

The Making of Kerala Antimicrobial Resistance Strategic Action Plan- [KARSAP]

Rajeev Sadanandan
Additional Chief Secretary
Government of Kerala



Kerala Antimicrobial Resistance Strategic Action Plan

One Health response to AMR Containment



Jointly developed by the Departments of Agriculture Development
& Farmers' Welfare, Animal Husbandry, Environment, Fisheries,
and Health & Family Welfare

Government of Kerala

AMR Identified as a problem years ago

- **Kerala has a higher propensity to consume formal western health care, including inpatient care, than other states.**
- **High use, misuse and abuse of antibiotics**
- **Extensive use of antibiotics for growth promotion & for disease prevention in animals, horticulture and fisheries**
- **High consumption of meat, fish and meat products**
- **Use of animal manure in soil**
- **Inadequate treatment of effluents containing antibiotic residue from pharmaceutical industry, farms and health care facilities**

The symptoms and response

- **Increased incidence of drug resistant infections – longer hospital stay, increased medical cost & higher mortality**
- **In 2013 surveillance was started in Government Medical Colleges to monitor magnitude of and trend of AMR**
- **Antibiograms are prepared by Microbiology departments from hospital samples in medical colleges**
- **Based on these standard treatment guidelines/antibiotic policy was devised for all Medical colleges**

Infection Prevention and Control

- **In response to increased drug resistance IPC measures were strengthened in all hospitals**
- **HICC constituted in all Government hospitals – mandatory to have HICC meetings at least once in a month**
- **Antibiotic stewardship committees constituted in all Government Medical Colleges and General Hospital Ernakulam**
- **Sensitization classes for clinicians and students**
- **Department of Pharmacology began to collect Antibiotic prescription data**

Work Begins on KARSAP

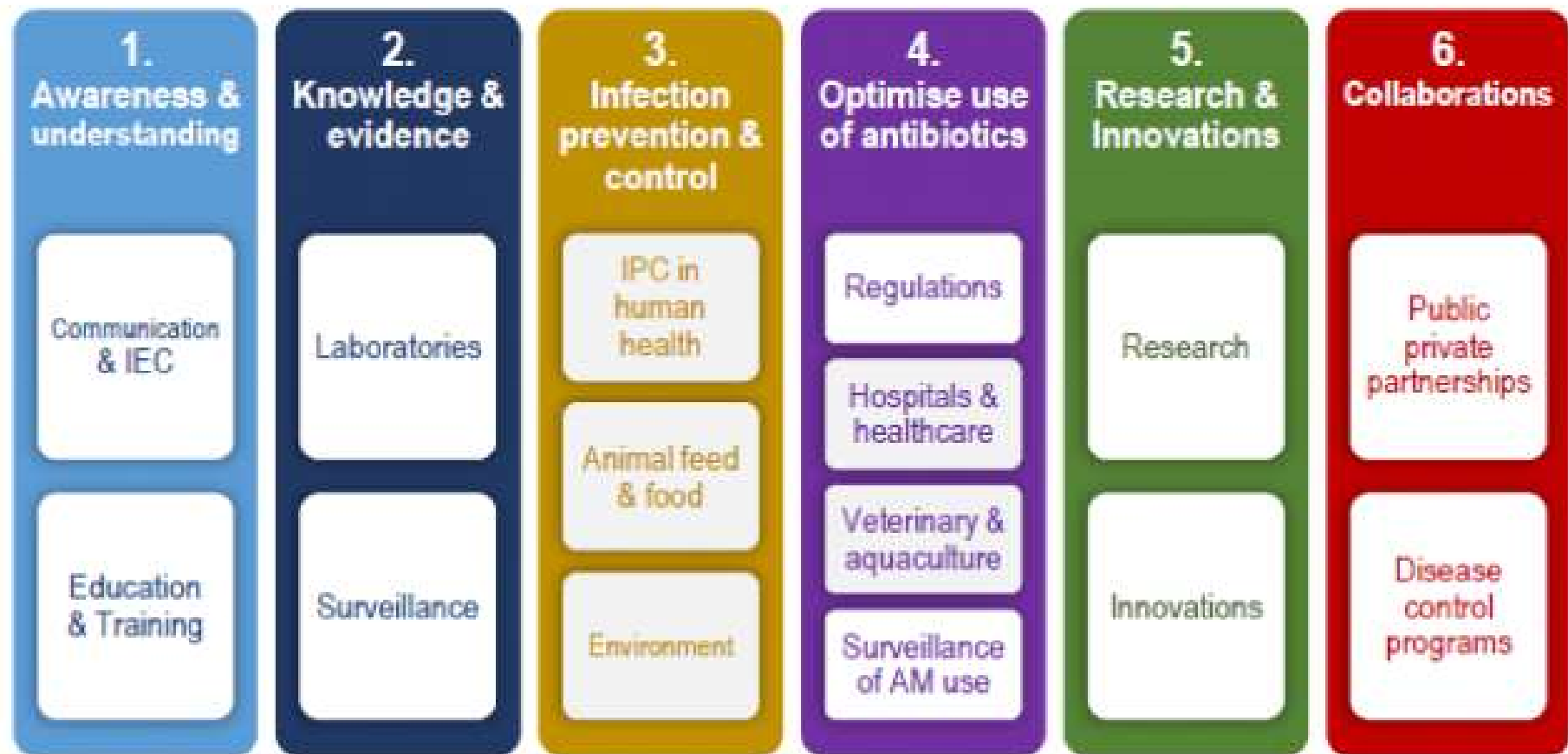
- **In 2017 the need for a systematic response to AMR led to formal consultations with all departments involved in One Health Response**
- **The effort was done with support of WHO country office and all partner departments**
- **The effort received a fillip from national consultation held on 24–25 Aug 2017**
- **The threat perception was strong enough for the Chief Minister to review progress on 11 Oct 2017**

