Malaria Vector Control Efforts and Challenges in Ethiopia

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24 – 26 Oct. 2007

Sheleme Chibsa
Population 77 million (85% rural)

Population density 65 persons/Km$^2$

Health coverage 61%

Infant Mortality Rate 96/1000 live births

Under five mortality rate 140/1000

Maternal Mortality rate 871/100,000

<table>
<thead>
<tr>
<th>Regional states</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zones</td>
<td>72</td>
</tr>
<tr>
<td>Districts</td>
<td>605</td>
</tr>
<tr>
<td>Maarious Districts</td>
<td>453 (74.8%)</td>
</tr>
</tbody>
</table>
Country Profile – Malaria Burden

• 75% of the land mass is malarious (altitude < 2000 m),
• >52 million (68%) of the population at risk,
• Malaria is the 1\textsuperscript{st} cause of out patient visits and death and the 2\textsuperscript{nd} cause of admissions (MoH 2005/06)
  – OPD 17.8%: 1\textsuperscript{st}
  – Hospital Deaths 21.8%: 1\textsuperscript{st}
  – Admissions 14.1%: 2\textsuperscript{nd}
• Transmission season- Sept.- Dec., April- May, (seasonal & unstable)
• Coincide with major harvesting season; aggravate economic loss,
• Major epidemics occur every 5 - 8 years, focal epidemics are common,
Malaria Burden


Percent of all OPD

- Malaria
- Acute URTI
- Helminths
- Gastritis
- Bronchopneumonia
- Skin infection
- GUT infections
- unspecified pneumonia
- Amoebiasis
- Parasitic diseases
Malaria Burden


- Deliveries
- Malaria
- TB
- Bronchopneumonia
- Gastro-enteritis
- Other complications of pregnancy
- Unspecified pneumonia
- All other accidental causes
- Abortion
- Cataract
Malaria Prevention and Control Approaches in Ethiopia

1) MAIN TECHNICAL ELEMENTS OF STRATEGIC APPROACHES:
   • Early diagnosis and effective treatment
   • Vector control
     • Insecticide treated nets
     • Residual house spray
     • Other vector control methods; Environmental Mgt, Larviciding etc
   • Epidemic prevention and control

2) SUPPORTING STRATEGIES:
   – Human resource development
   – Operational research
   – Information, education and communication
   – Program monitoring and evaluation
Trends in Malaria Cases, Admissions and Deaths
Yearly Confirmed Malaria Cases, ETHIOPIA (1990 – 2006)

REMARK: 2005 – 2006 data from Benishangul Gumuz & Dire Dawa not Included

Source: health and health related indicators and data collected from Regional Health Bureaus, FMOH
Yearly Malaria Out-Patients, ETHIOPIA (July 2000 – June 2006)

Source: data collected from Regional Health Bureaus, FMOH
Yearly Malaria Admissions, ETHIOPIA (July 2000 – June 2006)

Source: data collected from Regional Health Bureaus, FMOH
Yearly Total Malaria Deaths, ETHIOPIA (1990 – 2006)

Source: data collected from Regional Health Bureaus, FMOH
Yearly Based Malaria Epidemics Recorded, ETHIOPIA (July 2000 – June 2006)

Source: data collected from Regional Health Bureaus, FMOH
Optimizing Integration

MDGs

National Development Strategy

HSDP

MCP
Vision, mission, targets

• Our vision:
  – The vision of malaria prevention and control in Ethiopia is to achieve and maintain a situation whereby malaria ceases to be a public health problem and impediment to socio-economic development.

• Mission
  – The mission of the Federal Ministry of Health (FMOH) Malaria Prevention and Control program is:
    – to expand and maintain high quality service for malaria prevention and control with special emphasis on ensuring access to early and equitable services for the population at risk of malaria with special emphasis to the most vulnerable population groups.
GOAL

• To contribute to MDGs goal 6 target 8 by reducing the overall burden of malaria (mortality and morbidity) by 50% by the year 2010, as compared to the baseline level in 2005,

• To contribute to the reduction of child mortality (MDG Goal 4) and Improved maternal health
Impact Objectives

• By 2010:
  • Reduce morbidity attributed to malaria from 22% to 10%
  • Reduce malaria case fatality rate in under-5 children from 5.2% to 2%
  • Reduce case fatality rate of malaria in age groups 5 years and above from 4.5% to 2%
Specific Objectives

• Achieve 100% access to effective and affordable treatment for malaria by the end of 2008

• Achieve 100% coverage of all households in ITNs targeted districts with two ITNs per household by 2007, (Polygamous family considered as different families)
Specific Objectives contd....

• Achieve 60% coverage of villages targeted for Indoor Residual Spraying (IRS) by the end of 2010 as compared to the 25% coverage in 2005,

• Early detect and contain 80% of the malaria epidemics within two weeks from onset by 2010 as compared to 31% in 2005,
Vector Control Activities
Protecting children from malaria using ITNs/LLINs

Since 2005, all LLINs procured distributed through Free Channel

ITN distribution

- Commercial
  - Retail outlets
- Subsidized
  - NETMARK antenatal
  - NGOs Social Marketing
- Free
  - Health Centres
  - HEWs
  - Campaign
    - Stand alone campaigns
    - In EOS districts
ITNs Distribution During EOS, East Hararge, Ethiopia
Achievements: Vector Control/ITNs

Vector Control: ITNs/LLINs

- **18.2** million ITNs/LLIN have been Distributed to users

- 5,108,168 nets have been procured and is on pipeline

- **88 %** coverage at 2 ITNs/LLIN per household
ITN scaling-up in Ethiopia

- Target 100% net coverage, 2007
- 2 ITNs per malaria affected household
- Prioritize children & pregnant women

