High burden to high impact: a targeted malaria response

Malaria Policy Advisory Committee (MPAC)
October 2018, Geneva

Global Malaria Programme

World Health Organization
# Malaria in numbers

<table>
<thead>
<tr>
<th>445 000</th>
<th>216m</th>
</tr>
</thead>
<tbody>
<tr>
<td>12b</td>
<td>60</td>
</tr>
<tr>
<td>2</td>
<td>47</td>
</tr>
<tr>
<td>6.5b</td>
<td>10+1</td>
</tr>
</tbody>
</table>
The problem

Rising number of malaria cases

Million cases

Global Malaria Programme
Initial focus: high burden African countries

Additional cases between 2015 and 2016

Nigeria: 1,000,000
DR Congo: 600,000
India: 400,000
Niger: 300,000
Mali: 200,000
UR Tanzania: 200,000
Mozambique: 100,000
Burkina Faso: 100,000
Ghana: 70,000
Uganda: 50,000
Cameroon: 40,000
An urgent and credible response

Four key mutually reinforcing response elements

1. Best global guidance
2. Political commitment
3. Strategic use of information
4. Coordinated response

Impact
More impact by improving value for money

- Economy
- Efficiency
- Effectiveness

Resources → Inputs → Outputs → Outcome → Impact

Cost effectiveness

Equity
Theory of change

1. Finances and political capital
2. HRH and commodities
3. Delivery of optimal mix of interventions
4. Reduced malaria mortality
5. Socio-economic development

Political Commitment

Health governance and financing
Translating political will into domestic funding

<table>
<thead>
<tr>
<th>Country</th>
<th>Government Funding</th>
<th>External Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>90M</td>
<td>140M</td>
</tr>
<tr>
<td>DR Congo</td>
<td>5M</td>
<td>115M</td>
</tr>
<tr>
<td>Mozambique</td>
<td>40M</td>
<td>100M</td>
</tr>
<tr>
<td>Ghana</td>
<td>25M</td>
<td>75M</td>
</tr>
<tr>
<td>Mali</td>
<td>15M</td>
<td>40M</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>20M</td>
<td>40M</td>
</tr>
<tr>
<td>Niger</td>
<td>5M</td>
<td>5M</td>
</tr>
<tr>
<td>Uganda</td>
<td>15M</td>
<td>85M</td>
</tr>
<tr>
<td>Tanzania</td>
<td>20M</td>
<td>80M</td>
</tr>
<tr>
<td>Cameroon</td>
<td>5M</td>
<td>5M</td>
</tr>
<tr>
<td>India</td>
<td>30M</td>
<td>10M</td>
</tr>
</tbody>
</table>
Improving budget execution

Achieving efficiency through better health governance

- Realized expenditure
- Unspent budget

## Improving the health delivery system

<table>
<thead>
<tr>
<th>Country</th>
<th>UHC SCI</th>
<th>Physicians per 1000 population</th>
<th>Hospital beds per 10 000 population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burkina Faso</td>
<td>39</td>
<td>Less than 0.05</td>
<td>4</td>
</tr>
<tr>
<td>Cameroon</td>
<td>44</td>
<td>0.1</td>
<td>13</td>
</tr>
<tr>
<td>DR Congo</td>
<td>40</td>
<td>0.1</td>
<td>8</td>
</tr>
<tr>
<td>Ghana</td>
<td>45</td>
<td>0.1</td>
<td>9</td>
</tr>
<tr>
<td>Mali</td>
<td>32</td>
<td>0.1</td>
<td>1</td>
</tr>
<tr>
<td>Mozambique</td>
<td>42</td>
<td>0.1</td>
<td>7</td>
</tr>
<tr>
<td>Niger</td>
<td>33</td>
<td>0.05</td>
<td>2.8</td>
</tr>
<tr>
<td>Nigeria</td>
<td>39</td>
<td>0.4</td>
<td>5</td>
</tr>
<tr>
<td>Uganda</td>
<td>44</td>
<td>0.1</td>
<td>5</td>
</tr>
<tr>
<td>Tanzania</td>
<td>39</td>
<td>Less than 0.05</td>
<td>7</td>
</tr>
<tr>
<td>India</td>
<td>56</td>
<td>0.7</td>
<td>6.6</td>
</tr>
<tr>
<td>Greece (for reference)</td>
<td>70</td>
<td>6.3</td>
<td>42.5</td>
</tr>
</tbody>
</table>
Improving efficiencies

