Innovation to Impact – WHO change plan on evaluation of pesticides

Malaria Policy Advisory Committee
Geneva, Switzerland
16-18 September 2015

Raman Velayudhan and Abraham Mnzava
WHO leadership is strongly committed to vector control reform

WHO has initiated ambitious reforms in response to needs of vector control community

- WHO recognizes the need for reforms regarding evaluation of innovative tools, improving quality in the system, standardized vector control evaluation and timely development of normative guidance, etc.

- To support the development, evaluation, quality control, adoption, and sound management of pesticides, an initial change plan was presented at last Stakeholder Convening in Feb and June 2015.

- Since then, WHO has been detailing its plans to reform evaluation systems and procedures, and to strengthen vector control normative functions.

- Plan shown today is the result of joint work across several WHO teams relevant to vector control (NTD and GMP) and prequalification (PQ/HSI).

WHO leadership clearly expressed full support of this change

Quotes from selected members of WHO leadership

"A global health agenda that gives higher priority to vector control could save many lives and avert much suffering."

Margaret Chan, Director-General WHO

"I fully support this WHO vector control change and am looking forward to see significant progress by the end of 2016 and celebrate success in 2017."

"I2I is a really important vector control reform, in line with WHO reforms for drugs, vaccines and diagnostics."

Marie-Paule Kieny, Assistant Director-General for Health Systems and Innovation
Background: WHO PESTICIDE EVALUATION SCHEME (WHOPES)

WHOPES provides the following range of functions and activities:

1. testing and evaluation of pesticides and pesticide products for public health, with the aim of facilitating their acceptance, national registration and use by Member States;

2. normative functions such as setting norms and standards for the evaluation and use of pesticides and pesticide-related products, and promoting and monitoring their judicious use in various settings;

3. technical support for vector-control policies and strategies, operational guidance, monitoring global insecticide use, building institutional capacity, and disseminating valuable knowledge; and

4. policy for pesticide and pesticide-related products used in a public health context.
Key areas for improvement

Several key areas have been identified for improvement:

- shorten timelines to bring products to market;
- increase transparency and improve communication with stakeholders;
- streamline product-evaluation processes to comply with ongoing practice in medicines, vaccines and diagnostics (under the WHO Prequalification programme);
- include pre- and post-marketing quality assurance (QA); and
- facilitate registration, quality control (QC) and sound management of pesticides by working with national authorities.
WHO reform aims to deliver 4 primary outcomes

1. **Stimulate development of more innovative products**  
   Increased *drive for innovation* in development of vector control products for public health

2. **Accelerate availability of vector control products**  
   Improved *efficiency and transparency* of WHO vector control evaluation process

3. **Improve quality of vector control products**  
   Enhanced *quality management* by WHO for vector control products across the system

4. **Increased appropriate use of innovative vector control interventions**  
   Strengthened *normative guidance* functions

Target system will ensure effective, safe, high quality and innovative vector control tools
WHO will reinforce several areas of vector control and build additional capabilities to achieve these outcomes

1. Stimulate development of more innovative products
   - Trial data generated by manufacturers
   - Established network of sufficient GLP sites

2. Accelerate availability of vector control products
   - Provided specific systematic pre-submission guidance
   - Reduced time required for dossier evaluation to < 100 days
   - Increased transparency to allow tracking of evaluation progress

3. Improve quality of vector control products
   - Standards, team and process in place to conduct pre-marketing manufacturing site inspections
   - Standards, team and process in place to conduct post-marketing QA and manage complaints from procurers and countries
   - Pesticide evaluation system harmonized to WHO-PQ

4. Increased appropriate use of innovative vector control interventions
   - Facilitated insecticide resistance monitoring and management
   - Enhanced evidence-based normative guidance available
   - Assisted countries in implementing IVM strategies
   - Strengthened countries in pesticide life cycle management, including effective registration processes and insecticide resistance management

Details on following slides

Note: Does not reflect all proposed changes
Context for shifting data generation to manufacturers

WHO has agreed to move the generation and ownership of testing data to manufacturers

As a result, WHO together with IVCC will help build an infrastructure of GLP sites
- That would guarantee high quality data and provide confidence in testing quality

Building this infrastructure will take time, so WHO has developed a transition plan
- To start shifting data generation to manufacturers with stringent WHO oversight during the testing
- And to allow GLP sites to be used as soon as they become available

1. Ownership will not reside with WHO anymore, it will be a manufacturer/testing site discussion
### Rationale and approach of reviewing equivalency

**Rationale:**

- Need to review criteria of equivalency in vector control product evaluation
- WHO to organize technical consultation with a broad range of experts and the goal to **review and align on technical criteria for equivalency for vector control tools**

