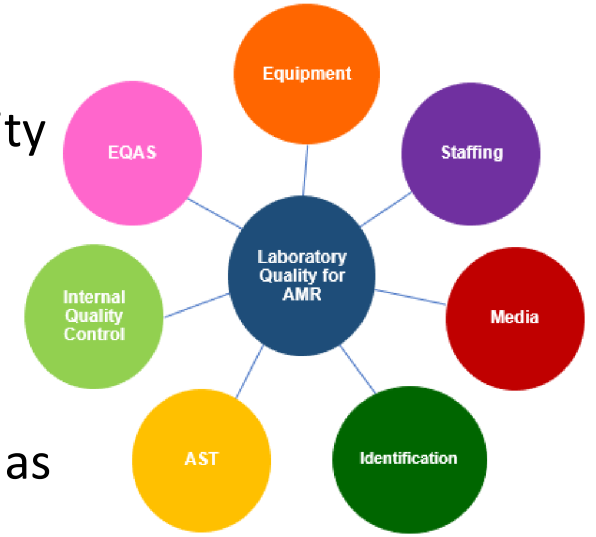
- Often overlooked in the collection of AMR and AMU data but Metadata is of great importance, allowing one to contextualize the dataset at hand

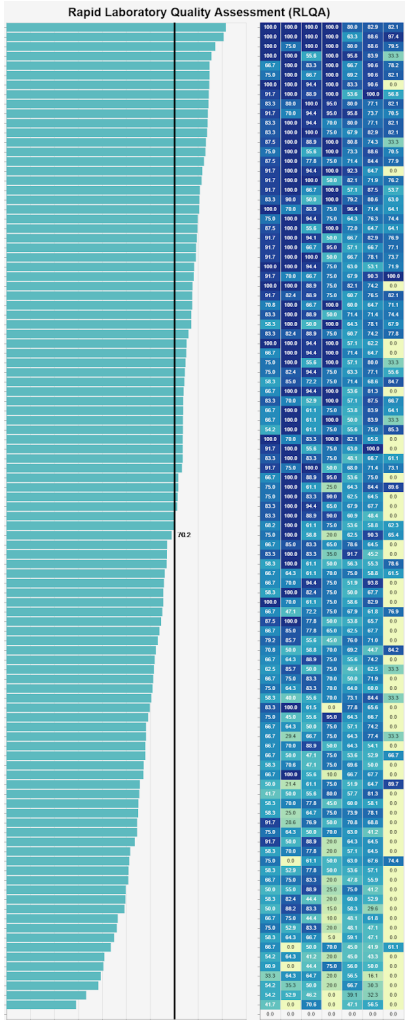
- Metadata also gives us critical information for planning purposes
  - For example, what format and fields are collected, how they are stored, QC that is taken, what media is used, equipment, staffing, etc.

- For AMR, AMU and AMC
  - Guidelines on Metadata collection and a guidance on a standard set of values collected with each dataset are needed

A Call for Routine (Annual) Monitoring of Lab and Data Quality

- The quality of AMR data is dependent on the quality of the labs that generate the data
- For national (and regional) analyses, understanding the quality of the lab, allows us to understand the reliability of the datasets
- More importantly, running routine microbiology laboratory assessments on an annual basis can highlight improvements as well as shortcomings
- Numerous microbiology lab tools could be considered, but should be fit for purpose





Importance of engagement of Private Laboratories and Private Pharmacies

- CAPTURA was successful in engaging private laboratories and pharmacies, greatly expanding the volume of quality AMR data
- There must be clear benefits to engagement (to the facility and for the broader good)
- In addition to adding to the level of knowledge on the national level, facilities were given **facility level reports** to improve their quality and are given epidemiological reports based on the data submitted
- For sustainability and continued inclusion, continued feedback should be a high priority

Facility level AMR data output, WHONET reports

Epidemiology Report

1. Data Volume
2. Patient and sample details
3. Organism statistics
4. Antimicrobial statistics
5. WHO GLASS (and SDG) indicators
6. Advanced analyses for hospital evaluations
   a. Cluster detections with SATScan
   b. Antibiograms

Quality Report

1. Data entry and management
2. Quality control testing
3. Organism results
4. Antimicrobial susceptibility test (AST) practices
5. Quality Control Alerts