By truly aligning behind an evidence based approach

WE'RE STILL MISSING A KEY TRANSLATOR...
Theory of change

- Finances and political capital
- HRH and commodities
- Delivery of optimal mix of interventions
- Reduced malaria mortality
- Socio-economic development

1. Political Commitment
2. Health governance and financing
3. Market shaping
4. Strategic use of local information

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## 10+1 response elements

1. **Galvanize national and global political attention to reduce malaria deaths**

2. **Drive impact in country through strategic use of information**

3. **Establish best global guidance, policies and strategies suitable for the broad range of contexts**

4. **A coordinated country response**
Estimation of funding need and gap

RBM funding gap analysis

- Funding gap 2018-2020
- Funding available 2018-2020

<table>
<thead>
<tr>
<th>Country</th>
<th>NSP period</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRC</td>
<td>2016-2020</td>
</tr>
<tr>
<td>Ghana</td>
<td>2014-2020</td>
</tr>
<tr>
<td>Nigeria</td>
<td>2014-2020</td>
</tr>
<tr>
<td>Uganda</td>
<td>2015-2020</td>
</tr>
<tr>
<td>Mozambique</td>
<td>2017-2022</td>
</tr>
</tbody>
</table>

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Estimation of funding need and gap

Are the differences due to varying efficiencies or poor costing?
Equity – data from a high burden country

Access to ITNs: percentage of people with enough ITNs in their households

2x more children under the age of five years die in poorest households compared to the wealthiest!!
Treatment seeking for fevers in children under the age of five years

2x more children under the age of five years die in poorest households compared to the wealthiest!!

Equity – data from a high burden country
### Access to ITNs: Percentage of people with enough ITNs in their households

<table>
<thead>
<tr>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>60%</td>
<td>50%</td>
</tr>
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</table>

#### Data

- **Population 2017**: 57 million
- **LLINs distributed 2015-2017**: 44 million
- **Number of nets required for universal coverage in 2017**: 29 million
- **Population access to LLINs in 2017**: 54%
Stratification – metric and geography

**DRC**

![Map of DRC showing different regions and their malaria status](image)

**Uganda**

![Map of Uganda showing different regions and their malaria status](image)

**Nigeria**

![Map of Nigeria showing different regions and their malaria status](image)

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**Legend:**
- Green: <3: Pre-elimination
- Red: 6-30: Controle/Consolidation
- Yellow: <30: Controle/Intensification
- Pink: Paludisme Urbain

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**Carte produite par le Programme National de Lutte contre le Paludisme.**

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**Global Malaria Programme**

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**World Health Organization**
A) A 3D population map showing areas where $PfPR_{2-10}$ was <1% (pink) and >1% (dark red)

B) Map showing percentage ITN use from low

C) Population that need LLINs in areas to be targeted based on a criteria of >1% $PfPR_{2-10}$ and >1 person per square km (green) and those additional who will need LLIN if the whole country was targeted (pink)

From 16 to 6 million nets, or US$ 55 million difference in costs of LLLINs at the time
Use of strategic information – Tanzania, 2008

TANZANIA: Climatic Suitability Model for Malaria Transmission

NSP 2008-2013

LLINs everywhere!

MARA climate suitability map
Use of strategic information – Tanzania, 2018

Reduction in prevalence until 2019, CM and LARV not enough to reduce prevalence but enough to maintain low prevalence until 2020. In practice ITN distribution might need to be considered in specific areas.

Annual ITNs maintaining coverage of 70% with increase in CM to 85% reduces the prevalence in moderate strata by xx%.

High reduction in prevalence in high strata with CM, ITNs, IRS (LAKE). IPTsc might add additional impact.

With CM and LARV only prevalence is increasing in this stratum. ITN distribution need to follow epidemiological strata to achieve decrease in all urban districts.
What is new in the analysis approach?