The Finishing touches in the State

Workshop on AMR 17 Oct 2017

- **Participation of all stakeholder departments from human health, animal health, agriculture and environment, research institutions and WHO with focus on ‘One Health’ approach.**
- **Each shared their activities and results**
- **Five working groups developed recommendations for future work:**
 - **(i) communication for awareness and training**
 - **(ii) surveillance and laboratory**
 - **(iii) infection prevention and control**
 - **(iv) optimizing use of antibiotics**
 - **(v) research and innovation.**

The following are the focus areas of the strategic priorities under KARSAP:



Monitoring and evaluation framework

1. Awareness and Capacity Building

- **AMR awareness training is conducted in all Govt and many private hospitals and for veterinarians.**
- **AMR demonstrations are organized in OPDs to sensitize the patients and bystanders regarding the optimal use of antibiotics.**
- **Antibiotic Stewardship modules and anti biotic policies are being converted to apps to help optimise the use of antibiotics**
- **Standard online surveys to assess the KAP of health workers & vets on AMR**

2. Evidence

- **An operational plan for AMR surveillance has been developed covering the human health as well as AMR in animals, food & environment**
- **Antibiograms for all government medical college, a district hospital and public health labs are collected and collated. Seven district hospitals will be covered this year**
- **The Antibiotic policy formulated for the first time in 2013 is revised every year based on the institutional antibiograms.**
- **KARS-NET involving private hospitals and laboratories is being established to get a more representative antibiogram covering the entire state**

3. Infection prevention & control

- **All Govt hospitals have functional IPC committee which meets at least once a month.**
- **Staff Nurses have been selected and trained on IPC & HAI surveillance & out break investigation**
- **These nurses were deployed as Link Nurses/ICN in hospitals.**
- **HAI surveillance data with respect to VAP, CLABSI, CAUTI & SSI are being captured in all the ICUs. In case of clustering outbreak process surveillance will be initiated.**
- **AMR issues incorporated in biosecurity guidance for farms & slaughter houses**
- **The compliance of commercial farms with IPC guidelines & good practices are assessed by the department.**

4. Optimizing use of antibiotics

- **ASP committees are functional in all Govt Medical Colleges, other major hospitals and in all NABH accredited hospitals.**
- **Pharmacologists from Govt Medical Colleges were trained on Clinical Pharmacology. Plan to make the Clinical Pharmacology play an active role in prescription monitoring and management.**
- **Antibiotic utilization rates are watched for restricted antibiotics**
- **State Drug Controller monitors the total antibiotic consumption in the state. He also ensures the quality of drugs and trains retail chemists**

5. Research

- Rajiv Gandhi Centre for Biotechnology [A DBT institute] is our head research institution.
- Other research partners are:

Fisheries	Central Institute of Fisheries Technology, Kerala University of Fisheries and Ocean Sciences & Dept of fisheries Kerala .
Animal Health	Kerala Veterinary and Animal Sciences University, State Laboratory for livestock, marine, and agri products, State Institute of Animal Diseases
Environment	Kerala State pollution control board, Department of environment sciences MG and Kerala University
Human Health	Medical Colleges, Public Health Laboratory, GH Ernakulam and a consortium of corporate hospitals.

6. Collaboration

- **Expressions of interest were invited from NGOs and Corporates for collaboration with Kerala on AMR.**
- **CSE works with us on the Integrated surveillance frame work for antibiotic resistance, residues, their use in animal and presence in environment.**
- **Five corporate partners [Beckman Coulter, Becton Dickinson, bioMerieux, DSM Sinochem Pharmaceuticals, MSD Pharmaceuticals] work on infection prevention and control in hospitals and in capacity building**

Some recent initiatives

- Workshop on research on control bacterial pathogens affecting humans, animal and environment was conducted at RGCB. Information was shared on current work and new collaborative proposals were developed.
- Workshop on role of NGO and corporate sector for AMR containment in Kerala
- Workshop on Integrated Surveillance Framework for AMR for Kerala
- Workshop on Waste Water Treatment to Combat Antimicrobial Resistance
- Meeting of Kerala Antimicrobial Resistance Surveillance Network (KARS-NET)

Kerala Antimicrobial Resistance Surveillance Network (KARS-NET)

- Currently only Government Institutions report on AMR.
- To broad base reporting Kerala and WHO set up the KARS – NET for the following objectives
 - Standardise, strengthen and expand AMR surveillance in Kerala
 - Analyse and report data to State and Central Governments
 - Regularly estimate extent of AMR in Kerala
 - Detect emerging resistance
- Private Lab Networks (14) and Private Medical Colleges (5) are considering participation

Thank you