Approach to integrated AMR surveillance framework

Pan-Africa Workshop on Effective Implementation of National Action Plan on Antimicrobial Resistance

January 22-24, 2020
Lusaka, Zambia

Rajeshwari Sinha
Deputy Programme Manager Food Safety and Toxins, CSE
Why there is a need for integrated antimicrobial resistance surveillance

- Resistance has no boundaries
  - Seamless flow of AMR determinants across humans, animals, food and environment
  - Surveillance in any one sector will not give a true picture of AMR
  - Understanding on source and sink, where it is amplified, where suppressed, what are the pathways

- Different aspects of integration
  - Across sectors: human, animal, food (plants and animals), environment
  - Across AMR determinants (resistant bacteria, resistance genes, antimicrobial residues)
  - Across AMR and antibiotic use

- Generation of harmonized set of information out of surveillance efforts
Integrated AMR surveillance in global guidance

- Global understanding on the need for integrated AMR surveillance emerging
  - Country level examples
  - WHO-AGISAR, FAO, Codex

- Limited reflection through one guiding report on surveillance across all relevant sectors, including the environment

- Opportunities of cross learning and knowledge transfer between nations are growing
Zambia’s integrated AMR surveillance framework

- **Objectives**
  - To take Zambia’s National Integrated AMR Surveillance Strategy a step forward and move from ‘what to do’ to ‘how to do’?
  - Put necessary focus sectors which are otherwise neglected – environment, plant
  - Phased and progressive plan

- **Based on ground realities, current status, available skills, resources, and infrastructure**

- **Integration across**
  - human-health, food-animal, environment sectors
  - resistant bacteria, antibiotic residues, antibiotic resistance genes
Zambia’s integrated AMR surveillance framework (examples)

<table>
<thead>
<tr>
<th></th>
<th>Human-health</th>
<th>Food animals</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bacteria for AST</strong></td>
<td>Select bacteria</td>
<td>Select bacteria</td>
<td>Indicator + sector specific bacteria</td>
</tr>
<tr>
<td><strong>Antibiotics for AST</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Genetic markers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sample types</strong></td>
<td>Blood, urine, faces</td>
<td>Swabs: air-sac, carcass, faecal</td>
<td>Sewage, effluent</td>
</tr>
<tr>
<td><strong>Sampling sites</strong></td>
<td>Hospitals, clinics</td>
<td>Farms, retail, abattoirs</td>
<td>Hospitals, farms, factories, community</td>
</tr>
<tr>
<td><strong>No. of sampling sites per province</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total no. of samples per province per year</strong></td>
<td>300</td>
<td>250 for a new province</td>
<td></td>
</tr>
<tr>
<td><strong>Frequency of sampling</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AST interpretation method</strong></td>
<td>CLSI</td>
<td>CLSI</td>
<td>CLSI</td>
</tr>
<tr>
<td><strong>No. of labs/ networks</strong></td>
<td>Expands across phases</td>
<td>Expands across phases</td>
<td>Third party support</td>
</tr>
<tr>
<td><strong>Training required</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
• Integrated surveillance design is not as difficult as it looks to be
• Possibilities of convergence makes the implementation realistic; leads to greater buy-in
• A good understanding of baseline scenario is very useful
• Sitting together with multi-sectoral colleagues helps in an optimised design – which is not only integrated but is also well informed, effective
Thank you

Amit Khurana  
Programme Director  
Food Safety and Toxins, CSE  
k_amit@cseindia.org

Rajeshwari Sinha  
Deputy Programme Manager  
Food Safety and Toxins, CSE  
s_rajeshwari@cseindia.org

Divya Khatter  
Programme Officer  
Food Safety and Toxins, CSE  
divya.khatter@cseindia.org