Importance of tailored feedback from the regional level

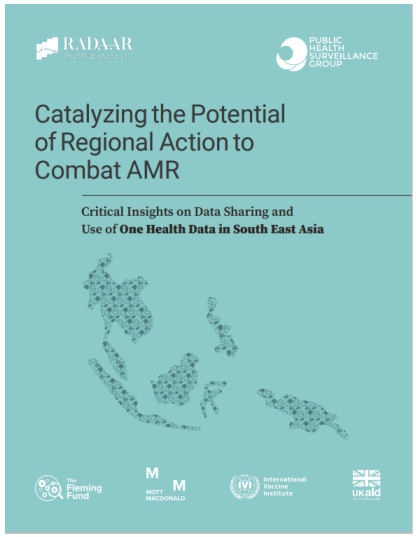
- It is critical for sustainability of regional initiatives, that the ‘value add’ to the Ministries of Health is clear and determined to be a priority by the Ministry.
  - From a societal or global health perspective
  - From a national decision-making prospective

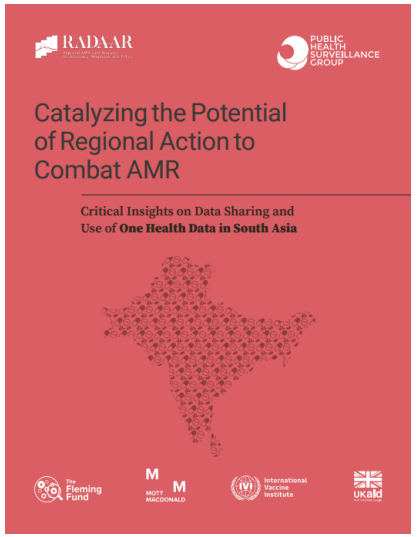
- Tailored national level for reports for AMR, AMU and AMC were generated and produced for each country involved in CAPTURA. Inclusive of detailed analyses and observations for consideration.

- Meetings to discuss reports for AMR, AMU and AMC were had with each Ministry.

Importance of tailored feedback from the regional level

- Feedback loops at the global level are often not closed and countries often do not view the feedback from global platforms as helpful for enhancing national decision making (as learned from RADAAR assessment reports)
- Critical that the regional level continues to focus on providing tailored feedback and is concentrated on enhancing quality National surveillance and provides feedback that is tailored and useful in planning and policy





Keeping Momentum on the Regional Level to Support National Level Surveillance

- While CAPTURA has been focused on retrospective data, the regional level should continue in assisting National Level enhancement of surveillance, regional surveillance and capacity strengthening.

- A draft framework is being developed under the RADAAR project (A regional Fleming Fund Project), based on the wants and needs of National stakeholders and Regional Experts.

- The framework has two tracks
  - Track 1: Regional data collection, sharing, and analysis
  - Track 2: Translating data into action

- Standing up these two frameworks, will require many partners and a variety of skillsets on the regional level

PUBLIC HEALTH SURVEILLANCE GROUP

12 key indicators for regional data sharing

Perceived Risks of Data Sharing

Perceived and potential risks across different sectors that influence willingness and decision-making on sharing data to the regional level.

Trained Workforce for Data Management and Sharing

Quantity and quality (skills) of personnel to manage databases and share data; training opportunities and frequency for database management and data sharing.

Political Will to Share Data Regionally

Political environment and key players that influence the willingness to share data to the regional level.

Cross-Sectoral Coordination

Coordination to share data across One Health (human, animal, agriculture, environment) and private/public sectors; includes structure in place for coordination and motivation/willingness to coordinate.

Data Sharing: Policies, Processes, and Frequency

The policies and processes in place to share data, actual implementation and feasibility to implement those policies and processes, as well as the realistic and desired frequency for data sharing.

Data Availability, Quality, and Form

Quantity of data, quality of data, data formats (e.g., electronic vs paper-based), data storage platforms, and ability to combine and compare data to the national and regional level.

Funding and Sustainability of Data Sharing

Current funding available and level of financial commitment across sectors and nationally to manage and share data, and long-term financial commitment and planning to make data management and sharing sustainable.

Trust (in Data Sharing Processes and Stakeholders)

Understanding the broad environment of factors (including processes and key stakeholders) influencing levels of trust around sharing data to the regional level.

Data Privacy and Access

Practices and policies around protecting data policy and controlling data access, including data ownership and use.

Benefits and Expectations of Data Sharing

Perceived benefits and expectations to data sharing, both explicit and implicit, held by stakeholders in different sectors.