Total number of ITNs in Ethiopia

Arrival of LLINs

Net with 6-month treatments

Net pop
# ITNs Distribution and Coverage

<table>
<thead>
<tr>
<th>Region</th>
<th>Total number of HHs at risk of malaria</th>
<th>Total Number of ITNs is needed to required two ITNs/HHs</th>
<th>Total Distributed</th>
<th>on procurement to be distributed</th>
<th>Total Available</th>
<th>Percent coverage</th>
</tr>
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<tbody>
<tr>
<td>Tigray</td>
<td>608,114</td>
<td>1,216,228</td>
<td>888,573</td>
<td>327,655</td>
<td>1,216,228</td>
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<tr>
<td>Afar</td>
<td>271,744</td>
<td>543,488</td>
<td>505,096</td>
<td>38,392</td>
<td>543,488</td>
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<tr>
<td>Amhara</td>
<td>2,980,168</td>
<td>5,960,335</td>
<td>5,192,398</td>
<td>767,937</td>
<td>5,960,335</td>
<td>87</td>
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<tr>
<td>Oromia</td>
<td>3,356,227</td>
<td>6,712,454</td>
<td>5,827,599</td>
<td>884,855</td>
<td>6,712,454</td>
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<tr>
<td>SNNPR</td>
<td>1,883,662</td>
<td>3,767,323</td>
<td>3,889,237</td>
<td>-</td>
<td>3,889,237</td>
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<tr>
<td>Somali</td>
<td>759,294</td>
<td>1,518,587</td>
<td>1,166,069</td>
<td>352,518</td>
<td>1,518,587</td>
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<tr>
<td>Gambella</td>
<td>48,079</td>
<td>96,158</td>
<td>197,900</td>
<td>-</td>
<td>197,900</td>
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<tr>
<td>B-Gumuz</td>
<td>114,588</td>
<td>229,175</td>
<td>240,600</td>
<td>-</td>
<td>240,600</td>
<td>105</td>
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<tr>
<td>Harari</td>
<td>18,955</td>
<td>37,910</td>
<td>69,089</td>
<td>-</td>
<td>69,089</td>
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<tr>
<td>Dire Dawa</td>
<td>30,682</td>
<td>61,364</td>
<td>137,314</td>
<td>-</td>
<td>137,314</td>
<td>224</td>
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<tr>
<td>PMTCT</td>
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<td>90,150</td>
<td>-</td>
<td>-</td>
<td>90,150</td>
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<tr>
<td>Total</td>
<td>10,071,511</td>
<td>20,143,022</td>
<td>18,204,025</td>
<td>2,371,357</td>
<td>20,575,382</td>
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</tr>
</tbody>
</table>
Major Achievements: Vector Control/ITNs

• ITNs utilization Study has been conducted and finalized: May to September 2006
  – Number of HHs with children < 5 years of age reported used ITNs the previous night:
    – East Hararge: 93.3%
    – Borena: 85.5%
ITN cluster survey results Harari

• H/Hs with 1 ITN hanging – 91%

• Children sleeping under ITNs – 87%

• Receiving health education – 82%

• Knowing malaria is dangerous to under 5’s – 73%
Achievements: Vector Control/IRS

• 800,000 Kg of DDT at a price of $US 5 million has been purchased and distributed to regions
• On average about 1 million unit structures sprayed in 3,000 localities
• Protecting 1 million households and 5 million population
• IRS Guideline is updated and distributed

Source: data collected from Regional Health Bureaus, FMOH
Some Results

Eg. from Regional Health Bureau
Clinical Malaria Cases in Oromia, Ethiopia

- 2001/2002: 250617
- 2002/2003: 497998
- 2003/2004: 1837489
- 2004/2005: 202333
- 2005/2006: 24561
- 2006/2007: 0
Challenges and Constraints
Challenges and constraints: ITNs

• Inadequate community awareness on proper utilization of ITNs (requires change in life style of the community)

• Large scale studies/surveys on ITNs Utilization required — for better IEC/BCC

• Lack of skilled/qualified HWs for malaria control program (at region and district level)

• Taxes and tariffs – (Complete removal?)

• ITN’s Colour & shape
Challenges and constraints: ITNs

• Establish a system for replacement of LLINs to maintain high coverage,
• LLINs efficacy- comments coming from users
• Mosquito behaviour (early biters) and sleeping behaviour
Challenges and Constraints: IRS

• Application is highly technical with high operational cost
• Labour intensive and requires specialized equipment
• Replastering of walls reduces the potency
• Where vectors feed and rest outdoors, spraying is ineffective
Challenges and Constraints: IRS

• Overlap between IRS and ITNs distribution
• Shortage of operational budget
• Shortage of supplies (chemicals spray pumps and spare parts)
• Shortage of trained manpower
• Sustainability of spraying … (Resource …)
Opportunities

• Commitment (local and international)
• Health Service Extension Program
• Strong RBM partnership at central level
• Better Global and International resource mobilization:
  – Global Fund
  – WB’s Booster Programme,
  – President’s Malaria Initiative (PMI)
  – The Carter Center etc
Next Steps

• Strengthen implementation of the new five year strategic plan for 2006 – 2010,

• Consolidate resource mobilization and utilization,

• Scale-up interventions to achieve marked reduction in malaria morbidity and mortality and maintain it,

• Strengthen documentation of program progress: Malaria Indicator Survey (MIS)

• Intensive work on ITNs utilization and IRS support in the community
Many Thanks!