GLOBAL VECTOR CONTROL RESPONSE 2017-2030

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REDUCE THE BURDEN AND THREAT OF VECTOR-BORNE DISEASES THAT AFFECT HUMANS

ENABLING FACTORS
Country leadership
Advocacy, resource mobilization and partner coordination
Regulatory, policy and normative support

Effective locally adapted sustainable vector control

1. Pillars of action
   Strengthen inter- and intra-sectoral action and collaboration

2. Engage and mobilize communities

3. Enhance vector surveillance, and monitoring and evaluation of interventions

4. Scale up and integrate tools and approaches

Foundation

A. Enhance vector control capacity and capability

B. Increase basic and applied research, and innovation
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VECTOR-BORNE DISEASES AND POVERTY

**Vector-borne diseases:**
- Thrive in conditions of poverty
- Exact their heaviest toll on the poorest people.
- Impede development by interfering with education and the capacity to work
- Can have a significant impact on economic opportunities eg. tourism

**Global vector control response 2017–2030:**
- Outlines a broad approach
- Aligns with the [2030 Agenda for Sustainable Development](https://uns可持续发展目标)
- Will contribute directly to achieving Goals 1, 3, 6, 11, 13 and 17
Goal: interruption of transmission

Example: integrated malaria vector control with LLINs, house improvement and LSM in Malawi

Source: McCann et al., Malaria J. (in press)
INSECTICIDE-BASED APPROACHES FOR MALARIA CONTROL

Global trends in a) malaria case incidence rate (cases per 1000 population at risk), b) mortality rate (deaths per 100 000 population at risk), 2000-2019

How was this achieved?
• Mass distribution of Long Lasting Insecticide-treated Nets
and
• Indoor residual spraying

Why is further control stalling?
• Funding uncertainties
• Insufficient staff
• Insecticide resistance
• Drug resistance
• Slow integration and uptake of supplemental vector control tools

Source: World Malaria Report 2020
INSECTICIDE-BASED APPROACHES AGAINST ARBOVIRAL VECTORS

Dengue adulticiding decision support flowchart

<table>
<thead>
<tr>
<th>Predominant dengue vector is</th>
<th>Predominant dengue vector is Aedes albopictus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aedes aegypti</td>
<td>Based on adult trap, ovitrap and/or container surveys, virus detections</td>
</tr>
<tr>
<td>Ae. aegypti primarily indoors</td>
<td>Ae. aegypti primarily outdoors</td>
</tr>
<tr>
<td>Based on indoor vs outdoor sampling, relative abundance of screened housing</td>
<td></td>
</tr>
</tbody>
</table>

Indoor residual spraying       Outdoor space or residual spraying

Source: Ritchie et al., ECVD6 2021
ALTERNATIVE STRATEGIES

SWITCHING TO INTEGRATED VECTOR MANAGEMENT AND CONTROL

Currently available:
• House improvement
• Larval source management
• Toxic sugar baits
• Removal trapping systems
• Spatial repellents

Innovative tools (under development)
• Push-pull
• Gene-drive systems
• Release of Insect Dominant Lethals (RIDL)

Source: Stica et al., ECVD6 2021
EXAMPLE: LARVAL SOURCE MANAGEMENT

Source: Hakizimana et al., to be submitted
INTERSECTORAL COLLABORATION

Pillar one:
Disease vectors have a multitude of habitats, which for effective control each require the collaborative input from many societal sectors;

Pillar two:
Community engagement

Pillar three:
Surveillance, monitoring and evaluation

Pillar four:
Scaling up and integration of tools and approaches
CONCLUSIONS

Country leadership of vector-borne disease prevention and control efforts is critical

Policies and activities should not be limited to the health sector and should always be evidence-based

Action within and between countries should be harmonized and strengthened

Emphasis on integrated, community-based approaches – involvement of municipalities and local governments

Adoption of novel interventions is strongly encouraged (when validated for operational use by WHO)

Aim is to ensure all countries can achieve success, irrespective of their current disease burden/risk, capacities and resources
THANK YOU