14th Stakeholders’ Meeting
Steady progress towards malaria elimination: Interventions for today and tomorrow
Denpasar, Bali | 11 – 12 October 2017

Dr. Iriani Samad: INDONESIA’S PROGRESS IN MALARIA ELIMINATION

Defeating Malaria Together
OUTLINE

1. MILESTONE OF ELIMINATION
2. PROGRESS OF ELIMINATION AND MALARIA SITUATION
3. POLICY AND STRATEGY
4. CHALLENGES
5. STRATEGY TO CONTROL MALARIA VIVAX
Milestone Malaria Elimination in Indonesia

- **2015**: Target: 225 districts
- **2016**: Target: 245 districts
- **2017**: Target: 265 districts
- **2018**: Target: 285 districts
- **2019**: Target: 300 districts
- **2025**: All districts
  - Milestone: 300 districts
- **2027**: All provinces
  - Milestone: 285 districts
- **2030**: National elimination
  - Milestone: All districts
PROGRESS OF ELIMINATION & MALARIA SITUATION

Malaria Endemicity Map by district/municipality 2016

- 41 high endemic districts
- 166 low endemic districts
- 251 districts : achieved elimination
Number of *P. vivax* decreased by year
Malaria cases were dominated by *P. falciparum*, but *P. vivax* contributed to significant burden.
## Decreasing Number of Pv Parasite Species 2011-2015

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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</thead>
<tbody>
<tr>
<td><strong>Total Examined (Micr+RDT)</strong></td>
<td>1,212,799</td>
<td>1,900,725</td>
<td>1,708,161</td>
<td>1,550,296</td>
<td>1,567,539</td>
</tr>
<tr>
<td><strong>Calc - Total Pos (Micr/RDT) -- Malaria Cases</strong></td>
<td>422,447</td>
<td>417,819</td>
<td>343,527</td>
<td>252,027</td>
<td>212,538</td>
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<tr>
<td><strong>Number of P. Vivax</strong></td>
<td>187,989</td>
<td>187,583</td>
<td>150,985</td>
<td>107,260</td>
<td>94,267</td>
</tr>
<tr>
<td><strong>Percentage of P. vivax (Calculated)</strong></td>
<td>44,50</td>
<td>44,90</td>
<td>43,95</td>
<td>42,56</td>
<td>44,35</td>
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</table>
3. POLICY & STRATEGIES

1. NO CLINICAL MALARIA ➔ CONFIRMED CASES
2. STOP MONOTHERAPY ➔ ACT (3 days)
3. RADICAL THERAPY: + primaquin
4. SURVEILLANCE STRENGTHENING
5. INTEGRATED VECTOR CONTROL
6. PARTNERSHIP
7. COMMUNITY EMPOWERMENT
## Specific strategies based on endemicity

<table>
<thead>
<tr>
<th>District with API</th>
<th>Strategy and Main Activities</th>
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<tbody>
<tr>
<td>&gt; 5 per 1000</td>
<td><strong>Acceleration</strong>&lt;br&gt;Universal coverage of LLINs, IRS in villages with API &gt; 20 per 1000, plus early diagnosis and prompt treatment via MOH, Civil Society Organization (CSO) and village volunteers, with the latter carrying out diagnosis with RDTs. Integrated Vector Management and Community Mobilization.</td>
</tr>
<tr>
<td>1 – 5 per 1000</td>
<td><strong>Intensification</strong>&lt;br&gt;Village-based stratification and coupled with specific strategies adapted to the transmission setting (forest, mining, plantation, and settlement). LLINs in focus areas. Start to carry out the Active case detection.</td>
</tr>
<tr>
<td>&lt; 1 per 1000</td>
<td><strong>Elimination</strong>&lt;br&gt;The implementation of “1-2-5” formula for rapid reporting (day 1), case investigation (day 2) and response (day 5). Villages with small foci of recalcitrant transmission will be considered for Mass Screening and Treatment (MSAT), Active Case Detection and focal larval control.</td>
</tr>
<tr>
<td>Free</td>
<td><strong>Maintenance</strong>&lt;br&gt;Vigilance and high quality surveillance to maintain malaria free status including migration surveillance. The case investigation and response using “1-2-5” formula should continue plus strengthen the network of diagnosis and case management.</td>
</tr>
</tbody>
</table>
ACT is used against *P. vivax* since 2006

- **1973**: CQ Resistance
- **2004**: AS + AQ for Pf
  - **2006**: AS + AQ for Pv
- **2008**: DHP for Pf & Pv in Papua and West Papua
- **2011**: DHP for Pf & Pv nation wide

Vivax therapeutics and control measures are dependent upon heterogeneity local epidemiology, host population and environment. Local evidence ➔ Policy Change ➔ **Elimination**
Primaquine (PQ) anti-relapse therapy and G6PD testing (updated 19.12.2014)

- not applicable
- PQ not recommended under any circumstances
- PQ recommended with no specific mention of G6PD screening or monitoring
- PQ recommended but only after G6PD screening affirms normal status
- PQ recommended as weekly dose of 0.75mg/kg for 8 weeks without G6PD screening
- non-endemic countries for *P. vivax*
- non-endemic countries recommending PQ without G6PD screening
- PQ recommended without G6PD screening but with monitoring

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: WHO GMP
Map Production: Global Malaria Programme
World Health Organization

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Prevalence of G6PD in Indonesia varies from 3.4% to 40.9% (slide courtesy from Ari Satyagraha)
Malaria treatment policy for Pv – MoH decree 2013:

- National treatment policy for *P. vivax* was ACT (3 days) plus Primaquine (14 days with 0.25mg body weight) as anti relapse therapy *(except baby, pregnant and lactation women, & G6PD patient)*
- Primaquine is recommended with no specific mention of G6PD screening in Indonesia
- History taking on G6PD symptoms will be asked/monitored during follow up treatment. If there is any indication/sign/symptom related to G6PD, further examination and management will be taken

Primaquine low dose is used for Pv radical treatment
4. CHALLENGES TOWARD ELIMINATION

1. Inaccessible and hard-to-reach populations
2. Appropriate strategies for urban malaria control
3. Cross border issues
4. Migrant and mobile populations (i.e. mining workers, lodgers)
5. Multisector collaboration → sources/environmental management
6. Vector mapping and control
7. Quality of Diagnostic (including sub microscopic)
8. Diagnosis of asymptomatic cases
9. Radical cure of *P. vivax* malaria → to improve compliance
5. STRATEGY TO CONTROL MALARIA VIVAX

- Quality Assurance for diagnosis
- Monitoring and follow up treatment for P. Vivax:
  - follow up clinical
  - follow up parasite in blood
  Especially for Districts in Elimination Phase
  (Outcome focus on clinical cure, parasitological clearance and transmission blocking)
- Monitoring therapeutic efficacy antimalarial drugs based on clinical and parasitological response (in-vivo 28 days with or without ancillary measurements: drug blood level, genotyping and strain analysis using molecular markers)
- Decentralization
- Vector Control
- Capacity Building for health worker
- Operational Research
TERIMA KASIH
THANK YOU