



COMMON AND EMERGING ENTERIC BACTERIAL PATHOGENS CAUSING DIARRHEA AND THEIR ANTIMICROBIAL RESISTANCE PATTERNS IN THE EAST AFRICAN REGION



PROBLEM STATEMENT

- Although previously considered a non-disease causing bacteria, there is an emergence of E.coli patho-types that are causing disease (pathogenic) (e.g. novel hybrid of E.coli patho-types), which needs for new diagnostic approaches.
- Purchase of antibiotics for treatment of diarrhea without prescription is common
- Clinicians prescribe antibiotics without laboratory based evidence.
- Incomplete use of recommended antibiotic doses is common.
- Diarrhea can be prevented by giving proper information on hand-washing practices, proper waste disposal, boiling drinking water and properly cooked food.
- Myths and beliefs about diarrhea are due to lack of information on causes of diarrhea.

KEY MESSAGE

- Diarrhea is one of the top 5 causes of morbidity and mortality in children in East Africa Community (EAC).
- The main causes of diarrheal diseases are attributable to ingestion of contaminated food and water.
- Diarrhea is preventable and treatable.
- The treatment guidelines across the EAC mostly advocate for use of Zinc and oral rehydration solutions (ORS) with no provision for routine stool analysis for most cases of diarrhea.
- The treatment guidelines for some types of diarrhea e.g. bloody diarrhea, cholera by advocating for use of antibiotics.



POLICY MEASURES AND PAST COMMITMENTS

The East Africa Public Health Laboratory Networking (EAPHLN) Project supported strengthening of surveillance measures on common circulating and emerging enteric bacterial pathogens causing diarrhea, as well as their antimicrobial susceptibility patterns. This is in line with World Health Organization (WHO) Resolution of the Health Assembly, WHA68.7, which urged Member States to implement the global action plan on antimicrobial resistance and to adapt national priorities within specific context.

A resolution at a high level meeting at the UN Headquarters in New York on “Antimicrobial Resistance” (September 2016) urged member states to address it comprehensively, multi-sectorally, as well as increase and improve awareness of antimicrobial resistance.

SUMMARY OF EVIDENCE

- The main cause of bacterial diarrhea was pathogenic E.coli at 18% in Uganda and Kenya, followed by shigella at 8% in Kenya, and salmonella at 3% in Kenya.
- Common prescribed antibiotics such as ampicillin and sulphur-trimethoprim showed resistance ranging (88-100%) in Uganda and Kenya.
- Emerging resistance to last options antibiotics such as fluoroquinolones (Ciprofloxacin at 25%-35%) in Uganda and Kenya, and to third generation cephalosporin (Cefotaxime at 15%) in Kenya was noted.

POLICY OPTIONS

- 1) Enhance laboratory capacity to routinely culture, identify pathogens and perform Antimicrobial Susceptibility Testing (AST).
- 2) Strengthen surveillance and monitoring of antimicrobial agents under the Universal Health Coverage (UHC) guided by the global and national antimicrobial resistance (AMR) action plan.
- 3) Anchor guidelines for prevention of diarrheal diseases within the UHC.
- 4) Strengthen clinical and laboratory interphase by using holistic approach of evidence-based results to improve quality of healthcare.
- 5) Increase investments in infrastructure, training, skilled manpower, and validated technologies for research and development in antimicrobial drugs.

NEXT STEPS

- Countries to adopt, customize and implement the above policy options.
- To operationalize the national taskforce on AMR to ensure the treatment guidelines are adhered to.
- Develop and execute an implementation plan including a robust M&E within an acceptable time frame