Tools for Improving the Efficacy of IRS Operation in Pakistan

Muhammad Mukhtar
Directorate of Malaria Control: M/o National Health Services-Pakistan
## Pakistan: Country Profile (2014)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country population</td>
<td>180 M</td>
</tr>
<tr>
<td>Provinces/Districts</td>
<td>7/132</td>
</tr>
<tr>
<td>Total pop. at risk</td>
<td>95 M</td>
</tr>
<tr>
<td>&lt; 5 children at risk</td>
<td>17.1 M</td>
</tr>
<tr>
<td>PW at risk</td>
<td>3.9 M</td>
</tr>
<tr>
<td>Confirmed cases (MIS)</td>
<td>225,149</td>
</tr>
<tr>
<td>Estimated case load (WHO)</td>
<td>3 M</td>
</tr>
<tr>
<td>Clinical M. cases treated as malaria infections at PHFs</td>
<td>4.5 M</td>
</tr>
<tr>
<td>Vivax malaria</td>
<td>80-85%</td>
</tr>
<tr>
<td>Falciparum malaria</td>
<td>15-20%</td>
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### Main Transmission
- Post Monson (Sep-Nov)

### Key P. Measure
- IRS, LLINs & LSM

### Government funding
- 7.3 M USD

### TGF (NFM)
- 42 M
Country Profile: Province-wise Malaria Endemicity (2014)

- **KPK**: API: 8.90, Contribu: 40%
- **GB**: API: 7.22, Contribu: 33%
- **National**: API: 1.59
- **Balochistan**: API: 4.25, Contribu: 19%
- **Punjab**: API: 1.60, Contribu: 7.0%
- **Afghanistan**: API: 0.09, Contribu: 0%
- **India**: API: 0.10, Contribu: 0%

17% Pop: 93% Caseload
56% Pop: 25% Pop

Disputed Area
Indoor Residual Spraying (IRS) in Pakistan

• Since WHO’s Global Eradication Era 1960’s, IRS has been a **KEY element** of National Vector Control Strategy

• Pakistan has a very **strong & commitment** IRS program since 1985
  - coverage of IRS (80-100%)
  - trained & committed human resource

• After the **withdrawal** of external support (mid-1980), **sudden** decline for IRS: **mainly** conducted through GoPak resources

• **Rs. 2300 M** spend during 1985-2010 on IRS operation (operational & non-oper. Cost)

• **No significant decline** in IRS areas!!!!!!!
  - selection criteria (2 Pf or 5 Pv cases)
  - Time of application
  - Inappropriate estimation
Indoor Residual Spraying (IRS) in Pakistan (Cont...)

• In 2007, IRS strategy was **REVISED** focusing;
  ➢ **System strengthening & capacity building** through BEST available practices on IRS

• **Paradigm shift** in strategy for;
  ➢ selection criteria for target area
  ➢ Timing of application (**Time & Target specific IRS**)

• Promotion of Quality-Qualified-Products (**Only WHOPES-recomd.** Insecticides etc)

• Currently country has **Two separate** IRS strategies;
  ➢ General **National IRS Strategy 2010**
    ➢ Outbreak/Epidemic Response Strategy (**2015**) GF-funded district (**n=23**: **HIGHEST** malaria burden sharing (>90% caseload))

• **100% coverage** (**n= 4.8 M LLINs**) through LLINs
• IRS is **LIMITED** to epidemic/outbreak
• However, in other **SELECTED** areas, IRS is a **REGULAR** activity
Schematic Representation of National IRS Guidelines
Transmission Patterns & IRS in Pakistan

- Year Round Transmission
- Seasonal Transmission (Short)
- Seasonal Transmission (>6 Month)
Transmission Patterns & IRS in Pakistan

Year around transmission

Season (Short & high transmission)

Seasonal
Current Coverage of IRS in Pakistan (2014-15)
Determination of IRS Coverage of Target Areas

- **Two Models** to determine the coverage of IRS
  - Health Facility-Based coverage
  - Whole District coverage
IRS Coverage of Target Areas Within District (2014)
IRS Coverage of Target District (Govt. Funding 2015)

[Bar chart showing IRS coverage percentages for various districts, with each district represented by a vertical bar indicating the percentage coverage.]
Enhancing Efficacy & Capacity for IRS in Pakistan
To bridge challenges & gaps identified in MPR (2013), NMCP started to developed QA Protocol & Tools for IRS in 2013/14 focusing the:

- **Basic concept** of QA in IRS
- **Development & implementation** of QA system for IRS
- **Approved & endorsed** by Fed. & Prov.MCP in 2015 which specifically ensures;
  - Technical, strategic, managerial & operational **assistance** to MCP to carry out proper planning, implementation and management of safe and effective IRS operation
- **BMPs** for safe & secured handling (storage, transportation and disposal etc) of insecticides for IRS operation **maximizing** human safety and **minimizing** environmental hazards
Enhancing Efficacy and Capacity for IRS in Pakistan (Cont.)

- **Strengthening** of vector surveillance and M&E mechanism to enhance capacity of local staff for;
  - monitoring the **trend of IR & timely response** as a part of National IRM Plan (2015)
  - monitoring of **residual durability** of applied insecticide (quality of IRS)
  - monitoring of **vector population dynamics** including changes in densities, species successions, and behavior of malaria vectors
  - tracking of insecticide usage etc.
- **Regular capacity building** of personal involve in IRS at all levels
- **Promotion** of functional **inter-sectoral coordination** at all levels (Public-Public-Partnership and Public-Private partnership)
- **Fixing** of responsibilities among ministries, departments, and institutes. Also among individuals at all levels.
Demonstration of Tools for Improving the Efficacy of IRS in Pakistan

- Selection of Appropriate Areas (Target Areas)
- Determination of Appropriate Time and Number of rounds
- Measuring Total Sprayable Structures and Surfaces
- Gap analysis or Need Assessment for IRS
  - Annual
  - Long Term (5-Year)
- Monitoring and Evaluation (M&E) Framework
- Reporting mechanism on progress of IRS
- Training plan and curriculum for each tier
Challenges

- Implementation!!!!!! due to:
  - Lack of WILL!!
  - Political influence for selection of areas
  - Insufficient and delay in release of available funds
  - Security Issues in bordering areas
- Technical and managerial capacities of program at all levels
- Authority conflicts
Action Needed

- **Sensitization & Orientation** of top level policy makers & Politicians
- Comprehensive situation analysis of bordering areas of Pak-Iran-Afghanistan for **JOINT PROPOSAL** for TGF
- Widely **Dissemination** of newly developed tools for IRS
Thank you All