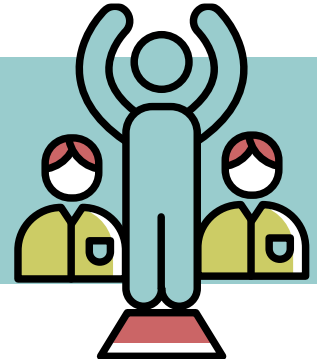
Previous/ Current Regional Networks and Ties

Previous and/or current participation in data sharing to regional networks and/or other countries; AMR/U/C and other health issues.

Legal and Ethical Frameworks for Data Sharing

Legal and ethical structures that facilitate or serve as a barrier to data sharing to the regional level.

A call for Ministries and partners to widely spread the word that these data sets are in existence



- The existence of the datasets collected during CAPTURA (Metadata, AMR, AMU, AMC) need to be shouted from the rooftops!
- These datasets will be very valuable for a range of ministry decisions, but decision-makers across Ministries need to know they exist
- Data utilization begins with communicating what data exists and how it can be accessed.

Utilization of data and next steps

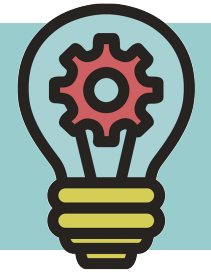
- Collection of data is only helpful if it is turned into information
- Information is only helpful if it is used to help guide decisions
- Data use is often one of the largest gaps in governments. (As further exemplified in the RADAAR findings)
  - An area that needs much attention and further capacity strengthening, as the quality of continues to improve, there is an increase potential use of the data

As demonstrated by the speakers today, data and information generated over the course of CAPTURA is already being used to inform strategies and enhance surveillance systems

Differing data quantity are needed for different decisions, policies, procedures, planning and quality improvement purposes.

Plans for utilization need to be tailored based on the current status of data and information needs of the country

Examples of other potential uses



METADATA
Updating AMR strategic plan
Procurement of microbiology equipment planning
Informing staffing plans

AMR/ culture datasets
Use for quality monitoring and control
Monitoring for Outbreaks
Updating National Antibiogram
Development of policy briefs on specific bacteria/fungi for control efforts
Impact on vaccines on AMR (with continuing surveillance)

AMC datasets
Updating National treatment guidelines and stewardship guidelines
National treatment guidelines
Procurement protocols
Restriction of certain antimicrobials

AMU datasets
Optimizing facility-level treatment guidelines
Improved awareness and stewardship amongst pharmacist

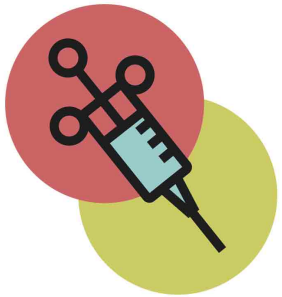
EXAMPLE of DATA USE: Using culture and AST data to further inform NITAGs and MoH in their decision to uptake a vaccine

- Vaccine decision making can be complex with numerous vaccines in the pipeline in the majority of LMICs
- First countries need to know the burden of disease in the country to understand the problem at hand and the vaccines/ diseases that need to be prioritized.
- In a perfect world, population-based studies would be conducted in each and every country to determine the incidence of disease, incidence of severe disease, cost of illness, etc.
- In most cases, we need to use the triangulation of data- including modeling based on data from other countries in the region

However, most countries want to see data from their own country in order for NITAGs to make recommendations for vaccine and MoHs for the decision to uptake and distribute the vaccine

- What is the burden of disease?
- Where is the disease?
- What is the best strategy for vaccine rollout? (Targeted v. Nationwide rollout)

Using culture and AST data to further inform NITAGs and MoH in their decision to implement new vaccines (e.g., Typhoid Conjugate Vaccine)



- WHO prequalified Typhoid Conjugate Vaccine is being rolled out in countries and GAVI applications are open for countries to apply for TCV introduction
- How could CAPTURA data be utilized to help inform decisions to prioritize a vaccine and for vaccine implementation?

<u>Examples of useful CAPTURA data for vaccine decision making</u>

-Proportion of blood cultures that were positive for all isolates (by age and site)
-Proportion of blood cultures that were positive for S.Typhi and paratyphoid (by age and site)
-Proportion of culture positives that were S.Typhi
-Geographic distribution of of S.Typhi cases
-AMR patterns in S.Typhi (Nationally and regionally by year)
-AMU patterns for S.Typhi by year (if you were able to link AMU and culture/ AMR data)
-XDR and MDR linked with AMU and clinical outcomes (if you were able to link culture/ AMR data with AMU and clinical data