- Building the right data platforms and databases
- Better stratification with improved spatial resolution
- Optimized intervention mixes guided by a robust analysis of anticipated impact
- Better tools to cost funding need and gap more precisely
- Better measurement of progress, including improved MPRs and impact evaluations
- It is not about perfection, but improving things!
Operationalizing through subnational (district) operational plans, village level action

Planning more efficient and targeted future (subnational (district) level stratification and mix of intervention)

Measuring progress and impact of revised strategic approach through routine, national, district routine surveillance and surveys

Reviewing current status - situation analysis - national, province and district (or equivalent)
NMCP leadership, a collective partnership resource

- Technical
- Funding
- Advocacy
- Research
- Meteorology
- Environment
- Implementation
- MoH HMIS
- MoH HSD
- MoH Policy
- Community
- Other sectors

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Process

Country and partnership dialogue

Desk review
Analysis partnership
Data assembly & analysis
Stratification & intervention mixes
NSP revision, costing & reprioritization

National and subnational data and M&E platforms
Activities

• Partnership and NMCP dialogues advanced
• 5 Phase 1 countries identified (Nigeria, DRC, Mozambique, Tanzania, Uganda)
• Desk review started
• Analysis framework document and tools in development
• Subnational operational planning guidance
• Subnational of new geospatial data assemblies
Theory of change

1. Political Commitment
2. Finances and political capital
3. Health governance and financing
4. Delivery of optimal mix of interventions
5. Reduced malaria mortality
6. Strategic use of local information
7. Socio-economic development
8. Global learning and guidance

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Prioritizing and combining interventions to control malaria
Prioritizing & combining interventions

• Many resource allocation decisions are taken without WHO guidance
  • Countries have to decide who gets which interventions, where & when
  • Should Intervention A be de-prioritized in a low burden area to free up resources for Intervention B in a higher burden area?

• Evidence-based processes inform WHO recommendations
  • Limited information on the effects of combining multiple interventions
  • Little evidence on the impact of withdrawing interventions
  • Impossible to guide every decision with solid data
  • Decisions become more complex as control reveals heterogeneity
  • How to generate better guidance in the absence of robust data?
1. **Systematic prospective data collection**

- Deliberate, prospective tracking of changes in malaria burden, related to the interventions and strategies deployed in different epidemiological / health system contexts
  - Over time, discern patterns of change in malaria burden when intervention strategies are changed in specific contexts
  - Requires systematic gathering and curation of relevant data
  - Closely linked to the analytical framework
  - Requires investment in data management and analytic capacities
2. Derivative guidance

• Extract from existing guidance context-specific recommendations to build a menu of control options for specific contexts
3. Develop a WHO guide to in-country decision making

- Advise on generic principles for prioritization and mixes of interventions & strategies
  - Encourage decision-making based on in-depth analyses
  - Consider approaches to the prioritization of interventions & strategies (e.g. Health Technology Assessment)
  - Use data and modelling to inform discussion & strengthen the rationale for generic guidance
  - Consider the development of tools to support country-level decision making
  - Consider specific issues encountered when applying the analytical framework at country level
Who is involved? Eckl’s triangle

Interrelated questions that help to identify specific interpretations of the malaria problem

What is the problem?
And why?

What is the solution?
And why?
What is no solution?

Who should solve it?
And why?
Who owns the problem?
Who has the necessary resources?

Source: Eckl 2017
“Malaria is a good litmus test of whether the world is really committed to social justice” (Annan)
Global Programme of Work

- **Mission**: Promote health – keep the world safe – serve the vulnerable
- **Strategic Priorities (and goals)**: Ensuring health lives and promoting well-being for all ages
  - **Leadership**: global data to initiate global response
  - **Country impact**: Locally suited response based on context
  - **Best global guidance**
- **Strategic shifts**
- **Organizational shifts**
- **Focus on impact / One WHO approach / Working in partnership**

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Summary: What’s new?

NEW Diamond Shreddies

OLD (Boring)

NEW (Exciting!)
What is different or will be done better?

- The increase in cases and an urgent need to respond!
- A comprehensive and integrated technical, political and systems approach (incorporating PHC and UHC)
- A country led approach by high burden countries
- Meaningful alignment behind a common approach
- Increase domestic resources, complemented by an increase in international funding
- Efficient and effective approach to impact on malaria mortality
- The value of local evidence to:
  - Make informed choices on the efficient use of resources
  - Establish confidence for further investment
  - Identify where to introduce new technologies and approaches
  - Identify more effective means of using existing tools