**Approach for reviewing equivalency:**

<table>
<thead>
<tr>
<th>Determine reason for issue</th>
<th>Organize technical consultation</th>
<th>Review criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>- At last I2I convening, all stakeholders recognized that this is a technical issue that can be solved by technical experts</td>
<td>- WHO will hold expert consultation to review technical criteria for equivalency</td>
<td>- Equivalency determined according to agreed upon criteria</td>
</tr>
<tr>
<td>- WHO has started to collect the technical issues that manufacturers see in the current criteria of evaluation process</td>
<td>- Criteria is different for each type of health product and is an area where expertise from other health fields can also be leveraged (e.g., from drugs, vaccines, diagnostics)</td>
<td>- Technical criteria for equivalency revised if/as necessary</td>
</tr>
</tbody>
</table>
New evaluation process, operating model and set of experts

**Rationale:**

- Need for improved and evaluation process to accelerate high quality product availability
- WHO to revise review committee composition for broader expertise, evaluation model to ensure independent recommendations and reviewing frequency to enable faster evaluation process

**Process for changing evaluation process:**

<table>
<thead>
<tr>
<th>Current state</th>
<th>Target state</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Review frequency</strong></td>
<td>Review 1x/year</td>
</tr>
<tr>
<td></td>
<td>Review 1x/year</td>
</tr>
<tr>
<td><strong>Evaluation model</strong></td>
<td>All recommendation decisions taken by one main review committee</td>
</tr>
<tr>
<td></td>
<td>All recommendation decisions taken by one main review committee</td>
</tr>
<tr>
<td><strong>Review experts</strong></td>
<td>Mostly entomologists, one statistician, QC expert, and epidemiologist</td>
</tr>
<tr>
<td></td>
<td>Mostly entomologists, one statistician, QC expert, and epidemiologist</td>
</tr>
</tbody>
</table>
**Pre-/post-marketing quality control**

**Rationale:**

- Need for improved quality of vector control products in the field
- WHO to establish QA criteria for manufacturing facilities, conduct site inspections and establish regular post-marketing quality testing to assure quality standards are met by all recommended products

**Approach for establishing pre-/post-marketing quality control**

<table>
<thead>
<tr>
<th>Establish standards and team</th>
<th>Establish process</th>
<th>Execute QA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish criteria, baselines and formalized procedures for quality management, for both pre- and post-marketing quality control</td>
<td>Update product evaluation process to include manufacturing inspections</td>
<td>Complete manufacturing site inspections for all products under evaluation (<strong>pre-marketing</strong>)</td>
</tr>
<tr>
<td>Build and train a quality assurance team at the WHO</td>
<td>Provide assistance to manufacturing site for QA compliance</td>
<td>Conduct quality testing for recommended vector control products on the market (<strong>post-marketing</strong>)</td>
</tr>
</tbody>
</table>
## Change reform to strengthen six areas of normative functions

<table>
<thead>
<tr>
<th>Expected outcomes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitated insecticide resistance management in NTDs/malaria vectors</td>
<td>• Develop global policy on insecticide resistance management&lt;br&gt;• Build capacity to support monitoring and managing insecticide resistance</td>
</tr>
<tr>
<td>Enhanced evidence-based normative guidance available</td>
<td>• Develop/update testing guidelines, specifications and risk models for evaluation of VC&lt;br&gt;• Enable timely development of normative guidance (&lt; 6 mos) for new product &amp; categories&lt;br&gt;• Standardize and enhance required entomological procedures and practices</td>
</tr>
<tr>
<td>Assisted member countries in implementing IVM strategies</td>
<td>• Develop and publish policies, recommendations and topical guidance for countries&lt;br&gt;• Develop operational guidelines for non-pesticide vector control tools and their evaluation</td>
</tr>
<tr>
<td>Optimized situational targeting of vector control products in countries</td>
<td>• Develop LLIN durability standards for quality control (e.g., expert review of intra-lab tests)&lt;br&gt;• Develop guidance on best targeting of vector control interventions</td>
</tr>
<tr>
<td>Strengthened countries in registration processes for vector control products</td>
<td>• Increase registration process efficiency at country level by providing technical and normative support to countries &amp; regional networks in pesticide registration (trainings and tool kits)</td>
</tr>
<tr>
<td>Strengthened countries in regulation of pesticides lifecycle management</td>
<td>• Develop and update guidelines and support countries on life-cycle management of pesticides&lt;br&gt;• Set up routine monitoring of insecticide use by member states</td>
</tr>
</tbody>
</table>
Overall impact

• **WHO** aims to support the development, evaluation, QC, adoption and sound management of pesticides and their products for the control and elimination of vector-borne diseases.

• **Vector-control product manufacturers** will benefit from faster, clearer and more transparent vector-control product-evaluation systems, including a new independent evaluation review process.

• **National regulatory authorities** will benefit from a more transparent global evaluation system in support of countries and regional systems, and stronger support for national registration through more transparent global evaluation.

• **Procurement sectors** will benefit from a larger array of products and strengthened development of normative guidance for deployment of innovative tools.

• **WHO Member States** will benefit from decreased incidence of vector-borne disease because of the availability of high-quality and effective products in the field, and strong normative support to monitor and manage insecticide resistance and manage pesticides over their life cycle.